



AGENDA

**THE UNIVERSITY OF WEST FLORIDA
BOARD OF TRUSTEES**

**Academic Affairs Committee Meeting
May 15, 2019**

**University of West Florida
UWF Conference Center, Bldg. 22
11000 University Parkway, Pensacola, FL 32514**

Call to Order/Roll Call. Adrienne Collins, Chair

Greeting Adrienne Collins

Action Items:

1. Approval of Request to Offer a New Degree Program – Master of Science in Athletic Training (MS in Athletic Training)
2. Approval of Request to Offer a New Degree Program – Master of Science in Data Science (MS in Data Science)
3. Approval of Tenure as a Condition of Employment
4. Approval of Tenure

Information Items:

Other Committee Business:

Adjournment

UWF Board of Trustees Meeting
Academic Affairs Committee
May 15, 2019

Issue/Agenda Item: Request to Offer a New Degree Program - Master of Science in Athletic Training (MS in Athletic Training)

Proposed Action: Approve Request

Background Information:

The University of West Florida (UWF) proposes to offer the MS in Athletic Training degree program in CIP Code 51.0913, a program of strategic emphasis-health discipline, effective Summer 2020.

The MS in Athletic Training is a master's level degree program consisting of 54 semester credit hours (SCH) beyond a bachelor's degree. The program will be offered face-to-face in the Department of Movement Sciences and Health within the Usha Kundu, MD College of Health (UKCOH). Graduates in this degree program will be prepared to sit for the Board of Certification examination required by the Commission on Accreditation of Athletic Training Education (CAATE) to become a Certified Athletic Trainer.

Athletic trainers are healthcare professionals who collaborate with physicians to provide preventive services, emergency care, clinical diagnosis, therapeutic interventions, and rehabilitation of injuries (CAATE, 2019). Athletic trainers work with athletes and youth as well as active adults and patients 55 years and older who experience sprains, fractures, dislocation, and other injuries that happen during exercise or activities of daily living.

On May 20, 2015, CAATE and the National Association of Athletic Trainers announced jointly the decision to establish the professional degree in athletic training at the master's level. Beginning in fall 2022, graduation from a master's level athletic training program and a passing score on the Board of Certification exam will be required for licensure by the Florida Board of Athletic Training to work as an athletic trainer. As a result of this change, UWF is phasing out its bachelor's level degree program in Athletic Training. UWF faculty have designed the MS in Athletic Training program to follow CAATE standards. The program will allow UWF to develop graduates who have undergone the educational curricula and clinical education experience necessary to sit for and pass the Board of Certification examination required to become a Certified Athletic Trainer.

UWF is strongly positioned to offer the MS in Athletic Training program. The program will benefit from the resources developed for the BS in Athletic Training as well as the equipment acquired with legislative funds for the UWF/USF Doctor of Physical Therapy program that closed in 2017. UWF has numerous local clinical partners for the program, many of which have hired UWF graduates. Graduates of the BS in Athletic Training have a strong record of employment. For example, the *Percentage of Baccalaureate Graduates Continuing Education or Employed* for the 2018 cohort of BS in Athletic Training graduates is 93.3%. As such, UWF expects

graduates from the MS in Athletic Training program to continue the strong post-graduation employment trend. The U.S. Bureau of Labor Statistics projects employment of athletic trainers to grow by 23% from 2016-2026 (<https://www.bls.gov/ooh/healthcare/athletic-trainers.htm#tab-1>). Floridajobs.org projects 22% growth for athletic trainers in the state by 2026 as well.

The addition of the MS in Athletic Training degree program will meet local, state, and national needs for licensed and qualified athletic training personnel. The MS in Athletic Training program will continue to impact the Northwest Florida community by providing qualified athletic trainers to support the growing need for medical professionals in the region. The closest universities offering a professional master's program are approximately 300 miles away. Mississippi and Louisiana currently do not offer a MS in Athletic Training. From a geographic standpoint, offering a MS in Athletic Training in Pensacola provides a distinct opportunity to attract students from neighboring states and northern Florida.

The addition of the MS in Athletic Training degree program at UWF will provide clear benefits to the university and the local community by:

- Providing a path to a graduate degree in the high-paying and high-demand field of Athletic Training.
- Offering inter-professional research opportunities for students in health fields.
- Allowing the university to respond to local, regional, and state workforce needs.

Implementation Plan:

- The CAVP approved the MS in Athletic Training on September 28, 2016.
- The UWF Faculty Senate approved the curriculum on March 11, 2019.
- The UWF Board of Trustees Academic Affairs Committee considers the Request to Offer New Degree Program May 15, 2019.
- The UWF Board of Trustees considers the Request to Offer New Degree Program June 19, 2019.
- The Florida Board of Governors considers the Request to Offer New Degree Program June 2019.
- Notification to SACSCOC of Substantive Change June 2019.
- New degree program implemented Summer 2020.

Fiscal Implications: Fiscal implications are reflected in the Request to Offer.

Supporting documents:

Request to Offer a New Degree Program – MS in Athletic Training

http://pages.uwf.edu/aadocs/bot/RTO_MS_Athletic_Training.pdf

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Board of Governors, State University System of Florida

Request to Offer a New Degree Program

(Please do not revise this proposal format without prior approval from Board staff)

University of West Florida	Fall 2020
University Submitting Proposal	Proposed Implementation Term
Usha Kundu, MD College of Health	Movement Sciences and Health
Name of College(s) or School(s)	Name of Department(s)/ Division(s)
Athletic Training	Master of Science in Athletic Training
Academic Specialty or Field	Complete Name of Degree
51.0913	
Proposed CIP Code	

The submission of this proposal constitutes a commitment by the university that, if the proposal is approved, the necessary financial resources and the criteria for establishing new programs have been met prior to the initiation of the program.

Date Approved by the University Board of Trustees	President	Date
Signature of Chair, Board of Trustees	Date	Vice President for Academic Affairs
		Date

Provide headcount (HC) and full-time equivalent (FTE) student estimates of majors for Years 1 through 5. HC and FTE estimates should be identical to those in Table 1 in Appendix A. Indicate the program costs for the first and the fifth years of implementation as shown in the appropriate columns in Table 2 in Appendix A. Calculate an Educational and General (E&G) cost per FTE for Years 1 and 5 (Total E&G divided by FTE).

Implementation Timeframe	Projected Enrollment (From Table 1)		Projected Program Costs (From Table 2)				
	HC	FTE	E&G Cost per FTE	E&G Funds	Contract & Grants Funds	Auxiliary Funds	Total Cost
Year 1	10	5.50	\$32,936	\$181,150			\$181,150
Year 2	22	12.10					
Year 3	30	13.75					
Year 4	38	20.90					
Year 5	42	23.10	\$12,661	\$292,472			\$292,472

Note: This outline and the questions pertaining to each section must be reproduced within the body of the proposal to ensure that all sections have been satisfactorily addressed. Tables 1 through 4 are to be included as Appendix A and not reproduced within the body of the proposals because this often causes errors in the automatic calculations.

INTRODUCTION

I. Program Description and Relationship to System-Level Goals

- A. Briefly describe within a few paragraphs the degree program under consideration, including (a) level; (b) emphases, including majors, concentrations, tracks, or specializations; (c) total number of credit hours; and (d) overall purpose, including examples of employment or education opportunities that may be available to program graduates.

II. Master of Science

III. Athletic Training

IV. 54 Semester Credit Hours beyond the bachelor's degree

V. The University of West Florida (UWF) seeks to offer a Master of Science degree program in Athletic Training (MAT) in CIP Code 51.0913, beginning Summer 2020. The MAT will be housed in the Department of Movement Sciences and Health in UWF's Usha Kundu, MD College of Health (UKCOH). The proposed 54 semester credit hour (SCH) degree program will be delivered in a traditional, face-to-face format on the UWF Pensacola campus. Graduates from the degree program will be prepared to sit for the Board of Certification examination required by the Commission on Accreditation of Athletic Training Education (CAATE) to become a Certified Athletic Trainer.

Athletic trainers are healthcare professionals who collaborate with physicians to provide preventive services, emergency care, clinical diagnosis, therapeutic interventions, and rehabilitation of injuries and medical concerns (Commission on Accreditation of Athletic Training education, 2019). In the field of sports medicine, athletic trainers are first responders in cases of sports injury as their education and training prepare them to initially assess medical emergencies and injuries. Athletic trainers work closely with physicians and other medical professionals in the rehabilitation of injuries.

Athletic trainers have been traditionally associated with being on the sidelines at athletic events. However, increasingly athletic trainers work in schools, colleges and universities, medical offices, hospitals, and rehabilitation clinics. Sport injuries can affect active individuals at any age. With the national push of physical activity to improve health, athletic trainers work with athletes and youth in high school sport settings as well as with active adults and patients 55 years and older who experience sprains, fractures, dislocation, and other injuries that happen during exercise or activities of daily living (Source: <https://www.bls.gov/opub/btn/volume-7/pdf/you-dont-need-to-walk-it-off.pdf>).

CAATE is seeking to professionalize the athletic trainer with graduate-level education and Board of Certification examination standards. The disciplinary accrediting body announced in May 2015 that the professional degree for Athletic Training will transition to a master's degree in Fall 2022. As such, UWF is phasing out its undergraduate degree program in Athletic Training and requesting to offer a master's degree program. The proposed MAT program will allow UWF to continue its tradition of preparing athletic trainers for the workforce by providing the educational curricula and clinical education experience necessary to prepare master-level graduate students to sit for and pass the Board of Certification examination which is required to become a Certified Athletic Trainer.

The proposed MAT degree program aligns well with the UWF's mission and strategic priorities to offer more HEALTH graduate-level programs and to enhance the university's grant and clinical research productivity. It also supports the Florida Board of Governors vision to increase the number of degrees awarded in areas of strategic emphasis.

- B. Please provide the date when the pre-proposal was presented to CAVP (Council of Academic Vice Presidents) Academic Program Coordination review group. Identify any concerns that the CAVP review group raised with the pre-proposed program and provide a brief narrative explaining how each of these concerns has been or is being addressed.**

The MAT degree program was presented to the CAVP on September 28, 2016, and no concerns were raised.

- C. If this is a doctoral level program please include the external consultant's report at the end of the proposal as Appendix D. Please provide a few highlights from the report and describe ways in which the report affected the approval process at the university.**

Not applicable this is a not a doctoral degree program.

- D. Describe how the proposed program is consistent with the current State University System (SUS) Strategic Planning Goals. Identify which specific goals the program will directly support and which goals the program will indirectly support (see link to the SUS Strategic Plan on [the resource page for new program proposal](#)).**

Strengthen Quality & Reputation of Academic Programs and Universities

The proposed MAT degree program is in the Department of Movement Sciences and Health (MSH), home to programs focusing on careers in health. These include the undergraduate programs in:

- Athletic Training
- Exercise Science
- Fitness and Sport Coaching
- Physical Education Teacher Education
- Health Promotion

The department also hosts the graduate programs in:

- Exercise Science
- Physical Education and Human Performance
- Health Promotion and Worksite Wellness

Over the past five years, MSH faculty has strategically concentrated on integrating high impact teaching practices and increased research productivity which have contributed to the formation of collaborative teaching and research laboratories.

The transition from the B.S. in Athletic Training program to the MAT program provides an opportunity for increased collaboration across undergraduate and graduate programs in the UKCOH. For example, UWF's Applied Anatomy and Physiology Laboratory provides students with the opportunity to use SynDaver Anatomy Models, an education-grade synthetic human cadaver, complete with all bones, joints, muscles, organs and tendons in normal human anatomy as well as major nerves and vascular systems. This laboratory is used by faculty in the Athletic Training, Exercise Science, and Nursing degree programs.

UKCOH faculty collaborate on high-impact teaching strategies to create an inter-professional learning environment for their students. Additionally, the former Biomechanics laboratory has recently been renamed to the Sports Medicine and Neuromechanics Laboratory. This change was made to better align teaching and research agendas with the exercise science and athletic training faculty sharing common interests in sports injuries.

The department's high-impact teaching practices go beyond teaching and research collaborations in that all programs in the department have internship and practicum experiences in the community. The nature of graduate education will also increase research opportunities for faculty and graduate students in the MAT degree program. CAATE standards require core MAT faculty to demonstrate scholarship and maintain an area of contemporary expertise. This focus on research and scholarship supports faculty to expand their research agenda and seek opportunities for external funding.

Increase the Number of Degrees Awarded in STEM and Other Areas of Strategic Emphasis

Athletic training encompasses the prevention, examination, diagnosis, treatment and rehabilitation of emergent, acute or chronic injuries, and medical conditions. Athletic training is recognized by the American Medical Association, Health Resources Services Administration, and the Department of Health and Human Services as an allied health care profession. UWF's MAT program will directly support the Florida Board of Governor's goal of increasing the number of advanced degrees from Florida universities awarded in the HEALTH disciplines, an area of strategic emphasis.

UWF's MAT degree program will build upon and continue the existing strength of UWF's current undergraduate program in Athletic Training which interacts with healthcare employers in Northwest Florida through student internship and practicums. Upon graduation and completion of the Board of Certification examination, graduates of UWF's MAT degree program will become a part of Florida's healthcare workforce in a variety of settings, including schools, clinics, rehabilitation facilities, and other areas across the region.

- E. If the program is to be included in a category within the Programs of Strategic Emphasis as described in the SUS Strategic Plan, please indicate the category and the justification for inclusion.**

The Programs of Strategic Emphasis Categories:

1. Critical Workforce:
 - Education
 - Health
 - Gap Analysis
2. Economic Development:
 - Global Competitiveness
3. Science, Technology, Engineering, and Math (STEM)

Please see the Programs of Strategic Emphasis (PSE) methodology for additional explanations on program inclusion criteria at [the resource page for new program proposal](#).

Athletic Training is listed by the State University System of Florida as a program of strategic emphasis. The Athletic Training degree program 51.0913 is included in the Critical Workforce in the category HEALTH.

F. Identify any established or planned educational sites at which the program is expected to be offered and indicate whether it will be offered only at sites other than the main campus.

The proposed MAT degree program will be offered in a face-to-face format on the Pensacola campus.

INSTITUTIONAL AND STATE LEVEL ACCOUNTABILITY

II. Need and Demand

- A. Need: Describe national, state, and/or local data that support the need for more people to be prepared in this program at this level. Reference national, state, and/or local plans or reports that support the need for this program and requests for the proposed program which have emanated from a perceived need by agencies or industries in your service area. Cite any specific need for research and service that the program would fulfill.**

Professional Degree Transition

On May 20, 2015, CAATE and the National Association of Athletic Trainers (NATA) made a joint announcement about the decision to establish the professional degree in athletic training at the master's level. This announcement included phasing out allowing bachelor's level athletic training graduates to sit for the professional certification examination.

The announcement went on to say, "Professional education must provide the foundation that allows clinicians to adapt to the changing face of healthcare. They must also be positioned as a healthcare provider who significantly improves the health and well-being of their patients and have meaningful, purposeful career paths. We believe that in order to ensure better healthcare and the viability of athletic training in future years, the professional degree must be at the Master's level" (<https://caate.net/wp-content/uploads/2015/06/CAATE-Summer-2015-Insight-Newsletter.pdf>).

National

According to the U.S. Bureau of Labor and Statistics (BLS), demand for athletic trainers is expected to increase as people become more aware of the effects of sports-related injuries and as an older population continues to remain active. Sophisticated treatments in injury prevention and detection are projected to increase the demand for athletic trainers. The BLS projects employment of athletic trainers to grow by 23% from 2016 - 2026, faster than the 7% growth prediction for all occupations and faster than the 12% projected growth for other healthcare practitioners and technical occupations (<https://www.bls.gov/ooh/healthcare/athletic-trainers.htm#tab-1>).

The decision of CAATE and NATA to upgrade the professional qualifications of athletic trainers positions graduates of UWF's MAT degree program to participate actively in healthcare settings in a variety of functions. Two similar occupations are exercise physiologists and occupational therapists. It is helpful to compare job prospects and data with these two occupations as the BLS lists the education level for an athletic trainer at bachelor's degree. After the field of athletic training transitions to the postgraduate level, wages for this profession should rise accordingly as is shown in Table 1 by the higher wages garnered by the occupational therapist with an education level of master's degree.

Athletic trainers (SOC-Code 29-9091) specialize in preventing, diagnosing, and treating muscle and bone injuries and illnesses. Evaluate and advise individuals to assist recovery from or avoid athletic-related injuries or illnesses, or maintain peak physical fitness. May provide first aid or emergency care.

Exercise physiologists (SOC-Code 29-1128) develop fitness and exercise programs that help patients recover from chronic diseases and improve cardiovascular function, body composition, and flexibility.

Occupational therapists (SOC-Code 29-1122) treat injured, ill, or disabled patients through the therapeutic use of everyday activities. They help these patients develop, recover, improve, as well as maintain the skills needed for daily living and working.

Table 1 shows that the 2017 median wage of \$48,630 for athletic trainers with a bachelor's degree is higher than the median annual wage for all occupations of \$37,690. Note the 2017 median wage for the similar occupation of occupational therapist with a master's degree is 42% higher than the 2017 median wage of the athletic trainer with a bachelor's degree.

Table 1. *Wages for athletic trainers and similar occupations*

Job Title	Education Level	SOC Code	2017 Wages		2017 Median Annual Wage
			low	high	
Athletic Trainer	Bachelor's	299091	\$30,740	\$69,530	\$48,630
Exercise Physiologist	Bachelor's	291128	\$34,250	\$78,410	\$49,090
Occupational Therapist	Master's	291122	\$54,560	\$120,440	\$83,200

<https://www.bls.gov/ooh/healthcare/athletic-trainers.htm#tab-5>

Table 2 demonstrates that continued expected employment growth from 2016-2026 for athletic trainers exceeds the anticipated growth for all occupations which is 7%. During the same time period, expected employment growth for athletic trainers also exceeds that for all other healthcare practitioners and technical occupations (SOC-Code 29-9000) of 12%.

Table 2. *Anticipated ten year job growth for athletic trainers and similar occupations*

Job Title	Education Level	SOC Code	Number of Jobs 2016	Job Outlook 2016-2026	
				numeric	percent
Athletic Trainer	Bachelor's	299091	27,800	6,300	23%
Exercise Physiologist	Bachelor's	291128	15,100	2,000	13%
Occupational Therapist	Master's	291122	130,400	31,000	24%

<https://www.bls.gov/ooh/healthcare/athletic-trainers.htm#tab-6>

According to the National Athletic Trainers' Association, athletic trainers provide medical services to all types of patients, not just athletes participating in sports, and can work in a variety of job settings. Athletic trainers relieve widespread and future workforce shortages in primary care support and outpatient rehabilitation professions and provide an unparalleled continuum of care for the patients (<https://www.nata.org/about>). Table 3 shows the top industries for employment of athletic trainers and the median wages for each.

Table 3. *Industries with the highest levels of employment in this occupation and median wages*

Top Industries Employing Athletic Trainers	Median Wages
Colleges, Universities, & Professional Schools	\$49,000
General Medical and Surgical Hospitals	\$47,220
Offices of Other Health Practitioners	\$44,550
Elementary and Secondary Schools	\$58,170
Other Amusement and Recreation Industries	\$44,900

<https://www.bls.gov/oes/current/oes299091.htm#ind>

State

Florida is one of the top five states with the highest employment level for athletic trainers. Job growth potential for athletic trainers in the eight-year period 2018-2026 is 22% higher than the 10% growth projection for all occupations in the state and higher than the 16% growth projection for all healthcare practitioners and technical occupations. Annual mean wages for athletic trainers in the state at \$45,560 are higher than the all occupations figure of \$44,790. Table 4 demonstrates this data.

Table 4. *Wages and jobs for athletic trainers and similar occupations in Florida*

Job Title	SOC Code	Education Level	Annual Mean Wage	Number of Jobs 2018	Number of Jobs 2026	Growth
Athletic Trainer	299091	Bachelor's	\$45,560	1,343	1,638	22%
Exercise Physiologist	291128	Master's*	\$50,540	1,206	1,383	21%
Occupational Therapist	291122	Master's	\$84,260	6,982	8,455	21%
Healthcare Practitioners and Technical Occupations	290000	NR	\$75,140	573,571	665,476	16%
All Occupations	000000	NR	\$44,790	9,523,195	10,482,418	10%

*Florida statistic. BLS states education level for exercise physiologist as bachelor's.

https://www.bls.gov/oes/current/oes_fl.htm#otherlinks

The North American Industry Classification System (NAICS) is used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy. In addition to SOC Codes, Florida maintains data using the NAICS. The NAICS Code for Health Care and Social Assistance is 62. The state lists the sub category of Education and Health Services as one of the top growth industries in the state from 2018-2026 showing a 17% growth accounting for an additional 226,305 jobs in this area.

Health Services Employment Florida:

- 2018 - 1,334,560
- 2026 - 1,560,865

Table 5 shows industries related to athletic training are among the fastest growing in the state and which of those industries are creating the most jobs in the state. These industries align with the BLS data in Table 3 showing the top industries that employ athletic trainers.

Table 5. *Florida industries in which UWF MAT degree program graduates will find employment*

Fastest Growing Industries in Florida	Rank Among Top 20 in the State	NAICS Code	Numerical Growth	Percent Growth
Ambulatory Health Care Services	1	621	117,145	23.4%
Nursing and Residential Care Facilities	2	623	32,335	16.5%
Florida Industries gaining the most jobs				
Ambulatory Health Care Services	1	621	117,145	23.4%
Nursing and Residential Care Facilities	2	623	32,335	16.5%
Hospitals	8	622	29,362	9.1%

Local

The required clinical experience embedded in the program provides students with a formal process through which they gain valuable skills, knowledge, and attitudes. Many of UWF's B.S. in Athletic Training graduates have been hired by the clinical practitioners with which they earn their internship (refer to Section X.J. in this proposal).

Graduates of UWF's current undergraduate program are successfully employed as athletic trainers at:

- Baptist Hospital and Health Care in Santa Rosa, Okaloosa, Walton, Bay, and Leon counties
- Andrews Institute for Orthopaedics & Sports Medicine Clinics and Physician Offices
- Select Physical Therapy - Pensacola
- Clearway Pain Center - Pensacola
- Escambia County School District Career Academy
- Military Installations

Building on the strong reputation and past performance of the B.S. in Athletic Training program and the level of support for the proposed MAT degree program expressed by UWF's clinical partners and employers of UWF's undergraduate athletic trainers, UWF has a reasonable expectation that graduates of the proposed MAT degree program will be highly employable as well.

UWF's undergraduate B.S. in Athletic Training program has a successful record of employment for its graduates. Based on the 2018 cohort of graduates, UWF's *Percentage of Baccalaureate Graduates Continuing Education or Employed* for the B.S. in Athletic Training program is 93.3% with fourteen of the fifteen graduates employed in the field or continuing their education and above the SUS Strategic Goal of 90% for this performance indicator. Table 6 offers an

explanation of the status of the 2018 graduating cohort for the program with more information available in Appendix F.

Table 6. *Employment or college attendance status of UWF's 2018* graduates of the bachelor's degree program in athletic training*

What 2018 Graduate is Doing in 2019	Number of UWF Graduates	Where the graduates are attending school or are employed
UWF graduates seeking advanced degree	1	University of South Florida
	1	George Mason University, Fairfax Virginia
	1	Northwestern State University of Louisiana
Accepted into graduate program (health sciences) at other universities	1	FGCU Physical Therapy degree program
	1	A.T. Still University, Kirksville Missouri (online program, spouse is in Air Force)
Employed as Athletic Trainer and receiving paid tuition to work as Certified Athletic trainer at Hughston Clinic	2	Columbus State University, Columbus Georgia
Employed as Athletic trainer in Florida	2	Tallahassee and Miami
Employed as Athletic trainer outside of Florida	1	Chicago
Employed locally	2	Andrews Institute for Orthopaedics & Sports Medicine - Pensacola
	2	Select Specialty Hospital - Pensacola
Unknown	1	NA
Total 2018 Graduates from UWF B.S. in Athletic Training Degree Program	15	

*Reported to CAATE for fall 2017, spring 2018, and summer 2018

- B. Demand: Describe data that support the assumption that students will enroll in the proposed program. Include descriptions of surveys or other communications with prospective students.

As is shown in Appendix A Table 1-B, UWF anticipates a modest Year 1 enrollment of ten students (5.5 FTE) growing to 42 students by Year 5 (23.1 FTE). The Department Chair based the enrollment projections for Years 1-5 on several factors including:

- Of the 15 graduates of UWF’s 2018 B.S. in Athletic Training degree program, six are attending a graduate level degree program in athletic training and one is attending a Doctorate of Physical Therapy degree program (refer to Section II.A., Table 6 in this proposal). There is a high likelihood that many of these students would have remained at UWF and attended the MAT degree program if the program had been available.
- UWF’s proposed face-to-face MAT degree program will be the only program in Northwest Florida. The closest State University System graduate program in Athletic Training is at University of North Florida.
- The Andrews Institute for Orthopaedics & Sports Medicine is located in the Pensacola area. The medical facility is internationally known as a world-class center for musculoskeletal treatments and research. UWF is uniquely positioned to benefit from the proximity of the university to the Andrews Institute for Orthopaedics & Sports Medicine (<http://www.andrewsinstitute.com/>).
- The highly skilled medical professionals at Andrews Institute for Orthopaedics & Sports Medicine serve as preceptors for the clinical internship experience in UWF’s B.S. in Athletic Training degree program and will continue to do so with the MAT degree program (refer to sections III.E. & X.J. in this proposal).
- The exceptional opportunity for students to interact with Andrews Institute for Orthopaedics & Sports Medicine practitioners will enhance student interest in the UWF MAT program from other regions and states.
- The MAT program will hire a new Program Director with prior experience as an administrator in a CAATE-accredited MAT program. The Director’s position responsibilities will include recruitment of students to UWF’s MAT degree program (Appendix G).

C. If substantially similar programs (generally at the four-digit CIP Code or 60 percent similar in core courses), either private or public exist in the state, identify the institution(s) and geographic location(s). Summarize the outcome(s) of communication with such programs with regard to the potential impact on their enrollment and opportunities for possible collaboration (instruction and research). In Appendix C, provide data that support the need for an additional program.

The State University System of Florida currently offers five other master’s degree programs in athletic training in CIP Code 51.0913 (Table 7). All of these programs offer similarly named courses required by CAATE to prepare graduates to sit for the BOC examination to become an Certified Athletic Trainer. UWF’s proposed 54 SCH degree program will be offered in a traditional face-to-face format and does not expect to impact enrollment at these institutions due to their location outside the catchment area of students who usually attend UWF.

Table 7. *SUS Master of Science in Athletic Training degree programs in Florida in CIP Code 51.0913*

Institution	SCH	Location Program Offered	Degree Name
FIU	58	Face to Face	MS in Athletic Training
UCF	65	Face to Face	MS in Athletic Training
UNF	54	Face to Face	MS in Athletic Training
USF	60	Face-to-Face	MS in Athletic Training
FGCU	58	Face to Face	MS in Athletic Training

UWF faculty are engaged with other Florida athletic training faculty through professional organizations including the Athletic Trainers Association of Florida (ATAF) and the Southeastern Athletic Trainers Association (SEATA). Currently, UWF faculty collaborate with faculty from FIU and UCF as a part of the ATAF Student Leadership Enhancement and Professional Success (LEAP) program where they have had the opportunity to connect with these institutions on potential collaboration related to instruction and research.

- D. Use Table 1 in Appendix A (1-A for undergraduate and 1-B for graduate) to categorize projected student headcount (HC) and Full Time Equivalents (FTE) according to primary sources. Generally undergraduate FTE will be calculated as 30 credit hours per year and graduate FTE will be calculated as 24 credit hours per year. Describe the rationale underlying enrollment projections. If students within the institution are expected to change majors to enroll in the proposed program at its inception, describe the shifts from disciplines that will likely occur.**

The Chair of the Department of Movement Sciences and Health has determined a modest Year 1 enrollment of ten students. Enrollment projections are based on:

- the number of students who are currently enrolled in the B.S. in Athletic Training degree program who have the academic qualifications and who have expressed a desire to pursue the MAT degree,
- the number of students in similar health programs at the university who matriculate from the bachelors to masters degree programs, and
- discussions with other institutions that have transitioned from offering a B.S. in Athletic Training to offering the MAT degree program.

As is shown in Appendix A Table 1-B, the Usha Kundu, MD College of Health expects the MAT degree program to begin with ten students (5.5 FTE) in Year 1. Student headcount for Year 5 is anticipated to reach 42 (23.10 FTE). E&G cost per FTE for Year 1 is \$32,936, all reallocated funds. The E&G cost per FTE for Year 5 will decrease to \$12,661 which is in line with the SUS average of \$12,651 for CIP Code 51.

- E. Indicate what steps will be taken to achieve a diverse student body in this program. If the proposed program substantially duplicates a program at FAMU or FIU, provide, (in consultation with the affected university), an analysis of how the program might have an impact upon that university's ability to attract students of races different from that which is predominant on their campus in the subject program. The university's Equal Opportunity Officer shall review this section of the proposal and then sign and date Appendix B to indicate that the analysis required by this subsection has been completed.**

Regarding UWF's proposed Master's of Athletic Training (MAT) degree program, no comments were expressed concerning impact on programs at FAMU or FIU during the September 28, 2016 CAVP Program Coordination Work Group conference call.

Consistent with its mission, UWF has admissions policies that balance attention to access, inclusiveness, and quality. In addition, UWF encourages applications from qualified persons and does not discriminate on the basis of age, color, disability, gender (including gender identity and sex), marital status, national origin, race, religion, sexual orientation, or veteran status. Also, UWF's New Academic Program Approval Policy requires that programs appropriately address diversity. Therefore, the university and its degree programs take proactive measures to achieve a diverse student body.

To ensure the desired outcome for student diversity, recruiting efforts initially focus on the university's eight-county service area: Escambia, Santa Rosa, Okaloosa, Walton, Holmes, Washington, Bay, and Gulf. Recruitment efforts also extend to other geographic regions having larger underrepresented populations of prospective students.

The proposed MAT will be marketed to multiple student segments. Program faculty and staff will use multiple outreach methods to ensure diversity in the program. The Usha Kundu, MD College of Health will promote the proposed MAT degree to the aforementioned student segments.

The university currently attracts a diverse student body; the MAT degree program will reflect institutional diversity (Figure 1).

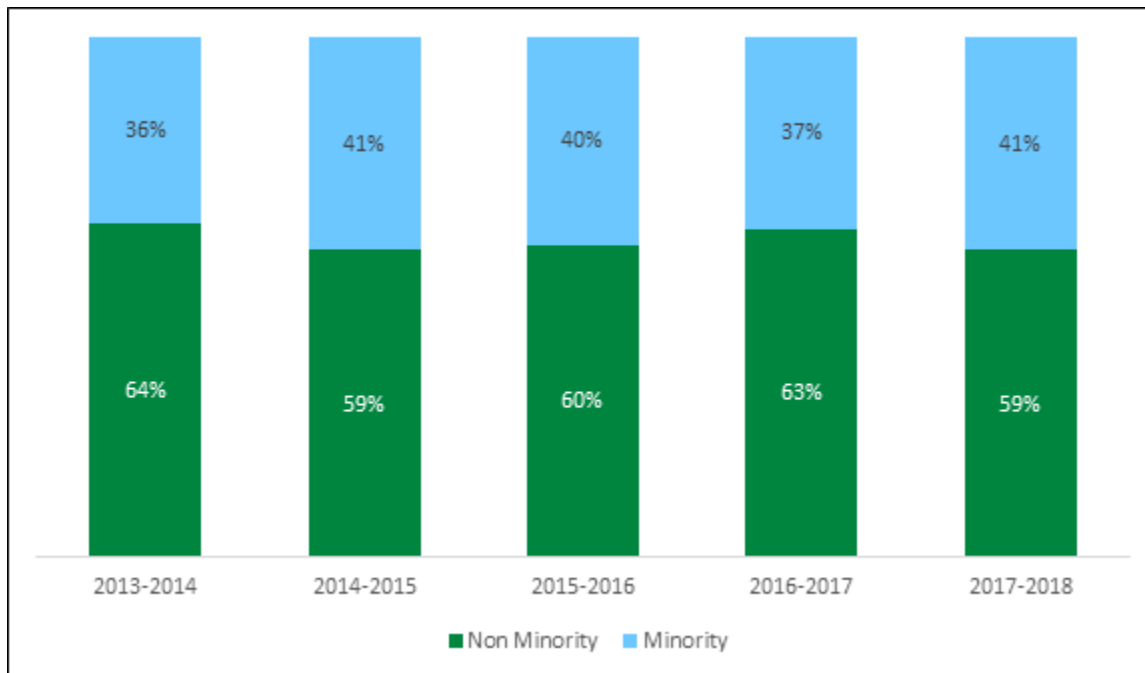


Figure 1. *Five-year comparison of diversity in the B.S. in Athletic Training degree program*

The MAT degree program will also attract and train a high number of women in this field of strategic emphasis as has been shown by the increasing enrollment in the bachelor's level degree program (Figure 2).

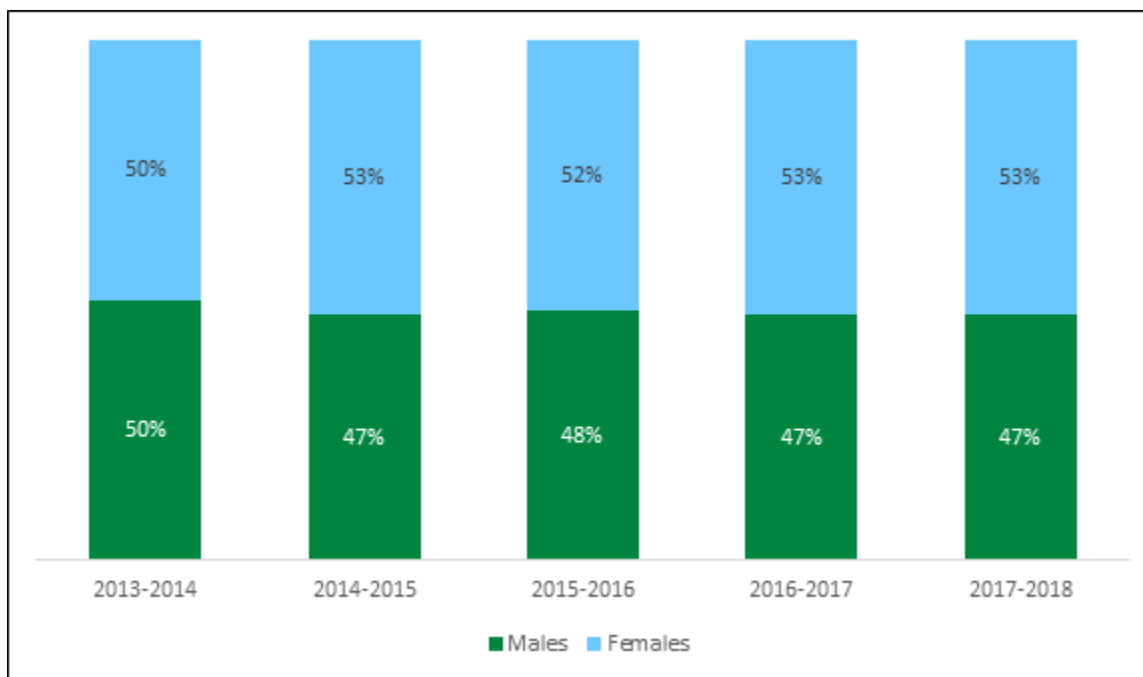


Figure 2. *Five-year increasing enrollment of female students in the B.S. in Athletic Training degree program*

III. Budget

- A. Use Table 2 in Appendix A to display projected costs and associated funding sources for Year 1 and Year 5 of program operation. Use Table 3 in Appendix A to show how existing Education & General funds will be shifted to support the new program in Year 1. In narrative form, summarize the contents of both tables, identifying the source of both current and new resources to be devoted to the proposed program. (Data for Year 1 and Year 5 reflect snapshots in time rather than cumulative costs.)

Due to the decision by the Commission on Accreditation of Athletic Training Education to require master's level education for Athletic Trainers, UWF is phasing out its B.S. in Athletic Training degree program. The MAT degree program will be using resources reallocated from the Usha Kundu, MD College of Health and the B.S. in Athletic Training degree program. Additionally, the Dean of the Usha Kundu, MD College of Health has reallocated an existing faculty line for a program director who will begin in 2019, one year prior to the implementation of the MAT in 2020.

Total Year 1 costs equal \$181,150. The following is a breakdown of the projected Year 1 costs as shown in Appendix A Table 2, all from E&G funds:

- Current full-time faculty salaries and fringe apportioned to the stand alone degree program at \$169,750 (reallocated).
- One fifth of the Department Administrator salary and fringe at \$8,400 (reallocated).
- There will be no additional library expenses for the program as the department will use the materials already in place for the undergraduate program as well as the existing graduate degree programs in health and exercise.
- Program expenses at \$3,000 (reallocated).

Total Year 5 costs equal \$292,472. The following is a breakdown of the projected Year 5 costs as shown in Appendix A Table 2, all continuing base E&G funds:

- Full-time faculty salaries and fringe along with an additional new hire on an existing line in year two increased at five per cent per annum at a total of \$279,262.
- One fifth of the Department Administrator salary and fringe increased at five percent per annum at \$10,210.
- Program expenses at \$3,000.

The E&G cost per FTE for the program is \$32,936 for Year 1 which is primarily due to the modest student headcount of ten students in the first year. The majority of the expense for the MAT degree program will be faculty salaries as UWF has the physical infrastructure in place to implement and sustain the program (refer to Section X of this proposal). The E&G cost per FTE is \$12,661 for Year 5, well in line with the SUS average FTE for CIP Code 51 of \$12,651.

- B. Please explain whether the university intends to operate the program through continuing education, seek approval for market tuition rate, or establish a differentiated graduate-level tuition. Provide a rationale for doing so and a timeline for seeking Board of Governors' approval, if appropriate. Please include the expected rate of tuition that the university plans to charge for this program and use this amount when calculating cost entries in Table 2.**

UWF does not intend to operate the program through continuing education on a cost-recovery basis, seek approval for market tuition rate, or establish differentiated graduate-level tuition.

- C. If other programs will be impacted by a reallocation of resources for the proposed program, identify the impacted programs and provide a justification for reallocating resources. Specifically address the potential negative impacts that implementation of the proposed program will have on related undergraduate programs (i.e., shift in faculty effort, reallocation of instructional resources, reduced enrollment rates, greater use of adjunct faculty and teaching assistants). Explain what steps will be taken to mitigate any such impacts. Also, discuss the potential positive impacts that the proposed program might have on related undergraduate programs (i.e., increased undergraduate research opportunities, improved quality of instruction associated with cutting-edge research, improved labs and library resources).**

The Department Chair and the Dean of the UKCOH do not anticipate any negative impact by the proposed MAT degree program on existing UWF programs. The B.S. in Athletic Training program is undergoing a teach-out as a result of the changing requirements for athletic trainer certification. Resources in use for the bachelor's degree program will be reallocated to the MAT program.

Additionally, the faculty and Dean of the UKCOH anticipate this program will have a positive impact on enrollments in that it provides UWF undergraduate students in the Exercise Science and pre-professional degree programs with the opportunity to move directly into a professional health-related graduate program. The MAT program will also provide increased undergraduate opportunities related to evidence-based medicine where clinically driven research bridges scientific inquiry and clinical practice.

- D. Describe other potential impacts on related programs or departments (e.g., increased need for general education or common prerequisite courses, or increased need for required or elective courses outside of the proposed major).**

As a graduate level program, implementation of the MAT degree program will have no impact on general education or common prerequisite courses. The MAT degree program curriculum will

provide interdisciplinary elective course options for students in the M.S. in Exercise Science degree program.

- E. Describe what steps have been taken to obtain information regarding resources (financial and in-kind) available outside the institution (businesses, industrial organizations, governmental entities, etc.). Describe the external resources that appear to be available to support the proposed program.

The faculty of UWF's B.S. in Athletic Training program have developed solid relationships with local organizations which have provided clinical internships and offered employment to many of the program's graduates. The undergraduate Athletic Training degree program currently has affiliation agreements with Baptist Hospital, Andrews Institute for Orthopaedics & Sports Medicine, Escambia County School District, Santa Rosa County School District, Select Physical Therapy, and three physicians' offices.

Under these agreements, qualified medical professionals in the professional setting act as preceptors for the UWF athletic training student's internship experience. Preceptors play an integral role in the athletic training program and provide direct and ongoing supervision during the student's required clinical experience. These agreements will continue to support the proposed MAT degree program (refer to Section X.J. of this proposal).

IV. Projected Benefit of the Program to the University, Local Community, and State

Use information from Tables 1 and 2 in Appendix A, and the supporting narrative for "Need and Demand" to prepare a concise statement that describes the projected benefit to the university, local community, and the state if the program is implemented. The projected benefits can be both quantitative and qualitative in nature, but there needs to be a clear distinction made between the two in the narrative.

Local Community

The MAT degree program will continue to impact the Northwest Florida community by providing qualified athletic trainers to support the growing need for medical professionals in the region. Graduates from UWF's B.S. in Athletic Training program are employed at:

- Baptist Hospital in Santa Rosa, Okaloosa, Walton, Bay, and Leon counties
- Andrews Institute for Orthopaedics & Sports Medicine Clinics and Physician Offices
- Select Physical Therapy - Pensacola
- Clearway Pain Center - Pensacola
- Escambia County School District Career Academy
- Military Installations

The Northwest Florida community will continue to benefit from the graduates of UWF's MAT degree program.

University of West Florida

The MAT degree program supports the UWF 2017-2022 Strategic Plan:

Strategic Direction 3.4 Optimize internal and external support to promote teaching and learning activities, service, research, strategic innovation, and other scholarly works.

The MAT degree program's clinical experiences will optimize external support from local healthcare organizations to provide teaching and learning activities that promote the student's knowledge and preparation to enter their professional field.

Strategic Direction 4.1 Strengthen and expand partnerships that amplify UWF's impact and visibility in the community as an educational, cultural, and economic center.

The clinical opportunities in the MAT degree program will serve as an opportunity for the clinical partner to work with UWF students and find future employees that serve their organization. These experiences amplify UWF's impact and visibility in the community as an educational, cultural, and economic center.

Strategic Direction 5.2 Invest in and steward UWF's natural, technical, intellectual, and physical infrastructure.

UWF's MAT degree program will utilize the technical, intellectual, and physical infrastructure already in place with the outgoing B.S. in Athletic Training degree program. The MAT degree program will support the local healthcare community by producing graduates who will become Certified Athletic Trainers.

V. Access and Articulation – Bachelor's Degrees Only

- A. If the total number of credit hours to earn a degree exceeds 120, provide a justification for an exception to the policy of a 120 maximum and submit a separate request to the Board of Governors for an exception along with notification of the program's approval. (See criteria in Board of Governors Regulation 6C-8.014)**

Not applicable this is a graduate degree program.

- B. List program prerequisites and provide assurance that they are the same as the approved common prerequisites for other such degree programs within the SUS (see link to the Common Prerequisite Manual on [the resource page for new program proposal](#)). The courses in the Common Prerequisite Counseling Manual are intended to be those that are required of both native and transfer students prior to entrance to the major program, not simply lower-level courses that are required prior to graduation. The common prerequisites and substitute courses are mandatory for all institution programs listed, and must be approved by the Articulation Coordinating Committee (ACC). This requirement includes those programs designated as "limited access."**

If the proposed prerequisites are not listed in the Manual, provide a rationale for a request for exception to the policy of common prerequisites. NOTE: Typically, all lower-division courses required for admission into the major will be considered prerequisites. The curriculum can require lower-division courses that are not prerequisites for admission into the major, as long as those courses are built into the curriculum for the upper-level 60 credit hours. If there are already common prerequisites for other degree programs with the same proposed CIP, every effort must be made to utilize the previously approved prerequisites instead of recommending an additional "track" of prerequisites for that CIP. Additional tracks may not be approved by the ACC, thereby holding up the full approval of the degree program. Programs will not be entered into the State University System Inventory until any exceptions to the approved common prerequisites are approved by the ACC.

Not applicable, this is a graduate degree program.

- C. If the university intends to seek formal Limited Access status for the proposed program, provide a rationale that includes an analysis of diversity issues with respect to such a**

designation. Explain how the university will ensure that Florida College System transfer students are not disadvantaged by the Limited Access status. NOTE: The policy and criteria for Limited Access are identified in Board of Governors Regulation 6C-8.013. Submit the Limited Access Program Request form along with this document.

The university does not intend to seek formal limited access status for the proposed program.

- D. If the proposed program is an AS-to-BS capstone, ensure that it adheres to the guidelines approved by the Articulation Coordinating Committee for such programs, as set forth in Rule 6A-10.024 (see link to the Statewide Articulation Manual on [the resource page for new program proposal](#)). List the prerequisites, if any, including the specific AS degrees which may transfer into the program.**

The proposed program is not an AS-to-BS capstone.

INSTITUTIONAL READINESS

VI. Related Institutional Mission and Strength

- A. Describe how the goals of the proposed program relate to the institutional mission statement as contained in the SUS Strategic Plan and the University Strategic Plan (see link to the SUS Strategic Plan on [the resource page for new program proposal](#)).**

Our mission at UWF is to:

- Provide high-quality undergraduate and graduate education,
- Conduct teaching and research that services the body of knowledge, and
- Contribute to the needs of professions and society.

The MAT degree program aligns with the University of West Florida Mission as follows:

The proposed MAT degree program will provide graduate students with a high-quality graduate education to become a highly skilled healthcare professional. Like the B.S. in Athletic Training degree program, the MAT program will be accredited through the Commission on Accreditation of Athletic Training Education. Graduates will sit for the BOC examination and become Certified Athletic Trainers contributing to the needs of professions and society.

CAATE accreditation ensures that the MAT degree program faculty conduct teaching and research that services the body of knowledge. The UKCOH faculty have strong research agendas are committed to advance evidenced-based scholarship, continually assess best practices related to athletic training education, and work to enhance clinical practice and patient care.

- B. Describe how the proposed program specifically relates to existing institutional strengths, such as programs of emphasis, other academic programs, and/or institutes and centers.**

The MAT degree program will benefit from the equipment and facilities installed at UWF to support the USF/UWF Doctorate of Physical Therapy Educational Partnership approved and supported by the Florida Legislature (Appendix G). The USF/UWF Doctorate of Physical Therapy program which began in 2013, ended in 2017. No additional equipment costs are required to implement the MAT program as the UKCOH will be able to integrate the use of the equipment and clinical education resources in place from the B.S. program and the Doctorate of Physical Therapy program (refer to Sections X.F & X.G. of this proposal).

UWF has well-established undergraduate programs with consistently stable enrollment in the Department of Movement Sciences and Health including a B.S. in Exercise Science that will provide internal candidates for the MAT degree program. There is great potential for collaboration related to teaching, research, and service within the UKCOH. Historically, faculty across academic disciplines of nursing, public health, health sciences, health administration, and health promotion have active collaborative research and community service projects. Additionally, the faculty in the undergraduate Athletic Training and Nursing degree programs have joined forces to provide students with patient care simulations related to interprofessional education and practice. The groundwork is set for continued partnerships as UWF transitions to the proposed MAT degree program.

- C. Provide a narrative of the planning process leading up to submission of this proposal. Include a chronology in table format of the activities, listing both university personnel directly involved and external individuals who participated in planning. Provide a timetable of events necessary for the implementation of the proposed program.**

The planning process for the MAT program was initiated in May 2015 when CAATE announced that the professional degree for Athletic Training will transition to a master's degree.

Planning Process

Table 8. *Planning Process for the MAT degree program*

Date	Participants	Planning Activity
October 2015	Department of MSH Chair (Todorovich) and AT faculty	Attended CAATE conference in Tampa related to transiting from BSAT to MAT
June - July 2016	AT faculty and consultant (Dr. Lew)	MAT program development
August - September 2016	Department of MSH Chair (Todorovich) and AT faculty	Begin preparing curriculum for program and course CCRs
January 2017	COH Associate Dean (Arruda), Assistant Dean (Kuhn), MSH Chair (Todorovich), AT Program Director (Frazee), advisors, UWF Admissions, and Academic Engagement	Discussed MAT program development and formed MS committee
May 2017	COH Associate Dean (Arruda), Assistant Dean (Kuhn), MSH Chair (Vinci), AT Program Director (Frazee) & Consultant (Dr. Moody)	MSH Committee to review initial curriculum and CCRs with consultant providing report on supporting MAT program, recommendations for curriculum, needed faculty, and resources
June 2018	Representatives from IE, UKCOH Dean (Seabert), and Department MSH Chair (Vinci)	Discussion and timeline of completing documents related to completing Request to Offer New Degree Program
September 2018	UKCOH Dean (Seabert), and Department MSH Chair (Vinci)	Discussed MAT program curriculum
September 2018	UKCOH Dean (Seabert), and Department MSH Chair (Vinci)	Completed Internal Pre-Proposal

January 2019	Representatives from IE, UKCOH Dean (Seabert), and Department MSH Chair (Vinci)	Begin the full Request to Offer a New Academic Program.
January 2019	MSH Chair (Vinci)	Prepare Request to Offer document

Events Leading to Implementation

Table 9. *Events leading to implementation of the MAT degree program*

Date	Implementation Activity
Summer 2016	Prepared CAVP pre-proposal
Summer -Fall 2016	Finalized program curriculum and submitted CCRs
September 2016	CAVP approval; no concerns
August 2018	Submitted revised curriculum and CCRs
Fall 2018	Completed and submitted internal pre-proposal
January 2019	Begin preparation of Request to Offer document
March 2019	Curriculum approved through the CCR process
May 2019 (anticipated)	Submission of Request to Offer a new Degree Program to the UWF BOT Academic Affairs Committee
June 2019 (anticipated)	Submission of Request to Offer a New Degree Program to the full UWF BOT
June 2019 (anticipated)	Submission of Request to Offer a New Degree Program to the BOG

VII. Program Quality Indicators - Reviews and Accreditation

Identify program reviews, accreditation visits, or internal reviews for any university degree programs related to the proposed program, especially any within the same academic unit. List all recommendations and summarize the institution's progress in implementing the recommendations.

As part of the planning process to offer the MAT degree program, UWF hired an external consultant, Dr. Valerie Moody, Athletic Training Program Director at the University of Montana. Dr. Moody reviewed UWF's B.S. in Athletic Training degree program to determine if transitioning to the MAT degree program was a viable option.

Based on her review of the B.S. in Athletic Training degree program's curriculum, current clinical education components, interviews with program faculty, department chair, and UKCOH senior administration as well as information from her site visit on May 25, 2017, Dr. Moody presented the following:

- The current B.S. in Athletic Training program is integrated in the Pensacola community and surrounding area with its partnerships with athletics, the Andrews Institute for Orthopaedics & Sports Medicine, and Baptist Health Care. Therefore, it is recommended that UWF pursue the MAT program. UWF's geographic location places the AT program at a distinct advantage by serving the needs of the region. The closest universities offering a professional master's program are approximately 300+ miles away (Georgia, N. Florida, and Alabama). Mississippi and Louisiana currently do not offer Master's in Athletic Training Programs. From a geographic standpoint, offering a MAT in Pensacola

provides a distinct opportunity to attract students from neighboring states and northern Florida.

- UWF has the capacity to pursue the MAT program since it will be transitioning from the B.S. in Athletic Training program to the MAT program in relation to classroom, laboratories, and equipment. While there is dedicated faculty in this program, the current Program Director does not have a terminal degree. Since SACSCOC requires a terminal degree to teach in a graduate program, the program will need to hire an academically qualified program director.
- It is recommended that the MAT program cohort size be 15-20 students with the capacity for growth once adequate faculty, financial resources, and clinical placements are well established.
- UWF will need to complete the following tasks to transition to the MAT program:
 - Update Program Vision & Mission
 - Update Educational Objectives and Student Learning Outcomes
 - Revision/update of an Assessment
 - Revision of Admission policy/criteria
 - Develop Curriculum, Course Descriptions and Sequence
 - Develop Clinical Education Plan

The UKCOH and Department of Movement Sciences and Health have made significant progress in implementing the recommendations made by Dr. Moody. Actions taken include:

- Obtaining approval and funding for new faculty hire.
- Conducting a search for the Program Director of the Athletic Training Program.
- Crafting the MAT degree program's admission policies and criteria, mission statement, student learning outcomes, curriculum, course descriptions, and sequencing of courses towards graduation.
- Preparation of CAATE Substantive Change document to transition to the MAT program Summer 2020.

VIII. Curriculum

- A. Describe the specific expected student learning outcomes associated with the proposed program. If a bachelor's degree program, include a web link to the Academic Learning Compact or include the document itself as an appendix.**

See Appendix C for the MAT degree program Academic Learning Plan.

Graduates with a Master of Science in Athletic Training degree should be able to do the following:

Content

- Describe and demonstrate concepts and principles in the delivery of healthcare with various populations.
- Identify opportunities for professional life in athletic training.

Critical Thinking

- Appraise and apply evidence-based medical data as a framework for the delivery of health care.
- Critically examine the literature and research in athletic training and related fields.

Communication

- Create and deliver effective interpersonal interaction and oral presentations.
- Write using professional standards.

Integrity/Values

- Recognize the ethical dilemmas encountered in the healthcare professions.
- Identify and adhere to relevant and appropriate professional ethical standards.

Project Management

- Collaborate effectively with other healthcare professions and community agencies.
- Design, implement, and assess research projects using specific criteria within given time constraints.

B. Describe the admission standards and graduation requirements for the program.

Admission and graduation requirements are available from the University of West Florida Catalog (Appendix E; University of West Florida. (2018). *2018-2019 University Catalog*. Retrieved from <http://catalog.uwf.edu>).

In addition to the university graduate admission requirements described above, the department bases decisions for regular admission on a holistic review of credentials in which the following criteria are used to assess the potential success of each applicant and submission of one of the following graduate admission tests:

- Graduate Record Examination (GRE)
- Miller Analogies Test (MAT)
- Undergraduate cumulative GPA

The graduate admission test requirement may be waived for applicants with:

- (1) 3.25 undergraduate GPA or higher; or
- (2) 3.0 undergraduate GPA and three years of relevant work experience in training, coaching, or teaching (sport, physical activity, physical education) that would normally require a bachelor's degree; or
- (3) a terminal degree (Ph.D., J.D., Ed.D. etc.) or an advanced professional degree (M.S., M.A., etc.) from an accredited college or university.

The following prerequisite coursework ("C" grade or higher) is required by CAATE:

- Anatomy/Physiology with lab – 2 courses
- Biology with Lab – 1 course
- Physics – 1 course
- Biomechanics – 1 course
- Chemistry – 1 course
- Exercise Physiology – 1 course
- Mathematics (Pre-calculus or higher) – 1 course
- Nutrition – 1 course
- Psychology – 1 course
- Statistics – 1 course

The following prerequisite coursework is preferred by the department:

- Principles of Athletic Training or equivalent – 1 course
- Functional Kinesiology

- C. Describe the curricular framework for the proposed program, including number of credit hours and composition of required core courses, restricted electives, unrestricted electives, thesis requirements, and dissertation requirements. Identify the total numbers of semester credit hours for the degree.

The MAT degree program requires the completion of 54 graduate semester credit hours (SCH). The program consists of 16 required courses that address the required competencies outlined in the *2020 Standards for Accreditation of Professional Athletic Training Programs*. There are no electives in the program.

Table 10. *Courses in the MAT degree program in the sequence in which students are required to take them*

Course Number	Course Name	SCH
ATR 5105C	Advanced Principles of Athletic Training	3
ATR 5120C	Anatomical Basis of Clinical Practice in Sports Medicine	3
ATR 5115C	Management of Medical Emergencies in AT	3
ATR 5217C	Orthopedic Assessment I	4
ATR 6305C	Therapeutic Modalities in AT	3
ATR 5815C	Clinical Experience in Athletic Training I	3
ATR 5218C	Orthopedic Assessment II	4
ATR 6316C	Rehabilitation Techniques in Athletic Training	4
ATR 5825C	Athletic Training Clinical Experience II	3
ATR 6620	Masters of Science Research in Athletic Training I	3
ATR 6425	Pharmacology and Diagnostic Imaging in AT	3
ATR 6621	Masters of Science Research in Athletic Training II	3
ATR 6835	Athletic Training Clinical Experience III	3
ATR 5435	General Medical Conditions in the Athlete	3
ATR 6517	Administration and Professionalism in Athletic Training	3
ATR 6845	Athletic Training Clinical Experience IV	6
Total SCH		54

- D. Provide a sequenced course of study for all majors, concentrations, or areas of emphasis within the proposed program.

The following is the sequenced course of study for the MAT Program:

Semester I (Summer) - 9 Semester Credit Hours		
ATR 5105C	Advanced Principles of Athletic Training	3
ATR 5120C	Anatomical Basis of Clinical Practice in Sports Medicine	3
ATR 5115C	Management of Medical Emergencies in AT	3
Semester II (Fall) - 10 Semester Credit Hours		
ATR 5217C	Orthopedic Assessment I	4
ATR 6305C	Therapeutic Modalities in AT	3
ATR 5815C	Clinical Experience in Athletic Training I	3
Semester III (Spring) – 14 Semester Credit Hours		
ATR 5218C	Orthopedic Assessment II	4
ATR 6316C	Rehabilitation Techniques in Athletic Training	4
ATR 5825C	Athletic Training Clinical Experience II	3
ATR 6620	Masters of Science Research in Athletic Training I	3
Semester IV (Summer) – 6 Semester Credit Hours		
ATR 6425	Pharmacology and Diagnostic Imaging in AT	3
ATR 6621	Masters of Science Research in Athletic Training II	3
Semester V (Fall) - 9 Semester Credit Hours		
ATR 6835	Athletic Training Clinical Experience III	3
ATR 5435	General Medical Conditions in the Athlete	3
ATR 6517	Administration and Professionalism in Athletic Training	3
Semester VI (Spring) – 6 Semester Credit Hours		
ATR 6845	Athletic Training Clinical Experience IV	6
Total Semester Credit Hours		54

E. Provide a one- or two-sentence description of each required or elective course.

Required Courses

(listed in order in which students take them)

ATR 5105C Advanced Principles of Athletic Training

Current principles and practice in the prevention, diagnosis, and intervention of emergency, acute, and chronic medical conditions and the underlying theory and application of management of injuries associated with participation in physical activity. This course addresses the selection, fabrication, and application of tape, braces, and other orthopedic devices used in sports medicine.

ATR 5120C Anatomical Basis of Clinical Practice in Sports Medicine

An in-depth, hands-on approach to learning the human skeletal and muscular anatomy will be offered. Students will learn anatomical and physiological studies through didactic and laboratory experiences; specifically how they relate to motion and mechanism of injury, muscle origins, insertions, and actions.

ATR 5115C Management of Medical Emergencies in AT

Course includes instruction in the prevention, diagnosis, and intervention of acute and emergency medical conditions. Students will learn the basic principles of managing medical emergencies while utilizing immediate first aid techniques.

ATR 5217C Orthopedic Assessment I

A specialized course dealing with anatomy, signs and symptoms, and specific orthopedic examination procedures used when assessing athletic injuries and conditions of the lower extremity and pelvic region, as well as lower extremity gait analysis.

ATR 6305C Therapeutic Modalities in AT

This course explores an evidence-based approach to therapeutic modality usage and implementation into a treatment plan. Students will investigate and analyze indication, contraindications, and biophysics of agents that aid in the healing of athletic injuries and the reduction of pain utilizing appropriate therapeutic modalities.

ATR 5815C Clinical Experience in Athletic Training I

For their first clinical experience, students are involved in developing a critical understanding and skill development related to injury surveillance, implementation of OSHA standards, and pre-participation exams. An emphasis will also be placed on etiology and prevention of environmental illnesses, sudden cardiac death during physical activity, emergency preparedness, and communication with coaches, parents, and athletes related to clinical issues.

ATR 5218C Orthopedic Assessment II

A systematic examination of the fundamental principles and concepts of athletic training as it relates to the prevention, evaluation, diagnosis, treatment, and rehabilitation of upper extremity injuries and conditions.

ATR 6316C Rehabilitation Techniques in Athletic Training

This course is designed to provide a comprehensive overview of clinical techniques used in athletic training rehabilitative settings. Topics covered in this course include the determination of therapeutic goals and objectives, selection of therapeutic exercise progressions, methods of evaluating and recording rehabilitative progress, developing criteria for return to activity or competition, and determining the effects of trauma, wound, healing, and inactivity.

ATR 5825C Athletic Training Clinical Experience II

Students will apply basic principles associated with prophylactic taping, wrapping, and bracing. Additionally, students will examine procedures associated with protective equipment, health maintenance, emergency management, and injury evaluation and diagnosis.

ATR 6620 Masters of Science Research in Athletic Training I

Course will develop research skills for evidence-based practitioners in athletic training. Students will acquire proficiencies necessary to critically review and use evidence in the field of athletic training and will learn how to develop clinical questions, evaluate, and integrate relevant research literature; and integrate their own clinical experience with patient values into evidence-based clinical decision making.

ATR 6425 Pharmacology and Diagnostic Imaging in AT

This course is designed to introduce students to the principles of pharmacology and diagnostic imaging as it relates to athletic training. Students will become familiar with legal issues related to prescription and non-prescription medications, manage medication administration and inventory, critique therapeutic strategies in the athletic training setting, and conduct diagnostic imaging and orthopedic assessment.

ATR 6621 Masters of Science Research in Athletic Training II

This course explores quantitative and qualitative research methodologies used in athletic training and evaluation of published research in the field. Students will learn to develop clinically based research questions related to athletic training, design effective research procedures to investigate those questions, and use various publication and presentation outlets to disseminate the findings to other athletic training scholars and practitioners.

ATR 6835 Athletic Training Clinical Experience III

Students will identify and analyze injury surveillance protocols, general medical conditions, therapeutic modalities, joint mobilizations, and injury assessments and diagnoses.

ATR 5435 General Medical Conditions in the Athlete

This course focuses on the identification and treatment of medical conditions of the nervous, urinary, endocrine, reproductive, respiratory, gastrointestinal, cardiovascular, and integumentary systems. Specific diagnostic tests and examination procedures will also be addressed.

ATR 6517 Administration and Professionalism in Athletic Training

A course designed to provide the athletic training student with competencies needed to plan, coordinate, and supervise administrative components of an athletic training organization, including those pertaining to health care, financial, personnel, and facilities management, and public relations. A comprehensive study of the concepts of legal liability, budgeting, inventory, facilities design, and general administration of the athletic training clinic will be covered.

ATR 6845 Athletic Training Clinical Experience IV

Students will refine many of the athletic training skills which were introduced during other courses. These include critique and application of evidence-based clinical practice, nutrition principles, disordered eating management, emergent care procedures, clinical reasoning, injury evaluation and diagnosis.

Elective Courses:

There are no electives in this degree program.

- F. For degree programs in the science and technology disciplines, discuss how industry-driven competencies were identified and incorporated into the curriculum and indicate whether any industry advisory council exists to provide input for curriculum development and student assessment.

CAATE has developed *Standards for Accreditation of Professional Athletic Training Programs* that are used to for the development, evaluation, analysis, and maintenance of athletic training programs including their curricular content. Conformance to CAATE requirements for curriculum are integral to maintenance of CAATE accreditation. The standards inform faculty as to content and design of the program curriculum.

The UKCOH faculty have designed the MAT degree program to conform to CAATE standards as is shown in Section VIII.C. of this proposal. In addition to conformance with CAATE standards, accreditation provides the opportunity for UWF faculty to communicate with clinical partners. Clinical partners offer valuable guidance and share ways to strengthen student knowledge, skills, and attitudes in the field of athletic training that ultimately make the graduates more successful thereby strengthening the field of practice for athletic training.

Athletic training education programs are accredited through CAATE on a ten year cycle using a self-study model where the institution evaluates their program against the CAATE standards.

In Florida, athletic trainers are required to attain BOC certification. In order for graduates of UWF's MAT degree program to be eligible to sit for the Board of Certification examination, they must graduate from a CAATE accredited program. In compliance with Florida Board of Governors' Regulation 3.006, Accreditation, UWF is seeking to remain accredited by the disciplinary accrediting body, CAATE, for its MAT degree program.

- G. For all programs, list the specialized accreditation agencies and learned societies that would be concerned with the proposed program. Will the university seek accreditation for the program if it is available? If not, why? Provide a brief timeline for seeking accreditation, if appropriate.**

UWF seeks to offer an MAT degree program to maintain compliance with BOG Regulation 3.006, Accreditation, and to ensure program graduates will be eligible to sit for the Board of Certification examination. Currently, UWF's B.S. in Athletic Training degree program is a CAATE accredited program. UWF Athletic Training administration will complete the Substantive Change documentation in order to maintain disciplinary accreditation for the MAT degree program. This documentation includes state and institutional approval of a post-baccalaureate degree in athletic training. The following timeline shown in Table 11 outlines the process of retaining CAATE accreditation for UWF's proposed MAT degree program.

Table 11. *Process for CAATE accreditation for UWF's MAT degree program*

Date	Steps to take
Spring 2019	Finalize CAATE Reaccreditation process for B.S. in Athletic Training degree program. (Note: The UWF B.S. in Athletic Training degree program will be undergoing a teach-out until Spring 2021)
Spring - Summer 2019	Complete job search and hire Program Director for Master of Science in Athletic Training Program
Spring 2019	Institutional approval of MAT degree program
Summer 2019	Florida BOG approval
Fall 2019	CAATE Substantive Change form reporting that UWF has a new Program Director

October 1, 2019	CAATE Substantive Change form: Notification of Intent for MAT degree program
December 1, 2019	Complete CAATE self-study for proposed MAT program
Spring 2020	MAT degree program accredited by CAATE

- H. For doctoral programs, list the accreditation agencies and learned societies that would be concerned with corresponding bachelor's or master's programs associated with the proposed program. Are the programs accredited? If not, why?

Not applicable. This is not a doctoral program.

- I. Briefly describe the anticipated delivery system for the proposed program (e.g., traditional delivery on main campus; traditional delivery at branch campuses or centers; or nontraditional delivery such as distance or distributed learning, self-paced instruction, or external degree programs). If the proposed delivery system will require specialized services or greater than normal financial support, include projected costs in Table 2 in Appendix A. Provide a narrative describing the feasibility of delivering the proposed program through collaboration with other universities, both public and private. Cite specific queries made of other institutions with respect to shared courses, distance/distributed learning technologies, and joint-use facilities for research or internships.

The proposed degree program will be a traditional degree program, delivered face-to-face on the UWF Pensacola campus. The closest M.S. in Athletic Training degree program is hosted at the University of North Florida. The faculty in the program look forward to knowledge sharing and possible collaboration opportunities in the future.

IX. Faculty Participation

- A. Use Table 4 in Appendix A to identify existing and anticipated full-time (not visiting or adjunct) faculty who will participate in the proposed program through Year 5. Include (a) faculty code associated with the source of funding for the position; (b) name; (c) highest degree held; (d) academic discipline or specialization; (e) contract status (tenure, tenure-earning, or multi-year annual [MYA]); (f) contract length in months; and (g) percent of annual effort that will be directed toward the proposed program (instruction, advising, supervising internships and practica, and supervising thesis or dissertation hours).

As shown in Appendix A Table 4, the following UWF full-time regular faculty will support the MAT degree program:

Christopher Dake, Ed.D.
Program Director, Ph.D.
New Hire, Ph.D.

- B. Use Table 2 in Appendix A to display the costs and associated funding resources for existing and anticipated full-time faculty (as identified in Table 4 in Appendix A). Costs for visiting and adjunct faculty should be included in the category of Other Personnel Services (OPS). Provide a narrative summarizing projected costs and funding sources.

UWF's current B.S. in Athletic Training degree program is undergoing a teach-out due to changes in the disciplinary accreditation standards of CAATE. UWF will hire an academically

qualified Program Director with a doctorate in 2019, one year prior to the implementation of the MAT degree program (Program Director Job Description is in Appendix G). The Program Director will oversee the transition from a B.S. in Athletic Training program to the MAT program. The Program Director's position will be a 12-month appointment. UWF will hire another academically qualified instructor with a doctorate to begin in Year 2 of the program. The new faculty position, reallocated from an existing line, will be a 9-month appointment

In Year 2, Dr. Chris Dake, who currently teaches in the B.S. in Athletic Training degree program will become the Clinical Education Coordinator, a 12-month position. Appendix A Table 4 reflects these positions and the resultant faculty FTE.

Year 1 faculty salary and fringe for two full time faculty as shown in Appendix A Table 2 will be reallocated from the bachelor's degree program and from the Usha Kundu, MD College of Health. The amount of \$169,750 will come from E&G funds.

Year 5 faculty salary and fringe shown in Appendix A Table 2 for three full time faculty (includes one new hire on an existing reallocated line in Year 2) will come from E&G funds shown as Continuing Base for Faculty (at 1.05% increase per year) \$279,262.

The program does not plan to use adjunct faculty at this time.

- C. Provide in the appendices the abbreviated curriculum vitae (CV) for each existing faculty member (do not include information for visiting or adjunct faculty).**

Faculty vitae in Appendix D include the following unit faculty who will be supporting the proposed degree program:

Christopher Dake, Ed.D.

- D. Provide evidence that the academic unit(s) associated with this new degree have been productive in teaching, research, and service. Such evidence may include trends over time for average course load, FTE productivity, student HC in major or service courses, degrees granted, external funding attracted, as well as qualitative indicators of excellence.**

Faculty in the B.S. in Athletic Training degree program have been productive in teaching, service, and grant productivity. The B.S. in Athletic Training degree program is a limited access program requiring a grade of C or better in all major and major-related courses and adherence to Athletic Training Program Retention and Progression Guidelines. As such, the students who advance to the upper-level of the degree program are well-qualified to graduate on time and sit for the Board of Certification examination and Athletic training state licensure/certification in Florida. The program consistently graduates a high percentage of its seniors each year.

Table 12. *SCH Generated by B.S. in Athletic Training faculty previous 4 academic years**

B.S. in Athletic Training (Limited Access Program)	AY 2014-2015	AY 2015-2016	AY 2016-2017	AY 2017-2018
SCH	3,223	3,038	2,843	2,304
FTE	107.43	101.27	94.77	76.80
Total Student Headcount	135	147	127	105
Total Upper Division Headcount	36	40	37	36
Degrees Awarded	15 (42%)	19 (48%)	17 (46%)	16 (44%)

*Academic Year is based on summer, fall, spring.

The current UWF B.S. in Athletic Training faculty member who will be participating in the MAT degree program, Dr. Christopher Dake, has been productive in the areas of teaching and service supporting the department, college, and university as well as the local and professional community. Table 13 below shows recent teaching awards received by Dr. Dake.

Table 13. *Dr. Christopher Dake recent teaching awards*

Bestowed By	Title	Date
Athletic Trainers' Association of Florida	Athletic Trainer Educator of the Year Award	July 2018
Exercise Science and Community Health	Outstanding Educator Award	April 2018

Additionally, Dr. Dake has been productive in seeking grants for the B.S. in Athletic Training degree program. In the MAT program, it is anticipated that Dr. Dake will continue to be productive in grant activity and research as it becomes a part of his role as faculty. Table 14 below shows grant productivity by Dr. Dake for the last four years.

Table 14. *Dr. Christopher Dake recent grant activity*

Awarded By	Title and Year	Amount
National Athletic Trainers Association Ethnic Diversity Advisory Committee	Bridging the Cultural Gap among Navajo High School Students and the Athletic Training Profession (2018)	\$5,000
Quality Enhancement Plan High Impact Practice	Athletic Training Students Writing and Submitting Presentations for the Student Southeast Athletic Trainers' Association Annual Meeting (2018)	\$5,000

Quality Enhancement Plan High Impact Practice	Athletic Training Technology, Education, and Design Talks (2017)	\$5,000
UKCOH Dean Interprofessional Collaboration Grant	Using Scenarios to Examine Athletic Training and Nursing Students' Attitudes Toward Interprofessional Education (2015)	\$6,182
EMERGE CEPS High Impact Practice Grant	Let's go to Disney (2014)	\$2,000
ITEP Grant	Technologic upgrades on the Athletic Training classroom (2014)	\$ 32,572
Four-Year Total		\$55,754

X. Non-Faculty Resources

- A. Describe library resources currently available to implement and/or sustain the proposed program through Year 5. Provide the total number of volumes and serials available in this discipline and related fields. List major journals that are available to the university's students. Include a signed statement from the Library Director that this subsection and subsection B have been reviewed and approved.

UWF currently offers a Bachelor of Science in Athletic Training in the Department of Movement Sciences and Health. The library is currently equipped with sufficient resources and services to support a Master of Science in Athletic Training.

The libraries shelve more than 800,000 print volumes and house an extensive microforms collection. Electronic resources include more than 160,000 e-books and access to approximately 80,000 journals and other serial titles through a discovery system. An analysis of holdings in relevant Library of Congress classifications for athletic training indicate that UWF has over 9,000 books related to this field. Additionally, the library has access to 2,300+ e-books and 8,000+ e-journals related to athletic training.

Table 15. *Title counts of book holdings in UWF libraries related to athletic training*

Subject	LC Class	# of Volumes
Physical Education and Training	GV201-555	1,324
Human Anatomy	QM	268
Physiology	QP	6,007
Sports Medicine	RC1200-1245	441
Wounds and Injuries, Emergency Surgery	RD92-97	104

Orthopedic Surgery, Physical Rehabilitation	RD701-811	104
Therapeutics, Physical Therapy, etc.	RM	946
TOTALS		9,194

Table 16. *Title counts of E-Journals related to athletic training*

Subject	Number of Volumes
Anatomy & Physiology	200
Health & Medicine	7,045
Nursing & Allied Health	873
Sports & Leisure	701
Sports Medicine	59
TOTALS	8,878

Indexing, abstracting and full text databases relevant to athletic training include SportDiscus, Health and Wellness Resource Center, PubMed, and MEDLINE, as well as many multidisciplinary resources. Using their Argonet accounts, students and faculty may access electronic resources anytime from any place.

Subject Databases

- CINAHL Complete
- Cochrane Library (Wiley)
- DIRLine
- Dissertations and Theses (ProQuest)
- Health and Wellness Resource Center (Gale Group)
- Immunology Abstracts (ProQuest)
- JoVE – General Science Collection
- MEDLINE (OCLC)
- Nursing & Allied Health Source (ProQuest)
- OVID
- PubMed
- Science Direct
- SPORTDiscus
- Web of Science

Multidisciplinary Databases

- Academic Search Complete
- Dissertations and Theses (ProQuest)

- JSTOR
- ProQuest Central

Major Journals (Peer-Reviewed)

- Advances in Exercise & Sports Physiology (2006-present)
- American Journal of Sports Medicine (1999-present)
- Athletic Training & Sports Health Care (2009-present)
- British Journal of Sports Medicine (1970-present, 3 month delay)
- International Journal of Athletic Therapy & Training (2011-present)
- International Journal of Sports Physical Therapy (2011-present)
- International Journal of Sports Physiology and Performance (2006-present)
- Journal of Athletic Training (1997-present, 6 month delay)
- Journal of Exercise Science and Fitness (2009-present)
- Journal of Science and Medicine in Sport (1998-present)
- Journal of Sport Rehabilitation (1997-present)
- Journal of Sports Science and Medicine (2002-present)
- Open Access Journal of Sports Medicine (2010-present)
- Physical Therapy in Sport (2000-present)
- Physical Training (2005-present)
- Research in Sports Medicine (2003-present, 18-month delay)
- Sports Health (2009-present)
- Sports Medicine (1997-present)

Each academic discipline is assigned a Reference Librarian to serve as a department liaison, providing library instruction, collection development, and reference assistance for the students and faculty in that discipline. To support the needs of online learners, students may also schedule a research consultation with their liaison via in-person, LibChat, or telephone. The liaison for Athletic Training is Hillary Fox.

The library provides an Online Learners Library Guide (<http://libguides.uwf.edu/online>) outlining services and resources that support the increasing number of online learners. The library has also been responsive to the needs of clients who prefer to work from home. In addition to being able to access databases and materials in full-text online, UWF students and faculty may also take advantage of these online library services:

- Access the Health, Leisure, and Exercise Science research guide:
<http://libguides.uwf.edu/HLES>
- Read course-required readings on electronic reserves
- Request books and articles from Interlibrary Loan
- Request Intercampus Loan (to/from the Fort Walton Beach Campus library)
- Renew books
- Submit a reference question via text, email, or chat
- Request priority cataloging of an item that is on order
- Suggest the purchase of a particular book or journal
- Request an item to be recalled for use
- Have UWF and Interlibrary Loan books delivered to your home address if you live over 50 miles from campus.

B. Describe additional library resources that are needed to implement and/or sustain the program through Year 5. Include projected costs of additional library resources in Table 2 in Appendix A. Please include the signature of the Library Director in Appendix B.

The Interim Dean of Libraries has determined that the library resources currently available are more than adequate to implement the Master's in Athletic Training and sufficient to sustain the program through Year 5.

- C. Describe classroom, teaching laboratory, research laboratory, office, and other types of space that are necessary and currently available to implement the proposed program through Year 5.**

The proposed MAT degree program will utilize currently available classroom, equipment, and laboratory space to implement and support the program through Year 5. The program will be able to use space released by the B.S. in Athletic Training program which is undergoing a teach-out.

The MAT program has dedicated space for laboratory, office and other program needs.

In Building 72

Classroom dedicated to athletic training (Room 235),
Hydrotherapy Laboratory (Room 239),
Athletic Training Simulation Laboratory (Room 238), and
Additional classroom space (Rooms 210, 211, & 212).

In Building 54

Anatomy & Physiology Laboratory (Room 147). This clinical classroom was acquired from the elimination of the USF-UWF DPT Educational Partnership (Appendix H) and is equipped with examination tables and specialty tables that hold the SynDavers (synthetic human body) that are used during classroom instruction.

In April of 2018, UWF opened the University Park Center (Building 234), a \$7 million 32,700 square foot multi-use facility on the Pensacola campus. The UKCOH administration, faculty, and Dean have offices on the second floor of the building. The new MAT Program Director and the new faculty to begin in Year 2 will have offices in building 72.

- D. Describe additional classroom, teaching laboratory, research laboratory, office, and other space needed to implement and/or maintain the proposed program through Year 5. Include any projected Instruction and Research (I&R) costs of additional space in Table 2 in Appendix A. Do not include costs for new construction because that information should be provided in response to X (E) below.**

After a careful inventory of the facilities, the Department Chair and Dean of UKCOH have determined that UWF and the UKCOH have sufficient classroom, teaching and research laboratories and office space to implement and sustain the MAT degree program through Year 5.

- E. If a new capital expenditure for instructional or research space is required, indicate where this item appears on the university's fixed capital outlay priority list. Table 2 in Appendix A includes only Instruction and Research (I&R) costs. If non-I&R costs, such as indirect costs affecting libraries and student services, are expected to increase as a result of the program, describe and estimate those expenses in narrative form below. It is expected that high enrollment programs in particular would necessitate increased costs in non-I&R activities.**

As is shown in Appendix A Table 2 the MAT program requires no new capital expenditures for instructional or research space. Additionally, Sections X. A-D describe the sufficient instructional and research space for the program.

F. Describe specialized equipment that is currently available to implement the proposed program through Year 5. Focus primarily on instructional and research requirements.

UWF's proposed MAT degree program has sufficient specialized equipment currently available to implement the proposed program and sustain it through Year 5. A comprehensive list of specialized equipment and resources available at UWF to the instructors and students in the MAT degree program is shown below.

Athletic Training Degree Program Instructional Aid Resources:

- Vision testing equipment/device
- Skinfold caliper, bioelectric impedance or other validated technique
- Psychrometer (sling or digital) and/or wet bulb globe temperature meter
- Helmet/headgear
- Shoulder Pads
- Upper extremity bracing
- Lower extremity bracing
- Padding Material
- Casting Material
- Splinting Material
- Elastic Wraps
- Taping Materials
- Goniometers / Inclometers
- Reflex Hammers
- Tape Measures
- Otoscope
- Ophthalmoscope
- Peak Flow Meter or similar device
- Computer Hardware and Software for Education
- SynDav (synthetic cadaver)

Athletic Training Degree Program Therapeutic Modality & Rehabilitation Equipment Resources:

- Isokinetic Device
- Weight Training Equipment
- Treadmill
- Stair Climber or Other Lower Body Endurance Equipment
- Stationary Bicycle
- Upper Body Ergometer or Other Upper Body Endurance Equipment
- Whirlpool
- Ice or Cold Packs
- Hot Packs
- Paraffin Treatment Supplies
- Direct Current
- Ultrasound
- Mechanical Traction Unit

- Intermittent Compression Unit
- Biofeedback Unit
- Physioballs
- Proprioceptive Equipment
- Weighted Balls
- Therapeutic Pool Access

G. Describe additional specialized equipment that will be needed to implement and/or sustain the proposed program through Year 5. Include projected costs of additional equipment in Table 2 in Appendix A.

The existing equipment described in Section X. F. will be sufficient to implement and sustain the MAT degree program through Year 5.

H. Describe any additional special categories of resources needed to implement the program through Year 5 (access to proprietary research facilities, specialized services, extended travel, etc.). Include projected costs of special resources in Table 2 in Appendix A.

Appendix A Table 2 shows a Year 1 expense of \$3,000 of reallocated base (column 1) to cover the cost of CAATE reaccreditation for the B.S. in Athletic Training program through the teach-out and expenses for the Substantive Change reports for accrediting the MAT degree program. In Year 5 (column 9) there is a \$3,000 expense to cover additional expenses as they relate to the continuing accreditation process through CAATE.

No additional resources are needed to implement and sustain the MAT degree program through Year 5.

I. Describe fellowships, scholarships, and graduate assistantships to be allocated to the proposed program through Year 5. Include the projected costs in Table 2 in Appendix A.

The MAT degree program will not offer scholarships or graduate assistantships. Appendix A Table 2 reflects that there will be no additional funds for the program to support scholarships and graduate assistantships.

J. Describe currently available sites for internship and practicum experiences, if appropriate to the program. Describe plans to seek additional sites in Years 1 through 5.

The MAT curriculum provides clinical experiences sometimes referred to as practicum or internship experiences where students work directly with preceptors, a certified/licensed professional who teaches and/or evaluates students in a clinical setting using an actual patient base. These clinical experiences are required in the curriculum as a necessary part of the student's training and education. This clinical requirement in the curriculum satisfies an important educational component as outlined by the programmatic accreditor, CAATE, in order to best prepare graduates for success on the Board of Certification exam and in the field.

The B.S. in Athletic Training degree program has been successful at establishing locations for students to complete the required clinical component of their training. The MAT degree program will benefit from continuing these experiences.

Among the agreements and locations for students to work directly with Certified Athletic Trainers and health care professionals are:

- Andrews Institute for Orthopaedics & Sports Medicine - Gulf Breeze and Pensacola locations
- Baptist Health Care Educational and Athletic Training Services for schools in Escambia and Santa Rosa Counties:
 - Escambia County
 - Escambia High School
 - Pensacola High School
 - Pine Forest High School
 - Tate High School
 - Washington High School
 - West Florida Technical High School
 - Pensacola Catholic High School
 - Santa Rosa County
 - Gulf Breeze High School
 - Jay High School
 - Milton High School
 - Navarre High School
 - Pace High School
 - Colleges
 - Pensacola State College
- Select Physical Therapy – Pensacola
- Physician Offices in Escambia and Santa Rosa Counties:
 - Dr. Richard Sellers
 - Dr. Joshua Hackel
 - Dr. Brett Kindle

APPENDICES

Appendix A

Table 1B Projected Headcount from Potential Sources

Table 2 Projected Costs and Funding Sources

Table 3 Anticipated Reallocation of E&G Funds

Table 4 Anticipated Faculty Participation

APPENDIX A
TABLE 1-B
PROJECTED HEADCOUNT FROM POTENTIAL SOURCES
(MAT)

Source of Students (Non-duplicated headcount in any given year)*	Year 1		Year 2		Year 3		Year 4		Year 5	
	HC	FTE	HC	FTE	HC	FTE	HC	FTE	HC	FTE
Individuals drawn from agencies/industries in your service area (e.g., older returning students)	1	0.6	2	1.10	5	0.00	5	2.75	5	2.75
Students who transfer from other graduate programs within the university**	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Individuals who have recently graduated from preceding degree programs at this university	5	2.75	7	3.85	12	6.60	18	9.90	20	11.00
Individuals who graduated from preceding degree programs at other Florida public universities	2	1.10	4	2.20	4	2.20	6	3.30	6	3.30
Individuals who graduated from preceding degree programs at non-public Florida institutions	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Additional in-state residents***	0	0.00	5	2.75	4	2.20	4	2.20	5	2.75
Additional out-of-state residents***	2	1.10	4	2.20	5	2.75	5	2.75	6	3.30
Additional foreign residents***	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Other (Explain)***	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Totals	10	5.50	22	12.10	30	13.75	38	20.90	42	23.10

* List projected annual headcount of students enrolled in the degree program. List projected yearly cumulative ENROLLMENTS instead of admissions.

** If numbers appear in this category, they should go DOWN in later years.

*** Do not include individuals counted in any PRIOR category in a given COLUMN.

APPENDIX A

TABLE 2 (MAT) PROJECTED COSTS AND FUNDING SOURCES

Instruction & Research Costs (non-cumulative)	Year 1								Year 5							
	Funding Source								Subtotal columns 1+...+7	Funding Source						Subtotal columns 9+...+14
	Reallocated Base* (E&G)	Enrollment Growth (E&G)	New Recurring (E&G)	New Non- Recurring (E&G)	Contracts & Grants (C&G)	Philanthropy Endowments	Enterprise Auxiliary Funds	Continuing Base** (E&G)		New Enrollment Growth (E&G)	Other*** (E&G)	Contracts & Grants (C&G)	Philanthropy Endowments	Enterprise Auxiliary Funds		
Columns	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Faculty Salaries and Benefits	169,750	0	0	0	0	0	0	\$169,750	279,262	0	0	0	0	0	\$279,262	
A & P Salaries and Benefits	8,400	0	0	0	0	0	0	\$8,400	10,210	0	0	0	0	0	\$10,210	
USPS Salaries and Benefits	0	0	0	0	0	0	0	\$0	0	0	0	0	0	0	\$0	
Other Personal Services	0	0	0	0	0	0	0	\$0	0	0	0	0	0	0	\$0	
Assistantships & Fellowships	0	0	0	0	0	0	0	\$0	0	0	0	0	0	0	\$0	
Library	0	0	0	0	0	0	0	\$0	0	0	0	0	0	0	\$0	
Expenses	3,000	0	0	0	0	0	0	\$3,000	3,000	0	0	0	0	0	\$3,000	
Operating Capital Outlay	0	0	0	0	0	0	0	\$0	0	0	0	0	0	0	\$0	
Special Categories	0	0	0	0	0	0	0	\$0	0	0	0	0	0	0	\$0	
Total Costs	\$181,150	\$0	\$0	\$0	\$0	\$0	\$0	\$181,150	\$292,472	\$0	\$0	\$0	\$0	\$0	\$292,472	

*Identify reallocation sources in Table 3.

**Includes recurring E&G funded costs ("reallocated base," "enrollment growth," and "new recurring") from Years 1-4 that continue into Year 5.

***Identify if non-recurring.

Faculty and Staff Summary

	Year 1	Year 5
Total Positions		
Faculty (person-years)	2.00	2.75
A & P (FTE)	0.2	0.2
USPS (FTE)	0	0

Calculated Cost per Student FTE

	Year 1	Year 5
Total E&G Funding	\$181,150	\$292,472
Annual Student FTE	5.5	23.1
E&G Cost per FTE	\$32,936	\$12,661

Table 2 Column Explanations

Reallocated Base* (E&G)	1	E&G funds that are already available in the university's budget and will be reallocated to support the new program. Please include these funds in the Table 3 - Anticipated reallocation of E&G funds and indicate their source.
Enrollment Growth (E&G)	2	Additional E&G funds allocated from the tuition and fees trust fund contingent on enrollment increases.
New Recurring (E&G)	3	Recurring funds appropriated by the Legislature to support implementation of the program.
New Non-Recurring (E&G)	4	Non-recurring funds appropriated by the Legislature to support implementation of the program. Please provide an explanation of the source of these funds in the budget section (section III. A.) of the proposal. These funds can include initial investments, such as infrastructure.

Contracts & Grants (C&G)	5	Contracts and grants funding available for the program.
Philanthropy Endowments	6	Funds provided through the foundation or other Direct Support Organizations (DSO) to support of the program.
Enterprise Auxiliary Funds	7	Use this column for continuing education or market rate programs and provide a rationale in section III.B. in support of the selected tuition model.
Subtotal columns 1+...+7	8	Subtotal of values included in columns 1 through 7.
Continuing Base** (E&G)	9	Includes the sum of columns 1, 2, and 3 over time.
New Enrollment Growth (E&G)	10	See explanation provided for column 2.
Other*** (E&G)	11	These are specific funds provided by the Legislature to support implementation of the program.
Contracts & Grants (C&G)	12	See explanation provided for column 5.
Philanthropy Endowments	13	See explanation provided for column 6.
Enterprise Auxiliary Funds	14	Use this column for continuing education or market rate programs and provide a rationale in section III.B. in support of the selected tuition model.
Subtotal columns 9+...+ 14	15	Subtotal of values included in columns 9 through 14.

APPENDIX A

**TABLE 3
(MAT) ANTICIPATED REALLOCATION OF EDUCATION & GENERAL FUNDS***

Program and/or E&G account from which current funds will be reallocated during Year 1	Base before reallocation	Amount to be reallocated	Base after reallocation
Program Resources reallocated from the Usha Kundu, MD College of Health	181,150	181,150	\$0
Totals	\$181,150	\$181,150	\$0

* If not reallocating funds, please submit a zeroed Table 3

APPENDIX A

TABLE 4

(MAT) ANTICIPATED FACULTY PARTICIPATION

Faculty Code	Faculty Name or "New Hire" Highest Degree Held Academic Discipline or Speciality	Rank	Contract Status	Initial Date for Participation in Program	Mos. Contract Year 1	FTE Year 1	% Effort for Prg. Year 1	PY Year 1	Mos. Contract Year 5	FTE Year 5	% Effort for Prg. Year 5	PY Year 5
B	Program Director PhD Athletic Training	Assoc Professor	MYA	2019	12	1.00	1.00	1.00	12	1.00	1.00	1.00
A	Chris Dake EdD C&I Physical Ed & Health	Instructor	MYA	2020	9	.75	1.00	1.00	12	1.00	1.00	1.00
B	New Hire	Assistant Professor	MYA	2021	0	0.00	0.00	0.00	9	0.75	1.00	0.75
	Total Person-Years (PY)							2.00				2.75

Faculty Code		Source of Funding	PY Workload by Budget Classification	
			Year 1	Year 5
A	Existing faculty on a regular line	Current Education & General Revenue	1.00	2.00
B	New faculty to be hired on a vacant line	Current Education & General Revenue	0.00	0.75
C	New faculty to be hired on a new line	New Education & General Revenue	1.00	0.00
D	Existing faculty hired on contracts/grants	Contracts/Grants	0.00	0.00
E	New faculty to be hired on contracts/grants	Contracts/Grants	0.00	0.00
Overall Totals for			Year 1	Year 5
			2.00	2.75

Appendix B

Signatures

APPENDIX B

Please include the signature of the Equal Opportunity Officer and the Library Director.

DocuSigned by:
Kim LeDuff
Signature of Equal Opportunity Officer

03/12/2019
Date

Kim LeDuff
Name of Equal Opportunity Officer

DocuSigned by:
Stephanie Clark
Signature of Dean of University Libraries

03/12/2019
Date

Stephanie Clark
Name of Dean of University Libraries

This appendix was created to facilitate the collection of signatures in support of the proposal. Signatures in this section illustrate that the Equal Opportunity Officer has reviewed section II.E of the proposal and the Library Director has reviewed sections X.A and X.B.

UWF also requires that a Request to Offer a New Degree program is reviewed by the Chief Technology Officer.

DocuSigned by:
Melanie Haveard
Signature of Chief Technology Officer

03/12/2019
Date

Melanie Haveard
Name of Chief Technology Officer

Appendix C

Academic Learning Plan and Student Learning Outcomes

ACADEMIC LEARNING PLAN

MASTER OF SCIENCE IN ATHLETIC TRAINING

Mission Statement

The mission of the Athletic Training Program (ATP) at the University of West Florida is to provide a comprehensive educational approach, including didactic and clinical preparation, to build a foundation for individuals preparing for a career in Athletic Training. The comprehensive approach employed by the faculty will be used to teach advanced knowledge and skills while promoting critical thinking, problem solving, ethical reasoning abilities, and interpersonal skills. Upon successful completion of this program, our students are eligible to sit for the Board of Certification (BOC) examination.

Student Learning Outcomes

Graduates with a Master of Science in Athletic Training degree should be able to do the following:

Content

Describe and demonstrate concepts and principles in the delivery of healthcare with various populations.

Identify opportunities for professional life in athletic training.

Critical Thinking

Appraise and apply evidence-based medical data as a framework for the delivery of health care. Critically examine the literature and research in athletic training and related fields.

Communication

Create and deliver effective interpersonal interaction and oral presentations.

Write using professional standards.

Integrity/Values

Recognize the ethical dilemmas encountered in the healthcare professions.

Identify and adhere to relevant and appropriate professional ethical standards.

Project Management

Collaborate effectively with other healthcare professions and community agencies.

Design, implement, and assess research projects using specific criteria within given time constraints.

Assessment of Student Learning Outcomes

Athletic Training faculty members are committed to assess students' progress toward fulfillment of Students Learning Objectives for the Master's Degree in the following ways: examinations, individual

Employment Opportunities for Master of Science in Athletic Training Graduates

Colleges and Universities

Professional Sports Teams

Health/Fitness Centers

Sport Medicine Clinics

U.S. Olympic Training Centers and Affiliated Sports Teams

Industrial/Corporate Settings

Find Out More about the Master of Science in Athletic Training at UWF:

<https://uwf.edu/ukcoh/departments/movement-sciences-and-health/undergraduate-majors/athletic-training/>

Movement Sciences & Health

Usha Kundu, MD College of Health

Appendix D

Curriculum Vitarum

Curriculum Vitae

Christopher C. Dake, Ed. D., ATC, LAT

February 1, 2018

Office Address: University of West Florida
Department of Movement Sciences and Health
11000 University Parkway
Pensacola FL 32514
Office location: Building 72, Room 254
Office phone: (850) 857-6314
Department phone: (850) 474-2593
Department FAX: (850) 474-2106

E-mail address: cdake@uwf.edu
Department website: <http://uwf.edu/hles/>

Professional Preparation

December 2017 Doctor of Education in Curriculum and Instruction
Specialization: Health and Physical Education
Dissertation title: Perceived Susceptibility of Injuries among High School Athletes Participating in Football
Committee Members: Dr. John R. Todorovich (Chair), Dr. Debra Vinci, Dr. Carla Thompson

April 2016 Education Specialist in Curriculum and Instruction
The University of West Florida

December 2001 Master of Arts in Sports and Recreation Administration
Morehead State University

December 2000 Bachelor of Science in Health and Physical Education
Tennessee Technological University

Professional Experience

- University of West Florida, Pensacola, FL Lecturer and Clinical Education Coordinator, Commission on Accreditation of Athletic Training Education (CAATE) Accredited Athletic Training Program August 2013-present
- 2013-present. **Instructor/Lecturer** – Athletic Training Program Clinical Education Coordinator, Department of Exercise Science and Community Health, Usha Kundu, MD College of Health, University of West Florida, Pensacola, FL
- 2009-2012. **Head Athletic Trainer/Clinical Education Coordinator** – Department of Exercise Science and Community Health and Department of Athletics (split position), College of Health, University of West Florida, Pensacola, FL
- 2009-2012. **Preceptor** for student athletic trainers, University of West Florida, Pensacola, Florida

- 2006-2009. **Senior Assistant Athletic Trainer/Instructor**- Department of Athletics and Department of Exercise Science and Physical Education (split position), College of Education, Carson-Newman University, Jefferson City, Tennessee
- 2006-2009. **Preceptor** for student athletic trainers, Carson-Newman University, Jefferson City, Tennessee
- 2005- 2006. **Teacher/Athletic Trainer** – Health and Physical Education, Northside High School, Roanoke County Schools. Roanoke, Virginia
- 2003-2005. **Teacher/Athletic Trainer** – Health and Physical Education, Hidden Valley Middle School and Northside High School, Roanoke County Schools, Roanoke Virginia
- 2001-2003. **Athletic Trainer** – University Medical Center outreach to Westmoreland High School, Lebanon, Tennessee

TEACHING

University Undergraduate Teaching Assignments

ATR 3302 - Therapeutic Modalities
 ATR 2012 - Advanced Care and Prevention of Athletic Injuries
 ATR 3512 - Management Strategies in Athletic Training
 ATR 3212 -Lower Body Orthopedic Evaluation
 ATR 4212 - Orthopedic Evaluation II
 ATR 3812 - Athletic Training Clinical I
 ATR 3822 - Athletic Training Clinical II
 ATR 3302/L - Therapeutic Modalities Lab
 ATR 4314/L - Rehabilitation/Lab
 ATR 4832 - Athletic Training Clinical III
 ATR 4842 - Athletic Training Clinical IV
 ATR 3132 - Functional Kinesiology
 PET 3905 - Athletic Training Internship
 PET 4905 - Internship in Athletic Training
 HLP 4940 - Internship
 Honors Thesis

Presentations

2018

- November - Hosted AT-TED Talks, University of West Florida, Pensacola, Florida
- October - Effective Self Introductions Presentation, LEAPS Program, Athletic Trainers Association of Florida meeting, Orlando, Florida
- April - Public Speaking Presentation, LEAPS Program, Athletic Trainers Association of Florida meeting, Orlando, Florida
- March - Profession Action Planning, LEAPS Program, Athletic Trainers Association of Florida meeting, Orlando, Florida
- March - Hosted AT-TED Talks, University of West Florida, Pensacola, Florida
- February - Faculty, Southeastern Athletic Trainers Association Student meeting in Atlanta, Georgia

2017

- July - You Have the Job, Now What, LEAPS Program, Athletic Trainers Association of Florida meeting, Orlando, Florida

- November - Hosted AT-TED Talks, University of West Florida, Pensacola, Florida
- October - Faculty member for LEAPS First annual retreat
- March - Hosted AT-TED Talks, University of West Florida, Pensacola, Florida
- February - Goal Setting and Positive Attitudes (Webinar), LEAPS Program, Athletic Trainers Association of Florida meeting
- February - Faculty, Southeastern Athletic Trainers Association Student meeting in Atlanta, Georgia

2016

- June - Perceived Susceptibility of Torso Injuries among High and Middle School Football Players, Free Communication Poster Presentation at National Athletic Trainers Association, Baltimore, Maryland
- March - Using Scenarios to Examine Athletic Training and Nursing Students' Attitudes Toward Interprofessional Education, Southeastern Athletic Trainers Association Educators meeting in Atlanta, Georgia
- February - Faculty, Southeastern Athletic Trainers Association Student meeting in Atlanta, Georgia

2015

- March - Let's go to Disney (Presented with students), Completed project as an EMERGE faculty member, University of West Florida, Pensacola, Florida
- March - Moderator for five sessions at the Southeastern Athletic Trainers Association meeting in Atlanta, Georgia
- February - Student quiz bowl designer and facilitator, Athletic Trainers Association of Florida, Orlando Florida

2014

- March - Moving forward as a Profession, Southeastern Athletic Trainers Association Student meeting in Atlanta, Georgia
- March - Moderator for two sessions at the Southeastern Athletic Trainers Association Student meeting in Atlanta, Georgia
- February - Student quiz bowl designer and facilitator, Athletic Trainers Association of Florida, Orlando Florida

2013

- February - Student quiz bowl designer and facilitator, Athletic Trainers Association of Florida, Orlando Florida

2011

- August - Inviter speaker at Santa Rosa County Physical Education teacher's day, Milton, Florida

2003

- Presenter University Medical Center (Throwers Ten), Lebanon, Tennessee

Professional Development**2018**

- Member of UWF Faculty Senate
- Member of Academic Council Committee UWF Faculty Senate
- Florida representative member Southeastern Athletic Trainers' Association (SEATA) meeting Research and Education Committee
- Member of the Student Leadership Enhancement And Professional Success (LEAPS) committee for Athletic Trainers' Association of Florida (ATAF).

- Sponsored a group of students to assist in the medical coverage for the Disney Marathon Weekend
- Sponsored a group of students to tour the medical facilities for NASA (led to an internship placement)
- Attended 69th NATA Clinical Symposia & AT Expo, New Orleans, LA

2017

- Member of UWF Faculty Senate
- Member of Governance Committee UWF Faculty Senate
- Florida representative member Southeastern Athletic Trainers' Association (SEATA) meeting Research and Education Committee
- Member of the Student Leadership Enhancement And Professional Success (LEAPS) committee for Athletic Trainers' Association of Florida (ATAF).
- Sponsored a group of students to assist in the medical coverage for the Disney Marathon Weekend
- Sponsored a group of students to tour the medical facilities for NASA (led to an internship placement)
- Attended 68th NATA Clinical Symposia & AT Expo, Houston, TX

2016

- At Large committee member Southeastern Athletic Trainers' Association (SEATA) meeting Research and Education Committee
- Inaugural Member of the student Leadership Enhancement And Professional Success (LEAPS) committee for Athletic Trainers' Association of Florida (ATAF).
- Pilot grant writing group at UWF.
- Sponsored a group of students to assist in the medical coverage for the Disney Marathon Weekend
- Attended 67th NATA Clinical Symposia & AT Expo, Baltimore, MD

2015

- At Large committee member Southeastern Athletic Trainers' Association (SEATA) meeting Research and Education Committee
- Member of University and College Student AT Committee for Athletic Trainers Association of Florida (ATAF)
- Completed "*Preventing Discrimination and Harassment*" seminar (July)
- Sponsored a group of students to assist in the medical coverage for the Disney Marathon Weekend

2014

- Member of University and College Student AT Committee for Athletic Trainers Association of Florida (ATAF)
- Sponsored a group of students to assist in the medical coverage for the Disney Marathon Weekend
- Attended the SEATA Meeting in Atlanta, GA
- Attended 65th NATA Clinical Symposia & AT Expo, Indianapolis, IN

2013

- Member of University and College Student AT Committee for Athletic Trainers Association of Florida (ATAF)
- Attended 64th NATA Clinical Symposia & AT Expo, Las Vegas, NV
- Attended Athletic Training Educators Meeting, Dallas, TX
- Completed One Chapter Review for F. A. Davis
- Attended 23rd ATAF Meeting, Orlando, FL

2012

- Attended Florida Athletic Training Educators Meeting, Lakeland, FL
- Completed Two Chapter Reviews for F.A. Davis
- Suicide Prevention Training
- Multicultural Training
- Search Committee for UWF Health Clinic Registered Nurse

2011

- Search Committee for UWF Strength and Conditioning Coach
- Search Committee for UWF Health Clinic Registered Nurse
- Attended Athletic Training Educators Seminar
- GSC athletic trainer meeting attendee 2010 and 2011

NATA national symposium attendee- 1998 and 2004-2017**Grants, Honors, and Awards**

- Recipient, Athletic Trainers' Association of Florida Athletic Trainer Educator of the Year Award (July 2018)
- Recipient, Exercise Science and Community Health Department Outstanding Educator Award (April 2018)
- Grant submitted and awarded for \$5,000 from NATA EDAC to fund a project titled: Bridging the Cultural Gap among Navajo High School Students and the Athletic Training Profession, PI – C. C. Dake (2018).
- Grant submitted and awarded for \$5,000 to fund the Quality Enhancement Plan High Impact Practice Grant titled: Athletic Training Students Writing and Submitting Presentations for the Student Southeast Athletic Trainers' Association Annual Meeting, PI – C. C. Dake (2018).
- Grant submitted and awarded funding for \$5,000 to fund the Quality Enhancement Plan High Impact Practice Grant titled: Athletic Training Technology, Education, and Design Talks, PI – C. C. Dake (2017).
- July 2015- Grant submitted and awarded for \$6,182.19 to support research project collaboration with the nursing department titled "*Using Scenarios to Examine Athletic Training and Nursing Students' Attitudes Toward Interprofessional Education*"
- Grant submitted and awarded for \$2000 to fund the EMERGE High Impact Practice Grant titled Let's go to Disney, PI – C. C. Dake (2014).
- March 2014- Grant submitted and awarded for \$ 32,572.25 for technologic upgrades on the Athletic Training classroom.
- Granny Brown Scholarship for Student Teaching award \$500

Research

- February 2016- Research project collaboration with the nursing department titled "*Using Scenarios to Examine Athletic Training and Nursing Students' Attitudes Toward Interprofessional Education*"
- Research project involving torso injury epidemiology collaboration with Dr. Todorovich, Dr. Vinci, and The Taylor Haugen Foundation and YESS Foundation.
- 2013-Mentored a senior student through her undergraduate thesis titled Effects of a mentorship program and peer-assisted learning in a medical-based limited access program, for the UWF honors program

Mentored Student Presentations

- SEATA-ATSS Symposia 2019-Andrew Summerlin- “Beta-Thalassemia in a 15-year-old Athlete”
- SEATA-ATSS Symposia 2019- Marisha Little- “Idiopathic Left-sided Neurological Deficit of a 35-year Old Marathon Runner: A Case Study”
- OUR Symposium 2018-Cat Crowley-“Gastroparesis in a 15-Year-Old Soccer Player: A Case Study”
- OUR Symposium 2018- Dimitar Dimitrov-“ Ehlers-Danlos Syndrome in 18-Year-Old Long Distance Runner: A Case Study”
- OUR Symposium 2018- Dominique McWaine-“ Spinal Cord Stimulator in a 57-year-old man: A Case Study”
- OUR Symposium 2018- Gabrielle Ball-“ Non-contact Oblique Fibular Fracture with Torn Interosseous Membrane: A Case Study”
- OUR Symposium 2018- Gracie Thurson -“ Scheuermann's Disease in an Adolescent High School Football Player: A Case Study”
- OUR Symposium 2018-Jonathon Jones-“Long-Term Negative Effects Following Post-Antero-Superior Hips Labrum Repair: A Case Study”
- OUR Symposium 2018- Justin Klotz -“ Bruised Ossification over the Base of the Fifth Metatarsal: A Case Study”
- OUR Symposium 2018- Kylie Harris -“Scapular Fracture with an Involved Glenoid Fracture in a 17 Year Old Male: A Case Study”
- OUR Symposium 2018- Marisha Little -“Avulsion of Plantar Plate in 17-Year-Old Linebacker: A Case Study”
- OUR Symposium 2018- Sarah Gifford -“Patellar Realignment in 18-Year-Old Softball Player: A Case Study”
- OUR Symposium 2017- Jessica Harris-“Abdominal Hernia in a Collegiate Women’s Volleyball Player: A Case Report”
- OUR Symposium 2017-Cat Crowley-“Chiari I Malformation In a 15 Year Old High School Football Player: A Case Study”
- OUR Symposium 2017- Dimitar Dimitrov-“Ulcerative Colitis in a 16-Year-Old Football Player: A Case Study”
- OUR Symposium 2017- Rebekah Ergle-“Achilles Tendon Rupture in a 21 Year Old Soccer Athlete: A Case Study”
- OUR Symposium 2017-Jonathon Jones-“Arthrofibrosis and ACL Reconstruction: A Case Study”
- OUR Symposium 2017- Jennifer Schaffner-“Scapular Dyskinesis in a 20 Year Old Weightlifter: A Case Study”
- OUR Symposium 2017- Jennifer Schaffner, Moriah Douglas, Jaleese Cope-“Positive and Negative Attributes of Working in the High School Setting as an Athletic Trainer”
- OUR Symposium 2017- Ishmael Ryan, Amanda Demma, Emily Wilson –“Mental Toughness and Athletics”
- OUR Symposium 2017 and 2018- Brian Loken, Michael Honeywell, Hiroki Isejima-“Blood Flow Restriction Training affects on Hypertrophy and Strength in the Upper Extremities”

Clinical

- 2014-2018 AT Team leader Disney Marathon Weekend
- 2014- Medical Director for the Pensacola Beach Half Marathon
- January 2014-2018- Sponsored a group of students to assist in the medical coverage for the Disney Marathon Weekend
- 2012- Drug Testing Coordinator, NCAA DII Volleyball National Championship, Pensacola, FL
- 2011- Drug Testing Coordinator, NCAA DII Soccer National Championship, Pensacola, FL
- Sports Medicine Coordinator, GSC Men's and Women's Basketball Championship, 2011

Professional Qualifications

- NATABOC 2001-present
- Florida Licensed Athletic Trainer
- CPR and First Aid Professional Rescuer
- EMERGE Faculty Fellow (2014)

Additional Athletic Training

- 2015-2016 Pensacola Roller Girls
- 2013-2015- UWF Rugby Club
- 2009-2015 Pensacola Marathon
- 2010-2017 UWF Soccer Camps and Summer Leagues
- 2012-2015 Destin Soccer Rodeo
- 2009-2014 Pensacola Beach Half Marathon
- 2009 Knoxville Marathon
- 2008- Cock County High School, TN Football and Basketball
- 2001- Bath County High School, KY Football

Professional Organization Affiliations

- Member, National Athletic Trainers' Association (NATA), 1998-Current.
- Member, South East Athletic Trainers' Association (SEATA) 2006-Current.
- Member, Athletic Trainers' Association of Florida (ATAF), 2006-Current

Appendix E

University of West Florida Graduate Admissions and Graduation Requirements

APPENDIX E ADMISSION AND GRADUATION REQUIREMENTS

<http://catalog.uwf.edu/graduate/academicpolicies/graduation/>

GENERAL INFORMATION

The Graduate School administers the application, admission, and readmission process for all degree-seeking and non-degree seeking graduate students. It also assists prospective graduate students in obtaining information about UWF.

General Policies

The University of West Florida encourages applications for admission from qualified students regardless of gender, culture, religion, ethnic background, age, marital status, or disability. Students with documented visual impairments, hearing impairments, motor impairments, or specific learning disabilities may petition for substitution of admission requirements provided such substitution does not significantly alter the nature of the program for which admission is being sought. For more information about the University's admission requirement substitution policy contact the Graduate School.

Admission of students to the University of West Florida is within the jurisdiction of the University, but subject to the minimum standards adopted by the UWF Board of Trustees and the Florida Board of Governors.

Conditions of Admission

The Graduate School will notify the applicants of the admission decision. Admission to the University is often contingent upon the subsequent receipt of satisfactory and official college or university transcripts and verification of baccalaureate degrees. Failure to submit such documents may result in the cancellation of admission. Refer to [Provisional Admission](#) for more information.

Ownership of Submitted Documents

All credentials and documents submitted become the property of the University of West Florida. The originals or copies of the originals will not be returned to the applicant or forwarded to another institution, agency, or person.

Fraudulent Records

If it is found that an applicant has made a false or fraudulent statement or a deliberate omission on the application for admission, the residency statement, or any other accompanying documents or statements, the applicant may be denied admission. If the student is already enrolled when the fraud is discovered, the case will be adjudicated using the procedures specified for violations of the UWF Student Conduct System as contained in the [Student Handbook](#).

Applicant Conduct

The University shall evaluate an applicant's previous conduct to determine whether offering the applicant admission is in the best interest of the University. Applicants with a record of previous misconduct at an educational institution or criminal conduct will be evaluated during the admission process in accordance with [UWF/REG 3.003](#).

Request for Admission for a Later Semester

Applicants are admitted to the University only for the semester for which they apply. Students who do not enroll in the semester for which they have been admitted and want consideration for a different semester must reapply for admission and pay another application processing fee. Applicants will be considered for admission under the policies in effect at that time. Admission is not automatic. If an applicant has attended, or is currently attending, another collegiate institution since the submission of the previous application, the applicant must indicate the institution on the new application and provide an official transcript of all work attempted.

Admission Documents Required

Applicants for graduate admission must provide the Graduate School with the following documents:

Application for Admission

Applicants must apply for [graduate level admission online](#). The application for admission and a non-refundable, non-deferrable \$30 processing, fee payable to the University of West Florida, should be submitted six to nine months prior to the semester for which admission is requested. It is the policy of the University not to defer or waive the application for admission and the application processing fee. The application processing fee must be in U.S. currency and drawn from a U.S. bank. There is an option to pay via credit card when the web application is submitted.

College Transcripts

Applicants must submit one official transcript from each college and university attended to the Graduate School. Applicants who received their undergraduate degree from UWF do not need to provide UWF transcripts. Transcripts are considered official when they are sent from a college or university directly to the Graduate School and bear an official seal and signature. Transcripts bearing the statement "Issued to Student," faxed transcripts, or transcripts submitted by the applicant are not considered official. Original documents, or signed officially certified photocopies of original documents, may be submitted by the applicant only when institutions outside the U.S. will not send academic records to other institutions. The verifying signature should preferably be that of an officer of the institution attended. All academic records that are not in English must be accompanied by certified English translations.

Test Scores

Official test results from a nationally standardized graduate admission test are required for all applicants unless otherwise specified by the graduate program to which the applicant is applying.

Applicants should contact the graduate department for which he/she applied to inquire as to which test is acceptable for that program or if it may be waived. The University of West Florida accepts the Graduate Record Examination (GRE), the Miller Analogies Test (MAT), and the Graduate Management Admissions Test (GMAT). For the majority of departments, it is recommended that the graduate admission test be taken no later than April for the fall semester, August for the spring semester, or January for the summer semester. Applicants should contact the specific department for departmental deadlines for admission tests. Applicants to the Ed.D. program should take the GRE, MAT, or GMAT one year prior to desired admission. The test scores are considered official only when they are sent directly to the Graduate School from the testing agency. Examinee copies are not considered official. The GRE, GMAT, and MAT are offered several times a year at numerous testing centers in the U.S. and abroad. Advanced registration is required. Registration forms, as well as detailed information on the availability and character of the examinations, may be obtained from the UWF Testing Center.

Departmental Requirements

Some departments have additional admission requirements such as auditions, portfolios, goal statements, letters of recommendation, departmental applications, writing samples, personal interviews, and diagnostic testing. Applicants should contact the department directly regarding any departmental admission requirements.

Deadlines for Applications and Supporting Documents

The final deadlines for applications and supporting documents for graduate applicants are: Because some departments have earlier deadlines, applicants should contact the specific academic departments for departmental deadlines. It is in an applicant's best interest to apply early. Files completed after the published deadlines may not be processed in time for the applicant to be considered for enrollment in the desired semester.

Application for Graduation

Applications for Graduation are submitted for the term in which the student is completing their degree requirements. All applications must be submitted during the application period. Specific dates are noted in the [Academic Calendar](#). Students who miss the deadline should contact their academic department to determine eligibility and to request a late submission. Students submitting a late application risk not being included in the commencement program important graduation communication.

Retroactive graduation to a prior semester will not be approved.

Master's and Specialist Degrees

Students fulfilling requirements for a UWF master's or specialist degree must follow the instructions for [Applying for Graduation](#) and also the [Graduation Guide](#).

GRADUATION PROCESS

Degree Requirements

All degree requirements must be complete by the last day of the semester for which the graduation application is submitted. Students whose Graduation Application is denied for any reason or do not meet the requirements for graduation must submit a new application for the semester in which the requirements are met.

Good Standing Status

A student must be in good standing to receive a UWF degree. Accordingly, any student who is subject to suspension or probation for scholastic or disciplinary reasons will not graduate until the conditions of suspension or probation have been satisfied.

Appendix F

Job Placement for 2018 Graduates

From CAATE

<https://www.e-accred.caate.net/programs/60/bocpassrate>

accessed 02/19/2019

BOC Pass Rate Table

Once a BOC ID is matched to each student in a cohort, and the student has taken the BOC exam, this table will populate from data directly from the BOC. The aggregate pass rate is calculated by the number of graduates taking the exam divided by the number of graduates who pass the exam.

Important note: The first time pass rate and total pass rate may be different than what was previously received by programs from the BOC in the Institution Pass Report. The BOC pass rate on previous reports from the BOC was calculated without regard to student cohort and was based on the BOC exam year (April-February of each year). BOC pass rate data posted on the program's website MUST match the data on this table.

Programs must meet or exceed a three year aggregate of 70 percent first-time pass rate on the BOC exam.

Student BOC Pass Rate

	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	3 yr aggregate
Number of students graduating from program.	16	13	16	17	16	17	15	48
Number of students graduating from program who took examination.	13	12	12	17	14	16	14	44
Number of students who passed the examination on the first attempt.	6	8	10	11	13	10	9	32
Percentage of students who passed the examination on the first attempt.	46	67	83	65	93	63	64	73
Number of students who passed the examination regardless of the number of attempts.	10	9	11	16	13	13	14	40
Percentage of students who passed the examination regardless of the number of attempts.	77	75	92	94	93	81	100	91

Student Graduation and Employment/Placement Rate

Student Graduation Rate

Graduation rate (taken from United States Department of Education): Measures the progress of students who began their studies as full-time, first-time degree- or certificate seeking students by showing the percentage of these students who complete their degree or certificate within a 150% of "normal time" for completing the program in which they are enrolled.

Graduation rate is calculated as: the sum of students with a Graduated status divided by the total number of students in the cohort (excluding students with the status of leave of absence (medical) or deceased).

	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	3 yr aggregate
Number of students graduating from program.	16	13	16	17	16	17	15	48
Student Graduation Rate (%)	100	100	100	100	100	100	88	96

Student Employment/Placement Rate

Graduate employment/placement rate: Percentage of students within 6-months of graduation that have obtained positions in the following categories: employed as an athletic trainer, employed as other, and not employed.

Employment/Placement rate is calculated as: the sum of students with a Employed as an Athletic Trainer or Employed as an Athletic Trainer and in a degree or residency program then divided by the total number of students who have graduated (excluding students with a Not Employed, due to military service and Deceased).

	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	3 yr aggregate
Number of students Employed as AT	7	6	6	13	13	12	12	37
Student Employment/Placement Rate as AT (%)	44	46	40	76	81	71	80	77
Number of students employed as other	6	5	6	4	1	1	0	2
Student Employment/Placement Rate as other (%)	38	38	40	24	6	6	0	4

	2011- 2012	2012- 2013	2013- 2014	2014- 2015	2015- 2016	2016- 2017	2017- 2018	3 yr aggregate
Number of students not employed	1	1	2	0	0	2	1	3
Student Not Employed Rate (%)	6	8	13	0	0	12	7	6

Appendix G

Position Description and Position Announcement Program Director

Position Description
Program Director, MS in Athletic Training Education Program
Department of Movement Sciences & Health
Usha Kunda, MD College of Health

Title: Director of Athletic Training Program

Rank: Clinical Assistant Professor

Appointment: 12 months

Job Summary: This is a non-tenure earning clinical assistant professor beginning August 2019. The faculty member will serve as the Program Director for the Masters of Science in Athletic Training Education Program and will facilitate the transition from the undergraduate AT program to a Master in Athletic Training (MAT) program. Once the MAT program begins, the candidate will teach graduate coursework and/or other courses assigned by department chair. The successful candidate will engage in clinical scholarly activity, university and community service, and work with other university departments to recruit students in the graduate Athletic Training program. Consistent with CAATE standards, the responsibilities of the Program Director include day-to-day operation, coordination, supervision, and evaluation/assessment of all aspects of the Athletic Training Program.

Major Responsibilities:

- Serve as Director of the Graduate Athletic Training Program (ATP), recognized by the Commission on Accreditation of Athletic Training Education (CAATE).
- Responsible for the day-to-day operation, coordination, supervision, and evaluation of all aspects of the ATP.
- Ensure ongoing compliance with CAATE standards.
- Oversee the programmatic, administrative, and supervisory responsibilities of the ATP curriculum that include coordinating AT faculty course assignments, determining course offerings, and curriculum development that includes assessment and submitting curriculum changes through the university's curriculum review process.
- Teach courses in ATP and other courses assigned by the department chair.
- Coordinate with department chair the ATP annual program budget.
- Communicate with department chair on issues related to ATP operations.
- Develop and maintain records and other documents important to the program such as compliance with OSHA and technical standards and student and program liability insurance.
- Coordinate the admissions process into the professional phase of the program.
- Collaborate with professional advisors on graduate program of study.
- Mentor students related to career opportunities.
- Attend departmental meetings representing the ATP.
- Provide service to professional organizations, university and local community.

Minimum Qualifications: Earned Doctorate in Athletic Training, Human Performance, Kinesiology, Exercise Science, or closely related discipline. Board of Certification (BOC) Certified Athletic Trainer in good standing and eligibility for FL State Licensure. A minimum of 5 years contemporary experience and clinical athletic training practice and minimum of 3 years of collegiate teaching experience in face-to-face and online formats. Administrative experience and familiarity with CAATE standards and processes. Additional requirements include: supervision and evaluation of athletic training students; ability to work within a collaborative faculty environment; involvement with professional organizations; and excellent communication and writing skills.

Preferred Qualifications: The ideal candidate will have experience as a Program Director and/or Clinical Educational Coordinator of a CAATE accredited Athletic Training Program and demonstrated three or more years of university-level experience in administration and/or teaching in areas of athletic training, kinesiology, and/or related fields at the undergraduate and/or graduate levels. Record of leadership within an accredited program and ability to work effectively with students, faculty, and staff.

Salary Range: Commensurate with experience

Position Announcement for Director of Athletic Training Program

The Department of Movement Sciences and Health at the University of West Florida invites applications for a non-tenure Clinical Assistant/Associate Professor position as the Director of Athletic Training Program. This is a 12-month position that requires a doctorate in Athletic Training, Human Performance, Kinesiology, Exercise Science, or closely related discipline. Board of Certification (BOC) Certified Athletic Trainer in good standing and eligibility for FL State Licensure is required along with a minimum of 5 years contemporary experience and clinical athletic training practice and minimum of 3 years of collegiate teaching experience in areas of athletic training, kinesiology, and/or related fields at the undergraduate and/or graduate levels. Additional requirements include: administrative experience and familiarity with CAATE standards and processes; supervision and evaluation of athletic training students; ability to work in a collaborative faculty environment; involvement with professional organizations; and excellent communication and writing skills.

Additionally, this position will facilitate the transition from the undergraduate AT program to a Master in Athletic Training (MAT) program. Once the MAT program begins, the candidate will teach graduate coursework and/or other courses assigned by department chair. The successful candidate will engage in clinical scholarly activity, university and community service, and work with other university departments to recruit students in the graduate Athletic Training program. Consistent with CAATE standards, the responsibilities of the Program Director include day-to-day operation, coordination, supervision, and evaluation/assessment of all aspects of the Athletic Training Program.

Salary will be commensurate with qualifications and experience. An attractive benefits package is available.

Preferred Qualifications

- Experience as a Program Director and/or Clinical Education Coordinator of a CAATE accredited Athletic Training program.
- Experience maintaining CAATE Accreditation documentation.
- Record of scholarship and student research mentoring.

Appendix H

Letter of Termination USF/UWF Doctorate of Physical Therapy Program



Office of the Provost
11000 University Parkway
Pensacola, FL 32514-5750

June 29, 2017

SENT BY CERTIFIED MAIL
RETURN RECEIPT REQUESTED
7004 0750 0002 8185 6030

Charles J. Lockwood, MD
Senior Vice President USF Health
University of South Florida
12901 Bruce B. Downs Blvd. MDC 02
Tampa, Florida 33612

RE: USF/UWF DPT Educational Partnership Program

Dear Dr. Lockwood:

NOTICE OF TERMINATION

In 2013, the Florida Legislature agreed to provide \$1 million in annual appropriations to UWF to establish a Doctorate of Physical Therapy program in conjunction with USF. UWF and USF worked together to establish the USF/UWF DPT Educational Partnership Program ("Partnership Program"). In November 2013, the parties entered into an Affiliation Agreement ("Affiliation Agreement"), setting forth the responsibilities of each party. (Copy attached). At Section II C 6., the Affiliation Agreement provides that UWF and USF will "share on a 50/50 basis all of the Legislatively appropriated funds provided for the Program that are in the UWF base budget." No other UWF funding responsibilities or obligations were agreed to by the parties.

On June 2, 2017, Governor Rick Scott vetoed the \$1 million in annual appropriations which funded the Partnership Program and, as a result, funding for the program will be discontinued as of June 30, 2017. Since there will be no legislatively appropriated funds provided for the Program as of June 30, 2017, there will be no funds to "share on a 50/50 basis." Section VII C. of the Affiliation Agreement provides that USF is to submit quarterly invoices to UWF for payment for "as long as the Program is active *and the legislature continues to fund the program.*" As the state appropriation will no longer fund the program, the last quarterly payment to be made by UWF shall be the June 30, 2017 payment.

For the reasons explained in this letter, the University of West Florida hereby notifies USF that it is terminating the Affiliation Agreement pursuant to Section XV B 2. for "[f]inancial exigency in UWF that is material to the implementation of this Agreement." Pursuant to Section XV B of the Affiliation Agreement, where a financial exigency occurs, UWF may terminate this agreement on (90) days written notice to USF.

Phone **850.474.2035** Fax **850.474.3131**

Web **uwf.edu**

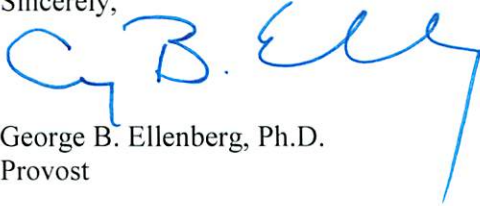
An Equal Opportunity/Equal Access Institution

Pursuant to (Section XVII K) of the Affiliation Agreement, a party will be excused for failure to perform its obligations under the Agreement in the event of a Force Majeure. Provision K states,

Force Majeure. Either Party will be excused from any delay or failure in the performance of its obligations under this Agreement to the extent that the delay or failure is caused by an intervening act, incident, or circumstance that is beyond its reasonable control and cannot be overcome through exercise of reasonable diligence.

The June 2, 2017 veto of the legislative appropriation that funds this program constitutes a Force Majeure, and excuses UWF's obligations under this agreement.

Sincerely,

A handwritten signature in blue ink, appearing to read "G. B. Ellenberg". The signature is fluid and cursive, with a long vertical stroke at the end.

George B. Ellenberg, Ph.D.
Provost

Cc: USF Office of the General Counsel
Dr. Ralph Wilcox, Provost and Executive Vice President
Ms. Laura Swisher, Interim Director, USF School of Physical Therapy

UWF Board of Trustees Meeting
Academic Affairs Committee
May 15, 2019

Issue/Agenda Item: Request to Offer a New Degree Program - Master of Science in Data Science (MS in Data Science)

Proposed Action: Approve Request

Background Information:

The University of West Florida (UWF) proposes to offer the MS in Data Science degree program in CIP Code 11.0802, a STEM discipline, effective Fall 2019.

The MS in Data Science is a master's level degree program consisting of 30 semester credit hours (SCH) beyond a bachelor's degree. The program will be housed in the Department of Mathematics and Statistics within the Hal Marcus College of Science and Engineering (HMCSE). The degree program will be offered using a blend of asynchronous online courses and traditional face-to-face courses that use a synchronous online format. All students in the program will be able to participate in class sessions remotely.

The field of data science is developing rapidly as modern society is producing information at a prolific rate. Data Scientists integrate interdisciplinary fields to collect, analyze, and transform large groups of data into meaningful information that organizations can use to gain insights and make decisions. Many organizations including financial institutions, healthcare providers, marketing firms, manufacturers, and governmental entities employ data scientists. Graduates of UWF's MS in Data Science program will find employment in high paying jobs with mean annual wages ranging from \$72,800 to \$85,900 through 2025. (Source: U.S. Bureau of Labor Statistics, Occupational Employment Statistics)

The US Bureau of Labor Statistics expects national demand for individuals with data science skills to be among the fastest growing occupations through 2026. Data scientists are employed in industry under a variety of titles that include data scientist, data analyst, business analyst, statistician, mathematician, and database administrator. Statisticians and mathematicians are the seventh and tenth fastest growing occupations over the 2016-2026 period with a projected growth rate of 33%. (Source: U.S. Bureau of Labor Statistics, Occupational Outlook Handbook accessed 01/17/2019) A search of active job postings within the state of Florida yielded over 2,000 current job vacancies for data scientists. Within Northwest Florida, companies, both local and national, have active job postings for data scientists and related titles to include CACI, KBRwyle, Huron Inc., Baptist Management Services, and Woodlands Medical Specialists.

UWF's proposed MS in Data Science will leverage the university's relationships with business and industry along with existing strengths in the Hal Marcus College of Science and Engineering. Students in the program will take a 21 SCH core of applied mathematics, statistics, computer applications and computer programming

courses. Through consultation with their advisors and faculty, students will select a 9 SCH focus in mathematics, statistics, computer science, or earth and environmental science.

The addition of the MS in Data Science degree program at UWF will provide clear benefits to the university and the local community by:

- Attracting talented students, from across the nation and around the world, to Florida.
- Providing a path to a graduate degree in the high-paying and high-demand field of Data Science.
- Offering interdisciplinary research opportunities for faculty and students.
- Allowing the university to respond to local, regional, and state workforce needs.

Implementation Plan:

- The CAVP approved the MS in Data Science on September 28, 2018.
- The UWF Faculty Senate approved the curriculum on December 17, 2018.
- The UWF Board of Trustees Academic Affairs Committee considers the Request to Offer a New Degree Program May 15, 2019.
- The UWF Board of Trustees considers the Request to Offer a New Degree Program June 19, 2019.
- Florida Board of Governors considers the Request to Offer a New Degree Program June 2019.
- Notification to SACSCOC of Substantive Change June 2019.
- New degree program implementation Fall 2019.

Fiscal Implications: Fiscal implications are reflected in the Request to Offer.

Supporting documents:

Request to Offer a New Degree Program – MS in Data Science

http://pages.uwf.edu/aadocs/bot/RTO_MS_Data_Science.pdf

Prepared by: Kimberly D. McCorkle, Vice Provost
(850) 857-6198, KMcCorkle@uwf.edu

Presenter: Kimberly D. McCorkle, Vice Provost

Board of Governors, State University System of Florida

Request to Offer a New Degree Program

(Please do not revise this proposal format without prior approval from Board staff)

University of West Florida	Fall 2019
University Submitting Proposal	Proposed Implementation Term
Hal Marcus College of Science and Engineering	Mathematics and Statistics
Name of College(s) or School(s)	Name of Department(s)/ Division(s)
Data Science	Master of Science in Data Science
Academic Specialty or Field	Complete Name of Degree
11.0802	
Proposed CIP Code	

The submission of this proposal constitutes a commitment by the university that, if the proposal is approved, the necessary financial resources and the criteria for establishing new programs have been met prior to the initiation of the program.

Date Approved by the University Board of Trustees	President	Date
Signature of Chair, Board of Trustees	Date	Vice President for Academic Affairs
		Date

Provide headcount (HC) and full-time equivalent (FTE) student estimates of majors for Years 1 through 5. HC and FTE estimates should be identical to those in Table 1 in Appendix A. Indicate the program costs for the first and the fifth years of implementation as shown in the appropriate columns in Table 2 in Appendix A. Calculate an Educational and General (E&G) cost per FTE for Years 1 and 5 (Total E&G divided by FTE).

Implementation Timeframe	Projected Enrollment (From Table 1)		Projected Program Costs (From Table 2)				
	HC	FTE	E&G Cost per FTE	E&G Funds	Contract & Grants Funds	Auxiliary Funds	Total Cost
Year 1	25	13.75	\$18,104	\$248,931			\$248,931
Year 2	55	30.25					
Year 3	90	49.50					
Year 4	100	55.00					
Year 5	125	68.75	\$6,026	\$414,259			\$414,259

Note: This outline and the questions pertaining to each section must be reproduced within the body of the proposal to ensure that all sections have been satisfactorily addressed. Tables 1 through 4 are to be included as Appendix A and not reproduced within the body of the proposals because this often causes errors in the automatic calculations.

Note: This outline and the questions pertaining to each section must be reproduced within the body of the proposal to ensure that all sections have been satisfactorily addressed. Tables 1 through 4 are to be included as Appendix A and not reproduced within the body of the proposals because this often causes errors in the automatic calculations.

INTRODUCTION

I. Program Description and Relationship to System-Level Goals

A. Briefly describe within a few paragraphs the degree program under consideration, including (a) level; (b) emphases, including majors, concentrations, tracks, or specializations; (c) total number of credit hours; and (d) overall purpose, including examples of employment or education opportunities that may be available to program graduates.

(a) Master of Science

(b) Data Science

(c) 30 Semester Credit Hours beyond the bachelor's degree

(d) The University of West Florida (UWF) seeks to offer a master's degree program in Data Science (M.S.D.S.) in CIP Code 11.0802. The M.S.D.S. degree program will consist of 30 semester credit hours (SCH) beyond the bachelor's degree. The program will be offered in an online format by the Department of Mathematics and Statistics in UWF's Hal Marcus College of Science and Engineering (HMCSE). All of the face-to-face courses in the degree program will be delivered in a synchronous distance learning format enabling students to participate remotely in the class session.

Students in the M.S.D.S. degree program will learn to extract and communicate meaningful information from data sets and become capable of communicating their findings to facilitate organizations' decision-making. The field of data science is developing rapidly as modern society is producing information at a prolific rate. Data scientists integrate interdisciplinary fields to collect, analyze, and transform large groups of data into meaningful information that can be used to gain insights and make decisions. Effective data scientists are able to identify relevant questions, collect data, find meaning in the collected data, translate results into solutions, and communicate their findings in ways that organizations can use to affect decisions. UWF's M.S.D.S. degree program is designed to train students to utilize fact sets derived from disparate and often unrelated places and aggregate these facts into meaningful information.

Data scientists are employed by a multitude of organizations such as private industries, non-profits, health care, and government agencies. UWF's proposed M.S.D.S. degree program will build on the university's existing strengths in the Hal Marcus College of Science and Engineering. The program curriculum consists of graduate computer science, math, and statistics courses taught by experienced UWF faculty.

The proposed M.S.D.S. degree program aligns well with UWF's mission and strategic priorities to offer more STEM graduate-level programs and to enhance the university's

grant and research productivity. It also supports the Florida Board of Governor's vision to increase the number of degrees awarded in STEM and other areas of strategic emphasis.

- B. Please provide the date when the pre-proposal was presented to CAVP (Council of Academic Vice Presidents) Academic Program Coordination review group. Identify any concerns that the CAVP review group raised with the pre-proposed program and provide a brief narrative explaining how each of these concerns has been or is being addressed.**

UWF presented the Master of Data Science degree program to the CAVP on September 28, 2018. There were no concerns about the proposed degree program presented at this meeting.

- C. If this is a doctoral level program please include the external consultant's report at the end of the proposal as Appendix D. Please provide a few highlights from the report and describe ways in which the report affected the approval process at the university.**

Not applicable this is a not a doctoral degree program.

- D. Describe how the proposed program is consistent with the current State University System (SUS) Strategic Planning Goals. Identify which specific goals the program will directly support and which goals the program will indirectly support (see link to the SUS Strategic Plan on [the resource page for new program proposal](#)).**

The M.S.D.S. degree program aligns with the Florida Board of Governors Strategic Priorities and Goals for 2012-2025:

Increase the Number of Degrees Awarded in STEM and Other Areas of Strategic Emphasis

UWF's proposed M.S.D.S. degree program is in CIP Code 11.0802, a STEM field. The program will directly support the goal of increasing the number of advanced degrees from Florida universities awarded in a STEM discipline and increase the state's base of skilled knowledge workers.

Increase Collaboration and External Support for Research Activity

The proposed M.S.D.S. program will have a positive impact on UWF's research grant and contract opportunities. For example, the National Science Foundation (NSF) has established several funding opportunities for data science research:

- The Transdisciplinary Research in Principles of Data Science (TRIPODS) supports development of data science degree programs. TRIPODS provides \$1,200,000 to \$1,500,000 awards to develop the theoretical foundations of data science through integrated research and training activities.
(https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=505347)
- 10 Big Ideas, rewards long-term research and process ideas that identify areas for future investment at the frontiers of science and engineering
(https://www.nsf.gov/news/special_reports/big_ideas/index.jsp).

- Harnessing the Data Revolution provides up to \$10,000,000 awards for eight to eleven awards, for 3 years each
(https://www.nsf.gov/news/special_reports/big_ideas/harnessing.jsp)

Grant and funding opportunities for data science are also available in the private sector. In February 2019, the online real estate database Zillow awarded a \$1,000,000 prize to a group of data scientists who helped improve the company’s algorithm and reduce their margin of error. (<https://www.zdnet.com/article/zillow-awards-1-million-to-data-scientists-for-improving-its-zestimate-algorithm/> accessed 2/1/2019).

E. If the program is to be included in a category within the Programs of Strategic Emphasis as described in the SUS Strategic Plan, please indicate the category and the justification for inclusion.

The Programs of Strategic Emphasis Categories:

1. Critical Workforce:
 - Education
 - Health
 - Gap Analysis
2. Economic Development:
 - Global Competitiveness
3. Science, Technology, Engineering, and Math (STEM)

Please see the Programs of Strategic Emphasis (PSE) methodology for additional explanations on program inclusion criteria at [the resource page for new program proposal](#).

The proposed Program fits in the current Programs of Strategic Emphasis category Science, Technology, Engineering, and Math (STEM). The CIP Code for the proposed M.S.D.S. degree program is 11.0802, Data Modeling/Warehousing and Database Administration. Within the category, CIP code 11 lists as follows:

11 Computer and Information Sciences and Support Services (all)

F. Identify any established or planned educational sites at which the program is expected to be offered and indicate whether it will be offered only at sites other than the main campus.

The M.S.D.S. degree program will be offered at UWF’s Pensacola campus and will be delivered online and in a blended face-to-face synchronous manner. At this time, there are no plans for offering the program at any other sites.

INSTITUTIONAL AND STATE LEVEL ACCOUNTABILITY

II. Need and Demand

- A. Need: Describe national, state, and/or local data that support the need for more people to be prepared in this program at this level. Reference national, state, and/or local plans or reports that support the need for this program and requests for the proposed program which have emanated from a perceived need by agencies or industries in your service area. Cite any specific need for research and service that the program would fulfill.**

Another term associated with data science is “Big data.” Although there appears to be no standard definition for big data, the Office of Naval Research uses a working definition of big data as “a data set so vast that it stresses the limits of tradition (i.e. relational) databases along four parameters: volume of data; variety of formats, sources, and types; velocity of searches and data retrieval, and veracity of conclusions based on data.”¹ In short, big data is the large pools of data available to be captured, communicated, aggregated, stored, and analyzed and it is now part of every sector and function of the global economy. These big datasets are beyond the ability of typical database software tools to capture, store, manage, and analyze. Data scientists have the technical skills to examine various and vast amounts of data, the critical thinking skills to analyze the data, and the ability to translate their analysis into usable information for organizations.

Worldwide, the tremendous amount of data being generated continues to grow. Companies capture data about their customers, hospitals capture data about their patients, phones capture data, social media captures data, and so on. In 2011, the McKinsey Global Institute, published “Big Data: The next frontier for innovation, competition, and productivity.” The report examines the business and economic possibilities of big data and its wider implications.

“There is strong evidence that big data can play a significant economic role to the benefit not only of private commerce but also of national economies and their citizens. Our research finds that data can create significant value for the world economy, enhancing the productivity and competitiveness of companies and the public sector and creating substantial economic surplus for consumers. For instance, if U.S. health care could use big data creatively and effectively to drive efficiency and quality, we estimate that the potential value from data in the sector could be more than \$300 billion in value every year, two-thirds of which would be in the form of reducing national health care expenditures by about 8 percent. In the private sector, we estimate, for example, that a retailer using big data to the full has the potential to increase its operating margin by more than 60 percent. This estimate does not include big data levers that could reduce fraud, errors, and tax gaps (i.e., the gap between potential and actual tax revenue)”
(<https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/big-data-the-next-frontier-for-innovation>).

On its list titled “50 Best Jobs in America for 2019,” the job search site Glassdoor places Data Scientist at the very top of the list, beating out health care occupations, engineers, and computer occupations (https://www.glassdoor.com/List/Best-Jobs-in-America-LST_KQ0,20.htm internet accessed 1/30/2019).

As an emergent field, data scientists can find job openings under several titles such as:

- Database Administrator
- Mathematician
- Statistician
- Advanced Analytics

¹ “Big Data: Challenges and Opportunities.” *Data Flood: Helping the Navy Address the Rising Tide of Sensor Information*, by Isaac R. Porche et al., RAND Corporation, 2014, pp. 1–6. *JSTOR*, www.jstor.org/stable/10.7249/j.ctt6wq8rr.9.

- Big Data Architect
- Data Analyst
- Data Scientist

National

The occupation identified with CIP Code 11.0802 is Database Administrator (SOC 15-1141). Two additional closely aligned occupations are Mathematicians (SOC Code 15-2021), and Statisticians (SOC Code 15-2041).

Database Administrators use specialized software to store and organize data, such as financial information and customer shipping records. They make sure that data are available to users and secure from unauthorized access. The typical entry-level education required for Database Administrators is a bachelor’s degree.

Mathematicians and Statisticians analyze data and apply mathematical and statistical techniques to help solve real-world problems in business, engineering, healthcare, or other fields. The typical entry-level education required for Mathematicians and Statisticians is a master’s degree.

The U.S. Bureau of Labor Statistics lists all three of these SOC-Codes as having faster than average growth and higher than average wages. Statisticians and Mathematicians are the seventh and tenth fastest growing occupations over the 2016-2026 period.

Table 1. *National job growth for graduates with data science skills*

Job Title	Number of Jobs 2017	2016-2026 Job Outlook		Median Pay in 2017	
		Percent	Numeric	Annual	Hourly
Database Administrator	119,500	+11%	13,700	\$87,020	\$41.84
Mathematicians & Statisticians	40,300	+33%	13,500	\$84,760	\$40.75

U.S. Department of Labor Bureau of Labor Statistics, Occupational Outlook Handbook, accessed 01/17/2019

(Database Administrator) <https://www.bls.gov/ooh/computer-and-information-technology/database-administrators.htm>

(Mathematicians and Statisticians) <https://www.bls.gov/ooh/math/mathematicians-and-statisticians.htm>

Table 2. National wages for graduates with data science skills

Job Title	SOC-Code	Median Pay in 2017	
		Annual	Hourly
Database Administrator	15-1141	\$89,050**	\$42.81
Mathematician	15-2021	\$104,700	\$50.33
Statistician	15-2041	\$85,160	\$40.94
Computer & Mathematical Occupations	15-0000	\$84,573*	\$40.66
All Occupations	00-0000	\$50,620*	\$18.12

*Mean annual wage versus the median annual wage, calculated at (40 hours x 52 weeks)
 U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment and Wages
 May 2017, accessed 01/17/2019

** The 2017 wages differ slightly between the BLS Occupational Outlook Handbook and the
 BLS Occupational Employment and Wages web pages.

(Database Administrator) <https://www.bls.gov/oes/2017/may/oes151141.htm>

(Mathematician) <https://www.bls.gov/oes/2017/may/oes152021.htm>

(Statistician) <https://www.bls.gov/oes/2016/may/oes152041.htm>

(Computer & Mathematical) <https://www.bls.gov/oes/2017/may/oes150000.htm>

(All Occupations) https://www.bls.gov/oes/2017/may/oes_nat.htm

Table 3 shows the top industries in which graduates of UWF’s M.S.D.S. degree program may
 find employment. All of these industries pay salaries that exceed the national annual mean wage
 in 2017 of \$50,620.

Table 3. Top U.S. industries with the highest levels of employment for M.S.D.S. graduates

Job Titles	Top Employment Industries	2017 Mean Wages
Mathematicians	Federal Executive Branch	\$112,810
	Scientific Research and Development Services	\$124,100
	Colleges, Universities, and Professional Schools	\$60,380
	Management, Scientific, and Technical Consulting Services	\$120,340
	Architectural, Engineering, and Related Services	\$106,470

	Scientific Research and Development Services	93,590
Statisticians	Federal Executive Branch	\$102,020
	Management, Scientific, and Technical Consulting Services	\$84,880
	State Government	\$62,460
	Insurance Carriers	\$80,680
Database Administrators	Computer Systems Design and Related Services	\$95,920
	Management Companies and Enterprises	\$93,320
	Telecommunications	\$93,080
	Colleges, Universities, and Professional Schools	\$75,800
	Insurance Carriers	\$93,190

U.S. Department of Labor Bureau of Labor Statistics, Occupational Employment and Wages May 2017, accessed 01/17/2019

(Mathematician) <https://www.bls.gov/oes/2017/may/oes152021.htm>

(Statistician) <https://www.bls.gov/oes/2016/may/oes152041.htm>

(Database Administrator) <https://www.bls.gov/oes/current/oes151141.htm>

(All occupations) https://www.bls.gov/oes/current/oes_nat.htm#00-0000

Large employment search firms indicate the growing demand for data scientists. Table 4 below shows search results for “Data Scientist” conducted on January 30, 2019, on three of the largest job search databases. The high number of job openings demonstrate the rapidly expanding opportunities for graduates with these skills.

Table 4. National and Florida jobs for data scientists

Search Firm	Keyword search for Data Scientist	National Openings*	Florida Openings*
Glassdoor	https://www.glassdoor.com/Job/data-scientist-jobs-SRCH_KO0,14.htm	25,742	733
Indeed	https://www.indeed.com/q-Data-Scientist-jobs.html	32,620	717
Monster	https://www.monster.com/jobs/q-data-scientist-jobs.aspx	7,721	561

Note: Active job postings as of 1/30/2019. These results may include duplicated job postings.

State

Table 5 below demonstrates Florida’s strong demand for Mathematicians and Statisticians will continue for the next ten years. Graduates of UWF’s M.S.D.S. degree program will find employment in a high paying, high-growth occupation, benefiting the state and its industries.

Table 5. *Florida Job projections for graduates from the M.S.D.S. program*

Job Title	SOC Code	Employment	Change 2017-2025	2017 Median Hourly Wage
		2017	Mean annual wage	
Database Administrators	15-1141	7,440	\$84,860	\$40.80
Mathematicians	15-2021	100	\$85,900	\$41.30
Statisticians	15-2041	570	\$72,800	\$35.00
All Computer & Mathematical Occupations	15-0000	198,940	\$76,420	\$36.74
All Occupations	00-0000	8,419,030	\$44,790	\$21.53

Source: U.S. Department of Labor, Bureau of Labor Statistics May 2017 state occupational employment and wage estimates, Florida https://www.bls.gov/oes/2017/may/oes_fl.htm#15-0000

Local

Northwest Florida is home to numerous military bases and private defense contractors as well as a variety of companies and government agencies with high-tech needs. Several national corporations that manage large defense contracts have satellite offices in Northwest Florida. The companies shown in Table 6 below have listed openings for individuals with data science skills in their Northwest Florida locations. The job advertisements, with skill descriptions for data scientists and various job titles, are in Appendix F.

Table 6. *Examples of national companies with local (Northwest Florida) job openings for data scientists*

Company Name	Company Description	Job posting in NW FL on 01/30/2019
Capstone Corporation	Capstone Corporation is a leading global services and solutions provider, supporting customers in over 30 states & seven overseas locations.	Business Intelligence Data Analyst IT Business Analyst [1] [1a]
CACI	CACI provides information solutions & services in support of national security missions & government transformation for Intelligence, Defense, & Federal Civilian customers.	Business Systems Analyst [2]
KBRwyle	KBRwyle is a global government services organization delivering full life cycle professional and technical services from over 60 U.S. and 40 international locations. Our core capabilities include logistics, engineering, science, cyber, intelligence & security services.	Data Scientist [3]
Huron Incorporated	Huron is a global consultancy that helps our clients drive growth, enhance performance and sustain leadership in the markets they serve.	Consulting Support Analyst I [4]
ACI Federal	For over 20 years, Team ACI Federal™ has proudly contributed to the mission of our Federal Agencies.	IT Specialist Mid [5]
Solutions3, LLC	The Complete IT Management Solution Solutions ³ is an award-winning consulting and training organization, recognized as a leader in IT Management. We provide full life cycle solutions built upon ITIL® best practices. All of our IT Management solutions take into account People, Process, Technology, and Partners to ensure that all aspects of the solution function together effectively.	Database Engineer [6]
Anonos	Regulation as Competitive Advantage. Big Privacy maximizes Big Data use, value, & sharing by leveraging new global data protection laws.	Project Manager to Support PoC/PoVs [7]

DELTA Resources	At DELTA, we do more than provide technical expertise and operational support to our government partners and commercial customers. We help America’s leaders make the best possible decisions for our country’s future.	Analyst III [8]
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The Dean of the HMCSE and the Department Chair have been performing outreach to local companies to determine local demand for graduates from the M.S.D.S. degree program. Table 7 below is an example of Northwest Florida organizations that will hire the graduates of UWF’s M.S.D.S. degree program. Copies of job advertisements and correspondence are in Appendix G.

Table 7. Northwest Florida organizations that will hire M.S.D.S. program graduates

Company	Type	Job Opening for Data Scientist	Date
Woodlands Medical Specialists	Medical	Data Analyst	1/30/2019 [1]
Baptist Management Services	Medical	Quality Analyst	1/30/2019 [2]
University of West Florida	Higher Education	Data Analyst	1/30/2019 [3]
Ropella Media	Media	Database Administrator & Researcher	1/30/2019 [4]
Navy Federal Credit Union	Finance	Email to Dean of HMCSE	1/23/2019 [5]

B. Demand: Describe data that support the assumption that students will enroll in the proposed program. Include descriptions of surveys or other communications with prospective students.

In January 2019, the Dean of HCMSE surveyed students currently enrolled in bachelor’s degree programs in the departments of Mathematics and Statistics, Electrical and Computer Engineering, Mechanical Engineering, and Computer Science to determine their potential interest in pursuing an M.S. in Data Science. Of the 94 respondents, 31 students or 33% responded that they would be interested in the new program. In addition to matriculating UWF undergraduates, due to the program being offered online, the Department Chair expects enrollment from international students, out of state students, and working adults seeking career advancement. UWF’s M.S. in Mathematics degree program has students from 13 different states and nine students from outside of the U.S.

Table 8. *Student enrollment and number of degrees awarded in the UWF M.S. Mathematics degree program from 2014-2018*

Academic Year	Number of Students Enrolled	Number of Degrees Awarded
2014-2015	115	31
2015-2016	128	40
2016-2017	146	41
2017-2018	151	39

- C. If substantially similar programs (generally at the four-digit CIP Code or 60 percent similar in core courses), either private or public exist in the state, identify the institution(s) and geographic location(s). Summarize the outcome(s) of communication with such programs with regard to the potential impact on their enrollment and opportunities for possible collaboration (instruction and research). In Appendix C, provide data that support the need for an additional program.

Data science is an emergent field and as such, there are no other institutions in the State University System of Florida (SUS) offering a master’s degree program in CIP Code 11.0802. Florida Polytechnic offers a bachelor’s level program in CIP Code 11.0802.

Three SUS institutions currently offer a master’s level program under the name of Data Science or Data Analytics, Florida International University, New College of Florida, and University of Central Florida. A fourth SUS institution, Florida Atlantic University, is in the process of preparing a Request to Offer for a master’s degree in Data Science and Analytics.

Table 9. *SUS institutions offering similarly named degree programs*

SUS Institution	CIP Code	Degree Program name	2017 Enrollment	Delivery Mode
Florida International University	11.9999	M.S. in Data Science	8	Blended Face-to-face and online
New College of Florida	11.9999	M.S. in Data Science	22	Face-to-face
University of Central Florida	30.3001	M.S. in Data Analytics	33	Face-to-face

UWF’s proposed M.S.D.S. degree program distinguishes itself from the other similarly named programs by offering the program online. The program provides a foundational 21 SCH core of

computer science, machine learning, and statistics with a 9 SCH concentration in either Information Technology, Mathematics, Statistics, Computer Science, or Earth and Environmental Sciences. The 30 SCH degree program does not have a capstone or a thesis requirement, which makes UWF's program more accessible to working adults and distance learners.

UWF's M.S.D.S. degree program has been designed to accommodate graduates from other academic disciplines as well as working adults. Students without a background in computer science, mathematics, or data analysis will complete three courses (Introduction of Statistics, Calculus II, and one programming course such as Python). Faculty members from UWF have been in contact regarding collaboration opportunities with faculty members from UCF's M.S. in Data Analytics degree program (Appendix I).

- D. Use Table 1 in Appendix A (1-A for undergraduate and 1-B for graduate) to categorize projected student headcount (HC) and Full Time Equivalents (FTE) according to primary sources. Generally undergraduate FTE will be calculated as 30 credit hours per year and graduate FTE will be calculated as 24 credit hours per year. Describe the rationale underlying enrollment projections. If students within the institution are expected to change majors to enroll in the proposed program at its inception, describe the shifts from disciplines that will likely occur.**

Table 1-B in Appendix A reflects the initial Year 1 enrollment to be 25 students (13.75 FTE) growing to 125 students (68.75 FTE) by Year 5. The Department of Mathematics and Statistics expects to enroll students who will graduate from other programs in the HMCSE. Along with matriculating students in the Department of Mathematics and Statistics, potential students for the M.S.D.S. degree program will include those in the undergraduate programs of Computer Science, Cybersecurity, Electrical Engineering, Computer Engineering, Mechanical Engineering, and Information Technology.

The UWF Department of Mathematics and Statistics has an established and well-attended master's degree program in mathematics. Over the last four years, the M.S. in Mathematics degree program has experienced a steady enrollment growth of 114 students in fall 2014 to 151 students enrolled in fall 2018, a 30% increase. Because all of the courses in the proposed program will be offered using a blend of face-to-face synchronous distance learning and online delivery, the Dean and Department Chair anticipate enrollment numbers in the M.S.D.S. degree program to be similar to the M.S. in Mathematics degree program.

Due to the history of global recruitment for both researchers and students by the UWF Graduate School, the HMCSE, and the Department of Mathematics and Statistics, the Department Chair anticipates UWF's M.S.D.S. degree program will attract graduate students from outside of Florida, both nationally and internationally.

- E. Indicate what steps will be taken to achieve a diverse student body in this program. If the proposed program substantially duplicates a program at FAMU or FIU, provide, (in consultation with the affected university), an analysis of how the program might have an impact upon that university's ability to attract students of races different from that which is predominant on their campus in the subject program. The university's Equal Opportunity Officer shall review this section of the proposal and then sign and date Appendix B to indicate that the analysis required by this subsection has been completed.**

Regarding UWF's proposed M.S.D.S. degree program, no comments were expressed concerning impact on programs at FAMU or FIU during the September 28, 2018, Council of Academic Vice Presidents (CAVP) Program Coordination Work Group conference call.

Consistent with its mission, UWF has admissions policies that balance attention to access, inclusiveness, and quality. In addition, UWF encourages applications from qualified persons and does not discriminate on the basis of age, color, disability, gender (including gender identity and sex), marital status, national origin, race, religion, sexual orientation, or veteran status. Also, UWF's New Academic Program Approval Policy requires that programs appropriately address diversity. Therefore, the university and its degree programs take proactive measures to achieve a diverse student body. Recruitment efforts extend to many geographic regions to attract prospective students.

The proposed M.S.D.S. degree program will be marketed to multiple student segments: students from agencies and industries in UWF's service area, students from other UWF programs, students from other institutions, and students from other countries.

University faculty and staff use multiple outreach methods to ensure diversity and the result has been increased enrollment of women in the HMCSE. One result of UWF's outreach is that the percentage of female students who graduate with a (STEM) Mathematics diploma has averaged 44% over the five-year period 2013-2017 (Figure 1).

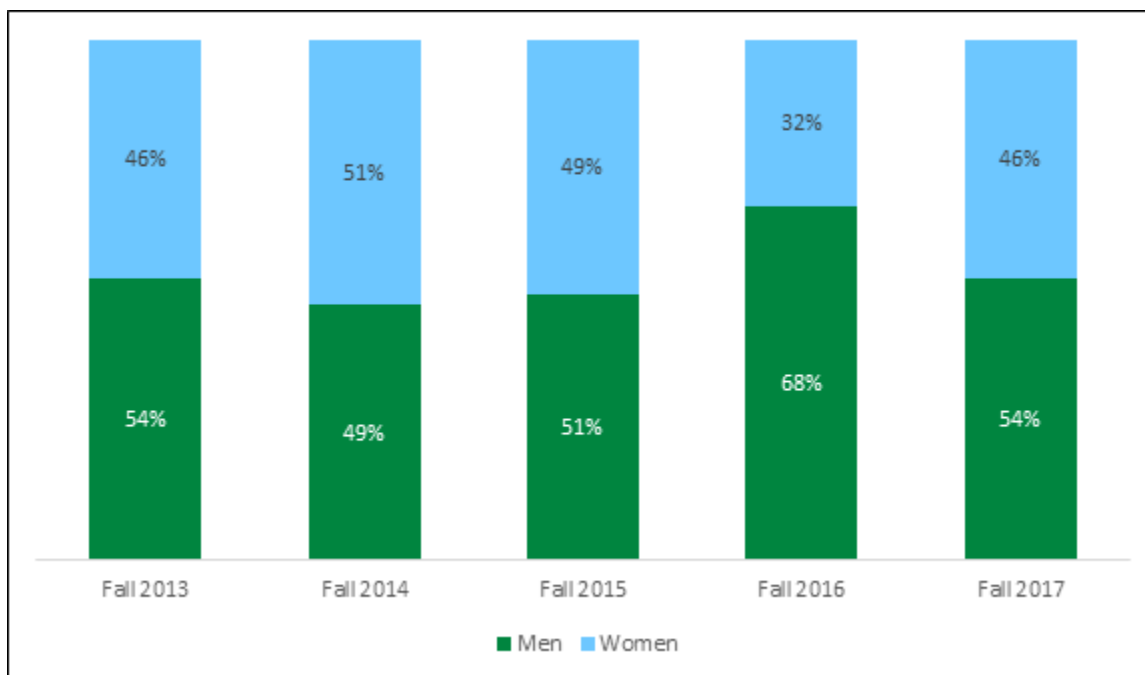


Figure 1. *Five-year view of female graduates of UWF's Mathematics degree programs*

The faculty will showcase UWF's M.S.D.S. degree program and discuss coursework and career goals with all interested applicants. The HMCSE will implement a comprehensive marketing campaign to promote the proposed degree program to the aforementioned student segments. The HMCSE currently attracts a diverse student body to its programs, and program coordinators

anticipate a continued diversity of students in the new degree program (Figure 2).

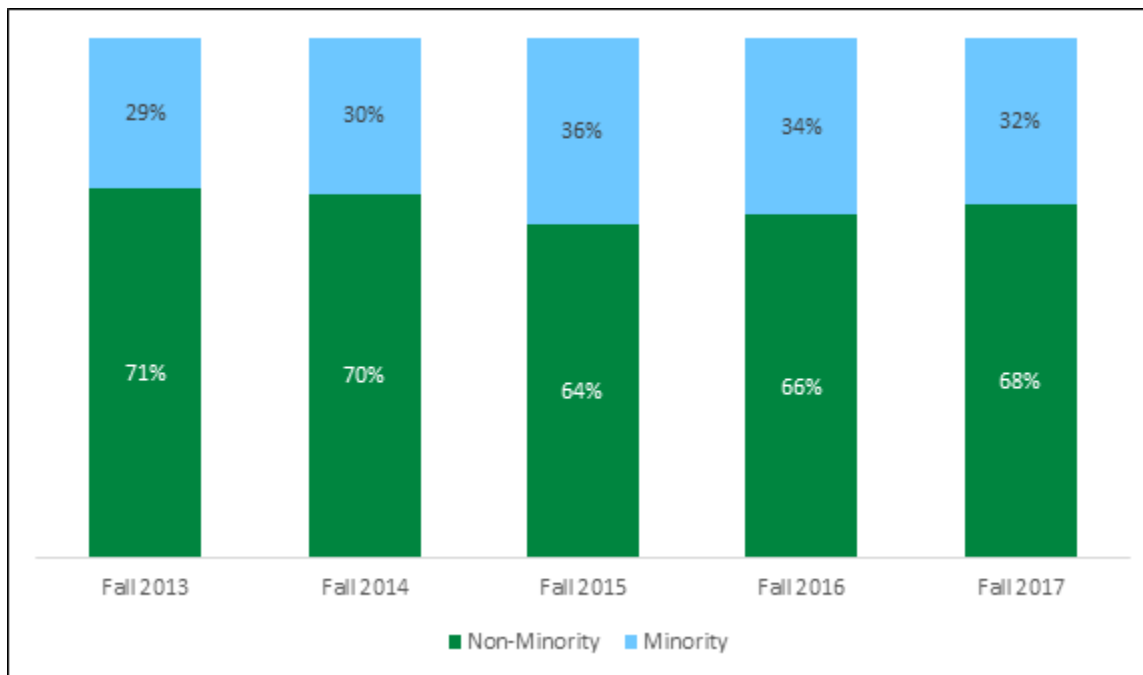


Figure 2. *Five-year comparison of the HMCSE Department of Mathematics and Statistics increasing diversity*

III. Budget

- A. Use Table 2 in Appendix A to display projected costs and associated funding sources for Year 1 and Year 5 of program operation. Use Table 3 in Appendix A to show how existing Education & General funds will be shifted to support the new program in Year 1. In narrative form, summarize the contents of both tables, identifying the source of both current and new resources to be devoted to the proposed program. (Data for Year 1 and Year 5 reflect snapshots in time rather than cumulative costs.)

All expenses from the M.S.D.S. degree program come from E&G funds and will be reallocated from the HMCSE Department of Mathematics and Statistics.

Expected total expenses for Year 1 of the program are \$248,931 from E&G (Appendix A Table 2). The largest item of the Year 1 budget is the apportioned faculty salaries and benefits of \$150,071. The department will use \$70,000 for graduate assistantships, also to be funded from E&G. Table 2 includes \$13,800 to cover one third of the department administrator salary and fringe. The \$15,000 in Expenses is for sundry office supplies and includes a one-time purchase of new server for the program. The Chair of Mathematics and Statistics has communicated with the Library Director who has confirmed there is no need for additional library resources to support the proposed program (refer to Section X.A and B). The Year 1 E&G cost per FTE is \$18,104, which is higher than the SUS average for the CIP Code (11.0802). However, the E&G cost per FTE for Year 5 is \$6,026, below the SUS average.

Expected Year 5 expenses total \$414,259 all from E&G. These expenses will be offset by anticipated increased student enrollment in the program by Year 5. Year 5 expenses are \$182,412 continued faculty salary and fringe increased at a cost of 5% per year. The department administrator salary and fringe at one third FTE increases at the same 5% rate to \$16,847. Due to increased enrollment expectations by Year 5, the program expects to spend \$210,000 on Assistantships. Expenses at one third of the Department of Mathematics and Statistics budget will be \$5,000. The E&G cost per FTE for Year 5 is \$6,026, below the SUS average.

- B. Please explain whether the university intends to operate the program through continuing education, seek approval for market tuition rate, or establish a differentiated graduate-level tuition. Provide a rationale for doing so and a timeline for seeking Board of Governors' approval, if appropriate. Please include the expected rate of tuition that the university plans to charge for this program and use this amount when calculating cost entries in Table 2.**

UWF does not intend to operate the program through continuing education on a cost-recovery basis, seek approval for market tuition rate, or establish differentiated graduate-level tuition. The M.S. in Data Science program will be offered as a regular program through UWF's Department of Math and Statistics.

- C. If other programs will be impacted by a reallocation of resources for the proposed program, identify the impacted programs and provide a justification for reallocating resources. Specifically address the potential negative impacts that implementation of the proposed program will have on related undergraduate programs (i.e., shift in faculty effort, reallocation of instructional resources, reduced enrollment rates, greater use of adjunct faculty and teaching assistants). Explain what steps will be taken to mitigate any such impacts. Also, discuss the potential positive impacts that the proposed program might have on related undergraduate programs (i.e., increased undergraduate research opportunities, improved quality of instruction associated with cutting-edge research, improved labs and library resources).**

UWF expects the benefits of this degree program to the university, region, and state to be significant in terms of advancing research, reputation, and grant opportunities. Because the M.S.D.S. degree program is interdisciplinary, comprised of courses from Information Technology, Mathematics, Statistics, Computer Science, and Earth and Environmental Sciences, it provides enhanced research collaboration opportunities. Being affiliated with a graduate degree program positively affects a faculty's chance of receiving external research funding. Additionally, faculty research productivity will be aided by the program's graduate research assistants, five of whom will be funded in Year 1 and fifteen in Year 5 (Appendix A Table 2).

- D. Describe other potential impacts on related programs or departments (e.g., increased need for general education or common prerequisite courses, or increased need for required or elective courses outside of the proposed major).**

As a master's level program, the M.S.D.S. degree program will have no impact upon general education or common prerequisite courses.

- E. Describe what steps have been taken to obtain information regarding resources (financial and in-kind) available outside the institution (businesses, industrial organizations, governmental entities, etc.). Describe the external resources that appear to be available to support the proposed program.

Faculty in the HMCSE are actively involved in establishing partnerships with the local community to further enhance the university's program offerings, employment and internship options, and develop collaborative opportunities. For example, UWF has been designated as a National Center of Academic Excellence in Cyber Defense Education by the National Security Agency and the Department of Homeland Security. The HMCSE has an Industry Advisory Board comprised of UWF faculty and individuals from local technology firms.

IV. Projected Benefit of the Program to the University, Local Community, and State

Use information from Tables 1 and 2 in Appendix A, and the supporting narrative for "Need and Demand" to prepare a concise statement that describes the projected benefit to the university, local community, and the state if the program is implemented. The projected benefits can be both quantitative and qualitative in nature, but there needs to be a clear distinction made between the two in the narrative.

University benefits

The proposed M.S.D.S. degree program will enhance the current offerings of the University of West Florida as it serves the northwest region of Florida by offering an advanced educational pathway in a STEM field.

The creation of the proposed M.S.D.S. degree program will have clear benefits to the university. It will achieve the following:

- Attract talented students from across the nation and around the world to Florida.
- Enable UWF to meet the demand for graduates with training in a mix of data analysis skills that move them beyond entry level to positions as data scientists in a variety of industries such as banking and finance, education, healthcare, and manufacturing.
- Present opportunities for interdisciplinary research and collaboration within the university.

Northwest Florida

The proposed program will also have clear benefits to the local community. It will achieve the following:

- Provide the local community with talented high-tech graduates who will contribute to the local economy with high-level skills and higher than average wages.
- Encourage interdisciplinary research and grant opportunities with other technology organizations such as the UWF Center for Cybersecurity.

V. Access and Articulation – Bachelor's Degrees Only

- A. If the total number of credit hours to earn a degree exceeds 120, provide a justification for

an exception to the policy of a 120 maximum and submit a separate request to the Board of Governors for an exception along with notification of the program's approval. (See criteria in Board of Governors Regulation 6C-8.014).

Not applicable this is a graduate degree program.

- B. List program prerequisites and provide assurance that they are the same as the approved common prerequisites for other such degree programs within the SUS (see link to the Common Prerequisite Manual on [the resource page for new program proposal](#)). The courses in the Common Prerequisite Counseling Manual are intended to be those that are required of both native and transfer students prior to entrance to the major program, not simply lower-level courses that are required prior to graduation. The common prerequisites and substitute courses are mandatory for all institution programs listed, and must be approved by the Articulation Coordinating Committee (ACC). This requirement includes those programs designated as "limited access."

If the proposed prerequisites are not listed in the Manual, provide a rationale for a request for exception to the policy of common prerequisites. NOTE: Typically, all lower-division courses required for admission into the major will be considered prerequisites. The curriculum can require lower-division courses that are not prerequisites for admission into the major, as long as those courses are built into the curriculum for the upper-level 60 credit hours. If there are already common prerequisites for other degree programs with the same proposed CIP, every effort must be made to utilize the previously approved prerequisites instead of recommending an additional "track" of prerequisites for that CIP. Additional tracks may not be approved by the ACC, thereby holding up the full approval of the degree program. Programs will not be entered into the State University System Inventory until any exceptions to the approved common prerequisites are approved by the ACC.

Not applicable this is a graduate degree program.

- C. If the university intends to seek formal Limited Access status for the proposed program, provide a rationale that includes an analysis of diversity issues with respect to such a designation. Explain how the university will ensure that Florida College System transfer students are not disadvantaged by the Limited Access status. NOTE: The policy and criteria for Limited Access are identified in Board of Governors Regulation 6C-8.013. Submit the Limited Access Program Request form along with this document.

The university does not intend to seek formal limited access status for the proposed program.

- D. If the proposed program is an AS-to-BS capstone, ensure that it adheres to the guidelines approved by the Articulation Coordinating Committee for such programs, as set forth in Rule 6A-10.024 (see link to the Statewide Articulation Manual on [the resource page for new program proposal](#)). List the prerequisites, if any, including the specific AS degrees which may transfer into the program.

The proposed program is not an AS-to-BS capstone.

INSTITUTIONAL READINESS

VI. Related Institutional Mission and Strength

- A. Describe how the goals of the proposed program relate to the institutional mission statement as contained in the SUS Strategic Plan and the University Strategic Plan (see link to the SUS Strategic Plan on [the resource page for new program proposal](#)).**

Our mission at UWF is to:

- Provide high-quality undergraduate and graduate education,
- Conduct teaching and research that services the body of knowledge, and
- Contribute to the needs of professions and society

UWF's proposed M.S.D.S. degree program relates to the university's mission in several ways. The program will build upon the existing strengths of UWF's high-quality graduate Mathematics and Computer Science programs. Experienced faculty members will provide expert knowledge to educate students in the field of data science, expanding students' technical, creative and critical thinking skills. UWF has developed the M.S.D.S. degree program to enhance the pool of highly skilled professionals and researchers who will support economic growth at the regional, state, and national levels.

- B. Describe how the proposed program specifically relates to existing institutional strengths, such as programs of emphasis, other academic programs, and/or institutes and centers.**

The M.S.D.S. degree program will utilize experienced university faculty with a robust history of grant writing, publication, and collaboration. The faculty that will be part of the M.S.D.S. degree program have a record of collaboration across the university. Dr. Anthony Okafor has collaborated extensively with faculty from the Usha Kundu College of Health in grant submissions and publications (see Table 17. Grants Awarded to M.S.D.S. Degree Program Faculty and Table 18. M.S.D.S Degree Program Faculty Publication and Research Productivity). Drs. Sikha Bagui and Dallas Snider teach and produce research along with faculty in the university's Computer Science and Cybersecurity degree programs (see Table 18. M.S.D.S Degree Program Faculty Publication and Research Productivity). UWF has been designated as a National Center of Academic Excellence in Cyber Defense Education by the National Security Agency and the Department of Homeland Security. Collaboration with other academic disciplines will be a cornerstone of the M.S.D.S. degree program.

- C. Provide a narrative of the planning process leading up to submission of this proposal. Include a chronology in table format of the activities, listing both university personnel directly involved and external individuals who participated in planning. Provide a timetable of events necessary for the implementation of the proposed program.**

For the new program, the preliminary planning phase took place during spring and summer of 2018 with the preparation of the program curriculum and internal approval documents. The program was presented to the CAVP work group on September 28, 2018. Preparation of the full Request to Offer a New Degree Program Proposal ensued over the next several months.

Table 10. *Planning process*

Date	Participants	Planning Activity
Feb. 19, 2018	Department Chairs Dr. Jaromy Kuhl, Dr. Thomas Reichherzer, HMCSE Dean Dr. Mike Huggins	Kickoff meeting
Feb. - April, 2018	Graduate Committee meeting	Discussions of curriculum, funding, library and physical assets
April 20, 2018	Interim HMCSE Dean Dr. Jaromy Kuhl, Dr. Jia Liu	Discussions of curriculum, preparation of CAVP and Internal Pre-proposals
June 7, 2018	Vice Provost, Institutional Effectiveness, Department Chair Dr. Jia Liu	Discuss timelines and external deadlines for anticipated start date of Fall 2019
September 2018	Department Chair Dr. Jia Liu	Submit M.S.D.S. degree program curriculum and student learning outcomes to the UWF CCR review system
October 2018 -	College Curriculum Committee and Graduate Council	Modifications to the curriculum
December 17, 2018	Faculty Senate	Approval of the M.S.D.S. degree program curriculum
January 2019	Institutional Effectiveness and Department Chair Dr. Jia Liu	Continue the Request to Offer

Table 11. *Events leading to implementation*

Date	Implementation Activity
September, 28 2018	CAVP Conference call - No concerns
Spring and Fall 2018	Meetings of the Department Chair, HMCSE Dean, and College Curriculum Committee to formulate the proposal, prepare CCRs
May 15, 2019 (anticipated)	Approval of the Proposal by the UWF Board of Trustees' Academic Affairs Committee
June, 19 2019 (anticipated)	Approval of the Proposal by the full UWF Board of Trustees
July 2019 (anticipated)	Approval of the Proposal by the Florida Board of Governors
August, 2019 (anticipated)	Launch Program

VII. Program Quality Indicators - Reviews and Accreditation

Identify program reviews, accreditation visits, or internal reviews for any university degree programs related to the proposed program, especially any within the same academic unit. List all recommendations and summarize the institution's progress in implementing the recommendations.

Pursuant to Florida Board of Governors Regulation 8.015, all academic departments at UWF conduct program reviews every seven years. The program review for the Department of

Mathematics and Statistics was conducted in 2015. The program review noted some of the following strengths

- High enrollment averages and high SCH per faculty.
- Good reputation for effective teaching, especially within subjects that many students dislike.
- Small class sizes relative to most peer universities.
- Each classroom is equipped with the latest technologies.
- Faculty and staff are highly productive.
- Faculty are collaborative and innovative.

As a result of the 2015 program review the following changes were made in the department

- All undergraduate specializations were removed in order to strengthen the undergraduate curriculum.
- New faculty and instructor lines were allocated to the department with some lines dedicated to lower level/general studies courses.
- Successful transition from the former College of Arts and Science to the new Hal Marcus College of Science and Engineering.

VIII. Curriculum

- A. Describe the specific expected student learning outcomes associated with the proposed program. If a bachelor's degree program, include a web link to the Academic Learning Compact or include the document itself as an appendix.

See Appendix C with Academic Learning Plan.

By completing the M.S. in Data Science degree program, students will attain the following competencies:

Content

Identify, formulate, and solve complex data problems by selecting and applying appropriate methods.

Critical Thinking

Students understand the broad impact of data on society and can raise critical questions about data, its interpretation, and visualization, and the methods by which these are produced

Communication

Students can formulate reasonable interpretations of data and share them effectively through visual and narrative means.

Integrity/Values

Recognize ethical and professional responsibilities in data science situations and make informed judgments, which must consider the impact of the solutions in global, economic, environmental, and societal contexts.

Project Management

Students can choose and employ appropriate tools for data collection, storage, manipulation, analysis, visualization, dissemination, and preservation, as relevant to goals, tasks, and users.

B. Describe the admission standards and graduation requirements for the program.

Admission and graduation requirements are available from the University of West Florida Catalog (Appendix E; University of West Florida. (2015). *2015-2016 University Catalog*. Retrieved from <http://catalog.uwf.edu>).

Admission Standards:

In addition to the University graduate admission requirements described in the [Admissions section](#) of the catalog, the applicant must meet the following minimum departmental admission requirements for regular admission to the M.S.D.S. degree program:

Students applying to the M.S. in Data Science degree program must have completed the following courses prior to admission:

- Introduction to Statistics
- Calculus II
- One programming course (such as Python)

If an applicant has a B.S. in Mathematics, Statistics, Computer Science or a related field:

- Minimum Graduate Record Examination (GRE) Verbal score of at least 150 and Quantitative score of at least 150.

The graduate admission test may be waived for the following:

- Must have a B.S. or B.A. degree in a related field with at least a 3.0 GPA.
- If an applicant has a graduate degree in any of the sciences, no GRE is required.
- An applicant may be fully admitted if the student has all required undergraduate proficiency courses.
- An applicant may be provisionally admitted subject to completing the required undergraduate proficiency courses.
- If an applicant does not meet the above requirements, they may be considered for conditional admission. Please contact the department for more information.

With approval from the department, a maximum of six credit hours may be transferred into the program.

C. Describe the curricular framework for the proposed program, including number of credit hours and composition of required core courses, restricted electives, unrestricted electives, thesis requirements, and dissertation requirements. Identify the total numbers of semester credit hours for the degree.

The HMCSE faculty designed the 30 semester credit hour (SCH) M.S.D.S. degree program curriculum to provide a 21 SCH foundational framework develops the student's ability to identify, manipulate, and manage large quantities of data. The concentration area focuses the

student's research interest. The 21 SCH core of the program includes 9 SCH of statistics, 9 SCH of computer science, and 3 SCH of mathematics. The other 9 SCH incorporates a concentration in Information Technology, Mathematics, Statistics, Computer Science, and Earth and Environmental Sciences. Students will meet with their advisors to develop customized areas of concentration based on the student's career goals and expertise. All courses in the concentrations will be offered online.

In addition to matriculating students from science emphasis degree programs, the M.S.D.S. degree program has been designed to accommodate graduates from other academic disciplines as well as working adults. Prior to admission, students without a background in computer science, mathematics, or statistics will complete three courses (Introduction of Statistics, Calculus II, and one programming course such as Python). In certain cases, students may be provisionally admitted. The 30 SCH degree program does not have a capstone or a thesis requirement, which makes the program more accessible to working adults and distance learners.

Table 12. *Proposed M.S.D.S. program curriculum*

Course Number	Course Name	Semester Credit Hours
STA 5176	Statistical Modeling	3 SCH
STA 6235	Modeling in Regression	3 SCH
STA 6707	Multivariate Methods	3 SCH
COP 5725	Database Systems	3 SCH
CAP 5771	Data Mining	3 SCH
CAP 5754	Big Data Analytics	3 SCH
MAP 6001	Machine Learning	3 SCH
Total Core		21 SCH
Electives	<i>See Elective List</i>	9 SCH
Total M.S.D.S. Degree Program		30 SCH

D. Provide a sequenced course of study for all majors, concentrations, or areas of emphasis within the proposed program.

The sequenced courses of study shown in Table 13 reflect minimum semester credit hour requirement of 21 SCH core courses, 9 SCH of elective courses for the M.S.D.S. degree program.

Table 13. *Sequenced course of study for full-time students in the M.S.D.S. degree program*

Year 1		SCH
Fall	STA5176 Statistical Modeling COP 5725 Database Systems	3 3
Spring	CAP 5771 Data Mining STA 6235 Modeling in Regression	3 3
Summer	STA 6707 Multivariate Methods	3
Total		15
Year 2		SCH
Fall	MAP 6001 Machine Learning CAP 5754 Big Data Analytics	3 3
Spring	Elective 1 Elective 2	3 3
Summer	Elective 3	3
Total		15
Total M.S.D.S. Degree Program		30 SCH

E. Provide a one- or two-sentence description of each required or elective course.

Required Core Courses

(Required – all students take these courses for a total of 21 SCH)

STA 5176 Statistical Modeling (3 SCH)

Topics covered include analysis of variance, regression analysis, nonparametric statistics, contingency tables. Students will use matrix algebra to derive some properties of regression diagnostics, in addition to using the method of least squares to derive optimal estimators in linear models.

STA 6235 Modeling in Regression (3 SCH)

Advanced topics in regression, nonlinear regression, influence diagnostics, Eigensystem analysis of $X'X$ matrix, logistic regression, ridge regression, robust regression, and generalized linear models.

STA 6707 Multivariate Methods (3 SCH)

Concepts and methods of Multivariate analysis in order to describe and analyze multivariate data. Multivariate extensions of Chi-Square and t-tests; discrimination & classification procedures; applications to diagnostic problems in biological, medical, anthropological & social research; multivariate analysis of variance; factor analysis and principal components analysis.

COP 5725 Database Systems (3 SCH)

Introduction to database systems and database management system architectures. Various database models are discussed with emphasis on the relational model and relational database design. Case applications using fourth-generation languages, such as SQL are included.

CAP 5771 Data Mining (3 SCH)

Data mining concepts and techniques and different data mining software. Covers data pre-processing and cleaning, concept hierarchy generation, attribute relevance analysis, association rule mining, classification algorithms, and cluster analysis.

CAP 5754 Big Data Analytics (3 SCH)

Stages of handling large data sets in a Big Data Hadoop MapReduce environment. Students also learn Spark architecture and programming with the aim of using big data analytics in combination with machine learning algorithms in Spark. The course also covers concepts of Spark streaming. This course may require completion of graduate foundational courses in computer science or undergraduate coursework in computer programming if a student has insufficient academic or professional experience in the discipline.

MAP 6001 Machine Learning (3 SCH)

Uses interdisciplinary techniques such as statistics, linear algebra, optimization, and computer science to create automated systems that can shift through large volumes of data at high speed to make predictions or decisions without human intervention.

Elective Courses

(Students will take 9 SCH of these courses)

Mathematics electives**MAD 6405 Numerical Analysis I (3 SCH)**

Theoretical treatment of numerical methods of linear algebra supplemented with use of computers; polynomial approximations, uniform approximations, least square approximations, error analysis for numerical solutions of linear equations, algebraic eigenvalue problems.

MAP 5471 Advanced Probability and Inferences (3 SCH)

Advanced topics in probability, limit theorems, limiting distributions, order statistics, weak law of large numbers, strong law of large numbers, central limit theorem. Advanced topics in point and interval estimation, measures of quality of estimates, Exponential families, Completeness, Unbiasedness, Cramer-Rao inequality, Rao-Blackwell theorem, minimum variance unbiased estimators, maximum likelihood estimators principles, Bayes' and minimax estimation, Robust estimation; Advanced hypothesis testing.

Statistics electives**STA 5326 Statistical Inference (3 SCH)**

Advanced course in mathematical statistics. It is more theoretical than an applied statistics course and takes a mathematical approach to problem solving. There will be some "real world" applications of the theory.

STA 6246 Design and Analysis of Experiments (3 SCH)

Further concepts in design and analysis of planned experiments with emphasis on confounding and fractional replications of factorial experiments; composite designs; incomplete block designs; estimation of variance components.

STA 6257 Advanced Statistical Modeling (3 SCH)

This course will cover advanced statistical models, enabling students to model various discrete and continuous outcomes. The focus will be determined by instructor and may include such analyses as generalized linear analysis, nonlinear regression analysis, or spatial cluster analysis. In addition to advanced models, the course will include model constructions, model fit, interpretation of results, and dissemination of results.

Earth and Environmental Science elective**GIS 6105 Spatial Data Management (3 SCH)**

This course begins with the basic theory of database design. It then proceeds on to incorporate spatial data and its unique data management requirements. Students then learn how to extract, transform and load spatial data and its associated attribute data using specific GIS case study workflows. Course includes lecture, hands-on exercises, written reports, and a final project with a presentation requirement.

Computer Science electives**CAP 6772 Data Warehousing (3 SCH)**

The primary focus of this course is on Data Warehousing and its applications to business intelligence. Some areas of concentration are: requirements gathering for data warehousing; data warehouse architecture; dimensional model design for data warehousing; physical database design for data warehousing; extracting, transforming, and loading strategies; introduction to business intelligence; design and development of business intelligence applications; expansion and support of a data warehouse.

COP 6727 Advanced Database Systems (3 SCH)

Advanced topics in database management systems will be covered, for example, further dependencies and higher normal forms, transaction processing, concurrency control, backup and recovery, indexing, replication, managing large databases, and contemporary issues and topics in databases.

Information Technology electives

CTS 5XX1-1 Data Visualization (3 SCH)

Provides students with skills to describe theory and concepts related to efficient and effective display of data. Students will use a variety of tools necessary to prepare and present the factual data in a visually compelling manner. Data Visualization tools have a wide applicability and tools and technologies available today allow students, researchers and other users of data leverage on these tools to empower their presentations.

CTS 5XX1-2 Digital Media Analytics (3 SCH)

Focuses on the processing and analysis of the copious amounts of data generated by digital media. Students will utilize standard programming languages and available software packages to design and implement solutions to acquire, process and analyze data in multiple formats

- F. For degree programs in the science and technology disciplines, discuss how industry-driven competencies were identified and incorporated into the curriculum and indicate whether any industry advisory council exists to provide input for curriculum development and student assessment.**

Based on their research and professional affiliations, faculty in the HMCSE designed the curriculum and student learning outcomes for the M.S.D.S. degree program to be responsive to skills and competencies desired by industries. The curriculum of the computer science and data mining courses were established based on Association for Computing Machinery (ACM) curricula recommendations. (<https://www.acm.org/education/curricula-recommendations>).

- G. For all programs, list the specialized accreditation agencies and learned societies that would be concerned with the proposed program. Will the university seek accreditation for the program if it is available? If not, why? Provide a brief timeline for seeking accreditation, if appropriate.**

Data science is a new field and as yet does not have a specialized accrediting agency. However, there are online resources and associations aimed at the field of data science. The Data Science Association supports the profession with practical resources. The Data Science Association mission statement is “To promote data science to improve life, business and government.” (<https://www.datascienceassn.org/>)

Data Science Society is an online platform for data scientists and others working with data. Data Science Society delivers a variety of trainings and online courses. The platform also hosts a data science blog, a forum, and data sets. (<https://www.datasciencesociety.net>)

- H. For doctoral programs, list the accreditation agencies and learned societies that would be concerned with corresponding bachelor’s or master’s programs associated with the proposed program. Are the programs accredited? If not, why?**

Not applicable this is a not a doctoral degree program.

- I. Briefly describe the anticipated delivery system for the proposed program (e.g., traditional delivery on main campus; traditional delivery at branch campuses or centers; or nontraditional delivery such as distance or distributed learning, self-paced instruction, or**

external degree programs). If the proposed delivery system will require specialized services or greater than normal financial support, include projected costs in Table 2 in Appendix A. Provide a narrative describing the feasibility of delivering the proposed program through collaboration with other universities, both public and private. Cite specific queries made of other institutions with respect to shared courses, distance/distributed learning technologies, and joint-use facilities for research or internships.

The M.S.D.S. degree program will be available to all students online. Some of the courses will be offered using a blend of face to face and synchronous distance learning. UWF's Engineering and Mathematics and Statistics departments have been very successful in delivering their programs via a synchronous distance learning setting and the faculty are very comfortable and proficient in using the system.

For synchronous delivery, a group of students are in a face-to-face classroom while the distance learning students participate at the same time in the same course over the Internet. WebEx, the synchronous distance learning platform, allows students to listen to live lectures, show examples to instructors, ask questions in real time, and chat with classmates. Online students log-on to the Internet at designated class times. Two-way audio and video enables live interaction between the instructor and the online students.

Due to the interdisciplinary nature of the M.S.D.S. degree program and the opportunity for students to choose electives to tailor their program to their career path, some of the courses will be delivered in the conventional online format. All faculty in these courses are familiar and comfortable with the Canvas Learning Management System.

IX. Faculty Participation

- A. Use Table 4 in Appendix A to identify existing and anticipated full-time (not visiting or adjunct) faculty who will participate in the proposed program through Year 5. Include (a) faculty code associated with the source of funding for the position; (b) name; (c) highest degree held; (d) academic discipline or specialization; (e) contract status (tenure, tenure-earning, or multi-year annual [MYA]); (f) contract length in months; and (g) percent of annual effort that will be directed toward the proposed program (instruction, advising, supervising internships and practica, and supervising thesis or dissertation hours).

The following faculty are shown in Appendix A Table 4:

Raid Amin, PhD
 Subhash Bagui, PhD
 Anthony Okafor, PhD
 Samantha Seals, PhD
 Achraf Cohen, PhD
 Dallas Snider, PhD
 Sikha Bagui, EdD
 Jia Liu, PhD

- B. Use Table 2 in Appendix A to display the costs and associated funding resources for existing and anticipated full-time faculty (as identified in Table 4 in Appendix A). Costs

for visiting and adjunct faculty should be included in the category of Other Personnel Services (OPS). Provide a narrative summarizing projected costs and funding sources.

As shown in Appendix A Tables 2 – 4,

Faculty funding figures for Year 1:

\$150,071 a portion of the salary and fringe for four full-time faculty on existing lines to be reallocated from the HMCSE. The program does not anticipate the need to hire adjunct faculty.

Faculty funding figures for Year 5:

\$182,412 Continuing Base salary and fringe for faculty increased at a rate of 5% per year.

All faculty costs associated with the proposed degree program will come from E&G.

- C. Provide in the appendices the abbreviated curriculum vitae (CV) for each existing faculty member (do not include information for visiting or adjunct faculty).**

The following faculty CVs are in Appendix D Faculty Curriculum Vitarum

Raid Amin, PhD
 Subhash Bagui, PhD
 Anthony Okafor, PhD
 Samantha Seals, PhD
 Achraf Cohen, PhD
 Dallas Snider, PhD
 Sikha Bagui, EdD
 Jia Liu, PhD

- D. Provide evidence that the academic unit(s) associated with this new degree have been productive in teaching, research, and service. Such evidence may include trends over time for average course load, FTE productivity, student HC in major or service courses, degrees granted, external funding attracted, as well as qualitative indicators of excellence.**

The M.S.D.S. degree program will be housed in the Department of Mathematics and Statistics in the HMCSE. In academic year 2017-2018, the Department of Mathematics and Statistics had in excess of 300 majors across the undergraduate and graduate programs. Enrollment growth in the department has been strong. The Department of Mathematics and Statistics awarded 50 diplomas in the same time period. Of those diplomas, 39 or 78% were graduate and 11 or 22% were undergraduate. The department anticipates that the proposed graduate degree program will experience positive enrollment numbers and will enhance existing undergraduate program enrollment.

M.S.D.S. degree program faculty, all current UWF full-time faculty, come from the departments of Mathematics and Statistics, Computer Science, and Information Technology. Table 14 displays fall student semester credit hours (SCH) generated by related departments of the HMCSE for academic 2014-2018.

Table 14. Semester credit hours for the HMCSE departments that will be contributing to the M.S.D.S. degree program

Level	Department	2014 SCH	2015 SCH	2016 SCH	2017 SCH	4 Year SCH Avg.
Undergraduate	Mathematics and Statistics	10,173	10,441	9,911	9,263	9,995
	Computer Science	5,390	5,068	5,287	4,889	5,137
	Information Technology*				855	855
Graduate	Mathematics and Statistics	705	799	750	809	738
	Computer Science	555	572	625	499	583
	Information Technology**	0	0	0	0	0

*New program in 2017

** Information Technology does not have any graduate programs as of 2018.

Table 15 below, displays fall student semester FTE (Using IPEDS Annualized FTE) generated by related departments of the HMCSE for academic 2014-2018.

Table 15. FTE generated by the HMCSE departments that will be contributing to the M.S.D.S. degree program

Level	Department	2013 FTE	2014 FTE	2015 FTE	2016 FTE	2017 FTE	5 Year FTE Avg.
Under-graduate	Mathematics and Statistics	339.75	339.17	348.06	330.89	308.82	333.34
	Computer Science	167.18	177.37	168.13	174.33	161.07	137.62
	Information Technology*					26.73	26.73
Graduate	Mathematics and Statistics	25.72	28.92	32.89	30.67	33.13	30.27
	Computer Science	28.86	25.43	24.63	27.94	22.69	25.91
	Information Technology**						

*New program in 2017

** Information Technology does not have any graduate programs as of 2018

The UWF faculty who will be lending their expertise to the M.S.D.S. degree program are experienced scholars, researchers and teachers. All faculty participate in departmental, college-level, and university-level committees, provide service to the profession as reviewers, and conduct community outreach. Table 16 below displaying M.S.D.S. degree program faculty awards demonstrates that faculty are committed to excellence in their profession.

Table 16. *Example of University of West Florida honors awarded to faculty who will be teaching in the M.S.D.S. degree program*

Faculty	UWF Award	Year
Raid Amin	Teaching Incentive Program Award	2004
	Distinguished University Professor	2014
Subhash Bagui	Teaching Incentive Program (TIP) Award	1999, 2003
	Excellence in Undergraduate Teaching and Advising Award	1999
	Golden Apple Award for Teacher of the year	2000
	Excellence in Undergraduate Teaching and Advising Award	2003
	Distinguished University Professorship	2017
Anthony Okafor	Teaching Incentive Program (TIP) Award	1996
Sikha Bagui	Excellence in Teaching and Advising Award 2012	2012
	Excellence in Undergraduate Teaching and Advising Award	2001, 2003

Additionally, faculty from the departments of Mathematics and Statistics, Computer Science, and Information Technology who will be contributing to the M.S.D.S. degree program are highly productive in pursuit of grant funding. Table 17 reflects four-year grant activity for faculty who will be working in the M.S.D.S. degree program.

Table 17. *Recent grants awarded to M.S.D.S degree program faculty*

Name	Project Title	Amount
Subhash Bagui	Gulf Power “Mathematical proof showing the effect of electric billing determinant correlation on Blank and Gegax methodology” May-Dec, 2017.	\$10,0000
Anthony Okafor	Okafor PI: Memiah, P. Collaborators: Okafor, A., Stone, L., Mbizo, J., & Sutton, M.A. UWF Instructional Technology Enhancement Project award, Office of the Provost, UWF: <i>Enhancing Student High Impact Practices Through Big Data Analysis and Systems-Level Thinking</i> (2018-2020).	\$33,077

	Okafor PI: Sutton, M.A. Collaborators: Bennett, W., Stone, L., Okafor, A., Marten, M., Memiah, P., & Mbizo, J. Center for Research and Economic Opportunity award, UWF: <i>Research Equipment Funding Transdisciplinary Informatics Research with Faculty, Students, and Citizen Scientists</i> (2015-2018).	\$42,900
Dallas Snider	Co-Investigator on “Evaluation of Tools to Measure and Mitigate the Effects of Operational Stress,” a subcontract with prime contractor Florida Institute for Human and Machine Cognition, United States Air Force School of Aerospace Medicine Prime Award FA8650-18-C-6982, October 2018-present, awarded.	\$55,741
	Security and Software Engineering Research Center (S2ERC) research project, “Data Mining for Network Performance Assessment, Phase 2”, sponsored by Northrop Grumman Aerospace Systems, January 2015 – December 2015, awarded.	\$26,985
	Co-Investigator on the Santa Rosa County School District project, “Instructional Evaluation Application”, June 2014 – August 2016, awarded.	\$314,306
Total Grants and Contracts		\$483,009

All M.S.D.S. degree program faculty are actively engaged in research. Table 18, displays faculty publications 2014-2018.

Table 18. *M.S.D.S. degree program faculty publication and research productivity*

Faculty	Project Reference
Raid Amin	<p>Bouso J, Burns J, Amin R, Livingston F, Eldemir O. "Household proximity to water and nontuberculous mycobacteria in children with cystic fibrosis ." <i>Pediatric Pulmonology</i>. (2016).</p> <p>Amin R., DeCesare J., Hans J., Roussous-Ross K., Epidemiological Surveillance of Teenage Birth Rates in the United States, 2006-2012, <i>Obstetrics and Gynecology (The Green Journal, Impact Factor: 5.656)</i> (2017). This article reviewed in FORBES.com on May 9, 2017 in an article by Rita Rubin.</p> <p>Decesare J., Hannah D., Amin R., Postpartum Contraception Use Rates of Patients Participating in the Centering Pregnancy Model of Care Versus Traditional Obstetrical Care, <i>The Journal of Reproductive Medicine</i> (2017).</p> <p>Gorman S, Lee A, Amin R, and Burns J. "Potential adverse consequences of early discharge for newborns who meet American Academy of Pediatrics criteria", <i>Clinical Pediatrics</i>. (2017). [Impact Factor : 0.89]</p> <p>Amin, R. W., Guttman, R. P., Harris, Q. R. and Thomas, J. W. (2018), "Prediction of Vancomycin Dose for Recommended Trough Concentrations in Pediatric Patients With Cystic Fibrosis" <i>The Journal of Clinical Pharmacology</i>. doi:10.1002/jcph. [Impact factor for 2014: 2.475]</p> <p>Raid Amin, Arlene Nelson, Shannon McDougall. "A Spatial Study of the Location of Superfund Sites and Associated Cancer Risk". <i>Journal of Statistics and Public Policy</i> (2018). doi: 10.1080/2330443X.2017.1408439.</p> <p>DeCesare J, Roussous Ross D, Vidrine S, Ashby M, Peterson H . Amin R. Barriers to Tdap Vaccination in Pregnancy: Perspectives from Obstetricians and Patient Infections Disease in Obstetrics and Gynecology. <i>International Journal of Obstetrics and Gynecology</i>, (2018). [Impact Factor: 2.17]</p> <p>Raid W. Amin, Erich Ritter, Bethany A Bonell. "Shark bite rates along the US Gulf coast: a first investigation." <i>Environmental Sciences</i>. (2018) [Impact Factor: 3.243]</p> <p>DeCesare JZ, Ross KR, Vidrine S, Peterson H, Ashby M, Floyd E. and Amin R. (2018) Barriers to Tdap Vaccination in Pregnancy: Perspectives from Obstetricians and Patients. <i>International Journal of Pregnancy & Child Birth</i> 4(1): 00077. DOI: 10.15406/ipcb.2018.04.00077.</p> <p>Raid Amin, Eric Yacko, and Rodney Guttman. Geographic Clusters of Alzheimer's Disease Mortality Rates in the USA: 2008-2012. <i>Journal of Prevention of Alzheimer's Disease</i>. (2018)</p>

<p>Subhash (SC) Bagui</p>	<p>Bagui, S.C. and Mehra, K.L. (2016). Convergence of Binomial, Poisson, and Negative-Binomial to Normal distribution: Moment Generating Function Techniques, <i>American Journal of Mathematics and Statistics</i>, 6(3), 115-121.</p> <p>Chowdhury, M.A., Mandal, S., Ghosh, D.K., and Bagui, S.C. (2017). Optimal Structure (k) Designs for Comparing Test Treatments with a Control, <i>Journal of Statistical Theory and Applications</i>, 16(1), 96-107.</p> <p>Bagui, S.C. and Mehra, K.L. (2017). Convergence of binomial to normal: Multiple proofs, <i>International Mathematical Forum</i>, 12(9), 399-411.</p> <p>Xingang F., Bagui, S.C., and Bagui, S. (2017). "Improving Virtual Screening Predictive Accuracy of Human Kallikrein 5 inhibitors using Machine Learning Models, <i>Computational Biology and Chemistry</i>, 69, 110-119.</p> <p>Bagui, S.C., Fang, X., Kalaimannan, E., Bagui, S., Joseph, S. (2017). Comparison of machine-learning algorithms for classification of VPN network traffic flow using time-related features, <i>Journal of Cyber Security Technology</i>, 1(2), 108-126.</p> <p>Fang, X., Bagui, S., and Bagui, S.C. (2017). Improving virtual screening predictive accuracy of human kallikrein 5 inhibitors using machine learning models, <i>Computational Biology and Chemistry</i>, 69, 110-119.</p> <p>Bagui, S.C. and Mehra, K.L. (2017). Convergence of known distributions to limiting normal or non-normal distributions: An elementary ratio technique, <i>The American Statistician</i>, 71(3), 1-6.</p> <p>McMillan, M., Liebens, J., and Bagui, S.C. (2018). A statistical model for streambank erosion in Northern Gulf of Mexico coastal plain, <i>Catena</i>, 165, 145-156.</p> <p>Bagui, S.C., John, S., Baggs, J., Bagui, S. (2018). A Parallel Implementation of Information Gain Using Hive in conjunction with MapReduce for Continuous Features, PAKDD 2018, <i>LNAI 11154</i>, 1-12.</p> <p>Bagui, S.C., Mishra, A., Compo, J., Nandi, D., Bagui, S. (2018). Quality Analysis of Streaming Audio over Mobile Networks, <i>Transactions on Networks and Communications</i>, 6(6), 1-14.</p>
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<p>Anthony Okafor</p>	<p>Donley, T., King, D., Nyathi, N., Okafor, A., & Mbizo, J., (2018) “Socioeconomic Status, Family Functioning and Delayed Care Among Children With Special Needs”, <i>Social Work in Public Health</i>, 33:6, 366-381, DOI: 10.1080/19371918.2018.1504703.</p> <p>Mbizo, J., Okafor, A., Sutton, M., et al. “Complementary and Alternative Medicine Use Among Persons with Multiple Chronic Conditions: Results from the 2012 National Health Interview Survey” ID BCAM-D-18-00772, <i>BMC Complementary and Alternative Medicine</i>, 2018.</p> <p>Ilunga Tshiswaka, D., Donley, T., Okafor, A. et al. "Prostate and Colorectal Cancer Screen Uptake among US and Foreign_born Males: Evidence form the 2015 NHIS Survey” <i>Journal of Community Health</i> (2016). doi:10.1007/s10900-016-0296-1</p> <p>Mbizo, J., Okafor, A., Sutton, M., "Complementary and Alternative Medicine Use by Normal Weight and Obese Patients with Arthritis or Other Musculoskeletal Diseases: Results from the 2007 NHIS Survey" ID JACM-2014-0390; <i>Journal of Alternative and Complementary Medicine</i>, 2016.</p> <p>Mbizo, J., Okafor, A., Sutton, M., et al. <i>Integrative and Complementary Medicine Use in Adults With Chronic Lower Back Pain, Neck Pain, and Arthritis/Musculoskeletal Diseases" Bioactive Food as Dietary Interventions for Arthritis and Related Inflammatory Diseases</i>, 2018 (In Press).</p>
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Samantha Seals	<p>Frascogna MN, Merkle E, Dowdy K, Seals S. “The Effect of Pediatric Early Warning System Scoring Upon Admission from the Pediatric Emergency Department on Emergency Response Calls,” <i>Pediatric Emergency Care</i>, accepted.</p> <p>Ramsey LH, Graves PE, Sharp KMH, Seals SR, Collier AB, Karlson CW. “Impact of Race, Socioeconomic Status, and Access to Care on Medical and Psychological Outcomes in Pediatric Oncology,” <i>Journal of Pediatric Hematology and Oncology</i>, accepted.</p> <p>Okhomina VI*, Seals SR*, Marshall GD. “Recruitment and Enrollment of African Americans from the Jackson Heart Study into Health Promoting Programs,” <i>Ethnicity and Health</i>, accepted. * indicates co-first authors</p> <p>Okhomina VI*, Seals SR*, Anugu P, Adu-Boateng G, Sims M, Marshall GD. “Adherence and Retention of African Americans in a Randomized Controlled Trial with a Yoga-Based Intervention: The Effects of Health Promoting Programs on Cardiovascular Disease Risk Study,” <i>Ethnicity and Health</i>, accepted. * indicates co-first authors</p> <p>Hyacinth HI, Carty CL, Seals SR, Irvin MR, Naik RP, Burke GL, Zakai NA, Winkler CA, David VA, Kopp J, Judd SE, Adams RJ, Epstein MP, Longstreth Jr WT, Egede L, Lackland DT, Greenberg CS, Taylor H, Manson JE, Howard V, Allison M, Gee BE, Correa A, Safford MM, Arnett DK, Howard G, Wilson JG, Cushman M, Reiner AP. “Association of Sickle Cell Trait With Ischemic Stroke Among African Americans: A Meta-Analysis,” <i>JAMA: Neurology</i>, 2018, 75(7): 802-807.</p> <p>Sorrel J, Bishop CE, Spankovich C, Su D, Valle K, Seals S, Schweinfurth J. “Relationship of Stroke Risk and Hearing Loss in African Americans: The Jackson Heart Study,” <i>Laryngoscope</i>, 2018, 128(6): 1438-1444.</p> <p>Ordemann AG, Hartzog AJ, Seals SR, Spankovich C, Stringer SP. “Is Weight a Predictive Risk Factor of Post-Operative Tonsillectomy Bleed?” <i>Laryngoscope Investigative Otolaryngology</i>, 2018, 3(3): 238-243.</p> <p>Bromfield SG, Booth III JN, Loop M, Schwartz JE, Seals SR, Thomas SJ, Min YI, Ogedegbe G, Shimbo D, Muntner P. “Evaluating Different Criteria for Defining a Complete Ambulatory Blood Pressure Monitoring Recording: Data from the Jackson Heart Study,” <i>Blood Pressure Monitoring</i>, 2018, 23(2): 103-111.</p> <p>Ilunga Tshiswaka D, Seals SR, Raghavan P. “Correlates of Physical Function among Stroke Survivors: An Examination of the 2015 BRFSS,” <i>Public Health</i>, 2018, 155: 17-22.</p>
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<p>Achraf Cohen</p>	<p>A. Cohen, C. Messaoudi , H. Badir. A New Wavelet-Based Approach for Mass Spectrometry Data Classification. In: Zhao Y., Chen DG. (eds) <i>New Frontiers of Biostatistics and Bioinformatics</i> . ICSA Book Series in Statistics. Springer, Cham. 2018.</p> <p>A. Cohen, R. Amin. The Effects of Normal Mixtures and Autocorrelation on the Fraction Non-Conforming. <i>Communications in Statistics - Simulation and Computation</i>,1-13. 2017.</p> <p>A. Cohen, T. Tiplica, A. Kobi. OWave control chart for monitoring the process mean. <i>Control Engineering Practice</i>, Vol. 54, pp. 223-230. 2016.</p> <p>A. Cohen, T. Tiplica, A. Kobi. Design of experiments and statistical process control using wavelets analysis. <i>Control Engineering Practice</i>, Vol. 49, pp. 129-138. 2016.</p>
<p>Dallas Snider</p>	<p>G. Merrill Rice, Dallas Snider, Sabrina Drollinger, Chris Greil, Frank Bogni, Jeffrey Phillips, Anil Raj, Katherine Marco, Steven Linville, “Gender Differences in Dry-EEG Manifestations During Acute and Insidious Normobaric Hypoxia,” <i>Aerospace Medicine and Human Performance</i>, (accepted for publication).</p> <p>G. Merrill Rice, Dallas Snider, Sabrina Drollinger, Chris Greil, Frank Bogni, Jeffrey Phillips, Anil Raj, Katherine Marco, Steven Linville, “Dry-EEG Manifestations of Acute and Insidious Hypoxia During Simulated Flight,” <i>Aerospace Medicine and Human Performance</i>, (accepted for publication).</p> <p>Sarita Mantravadi and Dallas Snider, “Hepatitis C Direct Acting Antivirals and Disruptive Innovation,” <i>Journal of Strategic Innovation and Sustainability</i>, vol. 12, no. 2, 2017, pp. 68-74.</p> <p>Sarita Mantravadi and Dallas Snider, “Online Teaching Overview and Misconceptions: Two Keys of Sustainability in Online Courses and Tools,” <i>Journal of Higher Education Theory and Practice</i>, vol. 17, no. 7, 2017, pp. 106-110.</p> <p>Sarita Mantravadi and Dallas Snider, “Comparing Healthcare Systems of Luxembourg and the United States,” <i>The Journal of Applied Business and Economics</i>, vol. 19, no. 7, 2017, pp. 60-74.</p> <p>G. Merrill Rice, Dallas Snider, Jeffery L. Moore, J. Timothy Lavan, Rich Folga, Thomas B. VanBrunt, “Evidence for –Gz Adaptation Observed with Wearable Biosensors during High Performance Jet Flight,” <i>Aerospace Medicine and Human Performance</i>, vol. 87, no. 12, December 2016.</p> <p>G. M. Rice, T. B. VanBrunt, D. H. Snider, R. E. Hoyt, “Wearable Accelerometers in High Performance Jet Aircraft”, <i>Aerospace Medicine and Human Performance</i>, vol. 87, no. 2, 2016, pp. 102-107.</p> <p>Dallas Snider, John Coffey, Thomas Reichherzer, Norman Wilde, Chris Terry, Joe Vandeville, Allison Heinen and Sarah Pramanik, "Using Concept Maps to Introduce Software Security Assurance Cases," <i>CrossTalk: The Journal of Defense Software Engineering</i>, vol. 27, no. 5, 2014.</p>

<p>Sikha Bagui</p>	<p>Bagui, S., and Nguyen, L. (2015). Database Sharding: To provide fault tolerance and scalability of Big Data on the Cloud, <i>International Journal of Cloud Applications and Computing (IJCAC)</i>, Vol. 5(2), 36-52.</p> <p>Fridge, E., and Bagui, S. (2016). Impact of Automated Software Testing Tools on Reflective Thinking and Student Performance in Introductory Computer Science and Programming Classes, <i>International Journal of Information and Communication Technology Education (IJICTE)</i>, 12(1), 24-40.</p> <p>Bagui, S., Bagui, S., and Hemasinha, R. (2016). The Statistical Classification of Breast Cancer Data, <i>International Journal of Statistics and Applications</i>, 6(1), 15-22.</p> <p>Bagui, S., Xingang, F., Kalaimmanan, E., Bagui, S., and Sheehan, J. (2017). Comparison of Machine Learning Algorithms for classification of VPN and non-VPN Network Traffic Flow Using Time-Related Features, <i>Journal of Cyber Security Technology</i>, 1(2), 108-126.</p> <p>Xingang F., Bagui, S., and Bagui, S. (2017). "Improving Virtual Screening Predictive Accuracy of Human Kallikrein 5 inhibitors using Machine Learning Models, <i>Computational Biology and Chemistry</i>, 69, 110-119.</p> <p>Dickinson, R., Perry, S., and Bagui, S. (2016). Using rotation transformations to maximize the coefficient of determination in simple linear regression models, <i>European Journal of Mathematics and Computer Science</i>, 3(1), 66-78.</p> <p>Cox, A., Guzman, I., Crommer, K., Bagui, S. (2017). Virtual world, Virtual Reality, and Augmented Reality: Different Types, Different Users, Different Purchase Intentions, <i>Journal of Virtual Worlds Research</i>, 10(1), 1-21.</p> <p>Bagui, S. and Devulapalli, K. (2018). A Comparison of Hive's Optimization Techniques, <i>International Journal of Big Data Intelligence (IJBDI)</i>, 5(4), 243-257.</p> <p>Bagui, S., and Spratlin, S. (2018). A Review of Data Mining Algorithms on Hadoop's MapReduce, <i>International Journal of Data Science</i>, 3(2), 146-169.</p> <p>Bagui, S., John, S., Baggs, J., Bagui, S. (2018). A Parallel Implementation of Information Gain Using Hive in conjunction with MapReduce for Continuous Features, PAKDD 2018, <i>LNAI 11154</i>, 1-12.</p> <p>Bagui, S., Mishra, A., Compo, J., Nandi, D., Bagui, S. (2018). Quality Analysis of Streaming Audio over Mobile Networks, <i>Transactions on Networks and Communications</i>, 6(6), 1-14.</p>
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Jia Liu	<p>J. Liu, L. Wu and X. Fang, Using Python to Solve the Navier-Stokes Equations-Applications in the Preconditioned Iterative Methods, volume 7, Journal of Scientific research and report, 2015, DOI : 10.9734/JSRR/2015/17346.</p> <p>L. Wu, S, Wei, J. Liu and Y. Li, Discovering Geometric and Topological Properties of Ellipsoids by Curvatures, British Journal of Mathematics and Computer Science, volume 8, 2015. DOI : 10.9734/BJMCS/2015/17178</p> <p>L. Wu, J. Liu and Y. Li, Exploration of Calculus Teaching and Calculus Assessment through Artwork, International Journal of Applied Research, 2015; 1(8): 731-135.</p> <p>J. Liu, An efficient iterative solver for different incompressible flows. International Journal of Development Research, Vol 06, Issue 06, pp 8073-8076, June, 2016. (IF: 4.753)</p> <p>L. Wu, J. Liu and Y. Li, Discovering Liouville-type Problems for p-Energy Minimizing Maps in Closed Half-Ellipsoids by Calculus Variation Method, World Academy of Science, Engineering and Technology International Journal of Mathematical, Computational, Physical, Electrical, and Computer Engineering, vol 10, no 10, 2016, pp 496-502.</p> <p>J. Uvah, J. Liu and L. Wu. A Robust Preconditioned Iterative Method for the Navier-Stokes Equations with High Reynolds Numbers , Applied and Computational Mathematics 2017; 6(4): 202-207 doi: 10.11648/j.acm.20170604.18</p> <p>Wu, L. , Li, Y. , Liu, J. Applying p-Balanced Energy Technique to Solve Liouville-Type Problems in Calculus, World Academy of Science, Engineering and Technology, International Science Index 138, International Journal of Mathematical, Computational, Physical, Electrical and Computer Engineering, 12(6), 90 - 95. 2018</p>
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X. Non-Faculty Resources

- A. Describe library resources currently available to implement and/or sustain the proposed program through Year 5. Provide the total number of volumes and serials available in this discipline and related fields. List major journals that are available to the university's students. Include a signed statement from the Library Director that this subsection and subsection B have been reviewed and approved.**

UWF currently offers B.S. and M.S. programs in Mathematics, B.S. and M.S. programs in computer sciences, and a graduate certificate program in Data Science through the Department of Computer Science. In support of the M.S.D.S. degree program, the library is equipped to provide similar resources and services for this proposed program, including resources that support the interdisciplinary nature of data science.

The libraries shelve more than 800,000 print volumes and house an extensive microforms collection. Electronic resources include more than 160,000 e-books and access to approximately 80,000 journals and other serial titles through a discovery system. An analysis of holdings in relevant Library of Congress classifications for data science indicates that UWF has approximately 6,300 books related to data science and 13,000 books in data science-related

fields. The library also provides access to over 1,000 peer-reviewed e-journals in computer science, math, and technology, as well as titles that support the interdisciplinary nature of data science.

Specialized indexing, abstracting, and full-text databases relevant to data science include the ACM Digital Library, Applied Science & Technology Source, Inspec, IEEE Xplore, Telecommunications (ProQuest), and MathSciNet. More general databases supporting data science are Web of Science, Science Direct, and ABI/INFORM Global. Full-text dissertations and theses are available through ProQuest Dissertations and Theses. Using their Argonet accounts, students and faculty may access electronic resources anytime from any place.

Current library resources available to implement the proposed M.S in Data Science through year 5 include:

Databases

- ABI/INFORM Trade & Industry
- ACM Digital Library
- Applied Science & Technology Source
- Business Source Complete
- Computer Science Collection (ProQuest)
- Engineering Collection (ProQuest)
- Engineering Village
- IEEE Xplore
- Inspec
- Telecommunications (ProQuest)
- Dissertations and Theses (ProQuest)
- Florida Statistical Abstracts
- PubMed
- ScienceDirect
- Web of Science

Major Journals (Peer-Reviewed)

- *ACM Transaction on Information Systems* (Full text access 1983-Present through ACM Digital Library)
- *ACM Transaction on Computer Systems* (Full text access 1998-Present through ACM Digital Library)
- *ACM Transactions on Knowledge Discovery from Data* (TKDD) (Full text access 2007-Present through ACM Digital Library)
- *The American Statistician* (Full text access 1998-Present through Taylor & Francis)
- *Data Mining and Knowledge Discovery* (Full text access 1997-Present through SpringerLINK)
- *Decision Analytics* (Full text access 2014-Present through ABI/INFORM Global)
- *Foresight* (Full text access 2003-Present with 1 year delay through ABI/INFORM Global)

- *International Journal of Data Science and Analytics* (Full text access 2016-Present through Springer Nature)
- *Journal of Data Mining and Digital Humanities* (Full text access 2014- Present through DOAJ)
- *Journal of Forecasting* (Full text access 1997-Present through Wiley Online)
- *Machine Learning* (Full text access 1997-Present through SpringerLINK)
- *Statistical Analysis and Data Mining* (Full text access 2008-Present through Wiley Online Library)

Each academic discipline is assigned a Reference Librarian to serve as a department liaison, providing library instruction, collection development, and reference assistance for the students and faculty in that discipline. To support the needs of online learners, students may also schedule a research consultation with their liaison via e-mail, online chat, telephone, or in person.

The library provides an Online Learners Library Guide (<http://libguides.uwf.edu/online>) outlining services and resources that support the increasing number of online learners. The library has also been responsive to the needs of clients who prefer to work from home. In addition to being able to access databases and materials in full-text online, UWF students and faculty may also take advantage of these online library services:

- Read course-required readings on electronic reserves
- Request books and articles from Interlibrary Loan
- Request Intercampus Loan (to/from the Fort Walton Beach instructional site library)
- Renew books
- Submit a reference question via text, email, or chat
- Request priority cataloging of an item that is on order
- Suggest the purchase of a particular book or journal
- Request an item to be recalled for use
- Have UWF and Interlibrary Loan books delivered to your home address if you live over 50 miles from campus

B. Describe additional library resources that are needed to implement and/or sustain the program through Year 5. Include projected costs of additional library resources in Table 2 in Appendix A. Please include the signature of the Library Director in Appendix B.

The library services and resources currently available are adequate to support the M.S.D.S. degree program through Year 5. Furthermore, UWF Libraries' current holdings are competitive when compared to the resources available at other institutions with similar programs. No additional resources are recommended.

C. Describe classroom, teaching laboratory, research laboratory, office, and other types of space that are necessary and currently available to implement the proposed program through Year 5.

UWF has sufficient classroom, teaching, research, office and other types of space to implement the M.S.D.S. degree program and to sustain it through Year 5.

The Departments of Mathematics and Statistics is housed in Building 4 on the UWF Pensacola campus. In addition to classrooms and laboratories, Building 4 contains faculty and administrative offices for the academic departments. The HMCSE has technology-enhanced classrooms available for general use in Building 4.

The Department of Mathematics and Statistics shares space with the Department of Computer Science to include two technology-enhanced classrooms and four laboratories. They are mainly used for:

- general computing research,
- artificial intelligence and projects,
- cybersecurity, and
- smart home research

D. Describe additional classroom, teaching laboratory, research laboratory, office, and other space needed to implement and/or maintain the proposed program through Year 5. Include any projected Instruction and Research (I&R) costs of additional space in Table 2 in Appendix A. Do not include costs for new construction because that information should be provided in response to X (E) below.

The M.S.D.S. degree program will not require any additional space to implement as the program utilizes existing faculty and classrooms through multiple departments. The majority of the program will be delivered via distance learning and new student growth is not anticipated to cause need for additional space. The Dean of the HMCSE does not anticipate the need for additional space through Year 5.

E. If a new capital expenditure for instructional or research space is required, indicate where this item appears on the university's fixed capital outlay priority list. Table 2 in Appendix A includes only Instruction and Research (I&R) costs. If non-I&R costs, such as indirect costs affecting libraries and student services, are expected to increase as a result of the program, describe and estimate those expenses in narrative form below. It is expected that high enrollment programs in particular would necessitate increased costs in non-I&R activities.

As is shown in Appendix A Table 2, no new capital expenditures for instructional or research space is required to implement this program, nor to sustain it through Year 5. As explained in Section X. A-B of this Request to Offer, the library services and resources currently available are adequate to support the M.S.D.S. degree program through Year 5.

F. Describe specialized equipment that is currently available to implement the proposed program through Year 5. Focus primarily on instructional and research requirements.

The M.S.D.S. degree program will be able to use the equipment that is currently available for the HMCSE departments that will be participating in the program. In Year 1, the program plans to purchase a new server estimated at \$10,000 with a predicted lifecycle usage of seven years (Appendix A Table 2 Col 1 Year 1 Expenses). No additional specialized equipment needs are anticipated through Year 5.

- G. Describe additional specialized equipment that will be needed to implement and/or sustain the proposed program through Year 5. Include projected costs of additional equipment in Table 2 in Appendix A.**

No additional specialized equipment is needed to implement or to sustain the M.S.D.S degree program through Year 5.

- H. Describe any additional special categories of resources needed to implement the program through Year 5 (access to proprietary research facilities, specialized services, extended travel, etc.). Include projected costs of special resources in Table 2 in Appendix A.**

No additional special categories of resources are needed to implement or to sustain the M.S.D.S degree program through Year 5.

- I. Describe fellowships, scholarships, and graduate assistantships to be allocated to the proposed program through Year 5. Include the projected costs in Table 2 in Appendix A.**

As shown in Appendix A Table 2 (Assistantships & Fellowships), the proposed program plans to offer up to five graduate assistantships at \$14,000 each in Year 1 at a cost of \$70,000. In Year 5, the M.S.D.S. degree program plans to award up to fifteen graduate assistantships at \$14,000 each for a total of \$210,000.

- J. Describe currently available sites for internship and practicum experiences, if appropriate to the program. Describe plans to seek additional sites in Years 1 through 5.**

The curriculum provides for applied research experiences in data sciences such as Knowledge Discovery and Data Mining, Machine Learning and Deep Learning, Spatial and Context-Aware Data Management, and Recommender Systems and Preference Analytics. UWF faculty will seek opportunities for students to interact with the local community on data science projects and have begun conversations with local businesses such as Navy Federal Credit Union (Appendix G).

APPENDICES

Appendix A

Table 1B Projected Headcount from Potential Sources

Table 2 Projected Costs and Funding Sources

Table 3 Anticipated Reallocation of E&G Funds

Table 4 Anticipated Faculty Participation

APPENDIX A
TABLE 1-B
PROJECTED HEADCOUNT FROM POTENTIAL SOURCES
(MS Data Science)

Source of Students (Non-duplicated headcount in any given year)*	Year 1		Year 2		Year 3		Year 4		Year 5	
	HC	FTE	HC	FTE	HC	FTE	HC	FTE	HC	FTE
Individuals drawn from agencies/industries in your service area (e.g., older returning students)	0	0	5	2.75	15	8.25	15	8.25	25	13.75
Students who transfer from other graduate programs within the university**	0	0	0	0	0	0	0	0	0	0
Individuals who have recently graduated from preceding degree programs at this university	5	2.75	10	5.5	15	8.25	25	13.75	30	16.5
Individuals who graduated from preceding degree programs at other Florida public universities	0	0	0	0	0	0	0	0	0	0
Individuals who graduated from preceding degree programs at non-public Florida institutions	0	0	0	0	0	0	0	0	0	0
Additional in-state residents***	5	2.75	10	5.5	20	11	20	11	20	11
Additional out-of-state residents***	10	5.5	20	11	30	16.5	30	16.5	35	19.25
Additional foreign residents***	5	2.75	10	5.5	10	5.5	10	5.5	15	8.25
Other (Explain)***	0	0	0	0	0	0	0	0	0	0
Totals	25	13.75	55	30.25	90	49.5	100	55	125	68.75

* List projected annual headcount of students enrolled in the degree program. List projected yearly cumulative ENROLLMENTS instead of admissions.

** If numbers appear in this category, they should go DOWN in later years.

*** Do not include individuals counted in any PRIOR category in a given COLUMN.

APPENDIX A

**TABLE 2
PROJECTED COSTS AND FUNDING SOURCES**

Instruction & Research Costs (non-cumulative)	Year 1								Year 5							
	Funding Source								Subtotal columms 1+...+7	Funding Source						Subtotal columms 9+...+14
	Reallocated Base* (E&G)	Enrollment Growth (E&G)	New Recurring (E&G)	New Non-Recurring (E&G)	Contracts & Grants (C&G)	Philanthropy Endowments	Enterprise Auxiliary Funds	Continuing Base** (E&G)		New Enrollment Growth (E&G)	Other*** (E&G)	Contracts & Grants (C&G)	Philanthropy Endowments	Enterprise Auxiliary Funds		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
Faculty Salaries and Benefits	150,071	0	0	0	0	0	0	\$150,071	182,412	0	0	0	0	0	\$182,412	
A & P Salaries and Benefits	13,860	0	0	0	0	0	0	\$13,860	16,847	0	0	0	0	0	\$16,847	
USPS Salaries and Benefits	0	0	0	0	0	0	0	\$0	0	0	0	0	0	0	\$0	
Other Personal Services	0	0	0	0	0	0	0	\$0	0	0	0	0	0	0	\$0	
Assistantships & Fellowships	70,000	0	0	0	0	0	0	\$70,000	210,000	0	0	0	0	0	\$210,000	
Library	0	0	0	0	0	0	0	\$0	0	0	0	0	0	0	\$0	
Expenses	15,000	0	0	0	0	0	0	\$15,000	5,000	0	0	0	0	0	\$5,000	
Operating Capital Outlay	0	0	0	0	0	0	0	\$0	0	0	0	0	0	0	\$0	
Special Categories	0	0	0	0	0	0	0	\$0	0	0	0	0	0	0	\$0	
Total Costs	\$248,931	\$0	\$0	\$0	\$0	\$0	\$0	\$248,931	\$414,259	\$0	\$0	\$0	\$0	\$0	\$414,259	

*Identify reallocation sources in Table 3.

**Includes recurring E&G funded costs ("reallocated base," "enrollment growth," and "new recurring") from Years 1-4 that continue into Year 5.

***Identify if non-recurring.

Faculty and Staff Summary

	Year 1	Year 5
Total Positions		
Faculty (person-years)	1.35	1.35
A & P (FTE)	0.33	0.33
USPS (FTE)	0	0

Calculated Cost per Student FTE

	Year 1	Year 5
Total E&G Funding	\$248,931	\$414,259
Annual Student FTE	13.75	68.75
E&G Cost per FTE	\$18,104	\$6,026

Table 2 Column Explanations

Reallocated Base* (E&G)	1	E&G funds that are already available in the university's budget and will be reallocated to support the new program. Please include these funds in the Table 3 - Anticipated reallocation of E&G funds and indicate their source.
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Enrollment Growth (E&G)	2	Additional E&G funds allocated from the tuition and fees trust fund contingent on enrollment increases.
New Recurring (E&G)	3	Recurring funds appropriated by the Legislature to support implementation of the program.
New Non-Recurring (E&G)	4	Non-recurring funds appropriated by the Legislature to support implementation of the program. Please provide an explanation of the source of these funds in the budget section (section III. A.) of the proposal. These funds can include initial investments, such as infrastructure.
Contracts & Grants (C&G)	5	Contracts and grants funding available for the program.
Philanthropy Endowments	6	Funds provided through the foundation or other Direct Support Organizations (DSO) to support of the program.
Enterprise Auxiliary Funds	7	Use this column for continuing education or market rate programs and provide a rationale in section III.B. in support of the selected tuition model.
Subtotal columns 1+...+7	8	Subtotal of values included in columns 1 through 7.
Continuing Base** (E&G)	9	Includes the sum of columns 1, 2, and 3 over time.
New Enrollment Growth (E&G)	10	See explanation provided for column 2.
Other*** (E&G)	11	These are specific funds provided by the Legislature to support implementation of the program.
Contracts & Grants (C&G)	12	See explanation provided for column 5.
Philanthropy Endowments	13	See explanation provided for column 6.
Enterprise Auxiliary Funds	14	Use this column for continuing education or market rate programs and provide a rationale in section III.B. in support of the selected tuition model.
Subtotal columns 9+...+ 14	15	Subtotal of values included in columns 9 through 14.

APPENDIX A

**TABLE 3
ANTICIPATED REALLOCATION OF EDUCATION & GENERAL FUNDS***

Program and/or E&G account from which current funds will be reallocated during Year 1	Base before reallocation	Amount to be reallocated	Base after reallocation
Reallocated from the Hal Marcus College of Science and Engineering	248,931	248,931	\$0
	0	0	
	0	0	
	0	0	
	0	0	
	0	0	
Totals	\$248,931	\$248,931	\$0

* If not reallocating funds, please submit a zeroed Table 3

APPENDIX A

**TABLE 4
ANTICIPATED FACULTY PARTICIPATION**

Faculty Code	Faculty Name or "New Hire" Highest Degree Held Academic Discipline or Speciality	Rank	Contract Status	Initial Date for Participation in Program	Mos. Contract Year 1	FTE Year 1	% Effort for Prg. Year 1	PY Year 1	Mos. Contract Year 5	FTE Year 5	% Effort for Prg. Year 5	PY Year 5
A	Raid Amin, PhD Statistics	Professor	Tenured	Fall 2019	9	0.75	0.25	0.19	9	0.75	0.25	0.19
A	Subhash Bagui, PhD Statistics	Professor	Tenured	Fall 2019	9	0.75	0.25	0.19	9	0.75	0.25	0.19
A	Anthony Okafor, PhD Ind & Systems Engineering	Assistant Professor	Tenure Earning	Fall 2019	9	0.75	0.25	0.19	9	0.75	0.25	0.19
A	Samantha Seals, PhD Biostatistics	Assistant Professor	Tenure Earning	Fall 2019	9	0.75	0.25	0.19	9	0.75	0.25	0.19
A	Achraf Cohen, PhD Applied Mathmatics	Assistant Professor	Tenure Earning	Fall 2019	9	0.75	0.25	0.19	9	0.75	0.25	0.19
A	Dallas Snider, PhD Integrated Computing	Associate Professor	Tenured	Fall 2019	9	0.75	0.25	0.19	9	0.75	0.25	0.19
A	Sikha Bagui, EdD C&I Software Engineering	Professor	Tenured	Fall 2019	9	0.75	0.13	0.09	9	0.75	0.13	0.09
A	Jia Liu, PhD Mathematics	Associate Professor	Tenured	Fall 2019	12	1.00	0.13	0.13	12	1.00	0.13	0.13
Total Person-Years (PY)								1.35				1.35

Faculty Code		Source of Funding	PY Workload by Budget Classification	
			Year 1	Year 5
A	Existing faculty on a regular line	Current Education & General Revenue	1.35	1.35
B	New faculty to be hired on a vacant line	Current Education & General Revenue	0.00	0.00
C	New faculty to be hired on a new line	New Education & General Revenue	0.00	0.00
D	Existing faculty hired on contracts/grants	Contracts/Grants	0.00	0.00
E	New faculty to be hired on contracts/grants	Contracts/Grants	0.00	0.00
Overall Totals for			Year 1	Year 5
			1.35	1.35

Appendix B

Signatures

APPENDIX B

Please include the signature of the Equal Opportunity Officer and the Library Director.

DocuSigned by:
Kim LeDuff
Signature of Equal Opportunity Officer

02/20/2019

Date

Kim LeDuff

Name of Equal Opportunity Officer

DocuSigned by:
Stephanie Clark
Signature of Dean of University Libraries

02/20/2019

Date

Stephanie Clark

Name of Dean of University Libraries

This appendix was created to facilitate the collection of signatures in support of the proposal. Signatures in this section illustrate that the Equal Opportunity Officer has reviewed section II.E of the proposal and the Library Director has reviewed sections X.A and X.B.

UWF also requires that a Request to Offer a New Degree program is reviewed by the Chief Technology Officer.

DocuSigned by:
Melanie Haveard
Signature of Chief Technology Officer

02/20/2019

Date

Melanie Haveard

Name of Chief Technology Officer

Appendix C

Academic Learning Plan and Student Learning Outcomes

ACADEMIC LEARNING PLAN**MASTER OF SCIENCE IN DATA SCIENCE****Mission Statement**

The Department of Mathematics and Statistics strives to provide quality undergraduate and graduate education in Mathematics, Statistics, and Data Science and to contribute to the community, region, and profession through research and service. The goal of these programs is to prepare students for a successful professional career.

STUDENT LEARNING OUTCOMES

Graduates with a Master of Science in Data Science should be able to do the following:

CONTENT

Identify, formulate, and solve complex data problems by selecting and applying appropriate methods.

CRITICAL THINKING

Students understand the broad impact of data on society and can raise critical questions about data, its interpretation, and visualization, and the methods by which these are produced

COMMUNICATION

Students can formulate reasonable interpretations of data and share them effectively through visual and narrative means.

INTEGRITY/VALUES

Recognize ethical and professional responsibilities in data science situations and make informed judgments, which must consider the impact of the solutions in global, economic, environmental, and societal contexts.

PROJECT MANAGEMENT

Students can choose and employ appropriate tools for data collection, storage, manipulation, analysis, visualization, dissemination, and preservation, as relevant to goals, tasks, and users.

ASSESSMENT OF STUDENT LEARNING OUTCOMES

Program SLOs will be assessed using selected student work in the core course of Statistical Modeling (STA5176), Big Data Analytics (CAP 5XX1-1) and Machine Learning (MAP 6001). Within these courses, exam questions and projects are used to assess program level outcomes.

JOB PROSPECTS

With a Master of Data Science degree, you can pursue jobs in variety of fields that involve working with data. Some of the opportunities a Master of Data Science degree holder will find include:

- Statistician who works for national governments, local authorities, consulting and reporting companies, market research companies, and research institutes.
- Business intelligence reporting professional, who works for tech companies, financial companies, consulting and reporting companies.
- Data Analyst who works for telecommunications companies, finance companies, manufacturing companies, construction and utility companies and other large companies.
- Data Mining or Big Data Engineer who works for tech companies, entertainment companies, retail and trade companies.

Find out more about Data Science:

<https://uwf.edu/hmcse/departments/mathematics-and-statistics/>

Appendix D
Curriculum Vitarum

Curriculum Vitae

Raid W. Amin

Work Address:

11000 University Pkwy,
Department of Mathematics & Statistics,
The University of West Florida
Pensacola, FL 32514
(850) 474-3014

ramin@uwf.edu

<http://uwf.edu/cse/departments/mathematics-and-statistics/our-faculty/faculty-profiles/dr-raid-amin.html>

RESEARCH AND GENERAL INTERESTS

Statistical Education, Statistical Quality Control, Regression Analysis, Experimental Design, Spatial Epidemiology, Disease Surveillance, Biostatistics, Human-Shark Interaction, Environmental Surveillance, Statistical Consulting.

EDUCATION

Ph.D. Statistics, Department of Statistics, Virginia Polytechnic Institute and State University, Blacksburg, Virginia. July 1987.

M.S. Statistics, Department of Statistics, Virginia Polytechnic Institute and State University, Blacksburg, Virginia. March 1983.

B.S. Statistics, Department of Statistics, Baghdad University, Iraq. June 1979.

PROFESSIONAL EMPLOYMENT

Professor. University of West Florida. Faculty member, Department of Mathematics and Statistics (August 1995-present).

Associate Professor. University of West Florida. Faculty member, Department of Mathematics and Statistics (August 1991-July 1995).

Assistant Professor. University of West Florida. Faculty member, Department of Mathematics and Statistics (August 1987-July 1991).

COURSES TAUGHT AT UWF

STA 5206 : Analysis of Variance

STA 6507 : Nonparametric Statistics

STA 6666 : Statistical Quality Control I

STA 6667 : Statistical Quality Control II

STA 5166 : Special Topics in Statistics

STA 6247(now STA6707): Multivariate Methods

STA 5207 : Regression Analysis
 STA6235: Modeling in Regression
 STA 6990 : Topics in Regression
 STA 6256 : Design of Experiments
 STA 5136 : Applied Statistics for the MBA
 STA 2023 : Elements of Statistics
 STA 3162C: Applied Statistics (with SAS Lab)
 STA 3134 : Quantitative Methods for Business
 STA 1013 : Seeing Through Statistics
 STA 4173: Biostatistics
 STA5176: Statistical Modeling
 STA 4990/STA4664: Introduction to Quality Control
 MAP 6990 Topics in Mathematics and Statistics: Cluster Analysis with SaTScan
 PHC 5050 Biostatistics for Public Health [fully online]
 STA 6912 Statistics Research 1
 STA 6913 Statistics Research 2

SUPERVISION OF MASTER'S THESES IN STATISTICS:

1. Robert Baxley, Jr. : A Simulation Study of Statistical Control Algorithms for Drifting Processes. Defended in February 1990.
2. Alice Searcy : A Nonparametric Exponentially Weighted Moving Average Process Control Procedure based on Ranks. Defended in March 1990. (published).
3. Richard Miller : A Robustness Study of Shewhart \bar{X} -Charts with Variable Sampling Intervals. (published).
4. Oskar Widmaier : A Sign Control Chart with Variable Sampling Intervals and Curtailement. (August 1994). (published)
5. Werner Besenfelder : Some Nonparametric Control Charts for Process Variability. (August 1995).
6. Ping Fang : A Robustness Study of CUSUM Charts for the Range. (July 1995).
7. Andreas Goelz : Shewhart and CUSUM Sign Charts for Variability. (August 1997).
8. Gabriele Sattler : Curtailed Sampling Plans Applied to Some Nonparametric Control Charts. (August 1997).
9. Stefan Boehm : Estimation and Monitoring of Capability Indices through the EWMA. (July 1998)
10. Christian Kopf : The Effect of Autocorrelation on Capability Indices. (July 1998).
11. Matthias Wilde : A New Two-Sided CUSUM Chart for Variability (July 1999). (published)
12. Claudia Muench : The Effect of Gamma-distributed Data on Process Capability Indices . (July 1999).
13. Michaela Glasbrenner : The MaxMin EWMA Control Chart with Variable Sampling Intervals. (July 1999)

14. Joern Philipp : Multivariate Control Charts and Variability. (August 2001).
15. Guenter Ebhard : Some Properties of Multivariate Control Charts. (August 2001).
16. Oliver Bengel: Multivariate Control Charts for Location and Variability. (August 2004) (published)
17. Markus Schierle: A Comparison of Multivariate Control Charts for Autocorrelation. (July 2005)
18. Fabian Niebling: Modified Control Charts for Multivariate Autocorrelated Data. (July 2005)
19. Daniel Staedel: Statistical Analysis of Cancer Rates in Florida (August 2007)
20. Alexander Bohnert: Statistical Clustering of Pediatric Cancer Rates in Florida (July 2009) (published)

Supervision of Applied Spatial Research Projects (STA6913)

1. A Spatial Study of Upward Mobility in the USA (John McAllister- 2017/2018)
 2. Spatial Patterns of some Cancer Types and Associated Risk Factors in the USA
 3. Clusters of Cancers and Association with Arsenic in Well Water in the USA
 4. Clusters of Cardiovascular Disease and Cancers and associated Life Expectancy
 5. A Spatial Study of Mortality and Incidence of Kidney Cancer in the USA. (Jonathan Guy).
 6. A Study of County Demographic Profiles in the 2016 Presidential Elections with a Focus on Opioids Mortality (Jonathan Lee).
 7. Proximity to Nuclear Power Plants and Associated Cancer Risk (Austin Manuel).
 8. Clusters of Breast Cancer in the USA: Incidence and Mortality (Bridget Fritsch).
 9. A Spatial Study of all Bridges in the USA and Associated Maintenance Needs (Talia Barraco- 2017/2018).
-
10. Proximity to Nuclear Power Plants in the USA and Associated Breast Cancer Risk.(Steven Kern-2016/2017)
 11. Clusters of the Top 5 Female Cancer Types in the USA and Air Pollution. (Olga Akkan-2016/2017)
 12. Clusters of the Top 5 Male Cancer Types in the USA and Air Pollution. (Christian Jarquin-2016/2017)
 13. Lung Cancer and Bronchus Clusters and Association with Air Pollution. (Charnelle Brown- 2016/2017)
 14. Mercury and Lead Pollution and Breast Cancer. (Joseph Wojciechowski-2016/2017)
 15. Population Profiles for the 2016 Presidential Elections in the USA. Shawn Harrell-2016/2017)
 16. Crimes Arrests in the USA and Associations with Air Pollution.(Mehul Patel-2016/2017)
 17. Clusters of Cervical Cancer Incidences in the USA and Air Pollution. (Huberman Dorcent-2016/2017)
-
18. Pediatric Cancer Clusters in Florida (Sam Russel-2015/2016)

19. Geographic Clusters of Violent Crimes in the USA (Hongbo Yang-2015/2016)
 20. Clusters of Divorce Rates in the USA (Nicole Conway-2015/2016)
 21. Clusters of Breast Cancer in the USA (Anne Starling-2015/2016)
 22. Clusters of Diabetes in the USA (Grace Simones-2015/2016)
 23. Clusters of DUI Rates in the USA (Shannon MacDougall-2015/2016)
 24. Geographic Clusters of Murder in the USA (Amber Jones-2015/2016)
 25. Clusters of Teenage Births in the USA (Jennifer Hans-2015/2016) (**published**)
 26. Clusters of Physical Inactivity Rates in the USA (Vitaliy Goncharenko-2015/2016)
 27. Clusters of Primary Physicians in the USA (Russel Frith-2015/2016)
 28. Clusters of Alzheimer's Disease in the USA (Eric Yacko-2015/2016)
-

29. Trend and Cluster Analysis on Large EPA Data Sets (Toni Charlot-2014/2015)
30. Cancer Associations with Nitrate and Nitrite concentrations across the nation (Tina Churchill-2014/2015)
31. Motorcycle Accident Fatalities (Ramsey Dial-2014/2015)
32. The Relationship between Employment and Retail Sales (Cheryl Little-2014/2015)
33. Health Care Rate and Air Pollution (Ralph Myers-2014/2015)
34. Cluster Analysis of Heart Disease Deaths in the USA (Cynthia Newton-2014/2015)
35. Time Series Forecasting of Crime Rates in the USA (Kristina Platt-2014/2015)
36. Murder Arrests and Reported Cluster Analysis (Sean Young-2014/2015)
37. A Study of Superfund Sites in the Forty-eight Contiguous States of the United States of America. (Arlene Nelson (Barbas)- 2014-2015) (**published**)

CONSULTING

Department of Mathematics and Statistics, University of West Florida. Consult with faculty and students on any statistical analyses. (August 1987-present).

Sacred Heart Hospital (Florida State Residency Program). I am responsible for supporting all resident physicians in their residency projects (UWF-SHHS contract, 2010-present).

West Florida Hospital (Pharmacy Residence Program). I am responsible for supporting all resident pharmacists in their residency projects (UWF-WFH contract, 2014-present).

Faculty Development:

Member of the 2005-2006 UWF LEAD group for leadership training.
LEAD Fellow in the College of Business, 2006-2007.

Community Service:

Member, Pensacola North Rotary Club.

PUBLICATIONS

Google Scholar Citation Index:

<https://scholar.google.com/citations?user=QZnHYuoAAAAJ&hl=en&oi=ao>

Citation indices	All	Since 2013
Citations	1806	667
<u>h-index</u>	17	13
i10-index	23	17

A. Publications in Peer Reviewed Journals

1. Reynolds, M. R., Jr., **Amin, R. W.**, Arnold, J. C., and Nachlas, J. A. “ \bar{X} -charts with Variable Sampling Intervals." *Technometrics*, 30 (1988), 181192.
2. Reynolds, M. R., Jr., **Amin, R. W.**, and Arnold, J. C. “CUSUM Charts with Variable Sampling Intervals." Featured article in *Technometrics*, 32 (1990), 371396.
3. Ncube, M. M., and **Amin, R. W.** “Two-parameter Cu-Score Quality Control Procedures". *Communications in Statistics: Theory and Methods*, 19 (1990), 21912205.
4. **Amin, R. W.** and Letsinger, W. C., Jr. “Improved Switching Rules for Control Procedures Using Variable Sampling Intervals". *Communications in Statistics: Computation and Simulation*, 20 (1991), 205-230.
5. **Amin, R. W.**, and Ncube, M. M.. “Variable Sampling Interval Combined Shewhart-Cumulative Score Control Procedure." *Applied Statistics*, 40 (1991), 1-12.
6. **Amin, R. W.** and Searcy, A. “A Nonparametric Exponentially Weighted Moving Average Control Procedure". *Communications in Statistics: Computation and Simulation*, B20, No. 4, (1991), 1049-1072.
7. Shamma, S. E., **Amin, R. W.**, and Shamma A. K. “A Double Exponentially Weighted Moving Average Control Chart with Variable Sampling Intervals". *Communications in Statistics:Computation and Simulation*, B20, No. 2&3, (1991), 511-528.
8. Wheatley, W. J., **Amin, R. W.**, and Maddox, E. N. . “The Effects of Gender and Leadership Styles in Problem-Solving for Management Training and Development", *Organization Development Journal*, Vol. 9, 3, (1991), 5160.
9. Saccucci, M. S., **Amin, R. W.**, and Lucas, J. M. . “Exponentially Weighted Moving Average Control Schemes with Variable Sampling Intervals". *Communications in Statistics : Computation and Simulation*, No. 3, (1992), 627-657.
10. **Amin, R. W.** and Miller, R. “A Robustness Study of the X-chart with Variable Sampling Intervals". *Journal of Quality Technology*, Vol. 25, No. 1,(1993), 3644.
11. Shamma, S. E. and **Amin, R. W.** “An EWMA Quality Control Procedure for Jointly

Monitoring the Mean and Variance". *International Journal of Quality & Reliability Management*, Vol. 10, No. 7, (1993), 58-67.

12. **Amin, R. W.** and Hemasinha, R. "The Switching Behavior of X Charts with Variable Sampling Intervals." *Communications in Statistics: Theory and Methods*, Vol. 22, Issue 7, (1993), 2081-2102.

13. **Amin, R. W.** and Wolff, H. "The Behavior of X-, R-, and Extreme-Value Control Charts in the Presence of Mixtures". *Sequential Analysis*, Vol. 13, No. 1, (1994), 35-52.

14. **Amin, R. W.** and Wolff, H. "The Behavior of EWMA-Type Control Charts in the Presence of Mixture Alternatives". *Sequential Analysis*, Vol. 14, No. 1, (1995), 157-177.

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B. Publications in Peer Reviewed Proceedings

1. Wheatley, W. J., Amin, R. W., and Maddox, E. N. (1989). "The Effects of Gender and Leadership Styles in Problem-Solving for Management Training and Development", Proceedings of the 27th Annual Southern Management Association Meetings, New Orleans, November 1989.
2. Wheatley, W. J., Amin, R. W., Armstrong, T. R., and VanderLinde, C. T. "The Effect of Leadership and Cognitive Processing Styles upon Peer Performance Evaluation : Implication for the Utilization of Simulations in Business Pedagogy." Proceedings of the Association for Business Simulation and Experiential Learning (ABSEL), Nashville, April 1991.
3. Wheatley, W. J., Amin, R. W., Maddox, E. N. , and VanderLinde, C. T. "Ascertaining Performance Variables for Use in Determining Students' Grades in Courses Employing a Business Simulation." Proceedings of the Association for Business Simulation and Experiential Learning (ABSEL), Nashville, April 1991.
4. Bobbie, P.O., Amin, R. W., Hemasinha, R. and Huitt, S. "Statistical Prediction of Page Fault and Frame Allocation for Computer Programs", Conference on the Interface Between Statistics and Computer Science, Orlando, 1989.
5. Amin, R.W., Wolff, H., and Besenfelder, W. "An EWMA Control Chart for the Extremes", Wuerzberg-Umea Conference in Statistics, University of Wuerzberg, Germany, May 1996.
6. Hoffman, R. R., Marx, M., McDermott, P, and Amin, R. (2009, October). "The metrics problem in the study of cognitive work and a proposal for a family of solutions." In Proceedings of the Annual Meeting of the Human Factors and Ergonomics Society. Santa Monica, CA: Human Factors and Ergonomics Society.
7. Hitt, N., Hendryx, M., Amin, R., & Schull, M. (2012, September). Ecological Indicators of Human Cancer Mortality Rates: New Tools for Exposure and Risk Modeling. In *ENVIRONMENTAL AND MOLECULAR MUTAGENESIS* (Vol. 53, pp. S23-S23). 111 RIVER ST, HOBOKEN 07030-5774, NJ USA: WILEY-BLACKWELL.
8. Raid Amin, Arlene Nelson, Shannon McDougall (2017). *A cluster analysis of USA Superfund Sites and Associated Cancer Risk.*" (Rome, Italy). 7th International Conference on Environmental Pollution and Remediation (ICEPR'17).

C. Book Chapters

Burgoyne CF, HW Thompson, DE Mercante, and **RW Amin**, Basic issues in the sensitive and specific detection in optic nerve head surface change within longitudinal LDT TopSS image: Introduction to the LSU experimental glaucoma (LEG) study, *Lead book chapter in: The Shape of Glaucoma, Quantitative Neural Imaging Techniques. Lemij HG, Schuman JS (eds). Kugler Publications, The Hague, The Netherlands, 2000 pp. 1-37, 1999.*

Ritter, E. & **R. Amin** (2017). The importance of academic research in the field of shark-human interactions: A three-pronged approach to a better understanding of shark encounters. In: Chondrichthyes. L. F. da Silva Rodrigues Filho and J. B. de Luna Sales (eds). InTech, Rijeka, Croatia, 63-80.

D. Peer Reviewed Clinical Research Abstracts

Salz N., Lopez-Beyer A., Amin R., Burns J. Perceived Pain With HPV Vaccine Compared To Other Recommended Vaccine For Adolescents: What Causes The Biggest "Ouch"? Presented at platform presentation Southern Society for Pediatric Research (SSPR) 2014 Annual Meeting, New Orleans and poster presentation for National Pediatric Academic Society Meeting, Vancouver 2014.

Naomi Salz Fs; Amanda Lopez-Beyer; Amin, R., James J. Burns MD MPH. *Perceived Pain With HPV Vaccine Compared To Other Recommended Vaccine For Adolescents: What Causes The Biggest "Ouch"* Accepted for platform presentation at the Southern Regional Meeting 2014, New Orleans.

Burns J., Hommeida S., Broge T., Onuegbu P., Taylor S., Rivera G., Wilkinson D., Griffin D., Hobby L., Amin R. Risk Factors Associated with Kawasaki Disease: A Case-Control Study. Presented as platform presentation Southern Society for Pediatric Research (SSPR) 2014 Annual Meeting, New Orleans and poster for National Pediatric Academic Society Meeting, Vancouver 2014.

James Joseph Burns, Raid Amin, Tangra Broge, Salim Hommeida, Patricia Onuegbu, Sneha Taylor. *Relationship Between Wind Direction And A Temporal Kawasaki Disease (KD) Cluster.* Accepted for platform presentation at the Southern Regional Meeting 2014, New Orleans.

Burns J., Hills L., Amin R. *Parents perceived vs. actual immunization up to date (UTD) status for their adolescent.* Presented at the 2013 national Society for Adolescent Health and Medicine meeting.

Burns J., Broge T., Hommeida S., Onuegbu P., Taylor S., Griffin D., Amin R. *Geographic Cluster of Kawasaki Disease vs. a Control Population for Florida Panhandle Regional Children's Hospital.* Presented at the Southern Research Meeting 2013 and National Pediatric Academic Society Meeting 2013.

Burns J., Broge T., Hommeida S., Onuegbu P., Taylor S., Griffin D., Amin R. *Proximity to major bodies of water and Kawasaki Disease.* Presented at the Southern Research Meeting 2013

and National Pediatric Academic Society Meeting 2013.

Nguyen N., Panganiban J., Amin R., Burns J. *Relationship Between HEADSS Assessment and Abnormal Pediatric Symptoms Checklist (Y-PSC) Scores in Screening Adolescents for Mental Health Problems*. Presented as platform presentation at the Eastern Society for Pediatric Research meeting in Philadelphia, Pa. March 2012 and poster presentation at the National Pediatric Academic Society Meeting, Boston Ma. May 2012.

Panganiban J., Nguyen N., Amin R., Burns J. *High Internalizing Scores on the Pediatric Symptom Checklist Associated with Obesity and Higher Blood Pressure*. Presented as poster presentation at the National Pediatric Academic Society Meeting, Boston Ma. May 2012.

Burns J., Rivera-Diaz G., Broge T., Hommeida S., Oneugbu P., Hobby L., Amin R. *Spatial and Temporal Clustering of Kawasaki Disease in Florida Panhandle*. Presented as poster presentation at both the Eastern Society for Pediatric Research meeting in Philadelphia, Pa. March 2012 and the National Pediatric Academic Society Meeting, Boston Ma. May 2012.

Hannah, D.; Amin, R.; Maxwell, D.; DeCesare, J.: *Postpartum Contraception Rates in Centering Pregnancy versus Traditional Obstetrical Care*, accepted for presentation ACOG Poster Meeting, New Orleans, LA, May 2013.

PRESENTATIONS (outside UWF)

"Variable Time Delay Process Control." Presented at the Virginia Academy of Science (ASA Chapter) Meetings (with M. R. Reynolds and J. C. Arnold), Harrisonburg, Virginia, May 1986.

"Variable Sampling Interval Process Control." Presented at the American Statistical Association (ASA) Winter Meetings (with Marion R. Reynolds, Jr. and Jesse C. Arnold), Orlando, Florida, January 1987.

"CUSUM Charts with Variable Sampling Intervals". Presented at the American Statistical Association (ASA) Winter Meetings (with Marion R. Reynolds, Jr. and Jesse C. Arnold), San Antonio, Texas, January 1988.

"Two Parameter Cu-Score Quality Control Procedures". Presented at the American Statistical Association (ASA) National Meetings (with Matoteng M. Ncube), New Orleans, Louisiana, August 1988.

"Variable Sampling Interval Combined Shewhart-Cumulative Score Quality Control Procedures". Presented at the American Statistical Association (ASA) National Meetings (with Matoteng M. Ncube), New Orleans, Louisiana, August 1988.

"Exponentially Weighted Moving Average Control Schemes with Variable Sampling Intervals". Presented at the American Statistical Association (ASA) Winter Meetings (with Michael S. Saccucci), San Diego, California, January 1989.

"Enhanced Exponentially Weighted Moving Average Control Schemes". Presented at the 53rd IMS Annual Meeting/ 2nd World Congress of the Bernoulli Society (with Michael S. Saccucci and Jim M. Lucas), Uppsala, Sweden, August 1990.

"Control Charts with Variable Sampling Intervals". Presented at the Louisiana State University- Medical Center, New Orleans, October 1990.

"CUSUM Charts with Variable Sampling Intervals". Presented at the Fall Technical Meetings of the American Society for Quality Control/ American Statistical Association as the Technometrics Featured Paper, Richmond, Virginia, October 1990.

"Improved Switching Rules in Control Charts Using Variable Sampling Intervals". Presented at the Florida Chapter of the ASA Meetings, Gainesville, Florida, January 1991.

"The Switching Behavior of VSI Control Charts." Presented in the Department of Statistics, University of Southwestern Louisiana, Lafayette, February 1991.

"Improved Switching Rules in Control Charts Using Variable Sampling Intervals". Presented at the Joint Statistical Meetings of the ASA, Atlanta, August 1991.

"Control Charts with Variable Sampling Intervals." Invited paper presented at the Mathematics Department, Stochastic Division, Ulm University (Germany), July 1992.

"The Behavior of X, R, and Extreme-Value-Control Charts in the Case of Mixture Alternatives." (jointly with Hans Wolff). Presented at the Joint Statistical Meetings of the ASA, Boston, August 1992.

"The Behavior of Some Control Charts in the Case of Mixture Alternatives." Presented at the Louisiana State University Medical Center, New Orleans, February 1993.

"The Behavior of Some Control Charts in the Case of Mixture Alternatives." Presented at the International Statistical Institute meetings, Firenze, Italy, August 1993.

"Some Aspects of Control Charts with Variable Sampling Intervals." Invited paper presented at the Hamburg Bundeswehr University, Germany, October 1993.

"The Behavior of Some Control Charts in the Case of Mixture Alternatives." Presented at the Mathematics Department, Ulm University, Germany, October 1993.

"Some Nonparametric Control Charts Based on the Sign Statistics." Presented at the Mathematics Department, Ulm-Hohenhein-Wuerzberg Conference on Stochastic Processes, Ulm University, Ulm, Germany, December 1994.

"EWMA Control Charts for the Extremes." Invited paper presented at the International Conference on Statistical Methods and Statistical Computing for Quality and Productivity Improvement, Seoul, South Korea, August 1995.

"Fractional Factorials: An Overview." Seminar presented to staff and faculty of the Ulm University Biometry and Medical Documentation Department, Ulm, Germany. May 1996.

"Some Control Charts Based on the Extremes." Presented at the 4Wuerzberg-Umea Conference in Statistics, University of Wuerzberg, Germany, May 1996.

"The EWMA Control Chart For the Smallest and Largest Observation." Presented in the Industrial and Systems Engineering Department, Georgia Tech, November 1996.

"Some Nonparametric Control Charts for Monitoring Process Variability." Presented at the Joint Statistical Meetings of the ASA, Anaheim, California, August 1997.

"Nonparametric Control Charts for Variability." Invited talk. Presented at the Dept. of Applied Statistics, the University of Minnesota, April 1998.

"Smoothed Tolerance Limits." (jointly with S. J. Lee). Presented at the Joint Statistical Meetings of the ASA, Dallas, Texas, August 1998.

"Some New Distribution-free Control Charts". Presented at the Economics Department, Europe-Viadrina University, Frankfurt (Oder), Germany, November 1999.

"Nonparametric Control Charts for Variability". Presented at the Mathematics Department, Ulm University, Ulm, Germany, December 1999.

"Nonparametric Control Charts". Presented at the 5th. International Conference for Statistics, Combinatorics, and Related Areas, Mobile, Alabama, December 1999.

"Smoothed Tolerance Limits and Autocorrelation". Presented at the Second Southern Conference on Computing, Hattiesburg, MS, October 2000 (jointly with K. Li).

"The Use of Smoothed Tolerance Limits in Screening White Blood Cells." This invited talk was presented with Dr. F. Wahab from the American Red Cross at the Vienna Meetings of the International B.E.S.T. group for safer blood transfusion, Vienna (Austria). (2000)

"EWMA Tolerance Limits". Presented at the Magdeburg Pfingsttagung, Magdeburg, (Germany). (June 2001)

"Tolerance Limits and Autocorrelation". Presented at the Applied Statistics Conference, University of Michigan, Ann Arbor (2002).

"Multivariate Control Charts for Variability" Presented at the Joint Statistical Meetings of the American Statistical Association, San Francisco, (August, 2003).

"The MaxMin Chart with Variable Sampling Intervals". Presented at the Florida ASA Meetings, held at Florida State University, Tallahassee (2004).

“Multivariate Control Charts Based on the Extremes”. Presented at the National Institute for Standards (NIST), May 2004.

“Multivariate Tolerance Limits”. Presented at the German Statistical Association Meetings in Bielefeld, Germany (March 2007).

“New Control Charts for Location and Dispersion.” Presented at the 56th Session of the International Statistical Institute, Lisbon, Portugal, (August 2007).

“Using an interactive learning environment in a multivariate statistics course” Presented at the Florida Chapter of the American Statistical Association Meetings (University of Central Florida, Orlando), February 2009.

“Using an Interactive Learning Environment in Graduate Mathematics Sciences Courses”. The presentation was given at the Mathematical Association of America (MAA) in Fort Myers (February 2009).

“Epidemiological Mapping of AYA Thyroid Cancer in Florida”. Greehey Children Cancer Research Institute Symposium 20 at the University of Texas, San Antonio. February 25-26, 2010.

“Epidemiological Mapping of AYA Non-Hodgkins Lymphoma Cancer Rates in Florida”. Greehey Children Cancer Research Institute Symposium 20 at the University of Texas, San Antonio. February 25-26, 2010.

“Discussion of Epidemiologic Mapping of Florida Childhood Cancer Clusters,” Special Presentation to the Florida Surgeon General, Florida Deputy Secretary of Health, Florida Department of Health, and members of the Center for Disease Control. Tallahassee, Florida, March 2010.

“Update on the Epidemiological Mapping of Childhood Cancers in Florida.” American Society for Pediatric Hematology Oncology, April 7-10, 2010. Montreal, Quebec, Canada.

“A Cluster Analysis of Childhood cancer rates in Florida”. Talk presented at the German University in Cairo, May 2010

“Should Graduate Mathematics Courses Be Taught Fully Online?” Annual Meeting of the American Association of University Professors, Washington DC, June 9-12, 2010.

“A Study on Synchronous Distance Teaching in a Math MS Program.” Kuiyuan Li, Raid Amin, Josaphat Uvah. Annual Conference on Higher Education Pedagogy. 2011.

“A Cluster Analysis of Carcinogenic Air Pollution in Louisiana.” Talk presented at the Mathematics Department, University of New Orleans. (2011)

“A Cluster Analysis of Crime Rates in the USA”. Talk presented at the German University in Cairo, May 2011.

“A Geospatial Cluster Analysis of Incidence Rates of Pediatric Cancers in Florida: 2000-2008.” Target Meeting’s 1st World Cancer Online Conference, January 12-14, 2012.

“On Synchronous Distance Teaching in a Mathematics MS Program. “2012 Joint Mathematics Meetings in Boston, MA. January 2012.

“A Cluster Analysis of Air Quality and Water Quality data for Florida”. Talk presented at the German University in Cairo, May 2012.

“A Cluster Analysis of Cancer Rates in Florida”. Talk presented at the University of Massachusetts at Amherst, October 2012.

“An Ecological Study of Associations between Cancer Rates and Quality of Air and Streams.” Target Meeting’s 2nd World Cancer Online Conference, January 8-11, 2013.

“Applied Research with Spatial Analysis”, Department of Mathematics, University of New Orleans, April 10-11, 2013.

“An Ecological Study of Associations between Cancer Rates and Quality of Air and Streams”, 7th International Workshop on Simulation, Rimini, Italy June 21-25, 2013.

“A USA Map for Carcinogenic Air Pollution”, Target Meeting’s 3rd World Cancer Online Conference, January 21-24, 2014.

“Cancer Clusters in Florida: 2000-2010 (with material on air quality and stream integrity)”. Workshop “**New Approaches in Environmental Statistics**” presented at the Viadrina University, Frankfurt an der Oder, Germany (June 12-13, 2014).

“Carcinogenic Air Pollution in the USA”. Workshop “**New Approaches in Environmental Statistics**” presented at the Viadrina University, Frankfurt an der Oder, Germany (June 12-13, 2014).

“A Cluster Analysis of Carcinogenic Air Pollution in the USA: From Counties to Census Tracts to Block Groups to Blocks” Association of American Geographers' Annual Meeting in Chicago, April 20-23, 2015.

“A cluster analysis of carcinogenic air pollution in the USA”. Spatial Statistics: Emerging Patterns 9-12 June 2015, Avignon, France.

“A Cluster Analysis of Pediatric Cancer Incidence Rates in Florida: 2000-2010”— Raid Amin, University of West Florida ; Michael Hendryx, Indiana University ; Matthew Shull, University of West Florida ; Alexander Bohnert, Nuremberg University-Erlangen. Joint Statistical

Meetings (Seattle), *Are There Cancer Clusters in Florida? Five Answers* — Topic Contributed Papers, Section on Statistics in Epidemiology. August 2015.

“A Multi-Resolution Sequential Cluster Analysis of Carcinogenic Hazard Scores in the USA.”. (R Amin and T Charlot) The 2016 Annual Meeting of the American Statistical Association Florida chapter (at FSU), February 12-13, 2016.

“A Cluster Analysis of Pediatric Cancer Rates in Florida”. Invited talk presented at the Department of Mathematical Sciences, Georgia Southern University, February 26, 2016.

“A Multi-Resolution Cluster Analysis of RSEI Hazard Scores”. Presented at the 2016 TRI National Training Conference, October 19-21, 2016. Washington DC.

“Geographic Clusters of Pediatric Cancers in Florida”. Presented at the National Cancer Institute (NIH), October 20, 2016, Washington DC.

“County-level Patterns of Female Breast Cancer Incidence and Mortality in the Contiguous USA: 2009-2013”. Presented at the annual Florida Chapter Meetings of the American Statistical Association, Jacksonville, Florida, February 5-6, 2017.

“Geographic Clusters of Reported Violent Crimes in the USA: 2000-2012”. Invited presentation at the 2017 Annual Meeting for the American Association for the Advancement of Science (Serving Science Through Science Policy), Boston, February 17-20, 2017.

“A Cluster Analysis of Breast Cancer rates”. Presented at the 2017 Annual Meeting for the American Association of Geographers, Boston, April 10-14, 2017.

“A Cluster Analysis of EPA Air Pollution Data”. **Invited presentation** at the Institute for Health Metrics and Evaluation, Seattle, Washington, May 4, 2017.

“A Multi-Resolution Cluster Analysis of Risk Screening Environmental Indicators Carcinogenic Data”. **Invited Presentation** at Mathematics Department, Ulm University, Ulm, Germany, May 12, 2017.

“A cluster analysis of USA Superfund Sites and Associated Cancer Risk.” (Rome, Italy). 7th International Conference on Environmental Pollution and Remediation (ICEPR'17). June 8-10, 2017.

“A Quality of Life Index for Counties in the USA: 2010”. Invited talk at the Biostatistics Department, Louisiana State University Health Sciences Center, New Orleans. September 18, 2017.

“Geographic Clusters of Cancer Mortality Rates in the Contiguous USA:2000-2014”. Institute for Health Metrics and Evaluation, University of Washington, March 19, 2018.

HONORS AND AWARDS

- Mu Sigma Rho National Statistical Honor Society.
- Pi Mu Epsilon Mathematical Honor Fraternity.
- Received an Outstanding Performance and Achievement Award authorized by the 1990 Florida Legislature.
- Nominated for teaching award, UWF, 1991.
- Nominated for teaching award, UWF, 1994.
- Invited Technometrics Paper, Fall Technical Meetings of the American Society for Quality Control/ American Statistical Association, October 1990.
- Invited Visiting Professor, Department of Mathematics, Ulm University, Germany, August 1992.
- Invited Visiting Professor, Department of Mathematics, Ulm University, Germany, Dec. 1994.
- Invited talk, International Conference on Statistical Methods and Statistical Computing for Quality and Productivity Improvement, Seoul, Korea, August 1995.
- Invited Visiting Professor, Department of Mathematics, Ulm University, Germany, May 1996.
- Teaching Incentive Program Award, UWF, 1996.
- UWF Distinguished Research and Creative Activities Award, 1998.
- Teaching Incentive Program Award, UWF, 2004.
- Summer Research Award, UWF, Summer 2004.
- Invited Visiting Professor, German University in Cairo, Egypt, May 2010.
- UWF "Small Research Grant", Summer 2010.
- Invited Visiting Professor, German University in Cairo, Egypt, May 2011.
- UWF "Small Research Grant", Summer 2011.
- University of West Florida Center on Aging award (with Stephen Bridges) for "Elderly Homicide-Suicide in Florida: A cluster Analysis Using SaTScan"
- Invited Visiting Professor, German University in Cairo, Egypt, May 2012.
- The Economist (December 12, 2013) featured an article about my sharks research with Erich Ritter.
- *Distinguished University Professor, 2014.*

GRANTS/CONTRACTS

- University of West Florida Research Council Summer Grant. Summer 1988.
- Contract for training and consulting, Monsanto Chemical Company. Summer 1989.
- Contract for training and consulting, Monsanto Chemical Company. Fall 1989.
- Travel grant to Sweden from the Institute of Mathematical Statistics. Summer 1990.
- Developed and conducted a training program for quality technicians at the Naval Air Station (Pensacola) as a preparation for taking the Quality Technician Certification Examination offered through the American Society for Quality Control (January 1990-August 1990).
- University of West Florida Research Council Summer Grant. Summer 1991.

- Contract for a course on the design of experiments, Monsanto Chemical Company, Spring 1992.
- Contract for a course on the design of experiments, Sverdrup Technology, Fall 1992.
- University of West Florida Research Council Summer Grant. Summer 1993.
- Contract for a course on statistical quality control, Monsanto Chemical Company, Summer 1994.
- National Science Foundation International Travel Grant for travel to Germany, 1997-1999.
- University of West Florida Summer Grant to Develop Grant Proposal, Summer 2000.
- University of West Florida Summer Grant to Develop Grant Proposal, Summer 2001.
- University of West Florida Summer Grant to Develop Grant Proposal, Summer 2002.
- University of West Florida Summer Grant to Develop Grant Proposal, Summer 2004.
- University of West Florida Summer Grant to Develop Grant Proposal, Summer 2006.
- James & Esther King Biomedical Research Program Grant, Subcontractor at UWF, "Identifying and Addressing Cancer Outcome Disparities in Breast and Lung Cancer." 2010-2014. (\$125,000)
- Florida Center for Brain Tumor Research (FCBTR) in partnership with Accelerate Brain Cancer Cure (ABC2) 2010 Research Grant Program. An Epidemiological Surveillance of Brain Cancer in Florida. (\$75,000)
- Contracts with Sacred Heart Hospital System for consulting with all resident physicians at SHHS. (2010-present)
- Contracts with West Florida Hospital for consulting with resident pharmacists (2014-present)

SERVICE TO THE PROFESSION

Reviewer for Technometrics

Reviewer for Journal of Quality Technology

Reviewer for Journal of Statistical Computation and Simulation

Reviewer for International Statistical Review

Reviewer for the Scandinavian Journal of Statistics.

Reviewer for Communications in Statistics: Theory and Methods.

Reviewer for Communications in Statistics: Computation and Simulation.

Reviewer for Pakistan Journal of Statistics.

Reviewer for Management Science.

Reviewer for IIE Transactions.

Reviewer for the International Journal of Health Geographics.

Reviewer for PLOS ONE.

Reviewer for American Journal of Public Health

Reviewer for International Journal of Environmental Research and Public Health

Reviewer for Pediatric Infectious Disease Journal.

SERVICE

Graduate Committee, Dept. of Mathematics and Statistics, August 1991-1997.

Undergraduate Committee, Dept. of Mathematics and Statistics, August 1987-1995, 1997.

College of Arts and Sciences Election Committee, 1989.
 University International Education Committee, 1989-1992.
 University Computer Services Committee, 1989-1993.
 Colloquium Committee, Department of Mathematics and Statistics, 1990-1992.
 Consultant to faculty and students at UWF in addition to local industry.
 Assisted in the development of a Master's program in applied statistics with emphasis on statistical quality control.
 Assisted in the organization of the Florida Chapter Meetings of the American Statistical Association at UWF, February 1989.
 Personnel Committee, Department of Mathematics and Statistics, 1992-Present
 Faculty Advisor, UWF Statistics Association, 1990-Present.
 Co-chair, search committee for new Director of International Education at UWF, 1992.
 University Faculty Senate, 1993-1996
 College Personnel Committee, College of Science and Technology, 1992-1995.
 Search committee for the Director of International Education at UWF, 1994.
 Professorial Excellence Program selection committee, UWF, 1996.
 University Personnel Committee, 1997.
 1998 College of Science and Technology TIP Award Committee.
 Departmental Undergraduate Committee, 2000.
 College of Arts and Sciences Council, 2000-2014
 Departmental Personnel Committee, 2000-now
 University Faculty Personnel Committee, 2000.
 University Faculty Senate (Academic Council, Graduate Committee), 2001-2002
 College of Arts and Sciences Council Chair, 2002
 College of Arts and Science Dean Search- Ex-officio Member 2002-2003
 UWF Provost Search Committee (2003)
 College of Arts and Sciences Council Member/Chair (2001-2004).
 Director of the UWF Statistics Center (2003-2011).
 University Personnel Committee (2003-2005).
 Clinical Investigations Review Board (Sacred Heart Hospital), Member 2005-2011
 CAS Council 2011-2014
 Faculty Senate 2011-2015
 CAS Personnel Committee 2011-2013
 Faculty Senate 2017-present

CURRICULUM VITAE

DR. SUBHASH CHANDRA BAGUI

ADDRESS FOR CORRESPONDENCE:

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11000 University Parkway
Pensacola, FL 32514, USA
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CITIZENSHIP: US citizen

ADMINISTRATIVE BACKGROUND:

Graduate Student Advisor, Department of Mathematics and Statistics, 2003- 2011.

Co-Chair, UWF SACS Quality Enhancement Plan (QEP), 2004-2005.

Chair, QEP Evaluation committee.

One year Leadership Enhancement Activities & Development (LEAD) program at UWF, 2005-2006.

Academic Leadership Fellow, Internship: Provost office, UWF, 2006-2007.

Special Project: Course redesign with NCAT STA2023-Elements of Statistics, 2007-08.

Administrative Fellow, Deans office, UWF, 2008-2009.

ACADEMIC BACKGROUND:

Ph.D., *Statistics*, Department of Statistics and Applied Probability, University of Alberta, Edmonton, Canada, 1989.

P.G. Dip. in S.Q.C. & O.R., (*Post Graduate Diploma in Statistical Quality Control and Operations Research*), Indian Statistical Institute, India, 1983.

9. **M. Stat.**, *Statistics*, Indian Statistical Institute, India, 1982.

B.Sc., (*Hons. in Statistics*), University of Calcutta, India, 1979.

ACADEMIC EXPERIENCE:

10. **Professor**, tenured, Department of Mathematics and Statistics, The University of West Florida (August, 1999-Present)

11. **Associate Professor**, tenured, Department of Mathematics & Statistics, The University of West Florida (August, 1995-August, 1999)

Assistant Professor, tenure track, Department of Mathematics & Statistics, The University of West Florida (August, 1990-August, 1995).

Teaching & Research Associate, Department of Statistics and Applied Probability, University of Alberta (October, 1989-June, 1990).

Graduate Teaching Assistant and Statistics Lab Coordinator, Department of Statistics and Applied Probability, University of Alberta (January, 1983-September, 1989).

COURSES TAUGHT AT THE UNIVERSITY OF WEST FLORIDA:

Elements of Statistics, Mathematical Statistics I & II, Biostatistics, Advanced probability, Operations Research I & II, Stochastic Processes, Multivariate statistics, Special topics in Statistics, Analysis of variance, Designs of sample survey, Precalculus, Quantitative Methods for Business, Applied Statistics for MBA, Nonparametric Statistics, Calculus-I.

RESEARCH INTERESTS:

Classification and discrimination- parametric, robust, and nonparametric; k-NN and k-RNN classification rules; Statistical pattern recognition; Density estimation; Tolerance regions; Design and analysis of variance; Variance component; Statistical tables; Quality control; Reliability; Data mining, Central Limit Theorem and Applied Probability.

PUBLICATIONS:

Books

1. **Bagui, S.C.** (1993). *Handbook of Percentiles of the Non-Central t-distributions*, (400 pages), CRC-Press, Boca Raton, Florida.
2. **Bagui, S.C.**, *Modern Probability and Distribution Theory*, (in preparation), Ch1-Ch11 completed.

Expository Articles

1. **Bagui, S. C.** and Hemasinha, R. (1998). Srinivasa Aiyangar Ramanujan, Biographical Encyclopedia of Mathematicians, Donald Franceschetti, Editor, Marshall Cavendish Corp., NY, pp 445-447.

Research Articles (*Published/Accepted for publication*)

1. **Bagui, S.C.** (1993). Classification Using First Stage Rank Nearest Neighbor Rule for Multiple Classes. *Pattern Recognition Letters*, **14**, 537-544.
2. **Bagui, S.C.** (1993). Classification of Multiple Observations Using A Rank Nearest Neighbor Rule. *Pattern Recognition Letters*, **14**, 611-617.
3. **Bagui, S.C.** (1993). An NN Classification Rule for Multiple Observations. *Calcutta Statistical Association Bulletin*, **43**, Nos. 169-170, 45-55.
4. **Bagui, S.C.**, Mehra, K.L., and Rao, M.S. (1995). A Nearest Neighbor Classification rule for Multiple Observations based on a Sub-sample Approach. *Sankhya A*, **57**, Part 2, 316-332.

5. **Bagui, S.C.** and Pal, N.R.(1995). A Multistage Generalization to the Univariate Rank Nearest Neighbor Classification Rule. *Pattern Recognition Letters*, **16**, 602-614.
6. **Bagui, S.C.**, Bhaumik, D.K. and Parnes, M. (1996). One-sided Tolerance Limits for Unbalanced m-way Random-Effects Anova Models. *Journal of Applied Statistical Science*, **3**, 135-148.
7. **Bagui, S.C.** and Kushary, D.(1997). Minimax Classification Rule for Tail Contaminated Models. *Statistics and Decisions*, **15**, 357-364.
8. **Bagui, S.C.**, Mehra, K.L. and Vaughn, B.K. (1997). An M-stage version of the k-RNN rule in statistical discrimination. *Journal of Statistical Planning and Inference*, **65**(2), 323-333.
9. Ghosh, D., Patel, A., **Bagui, S.C.** and Hemasinha, R.. (1997). Construction of Balance Ternary Designs and Proper Balanced $(m+1)$ -ary designs. *Journal of Applied Statistical Science*, **6**(4), 257-264.
10. Ghosh, D., Thannippara, A. and **Bagui, S.C.** (1997). Some Latin Squares Type Designs. *Journal of Statistical Research*, **31**(1), 117-121.
11. **Bagui, S.C.** and Vaughn, B. (1998). Classification based on k -rank nearest neighbor rule. *Statistics and Decisions*, **16**, 181-189.
12. Ghosh, D. K. and **Bagui, S.C.** (1998). Identification of confounded design and its interactions. *Journal of Applied Statistics*, **25**(3), 349-356.
13. **Bagui, S.C.** and Datta, S. (1998). Some Useful Properties of the Bayes Risk in Classification. *Calcutta Statistical Association Bulletin*. **48**, Nos. 189-190, 83-91.
14. Ghosh, D. K., Patel, A.C. and **Bagui, S.C.**(1998). Balanced p -ary and partially balanced p -ary designs through latin square PBIB designs. *Parisankhyan Samikkha-An International Journal of Statistics*. **5**(1), 75-83.
15. **Bagui, S.C.** and Mehra, K.L. (1999). Classification of Multiple Observations using Multi-stage rank nearest Neighbor Rule. *Journal of Statistical Planning and Inference*, **76**, Nos. 1-2, 163-183.
16. Ghosh, D. K., Thannippara, A. and **Bagui, S.C.** (1999). BTIB designs through general efficiency balanced Row-Column designs and their optimalities. *Journal of Applied Statistical Science*, **8**(4), 197-204.
17. Chaudhuri, G., and **Bagui, S.C.** (2000). Study of the reliability function of bridge-structure system in a random environment. *Parisankhyan Samikkha-An International Journal of Statistics*, **7**(1), 1-12.
18. Thannippara, A., Kurian, B., Ghosh, D., and **Bagui, S.C.** (2000). Hypercubic designs and E-optimaity. *Journal of Statistical Research*, **34**(1), 77-81.
19. **Bagui, S.C.** and Ghosh, D.K. (2001). Efficiency balanced designs through reinforcement, *Journal of Applied Statistics*, **28**(6), 649-658.
20. Ghosh, D.K., Bhatt, M.G. and **Bagui, S.C.** (2001). Maximum likelihood estimation of multivariate covariance components for the balanced two-way random effect model, *Far East Journal of Theoretical Statistics*, **5**(2), 233-244.
21. **Bagui, S.C.** and Ghosh, D.K. (2002). Construction of supersaturated designs. *Journal of Statistical Theory and Applications*, **1**(1), 27-34.
22. Piotrowski, C., **Bagui, S.** and Hemasinha, R.(2002). Development of a measure on statistics anxiety in graduate-level psychology students. *Journal of Instructional Psychology*, **29**(2), 97-100.

23. Thannippara, A., Kurian, B., Ghosh, D., and **Bagui, S.C.** (2002). λ -singly linked block designs through non-adaptive hypergeometric group designs for identifying at most two defectives and their optimalities. *Journal of Applied Statistical Science*, **11**(1), 1-8.
24. Bhaumik, D.K., Khattree, R. and **Bagui, S.C.** (2002). Statistical tests for nested designs under partial balance. *Communications in Statistics*, **31**(10), 1795-1813.
25. Ghosh, D.K., **Bagui, S.C.**, and Patel, A.C. (2002). Systematic methods of constructing singular group divisible designs and a new class of rectangular type PBIB designs. *Journal of Statistical Theory and Applications*, **1**(4), 253-262.
26. **Bagui, S.C.**, Bagui, S.S., Pal, N.R. and Pal. K. (2003). Breast Cancer Detection Using Rank Nearest Neighbor Classification Rules. *Pattern Recognition*, **36**(1), 25-34.
27. **Bagui, S.C.** and Bhaumik, D.K. (2004). Computing Jacobians using exterior products, *Statistical Methodology*, **1**(1-2), 71-80.
28. Bagui, S.S. and **Bagui, S.C.** (2004). An Algorithm and Code for Computing Exact Critical Values for the Kruskal-Wallis Nonparametric One-way ANOVA. *Journal of Modern Applied Statistical Methods*, **3**(2), 498-503.
29. **Bagui, S.C.** and Bhaumik, D.K. (2004). Glimpses of Inequalities in Probability and Statistics. *International Journal of Statistical Science*, **3**, (Special Issue), 9-15.
30. Thannippara, A., Thomas, S. Ghosh, D. and **Bagui, S.** (2004). Construction of E-optimal generalized group divisible designs through certain hypercubic designs. *Journal of Statistical Theory and Application*, **3**(4), 299-306.
31. Bagui, S.S. and **Bagui, S.C.** (2005). An Algorithm and Code for Computing Exact Critical Values for Friedman's Nonparametric ANOVA. *Journal of Modern Applied Statistical Methods*, **4**(1), 312-218.
32. Mandal, S., Ghosh, D., and **Bagui, S.** (2006). Nested partially balanced incomplete block designs, *Journal of Statistical Theory and Applications*, **5**(1), 41-42.
33. **Bagui, S.C.**, Bagui, S.S., Chatterjee, A., and Mehra, K.L. (2006). Classification with multiple independent measurements under separate sampling scheme, *Statistical Methodology*, **3**(3), 234-251.
34. Matin, M.A. and **Bagui, S.** (2006). Review of inference in Logistic Regression Model Parameters, *Model Assisted Statistics and Applications*, **1**(3), 189-177.
35. Thomas, S., Thannippara, A., **Bagui, S.C.**, and Ghosh, D.K. (2006-2007). Determination of Optimal Block Designs with Pre-assigned Variance for Elementary Contrasts, *Journal of Modern Applied Statistical Methods*, **5**(2), 390-394.
36. Bagui, S.S. and **Bagui, S.C.** (2006-2007). Computing Percentiles of Skew-Normal Distributions, *Journal of Modern Applied Statistical Methods*, **5**(2), 575-588.
37. Mandal, S., Ghosh, D., Chhug, S., and **Bagui, S.** (2007) Diallel crosses with block sizes three, *Journal of Applied Statistical Science*, **15**(2), 215-227.
38. Thannippara, A., Kurian, B., Ghosh, D.K., **Bagui, S.C.**, and Mandal, S. (2007). Hypercubic Designs and Applications, *Statistical Papers*, **48**(3), 503-508.
39. Bagui, S., **Bagui, S.C.**, Pal, N.R., and Matin, M.A. (2007). Comparison between k -NN and k -RNN Classification Rules: A Monte Carlo Simulation Study, *Journal of Statistical Research*, **41**(1), 69-79.
40. Joseph, O.C., Thannippara, A., Ghosh, D.K., and **Bagui, S.C.** (2007). Optimal and Partially Efficiency Balanced Designs, *International Journal of Statistical Sciences*, **6**, 239-258.

41. Matin, M.A. and **Bagui, S.C.** (2008). Small-sample performance of estimators and tests in logistic regression with skew-normally distributed explanatory variables, *Journal of Statistical Theory and Applications*, **7**(2), 151-167.
42. Thannippara, A., Joseph, O.C., Ghosh, D.K., **Bagui, S.C.**, and Mandal, S. (2008). E-optimal group divisible (GD) designs, *Journal of Statistical Studies*, **27**, 51-56.
43. Mandal, S., Ghosh, D.K., Sharma, R.K. and **Bagui, S.C.** (2008). A complete class of balanced incomplete block designs $\beta(7, 35, 15, 3, 5)$ with repeated blocks, *Statistics and Probability Letters*, **78**, 3338-3343.
44. Bagui, S, Just, J. and **Bagui, S.C.** (2009). Deriving strong association mining rules using a dependency criterion, the lift measure, *Int. J. Data Analysis Techniques, and Strategies*, **1**(3), 297-312.
45. Thannippara, A., Sreejith, V., **Bagui, S.C.**, and Ghosh, D.K. (2009). A new method of construction of E-optimal generalized group divisible designs (GGDD), *Journal of Scientific Research*, **1**(1), 38-42.
46. Hemasinha, R. and **Bagui, S.C.** (2009) Generating all rational orthogonal matrices via Householder transformations, *JU Journal of Science*, **32**(1), 47-56.
47. **Bagui, S.C.**, Mehra, K.L., and Rama Krishnaiah, Y.S. (2010). Sequential nonparametric fixed-width confidence intervals for conditional quantiles, *Sequential Analysis*, **29**(1), 1-19.
48. Bagui, S., Just, J., **Bagui, S.**, and Hemasinha, R., (2010). Using a Cosine-type Measure to Derive Strong Association Mining Rules, *International J. Knowledge Engineering and Data Mining*, **1**(1), 69-83.
49. Caffrey, J.M., Landing, W.M., Nolek, S.D., Gosnell, K., Bagui, S.S., and **Bagui, S.C.** (2010). Atmospheric deposition of mercury and major ions to the Pensacola (Florida) watershed: spatial, seasonal, and inter-annual variability, *Atmospheric Chemistry and Physics*, **10**, 1-24.
50. Bagui, S., Islam, M., and **Bagui, S.C.** (2011), An Architecture for Query Optimization Using Association Rule Mining. *International Journal of Knowledge Based Organizations (IJKBO)*, **1**(4), 33-55.
51. Bagui, S., Brown, J., Caffrey, J., and **Bagui, S.C.** (2012). Designing a Relational Database for tracking and analysis of Atmospheric Deposition of Mercury and Trace Metals in the Pensacola Bay Watershed, accepted for publication in *International Journal of Sustainable Society*, **4**(3), 240-265.
52. Ghosh, D.K., Joseph O.C., Thannippara, A., and **Bagui, S.C.** (2012). E-optimal semi-regular graph designs and partially efficiency balanced designs, *Journal of Statistical Theory and Applications*, **11**(1), 47-61.
53. Mandal, S., Zhu, C., Ghosh, D.K., and **Bagui, S.C.** (2012). Characteristics of BIBD and Complementary BIBD in Terms of Triplets of Treatments, *Journal of Applied Statistical Science*, **19**(3), 67-71.
54. **Bagui, S.C.**, Bhaumik, D.K., and Mehra, K.L. (2013). A few counter example useful in teaching central limit theorems, *The American Statistician*, **67**(1), 49-56.
55. Bagui, S.S., Sean, Sprafkin, and **Bagui, S.C.**, (2013). Calculating support, confidence and lift in multi-relational XML data, *International Journal of Data Analysis and Information Systems*, **5**(1), 13-27.

- 56. Bagui, S.C.**, Bagui, S.S., and Hemasinha, R. (2013). Nonrigorous proofs of Stirling's formula, *Mathematics and Computer Education*, **47**(2), 115-125.
- 57.** Mandal, S., Ghosh, D.K., and **Bagui, S.C.** (2013). Robustness of a class of variance balanced designs against the loss of one blocks, *Utilitas Mathematica*, **92**, 221-234.
- 58.** Ghosh, D.K., Bhatt, M.G., and **Bagui, S.C.** (2014). Analysis of covariance of reinforced balanced incomplete block designs with a single explanatory variable, *Journal of Statistical Theory and Applications*, **13**(3), 235-246.
- 59.** Ghosh, D.K., Sreejith, V., Thannippara, A., and **Bagui, S.C.** (2015). A new method for construction of MV-optimal generalized group divisible designs with two groups, *International Journal of Science and Research*, **4** (2), 27-30.
- 60. Bagui, S.C.** and Mehra, K.L. (2015). On the convolution property of a heavy tailed stable distribution, *Journal of Statistics Applications and Probability Letters*, **2**(3), 173-182.
- 61.** Ghosh, D.K., Sreejith V., and **Bagui, S.C.** (2015). A new method of construction of E-optimal generalized group divisible designs with two groups, *International Journal of Statistics and Applications*, **5**(3), 120-123.
- 62. Bagui, S.C.**, Bagui, S.S., and Hemasinha, R. (2016). The statistical classification of breast cancer data, *International Journal of Statistics and Applications*, **6**(1), 15-22.
- 63. Bagui, S.C.** and Mehra, K.L. (2016). Convergence of Binomial, Poisson, and Negative-Binomial to Normal distribution: Moment Generating Function Techniques, *American Journal of Mathematics and Statistics*, **6**(3), 115-121.
- 64.** Dickinson, R., Perry, S., and **Bagui, S.** (2016). Using rotation transformations to maximize the coefficient of determination in simple linear regression models, *European Journal of Mathematics and Computer Science*, **3**(1), 66-78.
- 65.** Chowdhury, M.A., Mandal, S., Ghosh, D.K., and **Bagui, S.C.** (2017). Optimal Structure (k) Designs for Comparing Test Treatments with a Control, *Journal of Statistical Theory and Applications*, **16**(1), 96-107.
- 66. Bagui, S.C.** and Mehra, K.L. (2017). Convergence of binomial to normal: Multiple proofs, *International Mathematical Forum*, **12**(9), 399-411.
- 67.** Bagui, S., Fang, X., Kalaimannan, E., **Bagui, S.**, Joseph, S. (2017). Comparison of machine-learning algorithms for classification of VPN network traffic flow using time-related features, *Journal of Cyber Security Technology*, **1**(2), 108-126.
- 68.** Fang, X., Bagui, S., and **Bagui, S.C.** (2017). Improving virtual screening predictive accuracy of human kallikrein 5 inhibitors using machine learning models, *Computational Biology and Chemistry*, **69**, 110-119.
- 69. Bagui, S.C.** and Mehra, K.L. (2017). Convergence of known distributions to limiting normal or non-normal distributions: An elementary ratio technique, *The American Statistician*, **71**(3), 1-6.
- 70.** McMillan, M., Liebans, J., and **Bagui, S.C.** (2018). A statistical model for streambank erosion in Northern Gulf of Mexico coastal plain, *Catena*, **165**, 145-156.

71. Bagui, S., John, S., Baggs, J., **Bagui, S.** (2018). A Parallel Implementation of Information Gain Using Hive in conjunction with MapReduce for Continuous Features, PAKDD 2018, *LNAI* 11154, 1-12.

72. Bagui, S., Mishra, A., Compo, J., Nandi, D., **Bagui, S.** (2018). Quality Analysis of Streaming Audio over Mobile Networks, *Transactions on Networks and Communications*, **6**(6), 1-14.

Articles on Statistics Education (for K-12 Statistics) (Refereed)

1. **Bagui, S.C.** (2012). How Tall and How Many, *ASA Statistics Education Web (STEW)*, <http://www.amstat.org/education/STEW/>. March 12, 2012.

2. **Bagui, S.C.** (2012). Step Into Statistics, *ASA Statistics Education Web (STEW)*, <http://www.amstat.org/education/STEW/>. March 12, 2012.

3. **Bagui, S.C.** and Richardson, M. (2012). Bear Hugs, *ASA Statistics Education Web (STEW)*, <http://www.amstat.org/education/STEW/>. July 02, 2012.

Submittals and in Preparations

1. **Bagui, S.C. and Mehra, K.L.**, On the Elementary Ratio Technique for Proving Convergence of Known Distributions, under revision.

2. **Bagui, S.C., Dickenson, R., and McGee, R.**, A mathematical investigation of Blank and Gegax's methodology for constructing two-part electric rates: Effect of correlation between energy & demand on the allocation of demand-related costs to the fixed customer charge, submitted for publication.

3. **Bagui, S.C. and Mehra, K.L.**, Convergence of Negative Binomial to Normal: Multiple

PRESENTATIONS:

1. "Nearest Neighbor Classification Rules for Multiple Observations", presented at the Department of Mathematics and Statistics, The University of West Florida, Pensacola, April, 1990.

2. "Nearest Neighbor Classification Rules for Multiple Observations", presented at the Department of Mathematics and Statistics, The University of Central Arkansas, Conway, April, 1990.

3. "A Note on Rank Nearest Neighbor Classification Rule", presented at The Department of Mathematics and Statistics, The University of West Florida, November, 1990.

4. "Rank Nearest Neighbor Classification Rules", presented at Florida Chapter of ASA Meeting, The University of Florida, Gainesville, January, 1991.

5. "Nearest Neighbor Classification Methodology", presented at Louisiana State University Medical Center, April, 1991.

6. "Classification Using Rank Nearest Neighbors", presented at the 1991 Joint Statistical Meetings, ASA, Atlanta, Georgia, August, 1991.

7. "A Nearest Neighbor Classification rule for Multiple Observations based on a Sub-sample Approach", presented at Florida Chapter of ASA meeting, The University of Central Florida, Orlando, February, 1992.

8. "Nearest Neighbor Classification Methodology for Multiple Observations", presented at The University of South Alabama, Department of Mathematics and Statistics, Mobile, Alabama, April, 1992.

9. "Nearest Neighbor Classification Rule for Multiple Observations", presented at The

University of Toledo, Toledo, Ohio, June 1992.

10. "*Classification of Multiple Observations using Nearest Neighbors*", presented at The Classification Society of North America's Annual Meeting, University of Pittsburgh, June 1993.
11. "*Classification based on k -rank nearest neighbor rule*", presented at the 1st IMS North American New Researchers Meeting, Berkeley, California, August 1993.
12. "*Classification of Multiple Observations using Multi-Stage Rank Nearest Neighbor Rule*", presented at The Joint Statistical Meeting, ASA, IMS, San Francisco, August, 1993.
13. "*Classification based on k -rank nearest neighbor rule*", presented at The University of Alberta, Department of Statistics, Edmonton, Canada, August, 1993.
14. "*Statistical Classification based on k -rank nearest neighbor rule*", Presented at Florida chapter of ASA, The University of Florida, Gainesville, February, 1994.
15. "*Minimax Classification rule for tail contaminated models*", Presented at First conference on applied statistical science, Rider University, New Jersey, May, 1995.
16. "*One-Sided Tolerance Limits for Unbalanced m -way Random-Effect ANOVA Models*", Presented at The Joint Statistical Meeting, ASA, IMS, Chicago, August, 1996.
17. "*Some useful properties of the Bayes risk in classification*", Presented at The ASA Florida Chapter Meeting, The University of West Florida, Pensacola, February, 1997.
18. "*Some useful properties of the Bayes risk in classification*", Presented at 3rd International Triennial Calcutta Symposium on Probability and Statistics, December 26-28, 1997.
19. "*Statistical classification using multistage k -rank nearest neighbor rule*", Presented at International conference on recent advances in statistics and probability organized by ISI and Bernoulli society for mathematical statistics and probability, December 29, 1997-January 01, 1998.
20. "*Statistical classification using multistage k -rank nearest neighbor rule*", Presented at Annual meeting of the Florida chapter of the ASA. The University of Central Florida, Orlando, February, 1998.
21. "*NN and RNN Classification Rules: A Review*", Presented at Sixth International Conference On Statistics, Combinatorics and Related Areas, Forum for Interdisciplinary Mathematics, University of South Alabama, Mobile, December 18-20, 1999.
22. "*Study of the Reliability of Bridge-structure System in a Random Environment*", Presented at Florida Chapter of the ASA annual meeting, February 18-19, 2000, Florida State University, Tallahassee, FL.
23. "*A Nonrigorous Proof of Stirling's Formula*", Presented at Mathematical Association of America (MAA) West Regional Meeting, April 07, 2000, The University of West Florida, Pensacola, FL.
24. "*Reliability in A Random Environment*", Rite of Passage Lecture Series, The University of West Florida, April 17, 2000.
25. "*Breast Cancer Detection Using Rank Nearest Neighbor Classification Rules*", Presented at Florida Chapter of the ASA annual meeting, February 09-10, 2001, University of North Florida, Jacksonville, FL
26. "*Breast Cancer Detection Using Rank Nearest Neighbor Classification Rules*", Presented at The University of South Alabama, Department of Mathematics and Statistics, Mobile, Alabama, April, 2001.
27. "*Breast Cancer Detection Using Rank Nearest Neighbor Classification Rules*", Presented at ASA Joint Statistical Meetings, Atlanta, August, 2001.
28. "*Computing Jacobians using Exterior Products*", Presented at MAA Northwest Florida Regional Meeting, University of West Florida, Pensacola, FL, November, 2002.
29. "*Biostatistics: recent trend and a presentation on breast cancer detection*" Presented at Department of Public Health, Georgia Southern University, Statesboro, GA, April, 2003.
30. "*Breast Cancer Detection Using Rank Nearest Neighbor Classification Rules*", Presented at Indian Statistical Institute, Calcutta, India, August, 2003.

31. “*Careers in Statistics*”, Presented at University of West Florida, Mathematics Club, Pensacola, FL, September, 2003.
32. “*Careers in Statistics*”, Presented at Pensacola High School, Pensacola, FL, November, 2003.
33. “*Careers in Statistics*”, Presented at Pine Forest High School, Pensacola, FL, September, 2003.
34. “*An Algorithm and Code for Computing Exact Critical Values for the Kruskal-Wallis Nonparametric One-way ANOVA*”, Presented at SEA STARS, UWF, Pensacola, 2004.
35. “*Breast Cancer Detection Using Rank Nearest Neighbor Classification Rules*”, Presented at Department of Mathematical and Statistical Sciences, University of Alberta, Edmonton, Canada, July, 2004.
36. “*Breast Cancer Detection Using Rank Nearest Neighbor Classification Rules*”, Presented at Department of Mathematics and Statistics, University of Calgary, Calgary, Canada, July, 2004.
37. **Invited Presentation:** “*Breast Cancer Detection Using Rank Nearest Neighbor Classification Rules*”, Thirty-Fourth Annual Lloyd Roeling Mathematics Conference/LA Chapter of ASA meeting, University of Louisiana at Lafayette, November 2004.
38. “*Breast Cancer Detection Using Rank Nearest Neighbor Classification Rules*”, Institute of Human and Machine Cognition, Pensacola, FL, March 2005.
39. “*An Algorithm and Code for Computing Exact Critical Values for the Friedman’s Nonparametric ANOVA*”, Presented at SEA STARS, Poster, UWF, Pensacola, 2005.
40. **Invited Session:** “*Classification with multiple independent measurements under a separate sampling scheme*”, Presented at Twelfth International Conference On Statistics, Combinatorics, Mathematics and Applications, Forum for Interdisciplinary Mathematics, Auburn University, December 2-4, 2005.
41. “*An Algorithm and Code for Computing Percentiles of Skew-Normal Distributions*”, Presented at SEA STARS, Poster, UWF, Pensacola, 2006.
42. “*Computing Jacobians Using Exterior Products*” Presented at Florida Chapter of the ASA annual meeting, February 23-24, 2007, The University of West Florida.
43. “*Nonrigorous Proofs of Stirling’s Formula*” Presented at Mathematical Association of America (MAA) Florida Chapter Local meeting, November 30, 2007, The University of West Florida.
44. “*Breast Cancer Detection Using Rank Nearest Neighbor Classification Rules*”, Presented at 2nd Annual Prob/Stat Day at UMBC. April 26, 2008, *Invited Presentation*.
45. “*Some Aspects of Skew-Normal Distribution*”, Presented at Mathematics Association of America (MAA) Florida Chapter Meeting, Nov. 21, 2008, The University of West Florida.
46. “*Some Aspects of Skew-Normal Distribution*”, Presented at Florida Chapter of ASA Meeting, The University of Central Florida, Orlando, February 20-21, 2009.
47. “*Breast Cancer Detection Using Rank Nearest Neighbor Classification Rules*”, Presented at The University of Illinois at Chicago, Department of Biostatistics, Chicago, March 13, 2009.
48. “*Nearest Neighbor and Rank Nearest Neighbor Classification: Application to breast cancer data*”, Department of Biostatistics, H. Lee Moffitt Cancer Center, USF, Tampa, July 02, 2010.
49. “*Spatial and Temporal Trends in Atmospheric Deposition of Mercury, Trace Metals and Major Ions in the Pensacola Bay Watershed*”, Hg Measurements Meeting, February 2-3, 2011, University of West Florida, Pensacola, FL.
50. *Database development for tracking and analysis of atmospheric data*, Hg Measurements Meeting, February 2-3, 2011, University of West Florida, Pensacola, FL.
51. “*Role of Climate and Local Emission Sources in the Wet Deposition of Mercury and Major Ions in the Pensacola Bay Region*”, The 10th International Conference on Mercury as a Global Pollutant, poster, July 24-29, 2011, Halifax, Canada.
52. “*Nonrigorous Proofs of Stirling’s Formula*” Presented at Florida Chapter of the ASA Meeting, The University of North Florida, Jacksonville, February 04-5, 2012.

53. “*Nonrigorous Proofs of Stirling’s Formula*”, Presented at Florida Chapter of the MAA Meeting, The University of West Florida, Pensacola, FL, 2012.
54. “*A Few Counter Examples Useful in Teaching Central Limit Theorems*”, Poster Presentation at Florida Chapter of the ASA Annual Meeting, University of Florida, Gainesville, FL, February 07, 2014.
55. “*Convergence of Binomial, Poisson, and Negative-Binomial to Normal distribution: Moment Generating Function Techniques*”, Poster Presentation at Florida Chapter of the ASA Annual Meeting, University of South Florida, Tampa, FL, Feb 06-07, 2015.
56. “*Convergence of Binomial to Limiting Normal Distribution: Multiple Proofs*”, Poster Presentation at Florida Chapter of the ASA Annual Meeting, Florida State University, Tallahassee, FL, Feb 12-13, 2016.
57. “*Convergence of Binomial to Limiting Normal Distribution: Multiple Proofs*”, Poater Presentation at Annual Meeting of Student Scholars Symposium and Faculty Research Showcase, University of West Florida, Pensacola, FL, Apr 21, 2016.
58. “*Convergence of Binomial to Limiting Normal Distribution: Multiple Proofs*”, Poster Presentation at 2016 Joint Statistical Meetings, Chicago, July 30 - August 4, 2016.
59. “*Using rotation transformations to maximize the coefficient of determination in simple linear regression models*”, Poster Presentation at Florida Chapter of the ASA Annual Meeting, Mayo Clinic, Jacksonville, FL, Feb 3-4, 2017.
60. “*Testing for the significance of the intraclass correlation in the analysis of family data*”, Poster Presentation at Florida Chapter of the ASA Annual Meeting, Mayo Clinic, Jacksonville, FL, Feb 3-4, 2017.
61. “*Using rotation transformations to maximize the coefficient of determination in simple linear regression models*”, Poster Presentation at Annual Meeting of Student Scholars Symposium and Faculty Research Showcase, University of West Florida, Pensacola, FL, Apr 20, 2017.
62. “*Testing for the significance of the intraclass correlation in the analysis of family data*”, Poster Presentation at Annual Meeting of Student Scholars Symposium and Faculty Research Showcase, University of West Florida, Pensacola, FL, Apr 20, 2017.
63. “*Testing for the significance of the intraclass correlation in the analysis of family data*”, Poster Presentation at The 5th Workshop on Biostatistics and Bioinformatics, Georgia State University, May 5-7, 2017.
64. “*Statistics: The Hottest Career of the 21st Century*”, The University of West Florida, Department of Mathematics and Statistics, October 27, 2017.
65. “*Convergence of known distributions to normality or non-normality and a few counter examples in teaching CLT*”, The University of Windsor, Department of Mathematics and Statistics, Canada, December 07, 2017.
66. “*Convergence of known distributions to normality or non-normality and a few counter examples in teaching CLT*”, Presented at The University of South Alabama, Department of Mathematics and Statistics, March 13, 2018.
67. “*Using locality sensitive hashing to improve the KNN algorithm in the MapReduce framework*”, Poster presented at 2018 ACMSE conference, Eastern Kentucky University, March 29-31, 2018.
68. “*A hybrid genetic algorithm for network intrusion detection*”, Poster presented at 2018 ACMSE conference, Eastern Kentucky University, March 29-31, 2018.
69. “*Convergence of Known Distributions to Normality or Non-normality: An Elementary Ratio Technique*”, Presented at Florida Chapter of the ASA 2018 Annual Meeting, Florida Gulf Coast University, Fort Myers, Apr 06-07, 2018
70. “*Using locality sensitive hashing to improve the KNN algorithm in the MapReduce framework*”, Poster Presentation at Annual Meeting of Student Scholars Symposium and Faculty Research Showcase, University of West Florida, Pensacola, FL, Apr 19, 2018..

71. “A hybrid genetic algorithm for network intrusion detection”, Poster Presentation at Annual Meeting of Student Scholars Symposium and Faculty Research Showcase, University of West Florida, Pensacola, FL, Apr 19, 2018.
72. “Convergence of known distributions to normality or non-normality and a few counter examples in teaching CLT”, Presented at The University of Sydney, School of Mathematics and Statistics, June 01, 2018.
73. “A Parallel Implementation of Information Gain Using Hive and MapReduce for Continuous Features”, The 22nd Pacific-Asia Conference on Knowledge Discovery and Data Mining, (PAKDD), Australia, June 3-6, 2018.
74. “Convergence of Known Distributions to Normality or Non-normality: An Elementary Ratio Technique” Poster Presentation at 2018 Joint Statistical Meetings, Vancouver, July 28 - August 2, 2018.
75. “Convergence of known distributions to normality or non-normality and a few counter examples in teaching CLT”, Department of Statistics, Calcutta University, Kolkata, Aug 14, 2018.
76. “Convergence of known distributions to normality or non-normality and a few counter examples in teaching CLT”, Indian Statistical Institute, Applied Statistics Unit, Kolkata, Aug 21, 2018.
77. “Convergence of known distributions to normality or non-normality and a few counter examples in teaching CLT”, Department of Statistics, Presidency University, Kolkata Aug 23, 2018.
78. “Convergence of known distributions to normality or non-normality and a few counter examples in teaching CLT”, Department of Mathematical and Statistical Sciences, University of Alberta, Edmonton, Canada, Nov 09, 2018.

THESIS /DISSERTATION SUPERVISION:

Chair, Master's Thesis: **Two**

1. **Brandon K. Vaughn**, “Classification based on k-rank nearest neighbor rule”, 1994
2. **Jacob Anderson**, “Trend feature and additive feature selection methods for churn models under property and casualty insurance business paradigms” 2018.

Member, Master’s Thesis Committee: **Six**

Chair, Doctoral Dissertation Committee: **one**

Xiuqing Wang Li, “Critical factors on students’ mathematics performance in high school”, 2006

Member, Doctoral Dissertation Committee: **Three**

RESEARCH IN PROGRESS:

Control charts in presence of trend

A general approach to constructing supersaturated designs

PROFESSIONAL SERVICE:

I. Editorships

1. **Associate Editor**: Journal of Applied Statistical Science.
2. **Editorial Board Member**: Journal of Modern Applied Statistical Methods, 2002-08.
3. **Associate Editor**: ASA STatistics Education Web (STEW), *online journal of K-12 statistics lesson plans* (past)
4. **Editorial Board Member**, *Journal of Statistics: Advances in Theory and Applications* 1912-
5. **Associate editor**: *American Journal of Mathematical and Management Sciences*, 1912-
6. **Editorial Board Member**, *Journal of Statistics Applications and Probability Letters*. 1914-

7. **Editorial Board Member**, *Journal of Statistics Applications and Probability*, 1914-
8. **Editorial Board Member**, *American Journal of Modeling and Optimization*, 1915-
9. **Editorial Board Member**, *American Journal of Applied Mathematics and Statistics*, 1915-
10. **Editorial Board Member**, *Journal of Advanced Statistics*, 2016-
11. **Regional Editor**, *Asian Journal of Mathematics and Statistics*, 2016-

II. Papers Reviewed For:

1. Scandinavian Journal of Statistics, 2. Pattern Recognition Letters, 3. Sankhya, 4. IEEE Transactions on Fuzzy Systems, 5. IEEE Transactions on Knowledge and Data Engineering, 6. Communications in Statistics, 7. Journal of Agricultural, Biological and Environmental Statistics. 8. Journal of Applied Mathematics and Decision Sciences, 9. Journal of Modern Applied Statistical Methods. 10. Journal of Statistical Planning and inference. 11. Applied Mathematics Letters. 12. International Journal of Mathematics and Mathematical Sciences. 13. American Statistician. 14. Model Assisted Statistics and Applications. 15. International Journal of Statistical Sciences. 16. Statistics and Probability Letters. 17. Journal of American Statistical Association. 18. American Journal of Mathematics and Statistics, 19. International Journal of Probability and Statistics. 20. Administration and Policy in Mental Health and Mental Health Services Research. 21. American Journal of Modeling and Optimization. 22. Statistics in Medicine. 23. Statistical Analysis and Data Mining. 24. Journal of Applied Probability and Statistics. 25. Punjab University Journal of Mathematics, 26. Journal of Statistical Theory and Practice, 27. American Journal of Mathematics and Statistics.

III. Conferences

1. Co-organizer of **Florida Chapter ASA Conference'93**, and Chaired sessions.
2. *Organized a mini Conference* on "**Environmental Statistics**" at USA, 1996, and Chaired sessions.
3. Chaired a session at **Florida Chapter ASA Conference'97**.
4. *Organized an invited session* at Sixth International Conference On **Statistics, Combinatorics and Related Areas '99** and chaired the **session**.
5. *Member of organizing committee*: Ninth International Conference on Statistics, Combinatorics and Related Areas, University of Wollongong, Australia, 2001.
6. *Member of Technical Program Committee*: **International** Conference on Fuzzy Systems, 2002 AFSS, Calcutta, India, February , 2002.
7. Co-organizer of **Florida Chapter ASA Conference'02**, and conducted statistics workshop for school teachers.
8. Co-organizer of **Florida Chapter ASA Conference'07** and coordinated student paper competition.
9. Organizer of the **Florida Chapter of the ASA 2013** annual meeting, Chair.

III. Examiner

1. External and Internal evaluator for **Tenure** and **Promotion** cases.

IV. Organization

1. **Chapter Representative**, Florida Chapter of the ASA (2013-2015)

2. **President**, Florida Chapter of the ASA (2011-2013)
3. **Vice President**, Florida Chapter of the ASA (2009-2011)
4. **Secretary and Treasurer**, Florida Chapter of the ASA (2007-2009)

BOOK REVIEW:

1. Title: Applied Multivariate Data Analysis, Vol. I and II, by J.D. Jobson.
2. Title: An Introduction to Probability and Statistics, by G. Roussas
3. Combining Pattern Classifiers: methods and Algorithms, by Ludmila Kuncheva, *Technometrics*, 2005, vol. 47, no. 4, pp. 517 – 518.

SOFTWARE EXPERIENCE:

Fortran, Pascal, SAS, BMDP, SPSSX, MINITAB, MYSTAT, HTML, R

STATISTICAL CONSULTANCY:

1. Member of UWF Statistics Center
2. Statistics consultant of Biology department at UWF
3. Statistical consultancy done for Nemours Children clinic, Pensacola, FL.

UNIVERSITY SERVICE:

1. Served on Graduate Committee, Department of Mathematics & Statistics, The University of West Florida, 1990-1992, 1999-2002.
2. Member of Election Committee, College of Arts & Sciences, The University of West Florida, 1991-1992.
3. Served on Undergraduate Committee, Department of Mathematics & Statistics, The University of West Florida, 1992.
4. Member of Colloquium Committee, Department of Mathematics & Statistics, The University of West Florida, 1992-1994.
5. Member of Academic Standards Committee of the College of Science and Technology, The University of West Florida, 1992-1995.
6. Member of University Admissions Committee, 1993-1995.
7. Member of University Facilities and Planning Committee, 1993-1995.
8. Member of University Library Committee, 1993-1994.
9. Member of Department Library Committee, 1993-1995.
10. Served on Departmental hiring committee.
11. TIP (1994/95) and TIP (1995) committee
12. College faculty personnel committee (1995 -97, 97-2000).
13. Departmental Graduate Committee, Chair, 1995-1997, 1999-2003.
14. Election committee, Chair, COST (1996-97, 1998-2001)
15. College resource allocation subcommittee (1995-98)
16. University Library committee (1995-97)
17. University Growth and Development Committee (1997-2000, 2001).
18. Market Equity Committee (2000-)

19. CAS Council member (2000-2001), 2006-2009.
20. CAS faculty personnel (tenure and promotion) committee, (2000-2003), Chair 2001-2002.
21. Faculty senate member, 2001-2004.(CCR committee member), 2007-2010, AC member.
22. Academic Council Committee (2001-2004).
23. College election committee member, 2001-2004.
24. Member, Provost/VP for academic affairs hiring committee, 2002-2004.
25. Co-Chair, SACS Quality Enhancement Program, 2004-2005
26. Member, President's Award for Leadership in Diversity, 2004.
27. University faculty personnel committee, 2004-2007, 2013-2016.
28. Member, Departmental hiring committee, 2004-2005.
29. Member, Search Committee for AVP for academic affairs 2004-2005.
30. Honorary Awards and Recognition Committee, 2005-2008.
31. Faculty and Administration Marshal, 2007.
32. Member, Senate and Academic Council, 2007-2010.
33. Member, Senate and Academic Council, 2010-2013.
34. College faculty personnel committee, 2010-2013.
35. Vivian Johnson Scholarship Committee, 2010-13.
36. College Resource Allocation Committee 2012-2015.
37. COSEH Council Committee, 2014-2019.
38. College personnel committee, 2016-2019.
39. Faculty Senate, Sep 2018-May 2019.
40. Academic Council, Sep 2018-May 2019.

STUDENT ORGANIZATION

South Asian Students Association (SASA): *Faculty Advisor*, 2003-Present

COMMUNITY SERVICE:

Judge in 41st West Panhandle Regional Science and Engineering Fair, 1996.

Judge in 42nd West Panhandle Regional Science and Engineering Fair, 1997.

Judge in 45th West Panhandle Regional Science and Engineering Fair, 2000.

Organized UWF, SASA and India Cultural Center Inc. *Tsunami Relief Benefit*, 2004.

Co-Director, 54th Annual West Panhandle Regional Science and Engineering Fair, 2009.

CAS Coordinator, 55th Annual West Panhandle Regional Science and Engineering Fair, 2010

PROFESSIONAL MEMBERSHIPS:

Fellow, American Statistical Association

Fellow, The Royal Statistical Society

Member, American Statistical Association (ASA)

Institute of Mathematical Statistics (IMS)

Classification Society of North America

Life member, Calcutta Statistical Association Bulletin

Life member, International Indian Statistical Association

HONORS, GRANTS AND AWARDS:

1. Invited to present my work at STATISTICS '91 CANADA Conference.
2. Nominated by Student Academic Committee for *Distinguished Teaching Award* in 1990-91.
3. **IMS** travel grant'93, \$500.00.
4. *Teaching Incentive Program (TIP) Award*, 1993-1994 .
5. CoST *summer research grant*'96, \$2,672.00.
6. John Pace **Visiting Scientist** Grant'96, \$4,000.00.
7. Grant for Conference on "**Environmental Statistics**" from USA and UWF '96, \$3,000.00.
8. Nominated by student government committee for *Distinguish Teaching Award* in 1996, (semifinalist).
9. CoST summer research grant'97, \$3,048.00.
10. Name in Who'sWho in Science and Engineering, 4th edition, Marquis Who's Who, NJ, 1998/99.
11. CoST summer research grant'98, \$3917.00.
12. UWF Statistics Center *Consultancy*, \$1,300.00.
13. UWF *Distinguish Teaching Award* in 1999.
14. Name in Who's Who in the World 2000, 17th edition, Marquis Who's Who, NJ.
15. Life member of *Calcutta Statistical Association Bulletin*.
16. *Teaching Incentive Program (TIP) Award*, 1999-2000.
17. *Excellence in Undergraduate Teaching and Advising Award*, 1999-2000.
18. *Golden Apple Award for Teacher of the year*, 2000-2001.
19. CAS summer curriculum development grant'01, \$5000.00.
20. UWF *Summer Research Grant*'2002, \$7500.00.
21. Submitted a proposal entitled, "Mining breast cancer data" to US DOD for approx. \$450,000.00 in total for 3 years (not funded, will be resubmitted).
22. *Distinguished Research and Creative Activity Award*, 2004.
23. *Excellence in Undergraduate Teaching and Advising Award*, 2003-2004.
24. *Teaching Incentive Program (TIP) Award*, 2003-2004.
25. Grant awarded for **GTA**, UWF graduate studies and research, \$1,200.00, 2005-2006.
26. **NSF REU** Grant (NSF-DMS 0636933): "*Combinatorial and Statistical Problems in Molecular Biology*", \$55,690×2, (co-PI), Summer, 2007-08.
27. **Sr. Key Personnel, Electric Power Research Inst. (EPRI) Grant**: "Atmospheric deposition of mercury and trace metals in the Pensacola Bay Watershed Phase III", \$287,020, 2009-10.
28. **Sr. Key Personnel, Electric Power Research Inst. (EPRI) Grant**: "Atmospheric deposition of mercury and trace metals in the Pensacola Bay Watershed Phase IV", 2010-11.
29. 2011 *Faculty Distinguished Research & Creative Activities Award*.
30. 2013 *Outstanding Service Award*, The Florida Chapter of the ASA.
31. UWF Faculty Catalyst Initiative Awards, \$5,000.00, 2013-14.
32. **32. Fund Raising Activity**: Instrumental in bringing (in excess of) **5 million dollars** to name the COH., 2017
33. UWF *Distinguished University Professorship (DUP) Award*, 2017.
34. **Gulf Power Company Grant**; "Mathematical proof showing the effect of electric billing determinant correlation on Blank and Gegax methodology", **PI**: Subhash Bagui, May-Dec, 2017, Total amount: \$10,000.00.

35. Grant submitted to NAS as **Senior Key Personnel**, Title: *Integrated Water Quality and Habitat-Use Monitoring to Evaluate Restoration Success in the Florida Panhandle Estuaries*, PI: Jane Caffrey, Amount: 1.4M, **PI**-Jane Caffrey. (not Funded)

36. Grant submitted to Spokes: SMALL: SOUTH (NSF). Interactive automated data analytics using the Hadoop Frame work –IADA, PI: Lakshmi Prayaga, Co-PI: Subhash Bagui, Sikha bagui Total amount: \$384,499.00. (not Funded)

37. Grant submitted to NSF Grant: RET Site: Computer Science Research Experiences for Teachers Focused on Security of Internet of Things (IoT) and Data Analysis, PI: Sikha Bagui, Co-PI: Subhash Bagui, Total Amount: \$599,190, October, 2017, (not Funded).

Curriculum Vitae

Anthony Okafor

Department of Mathematics and Statistics
University of West Florida
11000 University Parkway
Pensacola, FL 32514

Email: aokafor@uwf.edu
Office: (850) 474-3280

Education

Ph.D. *Industrial and Systems Engineering* University of Florida Dec 2005
Research Area: Operations Research, Data Mining and Applied Optimization
Advisor: Distinguished Professor Panos Pardalos
Dissertation: Entropy Based Techniques with Applications in Data Mining

M. Eng. *Industrial and Systems Engineering* University of Florida Aug 2001

M.A. *Mathematics* University of West Florida April 1991

B. Eng. *Mechanical Engineering* University of Nigeria, Nsukka June 1988

RESEARCH INTEREST

- Entropy Optimization
- Data Mining
- Operations Research
- Applied Optimization
- Statistics in Public Health
- Big Data and Machine Learning

ACADEMIC/PROFESSIONAL EXPERIENCE

- Assistant Professor of Statistics, Department of Mathematics and Statistics, University of West Florida, August 2018 to present.
- Administrative Fellow, Hal Marcus College of Science and Engineering (HMCSE), August 2018 to present.
- Director of Graduate Programs, Department of Mathematics and Statistics, University of West Florida, August 2015 – August 2018
- Lecturer, Department of Mathematics and Statistics, University of West Florida, Pensacola, Florida 2013 – July 2018

HONORS, AWARDS AND GRANTS

- PI: Memiah, P. Collaborators: Okafor, A., Stone, L., Mbizo, J., & Sutton, M.A. UWF Instructional Technology Enhancement Project (ITEP) award, Office of the Provost, UWF: *Enhancing Student High Impact Practices Through Big Data Analysis and Systems-Level Thinking* (2018-2020), \$33,077.
- PI: Sutton, M.A. Collaborators: Bennett, W., Stone, L., Okafor, A., Marten, M., Memiah, P., & Mbizo, J. Center for Research and Economic Opportunity (CREO) award, UWF: *Research Equipment Funding Transdisciplinary Informatics Research with Faculty, Students, and Citizen Scientists* (2015-2018), \$42,900.
- Nominated SGA Teacher of the Year Award, 2017
- 2016 Mathematical Association of America (MAA) State of Florida Teacher of the Year Award
- Diabetes and Cardiovascular Disease in Older Adults (R03) NIH Grant, Co-Pi; 2016 (Not funded)
- Nominated SGA Teacher of the Year Award, 2016
- 1996 Teaching Incentive Program (TIP) Award
- ITEP Project Proposal \$7000 (Not funded), 2016
- SCAC faculty Grant, \$1400, 2013

PUBLICATIONS

Journal Articles

- Donley, T., King, D., Nyathi, N., **Okafor, A.**, & Mbizo, J., (2018) "Socioeconomic Status, Family Functioning and Delayed Care Among Children With Special Needs", *Social Work in Public Health*, 33:6, 366-381, DOI: 10.1080/19371918.2018.1504703.
- Mbizo, J., **Okafor, A.**, Sutton, M., et al. "Complementary and Alternative Medicine Use Among Persons with Multiple Chronic Conditions: Results from the 2012 National Health Interview Survey" ID BCAM-D-18-00772, *BMC Complementary and Alternative Medicine*, 2018.
- Ilunga Tshiswaka, D., Donley, T., **Okafor, A.** et al. "Prostate and Colorectal Cancer Screen Uptake among US and Foreign_born Males: Evidence form the 2015 NHIS Survey" *Journal of Community Health* (2016). doi:10.1007/s10900-016-0296-1
- Mbizo, J., **Okafor, A.**, Sutton, M., "Complementary and Alternative Medicine Use by Normal Weight and Obese Patients with Arthritis or Other Musculoskeletal Diseases:

Results from the 2007 NHIS Survey" ID JACM-2014-0390; Journal of Alternative and Complementary Medicine, 2016.

- Li, k., Amin, R., Uvah, J., **Okafor, A.**, "A Study of College Readiness for College Algebra Readiness" Journal of Mathematical Sciences & Mathematics Education, 2010.

Book Chapters

- Mbizo, J., **Okafor, A.**, Sutton, M., et al. Integrative and Complementary Medicine Use in Adults With Chronic Lower Back Pain, Neck Pain, and Arthritis/Musculoskeletal Diseases" Bioactive Food as Dietary Interventions for Arthritis and Related Inflammatory Diseases, 2018 (In Press).
- Okafor, A., Pardalos, P., Ragle, M., Data Mining Via Entropy and Graph Clustering; Data Mining in Biomedicine, Springer, 2007.
- Okafor, A., P. Pardalos., Entropy Clustering; Theory and Algorithm for Cooperative Systems Vol. 4: 339-3551, 2004.
- Okafor, A., Grundel, D., "A Best Target Strategy: Strategy for Unmanned Systems in the Uncertain Battlespace," Proceeding of 2nd AIAA "Unmanned Unlimited" Systems, Technologies and Operations, September 2003.

Submitted/In Preparation Journal Articles

- Donley, T., King, D., **Okafor, A.**, & Mbizo, J., Predictors of delayed care among disabled adults: Results from the California Health Interview Survey, (#DHJO-D-18-00190) Disability and Health Journal, Disability and Health Journal, 2018. (In review)
- A. Okafor, P. Memiah, J. Mbizo., "Racial and Gender Differences in HIV Testing when Risk Factors Are Present: Evidence from the 2012 BRFSS" (submitted/returned for revision)
- M. Grossmann, A. Okafor., "Knapsack and ARIMA Models for Optimal Portfolio Allocation" (In preparation). DHJO-D-18-00190
- J. Kennedy, S. Burchette, T. Barraco, A Okafor " Predictive Modeling: Pitcher and Batter Matchups in the MLB (In preparation)

Book Contract (Caribbean Islands Book Project, 2015 - March 2016)

- Lead author for 11th Grade Mathematics Text, 12 chapters
- Co-author for 10th Grade Mathematics Text, 13 Chapters

PEER REVIEWED ACCEPTED ABSTRACTS FOR NATIONAL RESEARCH PRESENTATIONS

- Abstract # 3187.0, Adherence to Self-Management Practices Among Diabetic Adults Who Attended a Diabetes Education Class. Atlanta, Nov 2017.
- Abstract # 4082.0, Disparities in Adherence to Vision Screening For Patients With Diabetes Related Eye Problems. Atlanta, Nov 2017.
- Abstract # 2041.1, Adult Asthma: Disparities and Association between Comorbidities and Accessing Emergency Care. Atlanta, Nov 2017.

- Abstract #3089.0, Gender Based Violence (GBV) Among Rural and Urban Women in Zimbabwe, Denver, Nov 2016
- Abstract #3352.0, Complementary and Integrative Health Practice(s) Among US Women with Menopausal Symptoms with concurrent Cancer Diagnoses, Denver, Nov. 2016
- Abstract #337119, Prevalence and Determinants of Behavioral Problems in Children with Special Health care Needs, APHA, Chicago, 2015
- Abstract #337120, Unmet Dental Care Needs Children with Special Health Care Needs, APHA, Chicago, 2015
- Abstract #330759, Use of Complementary and Alternative Medicine (CAM) Among Patients with Cancer, Diabetes and Hypertension in the United States, Chicago, 2015
- Abstract #330714, Use of Dental Services Among Adults with Diabetes and Hypertension: Results From a National Survey, Chicago, 2015
- Abstract #309778, Regional and Gender Differences in HIV Testing when Risk Factors Are Present: Evidence from the 2012 BRFSS, APHA, New Orleans, 2014
- Abstract #289948, Use of complementary and alternative medicine (CAM) among patients with arthritis, and other musculoskeletal diseases in the United States, APHA, Boston 2013
- Abstract #289944, Use of Complementary and Alternative Medicine (CAM) among Patients with Hypercholesterolemia, Diabetes and Hypertension in the United States, APHA, Boston, 2013
- Abstract #271451, Gender Differences in Use of Preventive Eye Care Services Among Diabetic US Adults, Evidence from the BRFSS, 2010, APHA, San Francisco, 2012
- Abstract #270055, Variations in Use of Preventative Dental Services Among Diabetic US Adults, Evidence from the BRFSS, 2010, APHA, San Francisco, 2012
- Abstract #270056, Use of Influenza and Pneumococcal Vaccine in People with Diabetes, APHA, San Francisco, 2012
- Abstract #270064, Socio-demographic Determinants of Teeth Loss among Diabetic and Non-Diabetic American Adults, BRFSS, 2010, APHA, San Francisco, 2012
- Abstract #250499: Prevalence of No known Major Risk Factors for Cardiovascular and Cerebrovascular Disease Among Residents of US Gulf Coast States, APHA Washington DC, 2011

RECENT REGIONAL CONFERENCES AND SYMPOSIUM

- Allynn Burns and Anthony Okafor, Modeling Average Summer Precipitation in the Southeastern Region of the United States using Factors which Compound the NASH, SURP symposium August 2018
- *Audrey Moore, Tony Moore, Anthony Okafor, Justice Mbizo, Modeling Dental Services Among Adults with Diabetes and Hypertension: Results From a National Survey. UWF Symposium UWF, 2018.
- *Stacey Burchette, A Hybrid Metaheuristic for the Traveling Salesman Problem, UWF Symposium, 2018.
- *Rose Belany, Anita Totem, Anthony Okafor and Justics Mbizo, Food Insecurity and Medication Non-Compliance among the Elderly in the United States. UWF Symposium, 2018
- Tiffany Donley, Anthony Okafor, Justics Mbizo, Dionne King, Prevalence and Association Between Parental Social Support and Behavioral Problems Among Children with Special Healthcare Needs, AcademyHealth Annual Research Meeting (ARM), New Orleans, June 2017.
- *Zackary Bruley and Anthony Okafor, Preliminary Exploratory Analysis of the Effect of the North Atlantic Subtropical High (NASH) on Warm Season Rainfall, SURP Symposium UWF, August 2017.
- *Stacey Burchette, *Joseph Kennedy, *Talia Barraco and Anthony Okafor, Hybrid Solution Methods to Combinatorial Optimization Problems, MAA Florida, February, 2017
- *Harrell Shawn; *Joseph Kennedy; *Talia Barraco; *Stacey Burchette, Anthony Okafor, Baseball Analytics: Determining an Optimal Play Schedule ; MAA, Sarrasota, FL, 2017
- Moore Audrey; Moore Tony; Anthony Okafor, Justice Mbizo, Modelling Dental Services Among Adults with Diabetes and Hypertension: Results from a National Probability Survey, UWF Symposium, 2017
- *Galivan Aymee; Anthony Okafor, County-Level Determinants of Domestic Migration in Florida: Do Economic and Non-Economic Factors Matter? UWF Symposium, 2017
- *Jonathan Guy; Anthony Okafor; The Effect of workshops on the performance of Calculus I students at UWF, MAA, Sarrasota FL, Feb. 2017

THESIS SUPERVISION

- Joseph Kennedy, An Analysis of Similarity Constrained K Shortest Path Problem, Graduate Master Thesis, 2018
- Manuel Grossmann, Knapsack Optimal Portfolio Allocation Using Autoregressive Integrated Moving Average Models, Graduate Master thesis, 2016

- Elizabeth Allgood, Subclinical Hypothyroidism and Risk for Cardiovascular Disease, Undergraduate Honors thesis, 2014
- Thapelo Ncube, Comparison of the Poisson, Conway-Maxwell and Zero-Inflated Poisson Distributions when Modeling Rare Weather Data, Undergraduate Honors thesis, 2014
- Ruth Ashley, The Effects of Cyclists on Traffic Flow, fall 2013

SUMMER UNDERGRADUATE RESEARCH PROGRAM (SURP) SUPERVISION

- Allynn Burns, Modeling Average Summer Precipitation in the Southeastern Region of the United States using Factors which Compound the NASH, summer 2018
- Zackary Bruley, Preliminary Exploratory Analysis on The Effect of the North Atlantic Subtropical High (NASH) on Warm Season Rainfall, summer 2017
- Jonathan Guy, An Evaluation of the Impact of Quizzes and Workshops on the Performance of Students in Calculus I and the Effect of calculus I&II on Stem Retention for Stem Majors at UWF, summer 2016 (Student awarded \$2500)
- Gregg Stubberfield, Factors Affecting Physical Activities in Children: A Structural Equation Modeling Approach, summer 2015 (Student awarded \$2500)

PROSEMINAR SUPERVISION

Undergraduate Research

- Corey Coates, An Application of Yahtzee in Actuarial Science, fall 2012
- Emily Miller, Game Theory in Military Applications, spring 2012
- Tara Matusz, Time Series Analysis: Using Historical Sales Data to Forecast Sales with an Application to Papa John's Pizza, spring 2012
- Garrett Kelsey, Using Markov Chains in Maximum Likelihood Estimates of Disease Progression, fall 2012
- Latonya Harrington, Time to Echelon Care on Military Survival Rates: A Survival Analysis Approach, fall 2012
- Carly Robins, Regression Analysis in the Presence of Outliers, fall 2012
- Ruth Ashley, Queueing Theory and Performance Measurement, spring 2013
- Cynthia Harmon, Monte Carlo Method in Statistical Hypothesis Testing, spring 2013
- Emmi Welicka, Childhood Obesity: Findings From a national Survey, spring 2013
- Djhenne Dalmacy, Time Series Analysis: Forecasting Currency Exchange Rates using ARIMA and Holt Winters Exponential Smoothing, spring 2014

- Elizabeth Allgood, Subclinical Hypothyroidism and Risk for Cardiovascular Disease, spring, 2014
- Thapelo Ncube, Comparison of the Poisson, Conway-Maxwell and Zero-Inflated Poisson Distributions when Modeling Rare Weather Data, spring, 2014justine may
- Derek Smith, Energy Forecasting with Load Research Data (Gulf Power), spring 2015
- Jessica Peters, Mathematical Modeling of U.S. Domestic Commercial Airline Ticket Prices, spring 2015
- Aimee Patterson, Mathematical Modeling of Putting in Golf with AimPoint Technology, spring 2015
- George Green, Vehicle Routing Problem (VRP), spring 2017
- Aymee Garcia Lopez-Gavilan, Classification of Economic Determinations of Domestic Migration in Florida, spring 2017

Graduate Research

- Karmaker Gaurang, Measuring Relative Efficiencies Of Academic Departments At The University Of West Florida Using Data Envelopment Analysis, Spring 2012
- Matthew Schull, Times Analysis: can the ARIMA Approach be used to Model Hurricanes? fall 2012
- Chelsea Lovrekovic, Evacuating Residents in an Emergency: An Application of the Vehicle Routing Problem, Fall 2012
- Justine Liseth, Time Series Analysis with R: Comparison of Forecasts from ARIMA and Holt-Winters Models, fall 2013
- Joshua Mumau, Non Homogeneous Wave Equation with External Forces, spring 2014
- Kelsey Garrett, Mining Health Care Data: A Decision Tree Approach Using Entropy and Information Gain, spring 2015
- Ravi Mummulla, Food Security in Africa: A Time Series Analysis, summer 2015
- Cynthia Harmon, Applications of Bootstrap Methods, fall 2015
- Justine May, Modeling Length of Stay and Readmission for Patients with Chronic and Acute Renal failure, summer 2015
- Craig O'Neill, Control Charts for Defects in Government Purchase Orders and Contracts, summer 2015
- Olasumbo Alayande, Mathematical Proficiency in Elementary School: A Progression Analysis of High School Graduation and College Readiness, fall 2015
- Misty Bozzacco, Statistical Techniques Utilized in Big Data, spring 2016

- Sunshine Marcado, An Application of Queue Theory to Evaluate The Efficiency Of a Toll Plaza, spring 2016
- Djehenne Dalmacy, Factors Affecting Depression in Adults: Analysis form a Survey using Structural Equation Modeling. Spring 2016
- Carly Robins, Classification Methods on Modeling Length of Stay for Elderly Diabetic Adult Patients, spring 2016
- Tom Duffy, A Statistical Analysis of Home Field Advantage in the English Premier League, fall 2018

SERVICE TO UNIVERSITY, COLLEGE, AND DEPARTMENT

- Member, HMCSE College Counsel, August 2018 to present.
- Advisor, Math Association and Pi Mu Epsilon, 2007 – present.
- Member HMCE Student Engagement Faculty Advisory Board (SEFAB)
- Graduate Advisor, Department of Mathematics and Statistics, University of West Florida, Pensacola, Florida, January 2015 – August 2018
- Science Olympiad, coordinator for “Disease Detective” for high school students, 2014, 2015, 2016, 2017.
- Member, Math Department Undergraduate Committee, 2015-present
- Member, Math Department Graduate Committee, 2015-present
- Member, Academic Standards Committee, 2015-2017
- CSE Scholar mentor, 2015 - present
- Member, General Studies Committee, 2014-July 2016
- Member, Assistant Professor Search Committee, Mathematics and Statistics, 2015-2016
- Member, Assistant Professor Search Committee, Psychology Department, 2015-2016
- Member, Assistant Professor Search Committee, Department of Public Health, 2014-2015
- Member, Lecturer Search Committee, Mathematics and Statistics, 2015-2016
- Member, International Committee, 2012-2014
- Undergraduate Advisor, Department of Mathematics and Statistics, University of West Florida, Pensacola, Florida, January 2001 - 2007.
- Retention Officer, College of Arts and Science, University of West Florida, Pensacola, Florida, January 2000 – 2005.

- Member, Academic Standards Committee, 2009 – 2011.
- Chair, Math Department Undergraduate Committee 2009-2010.
- Chair, Library Committee, 2007-2009
- Member/Chair Proseminar Committee, 2007-2011.
- Member MAA Conference Committee, 2009 – 2011
- Chair MAA Conference Committee 2011-2012

TEACHING

Undergraduate

- College Algebra
- Precalculus Algebra
- Intermediate Algebra
- Math For Liberal Arts
- Elements of Statistics
- Calculus with Business Applications
- Quantitative Methods for Business
- Analytic Geometry and Calculus I
- Analytic Geometry and Calculus II
- Analytic Geometry and Calculus III
- Differential Equations
- Discrete Math
- Mathematical Statistics I
- Mathematical Statistics II
- Matrix and Numerical Methods in Systems Engineering
- Biostatistics
- Applied Statistics
- Proseminar Research Topics

Graduate

- Regression Analysis

- Analysis of Variance
- Reliability Theory
- Biostatistics
- Operations Research I
- Operations Research II
- Statistical Quality Control
- Design and Analysis of Experiment
- Stochastic Processes
- Optimization Theory
- Mathematical Statistics II

PROFESSIONAL SOCIETIES

- APHA, American Public Health Association
- SIAM, Society for Industrial and Applied Mathematics

PROFESSIONAL DEVELOPMENT

- HMCSE Summer Faculty Workshop, Summer 2017
- Broadening Participation Workshop, summer 2015

Online QM Certification (2016)

- Designing a Quality Online Course
- Teaching a Quality Online Course

National Institute of Health (NIH) (2016)

- Certified in “Principles and Practice of Clinical Research”

Samantha R. Seals, PhD

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Education

August 2013	PhD, Biostatistics University of Alabama at Birmingham Advisor: Inmaculada Aban, PhD
August 2008	MS, Mathematical Sciences University of West Florida Advisor: Raid Amin, PhD
May 2006	BS, Mathematics University of West Florida Advisor: Rohan Hemasinha, PhD

Academic Employment

August 2018-Present	Assistant Professor Department of Mathematics and Statistics University of West Florida
August 2016-July 2018	Visiting Assistant Professor Department of Mathematics and Statistics University of West Florida

September 2013-July 2016 Biostatistician III
Center of Biostatistics and Bioinformatics
Department of Data Science
University of Mississippi Medical Center

August 2008-August 2013 T32 Predoctoral Fellow
Department of Biostatistics
University of Alabama at Birmingham

August 2007-August 2008 Graduate Teaching Assistant
Department of Mathematics and Statistics
University of West Florida

Teaching Experience

University of West Florida

STA6990	Advanced Statistical Modeling	Summer 2017, 2018
STA6246	Design and Analysis of Experiments	Spring 2017, 2018
STA5176	Statistical Modeling	Fall 2016, 2017, 2018 Spring 2017, 2018, 2019 Summer 2017
STA4173	Biostatistics	Fall 2018 Spring 2019 Summer 2018

STA4222 Sampling Theory Spring 2018, 2019

STA2023 Elements of Statistics Fall 2016, 2017
Spring 2017

STA5905 Directed Study: Advanced Modeling for Social Scientists Fall 2018

GEO6905 Directed Study: Statistical Modeling in MATLAB Spring 2018

MAC1105 College Algebra Fall 2007
Spring 2008
Summer 2008

University of Mississippi Medical Center

CONJ625 Fundamentals of Epidemiology and Biostatistics: Interpreting the Medical Literature Spring 2014, 2015

ID717 Special Topics: Introduction to Clinical Trials Fall 2014, 2015

ID740B Statistical Methods in Research Fall 2015
Spring 2016

University of Alabama at Birmingham (TA)

QM214 Quantitative Analysis I Fall 2013

EC420 Applied Forecasting Fall 2013

Software Proficiencies

Statistics

Typesetting

Publications

38. Frascogna MN, Merkle E, Dowdy K, **Seals S**. "The Effect of Pediatric Early Warning System Scoring Upon Admission from the Pediatric Emergency Department on Emergency Response Calls," *Pediatric Emergency Care*, accepted.
37. Ramsey LH, Graves PE, Sharp KMH, **Seals SR**, Collier AB, Karlson CW. "Impact of Race, Socioeconomic Status, and Access to Care on Medical and Psychological Outcomes in Pediatric Oncology," *Journal of Pediatric Hematology and Oncology*, accepted.
36. Okhomina VI*, **Seals SR***, Marshall GD. "Recruitment and Enrollment of African Americans from the Jackson Heart Study into Health Promoting Programs," *Ethnicity and Health*, accepted. * indicates co-first authors
35. Okhomina VI*, **Seals SR***, Anugu P, Adu-Boateng G, Sims M, Marshall GD. "Adherence and Retention of African Americans in a Randomized Controlled Trial with a Yoga-Based Intervention: The Effects of Health Promoting Programs on Cardiovascular Disease Risk Study," *Ethnicity and Health*, accepted. * indicates co-first authors
34. Hyacinth HI, Carty CL, **Seals SR**, Irvin MR, Naik RP, Burke GL, Zakai NA, Winkler CA, David VA, Kopp J, Judd SE, Adams RJ, Epstein MP, Longstreth Jr WT, Egede L, Lackland DT, Greenberg CS, Taylor H, Manson JE, Howard V, Allison M, Gee BE, Correa A, Safford MM, Arnett DK, Howard G, Wilson JG, Cushman M, Reiner AP. "Association of Sickle Cell Trait With Ischemic Stroke Among African Americans: A Meta-Analysis," *JAMA: Neurology*, 2018, 75(7): 802-807.
33. Sorrel J, Bishop CE, Spankovich C, Su D, Valle K, **Seals S**, Schweinfurth J. "Relationship of Stroke Risk and Hearing Loss in African Americans: The Jackson Heart Study," *Laryngoscope*, 2018, 128(6): 1438-1444.
32. Ordemann AG, Hartzog AJ, **Seals SR**, Spankovich C, Stringer SP. "Is Weight a Predictive Risk Factor of Post-Operative Tonsillectomy Bleed?" *Laryngoscope Investigative Otolaryngology*, 2018, 3(3): 238-243.
31. Bromfield SG, Booth III JN, Loop M, Schwartz JE, **Seals SR**, Thomas SJ, Min YI, Ogedegbe G, Shimbo D, Muntner P. "Evaluating Different Criteria for Defining a

Complete Ambulatory Blood Pressure Monitoring Recording: Data from the Jackson Heart Study,” *Blood Pressure Monitoring*, 2018, 23(2): 103-111.

30. Ilunga Tshiswaka D, **Seals SR**, Raghavan P. “Correlates of Physical Function among Stroke Survivors: An Examination of the 2015 BRFSS,” *Public Health*, 2018, 155: 17-22.

29. Patterson GD, Mashegu H, Rutherford J, **Seals S**, Josey D, Karlson C, McNaull M, May W, Carroll C, Barr FE, Majumdar S. “Recurrent Acute Chest Syndrome in Pediatric Sickle Cell Disease: Clinical Features and Risk Factors,” *Journal of Pediatric Hematology/Oncology*, 2018, 40(1): 51-55.

28. Herman R, Muncie C, **Seals SR**, Sawaya D, Berch B, Blewett C. “Analysis of the Financial Benefit of Same Day Appendectomy,” *The American Surgeon*, 2017, 83(9): E351-E353.

27. Desai J, Aggarwal S, Lipshultz S, Ggarwal P, Yigazu P, Patel R, **Seals S**, Natarajan G. “Surgical Interventions in Infants Born Preterm with Congenital Heart Defects: An Analysis of the Kids' Inpatient Database,” *The Journal of Pediatrics*, 2017, 191: 103-109.

26. Helling T, Soltys D, **Seals S**. “Operative versus Non-operative Management in the Care of Patients with Complicated Appendicitis,” *The American Journal of Surgery*, 2017, 214(6): 1195-1200.

25. Tanner RM, Shimbo D, Irvin MR, Spruill T, Bromfield S, **Seals SR**, Young BA, Muntner P. “Chronic Kidney Disease and Incident Apparent Treatment-resistant Hypertension among African Americans: Data from the Jackson Heart Study,” *The Journal of Clinical Hypertension*, 2017, 19(11): 1117-1124.

24. Tajeu GS, Booth III JN, Gottesman R, Howard G, Lackland DT, O'Brien E, Oparil S, Ravenell J, Safford MM, **Seals SR**, Shimbo D, Shea S, Spruill T, Tanner RM, Muntner P. “Incident Cardiovascular Disease among Adults with Blood Pressure \leq 140/90 mmHg,” *Circulation*, 2017, 136(10): 798-812.

23. Aru RG, Songcharoen SJ, **Seals SR**, Arnold PB, Hester RL. “Microcirculatory Effects of Botulinum Toxin A in the Rat: Acute and Chronic Vasodilation,” *Annals of Plastic Surgery*, 2017, 79(1): 82-85.

22. House L, **Seals SR**, Stringer SP. “Correlation of Frontal Sinus Recess Anatomy with Ethnicity, Gender, and Pathology,” *American Journal of Otolaryngology--Head and Neck Medicine and Surgery*, 2017, 38(4): 452-455.

21. Whitlock R, **Seals SR**, Seawright A, Wynn JJ, Anderson CD, Earl TM. “Socioeconomic Factors Associated with Readmission after Deceased Donor Renal Transplantation,” *The American Surgeon*, 2017, 83(7): 755-760.

20. Thomas SJ, Booth III JN, Bromfield SG, **Seals SR**, Spruill TM, Ogedebge G, Kidambi S, Shimbo D, Calhoun D, Muntner P. "Clinic and Ambulatory Blood Pressure in a Population-Based Sample of African Americans: The Jackson Heart Study," *Journal of the American Society of Hypertension*, 2017, 11(4): 204-212.
19. Sterling SA, **Seals SR**, Jones AE, King MH, Galli RL, Isom KC, Summers RL, Henderson KA. "The Impact of the TelEmergency Program on Rural Emergency Care: An Implementation Study," *Journal of Telemedicine and Telecare*, 2017, 23(6): 588-594.
18. Witherow MP, Chandraiah S, **Seals SR**, Sarver DE, Parisi KE, Bugan A. "Relational Intimacy Mediates Sexual Outcomes Associated with Female Sexual Dysfunction: Examination in a Clinical Sample," *Journal of Sexual Medicine*, 2017, 14(6): 843-851.
17. Lirette ST, **Seals SR**, Blackshear C, May W. "Capturing a Stata Dataset and Releasing it into REDCap," *The Stata Journal*, 2017, 17(1): 130-138.
16. Diaz KM, Booth III JN, **Seals SR**, Abdalla M, Dubbert PM, Sims M, Ladapo J, Redmond N, Muntner P, Shimbo D. "Physical Activity and Incident Hypertension in African Americans: The Jackson Heart Study," *Hypertension*, 2017, 69(3): 421-427.
15. Bress AP, Colantonio LD, Booth JN, Spruill T, Ravenell J, Butler M, Shallcross A, **Seals SR**, Ogedegbe O, Shimbo D, Muntner P. "Modifiable Risk Factors versus Age on Developing High Predicted Cardiovascular Disease Risk in African Americans," *Journal of the American Heart Association*, 2017, 6(2): 1-9.
14. Bello NA, Hyacinth HI, Roetker NS, **Seals SR**, Naik RP, Derebail VK, Kshiragar AV, Key NS, Wilson JG, Robert AJ, Egede LD, Longstreth W, Choudhary G, Gee BE, Hughes AL, Shah AM, Manson JE, Allison M, Burke GL, Folsom AR, Carty CL, Reiner AP, Solomon SD, Konety SH. "Sickle Cell Trait is Not Associated with an Increased Risk of Heart Failure or Abnormalities of Cardiac Structure and Function," *Blood*, 2017, 129(6): 799-801.
13. **Seals SR**, Aban IB. "Analysis of the 17-Segment Left Ventricle Model using Generalized Estimating Equations," *Journal of Nuclear Cardiology*, 2016, 23(5): 1110-1111.
12. **Seals SR**, Katholi CR, Zhang J, Aban IB. "Evaluating the Use of Spatial Covariance Structures in the Analysis of Cardiovascular Imaging Data," *Communications in Statistics-Simulation and Computation*, 2016, 45(9): 3149-3170.
11. Booth III JN, Diaz KM, **Seals SR**, Sims M, Ravenell J, Muntner P, Shimbo D. "Masked Hypertension and Cardiovascular Disease Events in a Prospective Cohort of Blacks: The Jackson Heart Study," *Hypertension*, 2016, 68(2): 501-510.
10. Abdalla M, Booth III JN, **Seals SR**, Viera AJ, Diaz KM, Sims M, Muntner P, Shimbo D. "Masked Hypertension and Incident Clinic Hypertension among African Americans in the Jackson Heart Study," *Hypertension*, 2016, 68(1): 220-226.

9. Scott JS, Sterling SA, To H, **Seals SR**, Jones AE. "Diagnostic Performance of Matrix-Assisted Laser Desorption Ionization Time-of-Flight Mass Spectrometry in Blood Bacterial Infections: A Systematic Review and Meta-analysis," *Infectious Diseases*, 2016, 48(7): 530-536.
8. Witherow MP, Chandriah S, **Seals SR**, Bugan A. "Relational Intimacy and Sexual Frequency: A Correlation or a Cause? A Clinical Study of Heterosexual Married Women," *Journal of Sex and Marital Therapy*, 2016, 42(3): 227-286.
7. Dodge-Khatami J, Dodge-Khatami A, Knudson J, **Seals SR**, Aggarwal A, Taylor MB, Salazar JD. "Alternative Strategies in Newborns and Infants with Major Comorbidities to Improve Congenital Heart Surgery Outcomes at an Emerging Programme," *Cardiology in the Young*, 2016, 26(3): 485-492.
6. Diaz KM, Booth JN, **Seals SR**, Hooker SP, Sims M, Dubbert PM, Muntner P, Shimbo D. "Sedentary Behavior and Subclinical Atherosclerosis in African Americans: Cross-Sectional Analysis of the Jackson Heart Study," *International Journal of Behavioral Nutrition and Physical Activity*, 2016, 13(31): 1-9.
5. Tanner RM, Shimbo D, **Seals SR**, Ogedegbe G, Muntner P. "White-Coat Effect Among Older Adults: Data From the Jackson Heart Study," *Journal of Clinical Hypertension*, 2016, 18(2): 139-145.
4. Dodge-Khatami A, Chancellor WZ, Gupta B, **Seals SR**, Ebeid MR, Batlivala SP, Taylor MB, Salazar JD. "Achieving Benchmark Results for Neonatal Palliation of Hypoplastic Left Heart Syndrome and Related Anomalies in an Emerging Program," *World Journal for Pediatric and Congenital Heart Surgery*, 2015, 6(3): 393-400.
3. George B, **Seals S**, Aban I. "Survival Analysis and Regression Models," *Journal of Nuclear Cardiology*, 2014, 21(4): 686-694.
2. Wetta LA, Szychowski JM, **Seals S**, Mancuso M, Hauth J, Tita AT. "Risk Factors for Uterine Atony or Postpartum Hemorrhage Requiring Treatment after Vaginal Delivery," *American Journal of Obstetrics and Gynecology*, 2013, 209(1): 51.e1-51.e6.
1. Albright KC, Boehme AK, Hicks W, **Seals S**, Bursaw W, Mullen MT, Grotta JC, Savitz SI. "Changing Demographics at a Comprehensive Stroke Center amidst the Rise in Primary Stroke Centers," *Stroke*, 2013, 44(4): 1117-1123.

Submitted Manuscripts

Seals SR, Colantonio LD, Tingle JV, Shimbo D, Correa A, Griswold ME, Muntner P. "Calibration of Blood Pressure Measurements in the Jackson Heart Study," submitted to *Blood Pressure Monitoring*.

Parisi KE, **Seals SR**, De Nadai A, Sarver NW. "Readiness for Change Predicts Attrition, Recidivism among Maltreating Parents: Standard Care versus Parent-Child Interaction Therapy," submitted to *Journal of Child and Family Studies*.

Bishop CE, Spankovich C, Lin FR, **Seals SR**, Su D, Valle K, Schweinfurth JM. "Audiologic Profile of the Jackson Heart Study Cohort and Comparison to Other Cohorts," submitted to *JAMA Otolaryngology-Head & Neck Surgery*.

Perkins RD, **Seals SR**. "Entrepreneurial Branding Strategy, Brand Elements and Growth," submitted to *Journal of Research in Marketing and Entrepreneurship*.

Smith TB*, Clark LK, **Seals SR**. "Defining Success in Public Archaeology Evaluation," submitted to *Public Archaeology*. * indicates student lead author

Yano Y, Tanner RM, Jaeger B, Booth III JN, Abdalla M, Pugliese D, **Seals SR**, Ogedegbe G, Jones DW, Muntner P, Shimbo D. "The Association Between Nighttime Blood Pressure and Cardiovascular Disease Events among African Americans in the Jackson Heart Study," submitted to *JAMA Cardiology*.

Manuscripts in Preparation

Seals SR, Lee JE*, Katholi CR, Aban IB. "A Family of Covariance Structures for Clustered Data with Applications to Clinical Data," in preparation. * indicates student co-authors

Ah Mu T*, Wisdom MA*, **Seals SR**, Ilunga Tshiswaka D. "Factors Affecting Fertility Rates of Rwandan Women," in preparation. * indicates student lead and co-authors

Sterling SA, Frischhertz V, Lewis T, Shollar RM*, **Seals SR**, Moriarity RS, Summers RL, Thompson J. "The Effect of Obesity on Blunt Traumatic Cervical Spine Injuries," in preparation. * indicates student co-author

Khakzad S, Thomin M, Burchette S*, **Seals SR**. "Heritage Tourism in Florida: A Choice Between the Beach and Cultural Heritage," in preparation. * indicates student co-author

Moore AL*, Hyacinth HI, **Seals SR**. "Knowledge of Stroke and Heart Attack Symptoms and Intent to Call 911: A Study of African American REACH and BRFSS Participants," in preparation. * indicates student lead author

Davis BS*, Moore AL*, Hyacinth HI, **Seals SR**. "Association of Obesity with Health Behaviors among African Americans in the 'Buckle' of the Stroke Belt," in preparation. * indicates student lead and co-authors

Perkins RD, **Seals SR**. “Exploring Entrepreneurial Vision and Growth: A Multi-Case Study,” in preparation.

Porter IM*, Stoker G*, **Seals SR**, Drollinger S, Schutte H, Rice G. “Human Papilloma Virus Vaccination Compliance in a Military Aviation Training Community,” in preparation.

* indicates student lead and co-authors

Presentations: Statistical

17. Smith TB*, Hernandez K, Clark LK, **Seals SR**. “Defining Success in Public Archaeology Evaluation,” Conference on Historical and Underwater Archaeology, January 2018. * indicates student lead author

16. **Seals SR**. “Methods for the Calibration of Longitudinal Data: An Example from the Jackson Heart Study,” University of West Florida, Department of Mathematics and Statistics Colloquium Series, October 2017.

15. **Seals SR**. “Statistics in Research,” Guest Lecture for GEO6118: Research Design in the Department of Earth and Environmental Science, University of West Florida, March 2017.

14. **Seals SR**. “An Introduction to Biostatistics and Research,” University of Mississippi Medical Center, Department of Otolaryngology Research Meeting, March 2016.

13. **Seals SR**. “An Introduction to Statistics in the Medical Literature,” University of Mississippi Medical Center, Department of Dermatology Grand Rounds, November 2015.

12. **Seals SR**. “Controlling Type I Error Rate in Clinical Trials,” University of Mississippi Medical Center, Center of Biostatistics and Bioinformatics Team Working Group Meeting, September 2015.

11. **Seals SR**, Katholi CR, Aban IB. “Modeling Imaging Data Using a Generalized Linear Model with a New Family of Covariance Structures for Clustered Data,” the 17th Meeting of New Researchers in Statistics and Probability, August 2015.

10. **Seals SR**. “Statistical Analysis of the 17--Segment Left Ventricle Model using Generalized Linear Models,” University of Mississippi/University of Mississippi Medical Center Research Day, April 2015.

9. **Seals SR**. “The p -value: Friend or Foe?” University of Mississippi Medical Center, Center of Biostatistics and Bioinformatics Grand Rounds, March 2015.

8. **Seals SR**. “Evidence-Based Dermatology: An Overview of Statistical Inference,” University of Mississippi Medical Center, Department of Dermatology Grand Rounds, November 2014.

7. **Seals SR**, Katholi CR, Aban IB. "A Proposed Family of Covariance Structures for Clustered Data," Joint Statistical Meetings, Boston, MA, August 2014.
6. **Seals SR**. "Analysis of Subjects with Multiple Observations," University of Mississippi Medical Center, Center of Biostatistics and Bioinformatics Grand Rounds, July 2013.
5. **Seals SR**. "Spatial Analysis of Cardiovascular MRI Data," University of Mississippi Medical Center, Center of Biostatistics and Bioinformatics Grand Rounds, July 2013.
4. **Seals SR**. "Modeling the Covariance of Grouped Spatial Data," University of Alabama at Birmingham Section on Statistical Genetics Annual Retreat, April 2013.
3. **Seals SR**, Katholi CR, Zhang J, Aban IB. "Evaluating the Use of Spatial Covariance Structures in the Analysis of Cardiovascular Imaging Data," University of Alabama at Birmingham Graduate School Research Days, February 2013. *Awarded 1st place, Mathematics and Computer & Information Sciences.*
2. **Seals SR**, Katholi CR, Zhang J, Aban IB. "Evaluating the Use of Spatial Covariance Structures in the Analysis of Cardiovascular Imaging Data," Annual Meeting of the Florida Chapter of the American Statistical Association, Pensacola, FL, February 2013.
1. **Seals SR**, Katholi CR, Aban IB. "Spatial Analysis of Cardiovascular Data: A Simulation Study," Joint Statistical Meetings, San Diego, CA, July 2012.

Presentations: Collaborative

26. Khakzad S, Thomin M, **Seals S**, Burchette S*. "Heritage Tourism in Florida: A Choice Between the Beach and Cultural Heritage," Conference on Historical and Underwater Archaeology, January 2018. * indicates student co-author
25. Sterling SA, Frischhertz V, Lewis T, Shollar RM*, **Seals SR**, Moriarity RS, Summers RL, Thompson J. "The Effect of Obesity on Blunt Traumatic Cervical Spine Injuries," the Society for Academic Emergency Medicine, May 2017. * indicates student co-author
24. Hyacinth HI, Carty C, **Seals SR**, Irvin MR, Naik RP, Caughey M, Franchescini N, Burke GL, Zakai NA, Winkler C, Kopp J, Judd SE, Adams RJ, Gee BE, Longstreth Jr. WT, Egede L, Lackland DT, Greenberg CS, Taylor H, Manson JE, Key NS, Derebail VK, Kshirsagar AV, Folsom A, Konety SH, Howard V, Allison M, Wilson JG, Zhi D, Arnett DK, Howard G, Cushman M, Reiner AP, Safford MM. "Sickle Cell Trait is a Risk Factor for Coronary Heart Disease in African Americans," the American Society for Hematology, December 2016.
23. Aru RG*, Songcharoen SJ, **Seals SR**, Arnold PB, Hester RL. "Microcirculatory Effects on Botulinum Toxin A in the Rat: Acute and Chronic Vasodilation," University of Mississippi Medical Center's James D. Hardy Lectureship Series, June 2016. * indicates student lead author

22. Aru M*, **Seals S**, Ingram B, Seawright A, Anderson C, Earl T. "African Americans Have Greater Odds of Late Stage Diagnosis of Hepatocellular Carcinoma in Mississippi," University of Mississippi Medical Center's James D. Hardy Lectureship Series, June 2016. * indicates student lead author
21. Mahoney M, Horn K, Saunders R, **Seals S**, Martin L, Risher RE, Robertson TE. "Implementation of Glass Door Communication Board Did Not Improve Surveyed Opinions of Communications," University of Mississippi Medical Center's James D. Hardy Lectureship Series, June 2016.
20. Ordemann AG, Crews W, Sathyamoorthy M, **Seals S**, Carron J. "Effect of Intravenous Acetaminophen (Ofirmev) on Perioperative Morphine Use and Discharge Readiness in Pediatric Tonsillectomy," Combined Otolaryngology Spring Meetings, May 2016.
19. Patterson GD, Mashegu H, Rutherford J, **Seals SR**, Josey D, Rhodes M, Karlson C, Barr F, Majumdar S. "Risk Factors for Recurrent Acute Chest Syndrome in Pediatric Sickle Cell Disease: A Single Institution's Experience," National Sickle Cell Disease Scientific Meeting, April 2016.
18. Mahoney M, Horn K, Saunders R, **Seals S**, Martin L, Risher RE, Robertson TE. "Implementation of Glass Door Communication Board Did Not Improve Surveyed Opinions of Communications," 45th Critical Care Congress, February 2016.
17. Songcharoen SJ, Daggett A*, **Seals SR**, Taeprasartsit P, Kiranantawat K, Arnold PB. "Extended Testing of the First Smartphone Application for Microsurgery Monitoring," Plastic Surgery: The Meeting, October 2015. * indicates student co-author
16. Pavlov A*, Songcharoen SJ, **Seals SR**, Arnold PB. "Relationship of Reduction Weight and Body Surface Area as Predictors of Complications after Breast Reduction Surgery," the Southeastern Society of Plastic and Reconstructive Surgeons' scientific meeting, June 2015. * indicates student lead author
15. Ingram BD, **Seals SR**, Martin MD, Anderson CD, Earl TM. "Race Predicts Late Stage Diagnosis of HCC in Mississippi," University of Mississippi Medical Center's James D. Hardy Surgical Forum, May 2015.
14. Moore EK, **Seals SR**, Jones AE, Robertson TE. "Factors Affecting Time of Consultation to Time of Admission for Surgical Consultations in the Emergency Department," University of Mississippi Medical Center's James D. Hardy Surgical Forum, May 2015.
13. Sparkman BK, Hughes T, Blaudeau E, **Seals S**, Martin LC. "Outcomes of Patients with Suspected Hollow Viscous Injury from Computed Tomography Scans Suffering from Blunt Abdominal Trauma," University of Mississippi Medical Center's James D. Hardy Surgical Forum, May 2015.

12. Demerath EW, **Seals SR**, Griswold ME, Pettee Gabriel K, Pompeii L, Windham BG. "Association of Early Age at Natural Menopause with Objectively-Measured Physical Function in 4,723 Older Women in the Atherosclerosis Risk in Communities (ARIC) Study," American Geriatrics Association Annual Meeting, May 2015.
11. Songcharoen SJ, Aru RG*, **Seals SR**, Arnold PB, Hester RL. "Microcirculatory Effects of Botulinum Toxin A in the Rat: Acute and Chronic Vasodilation," American Association of Plastic Surgeons Annual Meeting, April 2015. * indicates student co-author
10. Songcharoen SJ, Aru RG*, **Seals SR**, Arnold PB, Hester RL. "Microcirculatory Effects of Botulinum Toxin A in the Rat: Acute and Chronic Vasodilation," 2015 Meeting of the James D. Hardy Society, April 2015. * indicates student co-author
9. Pavlov AK*, Songcharoen SJ, **Seals SR**, Arnold PB. "Relationship of Reduction Weight and Body Surface Area as Predictors of Complications after Breast Reduction Surgery," University of Mississippi Medical Center Research Day Oral Presentation Competition, March 2015. * indicates student lead author
8. Frascogna MN, Merkle E, Dowdy K, **Seals S**. "The Effect of Pediatric Early Warning System Scoring Upon Admission from the Pediatric Emergency Department on Emergency Response Calls," Southern Society for Pediatric Research, February 2015.
7. Gupta B, Dodge-Khatami A, **Seals SR**, Tucker J, Taylor MB, Maposa D, Salazar JD. "Complex Aortic Arch Reconstruction using Moderate Hypothermia and Antegrade Cerebral Perfusion in Newborns and Children," The Society of Thoracic Surgeons Annual Meeting, January 2015.
6. Clark JM, **Seals SR**, Songcharoen J, Arnold P. "The Effects of Insurance and Access to Healthcare on Outcomes in Zone 2 Injuries," American Association for Hand Surgery Annual Meeting, January 2015.
5. Whitlock R*, Stanford E*, Smith D, **Seals S**, Subramony C, Abell T, Lahr C. "Temp-Perm vs. Perm-Only Gastric Electrical Stimulation for Gastroparesis," North American Neuromodulation Society's Annual Meeting, December 2014. * indicates student lead and co-authors
4. Whitlock R*, Abell T, Sanford E*, **Seals S**, Smith D, Subramony C, Lahr C. "Electrogastrogram Predicts Response to Neuromodulation," Canadian Neuromodulation Society's Annual Meeting, December 2014. * indicates student lead and co-authors
3. Whitlock R*, Sanford E*, **Seals S**, Smith D, Subramony C, Abell T, Lahr C. "Predictors of Pain Improvement in Gastric Neuromodulation," Napa Pain Conference, September 2014. * indicates student lead and co-authors

2. Gambrell K, Helling T, **Seals S**, "Initial Emergency Department Presentations of Colorectal Cancer at University of Mississippi Medical Center," University of Mississippi Medical Center's James D. Hardy Surgical Forum, June 2014.

1. Albright KC, Boehme AK, Hicks W, **Seals S**, Bursaw W, Mullen MT, Grotta JC, Savitz SI. "Impact of Primary Comprehensive Stroke Centers," International Stroke Conference, New Orleans, LA, January 2012.

Presentations: Posters

38. Moore TJ*, Moore AL*, **Seals SR**. "Preventive Service Use by Sexual Orientation: Results from the 2016 Behavioral Risk Factor Surveillance System," the American Public Health Association Annual Meeting, November 2018. * indicates student lead and co-authors

37. Stoker G*, Porter IM*, **Seals S**, Drollinger S, Schutte H, Rice G. "Human Papilloma Virus Vaccination Compliance in a Military Aviation Training Community (Part II): Self-Reported Barriers," the Aerospace Medical Association's Scientific Meeting, May 2018. * indicates student lead and co-authors

36. Porter IM*, Stoker G*, **Seals S**, Drollinger S, Schutte H, Rice G. "Human Papilloma Virus Vaccination Compliance in a Military Aviation Training Community (Part I)," the Aerospace Medical Association's Scientific Meeting, May 2018. * indicates student lead and co-authors

35. Davis BS*, Moore AL*, Hyacinth HI, **Seals SR**. "Association of Obesity with Health Behaviors among African Americans in the 'Buckle' of the Stroke Belt," UWF's Student Symposium, April 2018. * indicates student lead and co-authors

34. Adolphe R*, Baldwin K*, Nguyen A*, Zatopkova K*, Han G, **Seals S**. "The Effect of Off-Topic Activities in Class on Sleepiness Level and Learning Performance During Lectures," UWF's Student Symposium, April 2018. * indicates student lead and co-authors

33. Coalson A*, **Seals SR**. "A Retrospective Investigation into Live Discharges at a Hospice Organization," UWF's Student Symposium, April 2018. * indicates student lead and co-authors

32. Davis BS*, Moore AL*, Hyacinth HI, **Seals SR**. "Association of Obesity with Health Behaviors among African Americans in the 'Buckle' of the Stroke Belt," the National Conference on Undergraduate Research, April 2018. * indicates student lead and co-authors

31. Adolphe R*, Baldwin K*, Nguyen A*, Zatopkova K*, Han G, **Seals S**. "The Effect of Off-Topic Activities in Class on Sleepiness Level and Learning Performance During

Lectures,” the National Conference on Undergraduate Research, April 2018. * indicates student lead and co-authors

30. Porter IM*, Stoker G*, **Seals SR**, Drollinger S, Schutte H, Rice G. “Human Papilloma Virus Vaccination Compliance in a Military Aviation Training Community,” submitted to the Navy and Marine Corps Public Health Center's Public Health Conference, March 2018. *Awarded 1st place in the trainee category.* * indicates student lead and co-authors

29. Moore TJ*, Moore AL*, Okafor A, Memiah P, **Seals SR**. “Adult Asthma: Disparities and Association between Comorbidities and Accessing Emergency Care,” American Public Health Association Annual Meeting, November 2017. * indicates student lead and co-authors

28. Moore TJ*, Moore AL*, Okafor A, Memiah P, **Seals SR**. “Adult Asthma: Disparities and Association between Comorbidities and Accessing Emergency Care,” the University of West Florida's Symposium on Health Professions, October 2017. * indicates student lead and co-authors

27. Sorrel J, **Seals SR**, Bishop CE, Spankovich C, Schweinfurth J. “Relationship of Stroke Risk and Hearing Loss in African Americans,” Combined Otolaryngology Spring Meeting, April 2017.

26. Herman R, Muncie C, **Seals SR**, Blewett C. “Analysis of the Financial Benefit of Same Day Appendectomy,” Annual Scientific Meeting of the Southeastern Surgical Congress, February 2017.

25. Moore LE, Marshall GD, **Seals SR**, Rodriguez RJ, Yates AB, Dave N. “Assessment of Pediatric Asthma Care by Primary Care Providers in Mississippi Using an Online Questionnaire,” Annual Scientific Meeting of the American College of Allergy, Asthma, and Immunology, November 2016.

24. Thomas SJ, Booth III JN, Bromfield S, **Seals SR**, Spruill T, Ogedebge G, Kidambi S, Shimbo D, Calhoun D, Muntner P. “Prevalence of Ambulatory Blood Pressure Monitoring Phenotypes in a Population-Based Sample of African Americans: The Jackson Heart Study,” Annual Meeting of the Sleep Research Network, October 2016.

23. Karlson C, Graves PE, Sharp KMH, **Seals SR**, Collier A. “Racial and Socioeconomic Impact on Pediatric Oncology Outcomes in Mississippi,” 48th Congress of the International Society of Paediatric Oncology, October 2016.

22. Tajeu GS, Booth JN, Gottesman RF, Howard G, Lackland DT, Oparil S, Ravenell J, Safford MM, **Seals SR**, Shimbo D, Shea S, Spruill T, Tanner RM, Muntner P. “Incident Cardiovascular Disease among Adults with Blood Pressure < 140/90 mm Hg,” the University of Alabama at Birmingham's 27th Annual Vascular Biology & Hypertension Symposium, September 2016.

21. Thomas SJ, Booth III JN, Bromfield S, **Seals SR**, Spruill T, Ogedebge G, Kidambi S, Shimbo D, Calhoun D, Muntner P. "Prevalence of Ambulatory Blood Pressure Monitoring Phenotypes in a Population-Based Sample of African Americans: The Jackson Heart Study," Council on Hypertension Meeting, September 2016.
20. Thomas SJ, Booth III JN, Bromfield S, **Seals SR**, Spruill T, Ogedebge G, Kidambi S, Shimbo D, Calhoun D, Muntner P. "Prevalence of Ambulatory Blood Pressure Monitoring Phenotypes in a Population-Based Sample of African Americans: The Jackson Heart Study," American Heart Association's Strategically Focused Research Network Meeting, September 2016.
19. Aru M*, **Seals S**, Ingram B, Seawright A, Anderson C, Earl T. "African Americans Have Greater Odds of Late Stage Diagnosis of Hepatocellular Carcinoma in Mississippi," American Transplant Congress, June 2016. * indicates student lead authors
18. Hardy ET, Schober LL, Richardson MA, Replogle WH, **Seals SR**, Jordan JR. "Transconjunctival Approach to the Orbit: A Modified Technique," Combined Otolaryngology Spring Meeting, May 2016.
17. Ordemann AG, Hartzog AJ, **Seals S**, Spankovich C, Stringer SP. "Is Weight a Predictive Risk Factor of Post-Operative Tonsillectomy Bleed?" Combined Otolaryngology Spring Meetings, May 2016.
16. Aru M*, **Seals S**, Ingram B, Seawright A, Anderson C, Earl T. "African Americans Have Greater Odds of Late Stage Diagnosis of Hepatocellular Carcinoma in Mississippi," University of Mississippi Medical Center Department of Medicine Research Day, April 2016. * indicates student lead author
15. Fischer KE, **Seals SR**, Sarver NW. "Parents' Readiness to Change Predicts Child Anxiety and Depression Outcomes among Physically Abusive Parents," Anxiety and Depression Conference, April 2016.
14. Booth III JN, Diaz K, **Seals S**, Sims M, Ravenell J, Muntner P, Shimbo D. "Masked Hypertension is Associated with Cardiovascular Disease Events in African Americans: The Jackson Heart Study," the American Heart Association's Epidemiology and Prevention: Lifestyle and Cardiometabolic Health Scientific Sessions, March 2016.
13. Songcharoen SJ, Clark JM, Aru R*, Williamson R, Roach M, **Seals SR**, Arnold P, Songcharoen S. "Biochemical Effects of Sagittal Band Continuity on Extension at the Metacarpophalangeal Joint," American Association for Hand Surgery's Annual Meeting, January 2016. * indicates student co-author
12. Booth III JN, Abdalla M, Diaz K, **Seals S**, Sims M, Ravenell J, Muntner P, Shimbo D. "Masked Hypertension and Cardiovascular Disease Events and Mortality in African Americans: The Jackson Heart Study," the University of Alabama at Birmingham's 26th Annual Vascular Biology & Hypertension Symposium, September 2015.

11. **Seals SR**, Katholi CR, Aban IB. "Modeling Imaging Data Using a Generalized Linear Model with a New Family of Covariance Structures for Clustered Data," the 17th Meeting of New Researchers in Statistics and Probability, August 2015.
10. Wilkening S*, Windham BG, **Seals S**, Coker L, Knopman D, Gottesman R, Griswold M, Mosley T. "MRI Predictors of Cognitive Decline over 20 Years," The American College of Physicians Internal Medicine Meeting, May 2015. * indicates student lead author
9. Wilkening S*, Windham BG, **Seals S**, Coker L, Knopman D, Gottesman R, Griswold M, Mosley T. "MRI Predictors of Cognitive Decline over 20 Years," The American Geriatrics Society's Annual Meeting, May 2015. * indicates student author
8. Tanner RM, Shimbo D, **Seals S**, Ogedegbe G, Muntner P. "Clinic versus Out-of-Clinic Daytime Blood Pressure Among Older Adults: Data from the Jackson Heart Study," The American Heart Association's Epidemiology and Prevention: Lifestyle and Cardiometabolic Health Scientific Sessions, March 2015.
7. Diaz KM, Booth III JN, **Seals SR**, Hooker SP, Dubbert PM, Muntner P, Shimbo D. "Sedentary Behavior and Subclinical Atherosclerosis in African Americans: The Jackson Heart Study," The American Heart Association's Epidemiology and Prevention: Lifestyle and Cardiometabolic Health Scientific Sessions, March 2015.
6. Dodge-Khatami A, Chancellor WZ*, Gupta B, **Seals SR**, Batlivala SP, Taylor MB, Salazar JD. "Adapting Surgical Strategies to Boost Survival for Hypoplastic Left Heart Syndrome in an Upstart Program," The Pediatric Cardiac Intensive Care Society Conference, December 2014. * indicates student co-authors
5. Dodge-Khatami J, Dodge-Khatami A, Gupta B, **Seals SR**, Aggarwal A, Taylor M, Salazar JD. "Endemically Complex Congenital Heart Disease with Major Comorbidities at an Upstart Program: Advanced Surgical Strategies in Newborns and Infants to Improve Outcomes," The Pediatric Cardiac Intensive Care Society Conference, December 2014.
4. **Seals SR**, Denney TS, Dell'Italia L, Gupta H, Aban IB. "Effect of Diabetes on the Wringing Motion of the Left Ventricle Post-MI," The University of Alabama at Birmingham's Public Health Research Day, April 2012.
3. **Seals SR**, Ahmed M, Denney TS, Gupta H, Lloyd S, Dell'Italia L, Aban IB. "Modeling the Number of Diseased Myocardial Segments in MI Patients," The University of Alabama at Birmingham's Public Health Research Day, April 2011.
2. Abramovici A, Szychowski JM, Rouse DJ, **Seals S**, Andrews W, Hauth JC, Tita AT. "Oxytocin Dose--Regimens to Prevent Uterine Atony after Vaginal Delivery: Does Treatment Efficacy Vary by Risk Status?" The Society for Maternal--Fetal Medicine Annual Meeting, February 2011.

1. Wetta L, Szychowski JM, **Seals S**, Mancuso M, Hauth J, Tita AT. "Risk Factors for Uterine Atony at Vaginal Delivery: A Comprehensive Evaluation," The Society for Maternal--Fetal Medicine Annual Meeting, February 2011.

Mentoring

Office of Undergraduate Research Works!

Brooke Davis, 2017-2018.

Undergraduate Proseminar

Jamal Bias, Fall 2018. *The NBA: Old School vs. New School. An Analysis on Player Scoring Production in the NBA Over the Years.*

Christlene Amitie, Fall 2018. *Predicting Hypertension and Diabetes in Southern African Americans: Data from the Jackson Heart Study.*

Daniel Moulder, Fall 2018. *Estimating Sea Oat Coverage at Pensacola Beach: An Application of Adaptive Cluster Sampling.*

Graduate Proseminar

Margret (Peggy) Wisdom, Fall 2018. *Student-Based Outcomes in University Physics I: What are Predictors of Student Success?*

Jeff Swords, Fall 2018. *Modeling Violent Crime Data for the Southeastern United States: A Regression Approach with Statistical Surveillance Analysis.*

Matthew Swithers, Summer 2018. *Gun Control and Violent Crime: An Association Study.*

Collin Layana, Summer 2018. *Determining the Greatest NBA Franchise of All Time: An Analysis of the Los Angeles Lakers.*

Denise Edwards, Spring 2018. *Validating Modeling and Simulation Data for the Joint Air-To-Surface Super Duper Awesome Munition.*

Brice (Lee) Winfree, Spring 2018. *Effects of Health Promoting Programs on Cardiovascular Disease Risk Factors in the African American Population.*

Audrey Moore, Fall 2017. *Predictors of Knowledge of Stroke and Heart Attack Symptoms and Intent to Call 911 among Black/African Americans.*

Brandon Smith, Fall 2017. *Large Enough? Determining the Necessary Sample Size to Apply the Central Limit Theorem.*

Thesis Committee Member

Haley McQueen, Earth and Environmental Science, Fall 2018-Present.

Mark Prousalis, Earth and Environmental Science, Fall 2018-Present.

Marley Allen, Earth and Environmental Science, Spring 2018-Present.

Paige Plier, Earth and Environmental Science, Summer 2017. *Biological Indicators of the Spatial Variability of Submarine Groundwater Discharge in a Subtropical Estuary.*

Dissertation Committee Member

Svetlana Mett, Physical Education and Health, Fall 2018-Present.

Short Courses and Continuing Education

R Programming. Taught by Johns Hopkins University via Coursera, March 2016.

Adaptive Methods for Modern Clinical Trials. Taught by Byron Jones, Frank Bretz, and Guosheng Yin at ASA's Joint Statistical Meetings, August 2015.

Analysis of Clinical Trials: Theory and Applications. Taught by Alex Dmitrienko, Devan Mehrotra, and Jeff Maca at ASA's Joint Statistical Meetings, August 2015.

Techniques for Simulating Data in SAS. Taught by Rick Wicklin at ASA's Joint Statistical Meetings, August 2014.

Statistics for Spatio-Temporal Data. Taught by Noel Cressie and Christopher Wikle at ASA's Joint Statistical Meetings, July 2012.

Information-Theoretic Approaches to Empirical Science. Taught by David Anderson at the University of Alabama at Birmingham, January 2010.

Academic Service

University of West Florida

Department

2018-Present, Member, Proseminar Committee

2017-2018, Member (non-voting), Colloquium Committee

2016-2018, Member (non-voting), General Education Committee

2016-2018, Member (non-voting), Proseminar Committee

University

2018-Present, University Honors Program Committee

2016-Present, Reviewer for Office of Undergraduate Research project award proposals
2016-Present, Interviewer for the President's Scholarship Competition

Faculty Advisor

2018-Present, Minority Association of Pre-Medical Students

University of Mississippi Medical Center

Department

2013-2016, Consultant, Center of Biostatistics & Bioinformatics Walk-In Clinic
2013-2016, Biostatistical Lead, Department of Surgery
2015-2016, Biostatistical Lead, Department of Pediatrics
2015-2016, Biostatistical Lead, Department of Otolaryngology & Communicative Science
2014-2016, Member, Center of Biostatistics & Bioinformatics Curriculum Committee; responsible for developing and obtaining approval for MS and PhD programs in biostatistics and data science

The Jackson Heart Study

2015, Member, Jackson Heart Study's Annual Follow Up Taskforce
2014-2015, Member, Jackson Heart Study Lab Specimen Subcommittee
2014-2015, Member, Jackson Heart Study Ancillary Study Resource Unit

Professional Service

Data Safety and Monitoring Boards

2018-Present, A randomized controlled trial of early amniotomy during preterm induction of labor

Referee for Journals

Communications in Statistics - Theory and Methods
Journal of Probability and Statistics
BMJ Open
Ethnicity and Health
Journal of Human Hypertension
Journal of Interventional Cardiology
Journal of Sex & Marital Therapy

American Statistical Association

Continuing Education course monitor, JSM 2015
Statistics in Epidemiology session chair, JSM 2014
Continuing Education course monitor, JSM 2014

Council on Undergraduate Research

2018-Present, Reviewer, Posters on the Hill

Professional Affiliations

Caucus for Women in Statistics

American Statistical Association

- Florida Chapter
- Biometrics Section
- Section on Statistical Education
- History of Statistics Interest Group

Council on Undergraduate Research

Honors and Awards

November 2018, Faculty of the Month, Awarded by the UWF Math Club.

April 2018, Faculty of the Month, Awarded by the UWF Math Club.

September 2013, Winner, Charles R. Katholi Distinguished Dissertation Award,
Department of Biostatistics, University of Alabama at Birmingham.

February 2013, First place, Mathematics and Computer & Information Sciences
category, University of Alabama at Birmingham Graduate School Research Days.

2007-2008, Mathematics and Statistics Graduate Student Grant, University of West
Florida.

2007-2008, College of Arts and Sciences Merit Scholarship, University of West Florida.

2001-2006, Florida Bright Futures Scholarship.

Previous Research Support

UMMC Intradepartmental Discovery Support Program
Neurocognitive Monitoring in Pediatric Acute Lymphoblastic Leukemia
07/01/2016-06/30/2017
PI: Karlson, Role: Biostatistician.

U01-AT006239
Effects of Yoga on CVD Risk Factors among African Americans
09/30/2010--09/29/2016
PI: Marshall, Role: Co-Investigator; Lead Biostatistician

P50 HL-120163
Perceptions of Tobacco Use Among Vulnerable Populations
09/01/2013-08/31/2018
PI: Payne, Role: Biostatistician
UMMC Medical Student Research Program
Hepatocellular Carcinoma and Disparity among Socioeconomic Classes
01/01/2016-06/30/2019
PI: Aru, Role: Biostatistical mentor

HHSN268201300046C1
Jackson Heart Study
08/16/2013--07/15/2018
PI: Correa, Role: Biostatistician

N01-HC55021
Atherosclerosis Risk in Communities Study (ARIC)
02/01/2006-11/14/2016
PI: Mosley, Role: Biostatistician

U01-HL096917
ARIC Neurocognitive Study
07/07/2010-06/30/2019
PI: Mosley, Role: Biostatistician

T32-HL79888
UAB Biostatistics Pre-Doctoral Training Program
08/2008-08/2013
PI: Tiwari, Role: Pre-Doctoral Trainee

Achraf Cohen

11000 University Pkwy,
Pensacola, FL 32514
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acohen@uwf.edu
<https://pages.uwf.edu/acohen/>
(850) - 474 - 2625

Research interests

Statistical process monitoring, control charts, wavelets, statistics of wavelets coefficients, forecasting, data-driven methods, classification-machine learning.

Experience

Assistant Professor

Department of Mathematics and Statistics

University of West Florida

Aug 2018- PRESENT, USA

- Research with faculty in the Department of Mathematics and Statistics to develop new control charts and statistical process monitoring methods.
- Research with faculty at Electrical Engineering Department to propose new techniques for load forecasting in smart grid.
- Teach or taught undergraduate and graduate courses:
 - STA6990 Time Series Analysis,
 - STA6507 Nonparametric Statistics,
 - STA6246 Design and Analysis of Experiments,
 - STA4321 Intro. Mathematical Statistics,
 - STA6707 Multivariate Methods,
 - STA5900 MathStats Tools,
 - STA4051 Nonparametric Statistics,
 - STA6930 Proseminar in Statistics,
 - MAT4500 Proseminar in Math / Stats.
- Advise students.
- Service: Proseminar committee, General Education committee, EDD committee.

Postdoctoral Teaching Associate

Department of Mathematics and Statistics

University of West Florida

Feb 2016 - May 2018, USA

- Create and conduct new research projects/publications with faculty at Hal Marcus College of Science and Engineering, especially in the Department of Mathematics and Statistics.
- Develop and Submit grant proposals (3 NSF and 1 EPA).
- Teach graduate courses: Time Series Analysis, Nonparametric Statistics, and Multivariate Methods.

- Advise students with statistical analysis.
- Service: presentation proseminar, colloquium committee, mock interviews.

Graduate Teaching Associate

ISTIA - Graduate School of Engineering

The University of Angers

Oct 2012 - Dec 2015, France

- Taught courses:
 - Statistical quality control,
 - Applied statistics,
 - Reliability engineering.

Education

Ph.D. in Applied Statistics/Mathematics

University of Angers

Oct 2012- Dec 2015, France

Thesis: Fault detection and diagnosis in complex systems by multi-scale approaches. Advisor: Dr. A. Kobi and Dr. T. Tiplica.

Engineer Telecoms and Computer Network (M.S.)

National School of Applied Science-Tangier

Sep 2006 - Jul 2011, Morocco

Thesis: Designing a discrimination multi-scale method, application to Stereoscopy. Advisors: Dr. A. Ezzine and Dr. Y. Ruichek

Publications

PEER-REVIEWD JOURNALS AND CHAPTER BOOKS

1. A. Cohen, C. Messaoudi , H. Badir. A New Wavelet-Based Approach for Mass Spectrometry Data Classification. In: Zhao Y., Chen DG. (eds) New Frontiers of Biostatistics and Bioinformatics . ICSA Book Series in Statistics. Springer, Cham. 2018.
2. A. Cohen, R. Amin. The Effects of Normal Mixtures and Autocorrelation on the Fraction Non-Conforming. Communications in Statistics - Simulation and Computation,1-13. 2017.
3. A. Cohen, T. Tiplica, A. Kobi. OWave control chart for monitoring the process mean. Control Engineering Practice, Vol. 54, pp. 223-230. 2016.
4. A. Cohen, T. Tiplica, A. Kobi. Design of experiments and statistical process control using wavelets analysis. Control Engineering Practice, Vol. 49, pp. 129-138. 2016.
5. A. Ezzine, Y.Y. Alaoui, A. Cohen. Adaptive Multiscale Stereo Images Matching Based on Wavelet Transform Modulus Maxima. International Journal of Image Processing. Vol.6(5), pp. 373-379. 2012.

CONFERENCES & MEETINGS

6. T. Stevens, B. Ramachandran, A. Cohen. Economic Operation of Microgrid Energy Resources Considering Uncertainties. IEEE SoutheastCon. 2018.
7. A. Cohen. Wavelet-Based Methods for Data-Driven Monitoring. The 2018 American Statistical Association Conference on Statistical Practice, Portland, Oregon. Poster. 2018.
8. The 5th Workshop on Biostatistics and Bioinformatics in Atlanta, May 5-7. 2017.
9. ASA Conference on Statistical Practice (CSP2017) in Jacksonville, Feb 23-25. 2017.
10. FL ASA Annual Meeting in Jacksonville. 2017

11. A. Cohen, T. Tiplica, A. Kobi. Weighted Wavelets Coefficients for Monitoring Process Mean. International Conference on Advances in Control and Optimization of Dynamical Systems, Tiruchirappalli, India / IFAC-PapersOnline, Vol. 49-1, pp. 819-823. 2016.
12. A. Cohen, T. Tiplica, A. Kobi. Statistical process control for AR(1) or non-Gaussian processes using wavelets coefficients. Conference: 12th European Workshop on Advanced Control and Diagnosis, at Pilsen, Czech Republic. Volume: Journal of Physics: Conference Series 659. 2015
13. T. Tiplica, A. Cohen, A. Ezzine. Road signs detection in color images by statistical approach. Conference Proceeding, QUALITA2013, Compiègne, France. Vol. 49, pp. 129-138. 2013.

Grants

- Co-PI with Dr. Amin (PI). Environmental Education Local Grants Program, Total Project Costs: \$121,482. (not funded)
- Co-PI with Dr. Ramachandran (PI). NSF - Energy, Power, Control, and Networks (EPCN). Total Project Costs: \$303 611. (not funded)
- Co-PI with Dr. Ramachandran (PI) and Dr. Croicu (PI). NSF - Energy, Power, Control, and Networks (EPCN). Total Project Costs: \$ 239,647. (not funded)

Computer Science Skills

- Advanced Knowledge: R, Matlab, Microsoft Office, LaTeX.
- Intermediate Knowledge: SPSS, SAS, Photoshop, PHP/HTML/CSS, OS(Ubuntu, Windows, Mac).
- Basic Knowledge: Statistica, Octave, MySQL, C.

Awards and Scholarship activities

- Member, American Statistical Association
 - Florida Chapter
 - Quality and Productivity Section
 - Statistical Learning and Data Mining Section
 - Section on Statistical Computing
- Reviewer for:
 - A Proposal book. "Time Series Analysis and Forecasting Methods in R". Taylor and Francis Group.
 - Communications in Statistics-Simulation and Computation
 - Measurement
 - Entropy
 - Measurement and Control
 - Journal of Industrial Engineering International
- Featured Author in Advanced in Engineering, Canada. 2016.
- Doctoral Scholarship by Ministry of Higher Education and Research, France. 2012-15
- Engineer Degree Graduation Award by National School of Applied Sciences - Tangier, Morocco. 2011.

Dallas Snider

CONTACT INFORMATION

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Pensacola, FL 32514
850-473-7348
dsnider@uwf.edu
Open Researcher and Contributor ID (ORCID): 0000-0002-1496-3583

EDUCATION

Ph.D. Integrated Computing (May 2011), Concentration: Information Science

University of Arkansas at Little Rock, Little Rock, AR

Dissertation: "Knowledge Discovery in Fetal Activity Data"

Adviser: Xiaowei Xu, Ph.D.

M.S. Instrumental Sciences (August 1994), Concentration: Spectroscopic Instrumentation

University of Arkansas at Little Rock, Little Rock, AR

Thesis: "Evaluation of Photodiode Arrays in Rocket Plume Monitoring and Diagnostics"

Adviser: M. Keith Hudson, Ph.D.

B.A. Physics (May 1992)

Hendrix College, Conway, AR

Adviser: Pradip K. Bandyopadhyay, Ph.D.

TEACHING INTERESTS

Data Mining	Database Design	Machine Learning
Information Visualization	Business Intelligence	Health Informatics

PROFESSIONAL EXPERIENCE

Associate Professor, University of West Florida Department of Computer Science, Pensacola, FL, August 2012-Present

- Teaching or have taught Java Programming, C++ Programming, Visual Basic, Data Mining, Data Warehousing, Database Administration, Database Security, Software Engineering Process, and Hacking for Defense.
- Co-Investigator on "Evaluation of Tools to Measure and Mitigate the Effects of Operational Stress," a subcontract with prime contractor Florida Institute for Human and Machine Cognition, United States Air Force School of Aerospace Medicine Prime Award FA8650-18-C-6982, October 2018-present, awarded \$55,741.

- Associate investigator in mining wearable sensor data with the U.S. Navy’s Naval Aerospace Medicine Institute (Protocol NMOTC.2016.0012 and partnership agreement NCRADA-NAMRU-D-17-10049), May 2017-present.
- Principal Investigator on the Security and Software Engineering Research Center (S2ERC) research project, “Data Mining for Network Performance Assessment, Phase 2”, sponsored by Northrop Grumman Aerospace Systems, January 2015 – December 2015, awarded \$26,985.
- Co-Investigator on the Santa Rosa County School District project, “Instructional Evaluation Application”, June 2014 – August 2016, awarded \$314,306.
- Principal Investigator on the Security and Software Engineering Research Center (S2ERC) research project, “Data Mining for Network Performance Assessment”, sponsored by Northrop Grumman Aerospace Systems, January 2014 – December 2014, awarded \$26,985.
- Principal Investigator on the Security and Software Engineering Research Center (S2ERC) research project, “A Knowledge Engineering, Team-Based Approach to Introducing Security Assurance Cases”, sponsored by Northrop Grumman Aerospace Systems, January – December 2013, awarded \$22,050.
- Mentor for graduate student projects
- Serving on various committees for the Computer Science Department, the Hal Marcus College of Science and Engineering, the University, and the community.
- Reviewer for peer-reviewed journals and conference proceedings

Software Development Analyst Level 4, Northrop Grumman Information Systems, Little Rock, AR, January 2008-August 2012

- Lead architect and developer for the creation and implementation of a data warehouse for the Arkansas Department of Human Services containing highly sensitive and confidential data following the Kimball dimensional design methodology
- Developed ETL packages in SQL Server Integration Services to extract source system data from Oracle, SQL Server and SharePoint and then transform and load the data into fact and dimension tables
- Created dimensions and cubes in SQL Server Analysis Services for business intelligence applications
- Designed and developed reports in SQL Server Reporting Services using SQL and MDX that followed guidelines set forth by the United States Department of Health and Human Services for reporting compliance and compiling statistics
- Processed and visualized GIS data
- Created dashboards and scorecards in Performance Point
- Created database tables, stored procedures, functions, and security policies
- Collaborated with DBA’s and Quality Assurance team during the software development lifecycle
- Accountable for customer training, requirements gathering, coordinating testers, project documentation and bi-weekly status reports

Software Developer Level 4, Acxiom Corporation, Little Rock, AR, 1996 -2008

- Lead Developer for the creation and implementation of a standardized order fulfillment process within IBM’s DataStage on Acxiom’s grid operating system
- Lead Developer for Customer Fulfillment processes in a large-scale, distributed database in DataStage on AIX for JP Morgan Chase
- Provided Netezza/DataStage consulting for State Farm and Nationwide Insurance client account teams

- Provided DataStage consulting to the New York Life, TransUnion and General Motors client teams for interacting with their large-scale databases
- Managed software application development projects for Acxiom's Server-Based Fulfillment product
- Responsible for handling opt-outs, credit bureau data, reports, decoy insertion, campaign management files, Oracle SQL statements, and Oracle loads
- Collaborated with DBA's and system administrators to performance-tune hardware for optimum parallel processing, database, and DataStage flows
- Created custom data profiling program for Wolters-Kluwer in C++
- Enhanced Acxiom's existing Linux grid automation services written in Perl with a Visual Basic and PHP user interface
- Assisted with documentation and training
- Served as Oracle database administrator, source code manager, and Linux system administrator for my development team
- Wrote custom DataStage operators to read and load to Netezza
- Used Red Hat Package Manager on Linux to package and deploy software
- Designed and developed code to dynamically create scripts based on application metadata
- Met with customers and project manager to update the project status and to receive the customer's feedback
- Worked on a team of developers to create the Acxiom Solution Interface website
- Designed web pages in C# and contributed to Java business logic on Linux and AIX
- Provided on-call support and consulting for client account teams such as Time-Life, Sprint, AT&T Wireless, and Primedia
- Pioneered a process on a UNIX server to reduce a 12-hour mainframe process to 25 minutes for Quill
- Designed, developed, and documented several order fulfillment process for the gNeil Companies on UNIX
- Developed code to help build data warehouses for Staples and Global
- Participated in Year 2000 code reviews and code changes

Programmer/Analyst, Euronet (formerly Arkansas Systems, Inc.), Little Rock, AR, 1994 – 1996

- Responsible for the development, delivery and support of client-server Automated Teller Machine solutions in the United States, Mexico, and Hungary
- Used DB/2 and IBM's Visual Age C/C++ for OS/2, Borland C/C++ for Windows, AS/400 and System 36

PART-TIME EXPERIENCE

Author, Edgewood Solutions, LLC, January 2013 – present

Writing articles for the mssqltips.com website about best practices for SQL Server

Adjunct Instructor, ITT Technical Institute, December 2008 – June 2012

Lecturer in the following courses: Access Control, Authentication, and Public Key Infrastructure;
Information Systems Security Capstone Project, Linux Operating System, Linux Server Administration,
Computing and Productivity Software; Auditing IT Infrastructure for Compliance
Advising students, coordinating student assignments and grading quizzes and papers
Supervising laboratories; assisting and overseeing up to 30 students per session

Adjunct Instructor, University of Arkansas at Little Rock, August – December 2008,

August – December 2007, August – December 2006, January – December 2002

Instructed in the following subjects: Calculus I, Business Calculus, College Algebra, Elementary Algebra and a General Physics Lab

Lectured, created student assignments and tests, graded quizzes and exams

Supervised student assignments, tests and use of Maple software for mathematics

Database Developer, University of Arkansas for Medical Sciences College of Medicine,

October 2005 – April 2006

Assisted with the implementation of an online metabolomic database for the Department of Geriatrics in conjunction with the MidSouth Bioinformatics Center

Utilized Linux, Apache, MySQL and Perl

Adjunct Instructor, University of Central Arkansas, January 2003 – May 2006

Taught Intermediate Algebra courses

Lectured and created student assignments and tests

Graded quizzes and exams

JOURNAL PUBLICATIONS

1. G. Merrill Rice, **Dallas Snider**, Sabrina Drollinger, Chris Greil, Frank Bogni, Jeffrey Phillips, Anil Raj, Katherine Marco, Steven Linville, “Gender Differences in Dry-EEG Manifestations During Acute and Insidious Normobaric Hypoxia,” *Aerospace Medicine and Human Performance*, (accepted for publication).
2. G. Merrill Rice, **Dallas Snider**, Sabrina Drollinger, Chris Greil, Frank Bogni, Jeffrey Phillips, Anil Raj, Katherine Marco, Steven Linville, “Dry-EEG Manifestations of Acute and Insidious Hypoxia During Simulated Flight,” *Aerospace Medicine and Human Performance*, (accepted for publication).
3. Sarita Mantravadi and **Dallas Snider**, “Hepatitis C Direct Acting Antivirals and Disruptive Innovation,” *Journal of Strategic Innovation and Sustainability*, vol. 12, no. 2, 2017, pp. 68-74.
4. Sarita Mantravadi and **Dallas Snider**, “Online Teaching Overview and Misconceptions: Two Keys of Sustainability in Online Courses and Tools,” *Journal of Higher Education Theory and Practice*, vol. 17, no. 7, 2017, pp. 106-110.
5. Sarita Mantravadi and **Dallas Snider**, “Comparing Healthcare Systems of Luxembourg and the United States,” *The Journal of Applied Business and Economics*, vol. 19, no. 7, 2017, pp. 60-74.
6. G. Merrill Rice, Dallas Snider, Jeffery L. Moore, J. Timothy Lavan, Rich Folga, Thomas B. VanBrunt, “Evidence for –Gz Adaptation Observed with Wearable Biosensors during High Performance Jet Flight,” *Aerospace Medicine and Human Performance*, vol. 87, no. 12, December 2016.
7. G. M. Rice, T. B. VanBrunt, **D. H. Snider**, R. E. Hoyt, “Wearable Accelerometers in High Performance Jet Aircraft”, *Aerospace Medicine and Human Performance*, vol. 87, no. 2, 2016, pp. 102-107.
8. **Dallas Snider**, John Coffey, Thomas Reichherzer, Norman Wilde, Chris Terry, Joe Vandeville, Allison Heinen and Sarah Pramanik, "Using Concept Maps to Introduce Software Security Assurance Cases," *CrossTalk: The Journal of Defense Software Engineering*, vol. 27, no. 5, 2014.
9. George Goehring, Thomas Reichherzer, Eman El-Sheikh, **Dallas Snider**, Norman Wilde, Sikha Bagui, John Coffey, Laura J. White, “A Knowledge-Based System Approach for Extracting Abstractions from Service Oriented Architecture Artifacts”. *International Journal of Advanced Research in Artificial Intelligence (IJARAI)*, Vol. 2, No.3, 2013, pp. 44-52.

10. **D. H. Snider**, R. B. Shanks, R. Cole and M. K. Hudson, "Inexpensive Photodiode Arrays for Use in Rocket Plume and Hot Source Monitoring and Diagnostics," *Meas. Sci. Technol.*, 14 (2003) 1725-1733.
11. M. K. Hudson, R. B. Shanks, **D. H. Snider** and D. M. Lindquist, C. Luchini, and S. Rooke, "UV, Visible, and Infrared Spectral Emissions in Hybrid Rocket Plumes," *International Journal of Turbo and Jet Engines*, 15, 71-87 (1998).
12. M. K. Hudson, R. B. Shanks, **D. H. Snider** and D. M. Lindquist, "Spectroscopic Survey of Hybrid Plume Emissions," *AIAA Technical Paper No. 94-3015*, July 27-29, 1994.

PEER-REVIEWED CONFERENCE PROCEEDINGS

1. Chelsea Noelani Adams and **Dallas Snider**, "Effective Data Visualization in Cybersecurity", *Proceedings of the 2018 IEEE SoutheastCon*, April 19-22, 2018, Tampa, FL.
2. **Dallas Snider**, John Derek Morgan, Matthew Schwartz, Austin Adkison, Delikarl Jean Baptiste, "An Online Analytical Processing Database for Environmental Water Quality Analytics", *Proceedings of the 2018 IEEE SoutheastCon*, April 19-22, 2018, Tampa, FL.
3. Zachary Pannell, Bhuvaneswari Ramachandran, **Dallas Snider**, "Machine Learning Approach to Solving the Transient Stability Assessment Problem", *Proceedings of the 2018 IEEE Texas Power and Energy Conference (TPEC)*, February 8-9, 2018, College Station, TX.
4. **Dallas H. Snider**, G. Merrill Rice, Thomas B. VanBrunt, Robert E. Hoyt, "Knowledge Discovery Processes Implemented in Evaluating Wearable Sensors in High Performance Jet Aircraft," *Proceedings of the 2016 International Conference on Computational Science and Computational Intelligence (CSCI'16)*, December 15-17, 2016, Las Vegas, NV.
5. Glenda Mayo and **Dallas Snider**, "Building Automation Systems and Cyber Security: A Multiple Discipline Perspective," *Proceedings of the American Society for Engineering Management 2016 International Annual Conference*, October 26-29, 2016, Charlotte, NC.
6. Mike Ford, Cody Mallery, Frank Palmasani, Michael Rabb, Reid Turner, Lem Soles and **Dallas Snider** "A Process to Transfer Fail2ban Data to an Adaptive Enterprise Intrusion Detection and Prevention System," *Proceedings of the 2016 IEEE SoutheastCon*, March 31-April 3, 2016, Norfolk, VA.
7. Lem Soles, Thomas Reichherzer and **Dallas Snider** "A Tool Set for Managing Virtual Network Configurations," *Proceedings of the 2016 IEEE SoutheastCon*, March 31-April 3, 2016, Norfolk, VA.
8. Thomas Cole Amick, Lem R. Soles, **Dallas H. Snider**, "Moving Towards an Adaptive Enterprise Intrusion Detection and Prevention System," *Proceedings of the 2015 International Conference on Artificial Intelligence (ICAI'15)*, July 27-30, 2015, Las Vegas, NV.
9. Lem R. Soles, Thomas Reichherzer, **Dallas Snider**, "Creating a Cost Effective Air to Ground Network Simulation Environment," *Proceedings of the 2015 IEEE SoutheastCon*, April 9-12, 2015, Fort Lauderdale, FL.
10. **Dallas Snider**, Glenda Mayo, Sridhar Natarajan, "Similarity Measures in Smart Building Electrical Demand Data," *Proceedings of the 2015 IEEE SoutheastCon*, April 9-12, 2015, Fort Lauderdale, FL.
11. Sarah Pramanik and **Dallas Snider**, "Defining Threats Across Organizational Boundaries," *Proceedings of the 11th International Conference and Expo on Emerging Technologies for a Smarter World (CEWIT 2014)*, October 29-30, 2014, Melville, NY.

12. John Coffey, **Dallas Snider**, Thomas Reichherzer, Norman Wilde, "Concept Mapping for the Efficient Generation and Communication of Security Assurance Cases", *Fifth International Multi-Conference on Complexity, Informatics and Cybernetics (IMCIC 2014)*, March 4-7, 2014, Orlando, FL.
13. **D. H. Snider** and X. Xu, "Mining Fetal Magnetocardiogram Data for High-Risk Fetuses," *Proceedings of the 2011 IEEE International Conference on Bioinformatics and Biomedicine*, November 2011, 1066-1068.
14. **D. H. Snider** and M. K. Hudson, "Evaluation of Photodiode Arrays in Rocket Plume Monitoring and Diagnostics," *Proc. Ark. Acad. Sci.*, 1994, 48, 174-180.

BOOK CHAPTERS

1. Robert E. Hoyt and **Dallas H. Snider**, "Introduction to Data Science," in *Health Informatics: Practical Guide for Healthcare and Information Technology Professionals*, 6th ed., 978-1365524806, LuLu.com, February 2017.
2. John W. Coffey, Arthur Baskin and **Dallas Snider**, "Knowledge Elicitation and Conceptual Modeling to Foster Security and Trust in SOA System Evolution", in *Emerging Trends in The Evolution of Service-Oriented and Enterprise Architectures*, 978-3319405643, Springer, August 2016.

ORGANIZED WORKSHOP

Robert Hoyt and **Dallas Snider**, "Predictive Analytics using Open Source Machine Learning WEKA Software," iHealth 2017 Clinical Informatics Conference, Philadelphia, PA, May 2, 2017.

INSTRUCTIONAL MEDIA

1. **Dallas Snider**, *SQL Server 2016 Database Reporting: Operational Reporting and Mobile Dashboards with SSRS 2016*, Packt Publishing, ISBN 9781787121249, February 2017.
2. **D. H. Snider**, *Creating Reports with SQL Server 2012 Reporting Services*, Packt Publishing, ISBN 978-1-78217-718-0, November 2013.

PEER-REVIEWED CONFERENCE PRESENTATIONS

1. **D.H. Snider**, G.M. Rice, "Dry EEG Technology and Potential Applications in Operational Environments," Aerospace Medical Association's 89th Annual Scientific Meeting, May 6-10, 2018, Dallas, TX. Abstract appears in *Aerospace Medicine and Human Performance*, vol. 89, no. 3, March 2018, p. 173.
2. G.M. Rice, **D.H. Snider**, S. Drollinger, C. Greil, F. Bogni, J.B. Phillips, G. Gibson, A. Raj, "Dry EEG Manifestations of Changes in Inspired Oxygen and Cognitive Workload," Aerospace Medical Association's 89th Annual Scientific Meeting, May 6-10, 2018, Dallas, TX. Abstract appears in *Aerospace Medicine and Human Performance*, vol. 89, no. 3, March 2018, p. 243.
3. J. Leibig, G.M. Rice, **D.H. Snider**, "A Comparison of Two Lead-Based Cardiac Ambulatory Recording Devices Measuring In-Flight R-R Intervals: A Zephyr Biomodule™ & Phillips Holter™ Monitor," Aerospace Medical Association's 88th Annual Scientific Meeting, April 29-May 4, 2017, Denver, CO. Abstract appears in *Aerospace Medicine and Human Performance*, vol. 88, no. 3, March 2017, p. 311.
4. G.M. Rice, **D.H. Snider**, J.L. Moore, J. LaVan, R.V. Folga, T.B. Van Brunt, "Batman Syndrome: Evidence of -Gz Adaptation during In-flight Physiologic Monitoring of the Blue Angels," Aerospace Medical Association's 88th Annual Scientific Meeting, April 29-May 4, 2017, Denver, CO. Abstract appears in *Aerospace Medicine and Human Performance*, vol. 88, no. 3, March 2017, p. 301.

5. Robert Hoyt and **Dallas Snider**, "IBM Watson Analytics Academic Program," American Medical Informatics Association's iHealth 2016 Conference, Minneapolis, MN, May 4-6, 2016.
6. G.M. Rice, T. VanBrunt, **D.H. Snider**, R.E. Hoyt, "Physiologic Responses Obtained from Wearable Biosensors during High Performance Jet Aircraft Maneuvers," Aerospace Medical Association's 87th Annual Scientific Meeting, April 24-28, 2016, Atlantic City, NJ. Abstract appears in *Aerospace Medicine and Human Performance*, vol. 87, no. 3, March 2016, p. 283.
7. G.M. Rice, T. VanBrunt, **D.H. Snider**, R.E. Hoyt, "A New Golden Age? Validation of Wearable Accelerometers in High Performance Jet Aircraft," 86th Annual Meeting of the Aerospace Medical Association, May 10-14, 2015, Lake Buena Vista, FL. Abstract appears in *Aerospace Medicine and Human Performance*, vol. 86, no. 3, March 2015, p. 307.
8. G.M. Rice, T. VanBrunt, **D.H. Snider**, R.E. Hoyt, "Physiologic Responses Recorded By Wearable Bio-Sensors During 'In-Flight' High Performance Aircraft Maneuvers," 86th Annual Meeting of the Aerospace Medical Association, May 10-14, 2015, Lake Buena Vista, FL. Abstract appears in *Aerospace Medicine and Human Performance*, vol. 86, no. 3, March 2015, p. 307.

INTERNAL GRANTS

1. Principal Investigator for UWF Quality Enhancement Project, *Communication for Professional Success*, "Improving Communication and Collaboration in Computer Science Students Phase 2", 2016-2017 Academic Year, awarded \$5,000.
2. Office of Undergraduate Research Travel Award for five students to present at the 2016 IEEE SoutheastCon, March 7, 2016, awarded \$5,000.
3. College of Science and Engineering Resource Allocation Committee travel funds for presentation of research at the Aerospace Medical Association's 87th Annual Scientific Meeting, February 26, 2016, awarded \$604.00.
4. Principal Investigator for UWF Quality Enhancement Project, *Communication for Professional Success*, "Improving Communication and Collaboration in Computer Science Students", 2015-2016 Academic Year, awarded \$4,000.
5. College of Science, Engineering and Health Resource Allocation Committee travel funds for presentation of research at the 2015 IEEE SoutheastCon, February 20, 2015, awarded \$677.12.
6. College of Arts and Sciences Resource Allocation Committee travel funds for presentation of research at the May 2014 Security and Software Engineering Research Center Showcase, February 21, 2014, awarded \$527.12.
7. College of Arts and Sciences Resource Allocation Committee travel funds for presentation of research at the May 2013 Security and Software Engineering Research Center Showcase, March 1, 2013, awarded \$350.00.

PEER-REVIEWED POSTER PRESENTATIONS

1. Sabrina Drollinger, G. Merrill Rice, **Dallas Snider**, Chris Greil, Frank Bogni, Jeffrey Phillips, Steven Linville, Katherine Marco, Anil Raj, "Impact of Hypoxia on Brain Activity and Flight Simulation

Performance,” 2016 U.S. Department of Defense Military Health System Research Symposium, August 20-23, 2016, Kissimmee, FL.

2. G. Merrill Rice, **Dallas Snider**, Jeffrey L. Moore, J. Timothy Lavan, Rich Folga, “Evidence for –Gz Adaptation Observed with Wearable Biosensors during High Performance Jet Flight,” 2016 U.S. Department of Defense Military Health System Research Symposium, August 15-18, 2016, Kissimmee, FL.
3. **Dallas Snider**, Conni Carnley, Dave Dawson, Pam Northrup, Preston Obray, Liz West, “Professional Educators Assessment and Results System (PEARS)”, Future of Education Technology Conference, January 15, 2016, Orlando, FL.
4. **D. H. Snider**, R. B. Govindan, X. Xu, H. Preissl, H. Eswaran and C. Lowery, "Signatures of High-Risk Condition in Fetal Cardiogram," 2009 Society for Gynecologic Investigation Annual Scientific Meeting, March 2009.

MAGAZINE ARTICLES

Glenda Mayo and **Dallas Snider**, “Cyber Security for Buildings,” *Facility Executive*, July 2016.

POSTER PRESENTATIONS

1. Delikarl Jean Baptiste, Austin Adkison, **Dallas Snider**, Matthew Schwartz, John Morgan, "An Online Analytical Processing Database for Environmental Water Quality Analytics," 2017 UWF Student Scholar Symposium, April 20, 2017, Pensacola, FL.
2. William Spaid, **Dallas Snider**, Jason Ortegren, "Calculating the Pearson Correlation of Barometric Pressure and Rainfall Levels using Structured Query Language," 2017 National Conference on Undergraduate Research, April 6-8, 2017, Memphis, TN.
3. Mike Ford, Cody Mallery, Frank Palmasani, Michael Rabb, Reid Turner, Lem Soles and **Dallas Snider**, “A Process to Transfer Fail2ban Data to an Adaptive Enterprise Intrusion Detection and Prevention System,” 2016 UWF Student Scholar Symposium and Faculty Research Showcase, April 21, 2016, Pensacola, FL.
4. Lem Soles, Thomas Reichherzer and **Dallas Snider**, “A Tool Set for Managing Virtual Network Configurations,” 2016 UWF Student Scholar Symposium and Faculty Research Showcase, April 21, 2016, Pensacola, FL.
5. Lauren Amick, Ramar Baker, Teresa Jouben, Alia Layne, Skye Li, Hi Tran, **Dallas Snider**, “Professional Educators Assessment and Results System (PEARS)”, 2016 UWF Student Scholar Symposium and Faculty Research Showcase, April 21, 2016, Pensacola, FL.
6. Lem Soles, Thomas Reichherzer, **Dallas Snider**, “Creating a Cost Effective Air to Ground Network Simulation Environment,” 2015 Student Scholar Symposium and Faculty Research Showcase, April 23, 2015, Pensacola, FL.
7. **Dallas Snider**, Glenda Mayo, Sridhar Natarajan, “Similarity Measures in Smart Building Electrical Demand Data,” 2015 Student Scholar Symposium and Faculty Research Showcase, April 23, 2015, Pensacola, FL.
8. **D. Snider**, T. Reichherzer, N. Wilde, "Data Mining for Network Performance Assessment," 2014 UWF Faculty Showcase, April 2014, Pensacola, FL.
9. **D.H. Snider**, “Addressing Big Data Challenges and Opportunities within Florida’s Electrical Energy Sector”, 2013 Florida Energy Summit, October 14-15, 2013, Orlando, Florida.

PRESENTATIONS

1. **Dallas Snider**, "Utilizing Wearable Sensors to Detect Cognitive Impairment in Pilots," ITEN Wired 2018 Summit, October 2, 2018, Pensacola Beach, Florida
2. **D. H. Snider**, "Communicating Security Procedures, Threats and Mitigation Strategies," ITEN Wired 2014 Summit, October 2-3, 2014, Pensacola Beach, Florida
3. **D. H. Snider**, J. W. Coffey, T. Reichherzer, N. Wilde, C. J. Terry, J. Vandeville, A. J. Heinen, S. C. Pramanik. "A Knowledge Engineering, Team-Based Approach to Introducing Security Assurance Cases", NSF Security and Software Engineering Research Center Showcase, November 13-14, 2013, Pensacola, FL.
4. **D. H. Snider**, "The Internet of Things," ITEN Wired 2013 Summit, September 2013, Pensacola Beach, FL.
5. **D. H. Snider**, "Improving Decision Support Capabilities in Government Operations," 2012 Northrop Grumman Software Engineering Symposium, March 2012.
6. **D. H. Snider**, X. Xu and R. B. Govindan, "Mining Placental Deficiencies in Fetal Magnetocardiogram Data," 2010 MidSouth Computational Biology and Bioinformatics Society Annual Conference, February 2010.
7. **D. H. Snider**, X. Xu and R. B. Govindan, "Knowledge Discovery within Fetal Activity Data," Arkansas Academy of Science Annual Meeting, April 2008.

CONFERENCES ATTENDED

- Hitachi Social Innovation Forum 2016, November 15, 2016, Santa Clara, CA.
- NSF Cloud Workshop on Experimental Support for Cloud Computing, December 11-12, 2014, Arlington, Virginia.
- ITEN Wired 2012 Summit, September 14, 2012, Pensacola Beach, Florida.

AREAS OF TECHNICAL EXPERTISE

- Software Development: C/C++, Oracle PL/SQL, MDX, Oracle ProC, Perl, PHP, IBM Mainframe Assembler, Java and UNIX/AIX/Linux/Orchestrate Shell Scripting
- Databases: SQL Server and Azure, Oracle, Netezza, DB/2 and MySQL
- Operating Systems: Hadoop Distributed File System, Linux, Windows, and IBM MVS
- Database Design: SQL Server Management Studio and Sybase PowerDesigner Data Architect
- ETL Tools: SQL Server Integration Services and IBM DataStage 7.01r1 – 7.51a
- Information Visualization: SQL Server Reporting Services, PerformancePoint, SharePoint
- Data Analysis: MATLAB, SQL Server Analysis Services
- Data Hygiene: U.S. Postal Presort and Address Hygiene, Canadian Postal Presort and Canadian Address Hygiene
- Machine Learning: WEKA, libSVM, See5, C Clustering Library, RapidMiner
- Change Management and Deployment: RedGate, Red Hat Package Manager, Visual Source Safe, PVCS, Subversion and InstallShield
- Integrated Development Environments: MS-Visual Studio, Borland C/C++, jGRASP and Eclipse

- Microsoft Office Suite Products: Visio, Project, Word, Excel, Outlook, PowerPoint, Performance Point and Share Point
- Online Teaching: Canvas, Camtasia Studio, Blackboard Collaborate, Desire2Learn

HONORS AND AWARDS

- Northrop Grumman Arkansas DHS Project Employee of the Month, 2009
- Monetary awards from Acxiom for outstanding performance, 2005, 2006, and 2007
- Acxiom Client Gold Award, 2006
- Acxiom Client Silver Award, 2007
- Acxiom Market Management Applications Associate of the Quarter, 2003
- Acxiom Direct Media Business Unit Associate of the Month, 1998
- Best Student Presentation, Arkansas Academy of Science Annual Meeting, 1994
- Robert Byrd Honors Scholarship, 1988
- Arkansas Governor's Scholarship, 1988

MEMBERSHIPS

- Senior Member, Institute of Electrical and Electronics Engineers (IEEE) Computer Society
- Association for Computing Machinery (ACM)
- Oracle Technology Network

Microsoft Developer Network

DR. SIKHA S BAGUI

Email: bagui@uwf.edu

PHONE (850)474-3022 (Office)

Citizenship: US citizen

ACADEMIC BACKGROUND

Ed.D, Curriculum and Instruction. Major: Math/Stat/Science/Computer Science, University of West Florida, Pensacola, Florida, December, 2000.

MBA, IS specialization, University of Toledo, Toledo, Ohio, August, 1986.

BS, Cuttington University, Monrovia, Liberia, January 1984.

(Also completed one year(1990-1991) in Ph.D. program at Kent State University, Kent, Ohio, MIS specialization).

ACADEMIC EXPERIENCE

Professor, Department of Computer Science, University of West Florida, Pensacola, Florida (August 2013 – present)

Associate Professor, Department of Computer Science, University of West Florida, Pensacola, Florida (August 2008 – August 2013).

Assistant Professor, Department of Computer Science, University of West Florida, Pensacola, Florida (August 2004 – Aug 2008).

Lecturer, Department of Computer Science, University of West Florida, Pensacola, Florida (August 1999-August 2004).

Adjunct Instructor, Department of Computer Science, University of West Florida, Pensacola, Florida (Jan 1992-August 1999).

Graduate Teaching Assistant, Department of Management Information Systems, Kent State University, Kent, Ohio, (August 1990-June 1991).

Instructor, Department of Information Systems, University of Toledo, Toledo, Ohio (June 1986-August 1990).

ADMINISTRATIVE EXPERIENCE

Chair, Department of Computer Science, University of West Florida, Pensacola, FL (August 2012 – August 2017)

Founding Director, Center for Cybersecurity, University of West Florida, Pensacola, FL (January 2014 – March, 2015)

Interim Associate Chair, Department of Computer Science, University of West Florida, Pensacola, Florida (January 2011 – July 2012).

Program Director, CIS/IT, MSA/DBA, MS/CS-DB, Department of Computer Science, University of West Florida, Pensacola, Florida (Fall 2007 – August 2012).

COURSES TAUGHT

Database Systems, Data Mining, Database Administration, Advanced Database Systems, Seminar in SOA, Java Programming, Data Structures and Algorithms, Advanced Visual Programming, Visual Programming, Systems Documentation, Multimedia Systems, Business Systems Design, Microcomputer Application Packages, Introduction to Management Information Systems, COBOL I, COBOL II.

RESEARCH INTERESTS

Data mining and Big Data analytics, SQL, database design and architecture, object-oriented databases, web databases, pattern recognition, statistical computing, Computer Science Education.

PUBLICATIONS

Books

1. Earp, R. and **Bagui, S.** (2003). *Learning SQL: A Step-by-Step Guide using Oracle*, Addison Wesley, ISBN: 0-201-77363-5.
2. **Bagui, S.** and Earp, R. (2003). *Database Design Using ER Diagrams*, CRC Press, Auerbach Publications, ISBN: 0-8493-1548-4.
3. **Bagui, S.** and Earp, R. (2004). *Learning SQL: A Step-by-Step Guide using Access*, Addison Wesley, ISBN: 0-321-11904-5.
4. Earp, R., and **Bagui, S.** (2006). *Advanced SQL Functions in Oracle 10g*, Wordware Publishing, ISBN: 13: 978-1-59822-021-6.
5. **Bagui, S.** and Earp, R. (2006) *Learning SQL Using SQL Server 2005*, O'Reilly Publishers, ISBN: 0-596-10215-1.

6. Earp, R. and **Bagui, S.** (2008). *Practical Guide to Using SQL in Oracle*, Wordware Publishing, ISBN: 13:978-1-59822-063-6.
7. **Bagui, S.** and Earp, R. (2009). *SQL Essentials in Access*, Linus Publications, ISBN: 13:978-1-60797-040-8.
8. **Bagui, S.** and Earp, R. (2011). *Essential of SQL Using SQL Server 2008*, Jones and Bartlett, ISBN: 978-0-7637-8138-5.
9. **Bagui, S.** and Earp, R. (2012). *Database Design Using ER Diagrams*, 2nd edition, Taylor and Francis. ISBN: 9781439861769.
10. **Bagui, S.**, and Earp, R. (2015). *SQL Server 2014: A Step by Step Guide to Learning SQL*, Nova Publishers. ISBN: 978-1-63463-543-1. E-book version ISBN: 978-1-63463-554-7.
11. **Bagui, S.** and Earp, R. (2015). *Practical Guide to Using SQL in Oracle*, 2nd edition, BVT Publishing. ISBN: 978-1-62751-647-1 (e-Book) or ISBN: 978-1-62751-648-8 (loose leaf version).

International Editions (books)

12. Earp, R. and **Bagui, S.** (2003). *Learning SQL: A Step-by-Step Guide using Oracle*, Pearson Education Asia Limited and Tsinghua University Press, EISBN 0-201-77363-5 and ISBN: 7-302-06755-4 (In Chinese language).
13. **Bagui, S.** and Earp, R. (2004). *Learning SQL: A Step-by-Step Guide using Access*, Addison Wesley, ISBN: 0-321-21075-1 (International Edition).
14. **Bagui, S.** and Earp, R. (2007). *Naucite SQL na SQL Serveru 2005*, O'Reilly Publishers, ISBN: 978-86-7555-309-0.

Journal Articles (Published/Accepted)

1. **Bagui, S.** (1998). Reasons for increase in learning with multimedia, *The Journal of Educational Multimedia and Hypermedia*, **7**(1), 03-18.
2. Bagui, S.C., **Bagui, S.**, Pal, K., and Pal, N. (2003). Breast Cancer detection using Rank Nearest Neighbor Classification Rule, *Pattern Recognition*, **36**(1), 25-34.

3. **Bagui, S.** and Rodgers, E. (2003). Impact of Kolb's Learning Style on Selection of Media During Authoring of Multimedia, *Journal of Interactive Instruction and Development*, **15**(4), 3-11.
4. **Bagui, S.** (2003). Achievements and Weakness of Object-Oriented Databases, *Journal of Object Technology*, **2**(4), 29-41.
5. **Bagui, S.** and Rodgers, E. (2003). Correlation between Kolb's Experiential Learning Style and Selection of a Structure in Multimedia Authoring, *Journal of Interactive Instruction and Development*, **16**(2), 10-24.
6. **Bagui, S.** and Bagui, S.C. (2004). An Algorithm and Code for Computing Exact Critical Values for the Kruskal-Wallis Nonparametric One-Way ANOVA, *Journal of Modern Applied Statistical Methods*, **3**(1), 498-503.
7. **Bagui, S.** and Rodgers, E. (2005). Relationship between Kolb's Experiential Learning Style and Use of Navigational Features during the Authoring of Multimedia Projects, *Journal of Interactive Instruction and Development*, **17**(3), 3-14.
8. **Bagui, S.** and Bagui, S.C. (2005). An Algorithm and Code for Computing Exact Critical Values for Friedman's Nonparametric ANOVA, *Journal of Modern Applied Statistical Methods*, **4**(1), 312-318.
9. **Bagui, S.** (2006). An Approach to Mining Crime Patterns, *International Journal of Data Warehousing and Mining*, **2**(1), 50-80.
10. Bagui, S.C., **Bagui, S.**, Chatterjee, A., and Mehra, K.L. (2006). Classification with repeated independent measurements under separate sampling scheme, *Statistical Methodology*, **3**, 234-251.
11. **Bagui, S.**, (2006). Rules for Migrating from Entity Relationship (ER) diagrams to Object Relationship (OR) diagrams, *Computing Letters*, **2**(4), 177-191.
12. **Bagui, S.** and Bagui, S.C. (2006). Computing Percentiles of Skew-Normal Distributions, *Journal of Modern Applied Statistical Methods*, **5**(2), 575-588.
13. **Bagui, S.**, Mink, D., and Cash, P. (2007). Data Mining Techniques to Study Voting Patterns in the US, *Data Science Journal*, **6**, 46-63.

14. **Bagui, S.**, (2007). A Formal Definition for Translating XML Documents to the ER Model, *International Journal of Metadata, Semantics and Ontologies*, **2**(1), 54-66.
15. **Bagui, S.**, Bagui, S.C., Pal, N.R., and Matin, M.A. (2007). Comparison between k -NN and k -RNN Classification Rules: A Monte Carlo Simulation Study, *Journal of Statistical Research*, **41**(1), 69-79.
16. **Bagui, S.**, (2007). Mapping XML Schema to Entity Relationship and Extended Entity Relationship Models, *International Journal of Intelligent Information and Database Systems*, **3**(4), 325-345.
17. **Bagui, S.** Just, J., and Bagui, S. (2009). Deriving Strong Association Mining Rules Using a Dependency Criteria, the Lift Measure, *International Journal of Data Analysis Techniques and Strategies (IJDATS)*, **1**(3), 297-312.
18. **Bagui, S.** and Loggins, A. (2009). Generating Join Queries for Large Databases and Web Services, *International Journal of Information Technology and Web Engineering (IJITWE)*, **4**(2), 54-72.
19. **Bagui, S.** and Ter Haar, L. (2009). Database Education in the New Millenium, *The Journal of Computing Sciences in Colleges*, **24**(4), 80-87.
20. **Bagui, S.** (2009). Mapping OWL to the Entity Relationship and Extended Entity Relationship Models, *International Journal of Knowledge and Web Intelligence (IJKWI)*, **1**(1/2), 125-149.
21. Caffrey, J. M., Landing, W. M., Nolek, S. D., Gosnell, K., **Bagui, S. S.**, and Bagui, S.C. (2010). Atmospheric Deposition of Mercury and Major Ions to the Pensacola (Florida) Watershed: spatial, seasonal and inter-annual variability, *The Journal of Atmospheric Chemistry and Physics*, **10**, 4593-4616.
22. **Bagui, S.** Just, J., Bagui, S, and Hemasinha, R. (2010). Using a Cosine-type Measure to Derive Strong Association Mining Rules, *International Journal of Knowledge Engineering and Data Mining (IJKEDM)*, **1**(1), 69-83.
23. **Bagui, S.** and Musgrove, C. (2010). Optimizing Outerjoins in Large Databases Using Cluster Based Partitioning. *International Journal of Data Analysis and Information Systems (IJDAIS)*, **2**(2), 55-65.

24. **Bagui, S.** Islam, M., and Bagui, S. (2011). An Architecture for Query Optimization Using Association Rule Mining. *International Journal of Knowledge Based Organizations (IJKBO)*, 1(4), 32-55.
25. **Bagui, S.**, Brown, J., Caffrey, J., and Bagui, S. (2012). Designing a Relational Database for Tracking and Analysis of Atmospheric Deposition of Mercury and Trace Metals in the Pensacola (Florida) Bay Watershed, *International Journal of Sustainable Society (IJSSoc)*, 4(3), 240-265.
26. **Bagui, S.** and Sweetman, R. (2012). Modeling Service Data Objects (SDO's) To the Entity-Relationship (ER) Model, by Bagui and Sweetman. *International Journal of Information Technology and Web Engineering (IJITWE)*, 7(3), 14-36.
27. **Bagui, S.**, Spratlin, S., and Bagui, S. (2013). Calculating Support, Confidence and Lift in Multi-relational XML Data, *International Journal of Data Analysis and Information Systems (IJDAIS)*, Vol. 5(1), 13-27.
28. Goehring, G., Reichherzer, T., El-Sheikh, E., Snider, D., Wilde, N., **Bagui, S.**, Coffey, J., White, L.J. (2013). A Knowledge-Based System Approach for Extracting Abstractions from Service Oriented Architecture Artifacts in *International Journal of Advanced Research in Artificial Intelligence (IJARAI)*, Vol. 2(3), 44-52.
29. Bagui, S.C., **Bagui, S.**, and Hemasinha, R. (2013). Nonrigorous proofs of stirling's formula, *Mathematics and Computer Education*, Vol. 47(2), 115–125.
30. El-Sheikh, E., Reichherzer, T., White, L., Wilde, N., Coffey, J., **Bagui, S.**, Goehring, G., Baskin, A. (2013). Towards Enhanced Program Comprehension for Service Oriented Architecture (SOA) Systems, *Journal of Software Engineering and Application (JSEA)* Vol. 6(9), 435-445.
31. **Bagui, S.** and Zaynako, A. (2014). Determining Approximate Functional Dependencies using Association Rule Mining, *International Journal of Research in Computer Applications and Management (IJRCM)*, Vol. 4(1), 10-17.
32. **Bagui, S.**, and Bouressa, J. (2014). Mapping RDF and RDF-Schema to the Entity Relationship Model, *Journal of Emerging Trends in Computing and Information Sciences*, Vol. 5(12), 953-961.

33. Gonen, B., Fang, X., El-Sheikh, E., **Bagui, S.**, Wilde, N., Zimmerman, A. (2014). Ontological Support for the Evolution of Future Services Oriented Architectures, *Transaction on Machine Learning and Artificial Intelligence (TMLAI)*, Vol. 2(6), 77-90.
34. **Bagui, S.**, and Nguyen, L. (2015). Database Sharding: To provide fault tolerance and scalability of Big Data on the Cloud, *International Journal of Cloud Applications and Computing (IJCAC)*, Vol. 5(2), 36-52.
35. Fridge, E., and **Bagui, S.** (2016). Impact of Automated Software Testing Tools on Reflective Thinking and Student Performance in Introductory Computer Science and Programming Classes, *International Journal of Information and Communication Technology Education (IJICTE)*, 12(1), 24-40.
36. Bagui, S., **Bagui, S.**, and Hemasinha, R. (2016). The Statistical Classification of Breast Cancer Data, *International Journal of Statistics and Applications*, 6(1), 15-22.
37. **Bagui, S.**, Xingang, F., Kalaimmanan, E., Bagui, S., and Sheehan, J. (2017). Comparison of Machine Learning Algorithms for classification of VPN and non-VPN Network Traffic Flow Using Time-Related Features, *Journal of Cyber Security Technology*, 1(2), 108-126.
38. Xingang F., **Bagui, S.**, and Bagui, S. (2017). "Improving Virtual Screening Predictive Accuracy of Human Kallikrein 5 inhibitors using Machine Learning Models, *Computational Biology and Chemistry*, 69, 110-119.
39. Cox, A., Guzman, I., Crommer, K., **Bagui, S.** (2017). Virtual world, Virtual Reality, and Augmented Reality: Different Types, Different Users, Different Purchase Intentions, *Journal of Virtual Worlds Research*, 10(1), 1-21.
40. **Bagui, S.** and Devulapalli, K. (2018). A Comparison of Hive's Optimization Techniques, *International Journal of Big Data Intelligence (IJBDI)*, 5(4), 243-257.
41. **Bagui, S.**, and Spratlin, S. (2018). A Review of Data Mining Algorithms on Hadoop's MapReduce, *International Journal of Data Science*, 3(2), 146-169.
42. **Bagui, S.**, John, S., Baggs, J., Bagui, S. (2018). A Parallel Implementation of Information Gain Using Hive in conjunction with MapReduce for Continuous Features, *Lecture Notes in Computer Science*, submitted.

Refereed Publication in Encyclopedia

1. **Bagui, S.** (2006). Generalizations and Specializations and Categories in ER Diagrams, *Encyclopedia of Database Technologies*, Idea Group Publishing, 233-239.

Refereed Proceedings

1. **Bagui, S.** (2005). Rules for Migrating from ER and EER diagrams to Object-Relationship (OR) diagram, *Proceedings of the 43rd ACM Southeast (ACMSE) Conference*, **1**, 243-244, Kennesaw, GA, March 18-20 (acceptance rate – about 28%).
2. **Bagui, S.** and Walker, D. (2006). A Java Based Parser Software for Converting XML Documents to the ER Model and Relational Databases, *Proceedings of the 2006 International Conference on Semantic Web and Web Services*, 166-169, Las Vegas, Nevada, June 26-29 (acceptance rate – approx. 32%).
3. **Bagui, S.** (2007). Developing a conceptual model for XML Schema, *Proceedings of the 2007 International Conference on Semantic Web and Web Services*, 69-71, Las Vegas, Nevada, June 25-28 (acceptance rate – about 32%).
4. Prayaga, L., White, L., **Bagui, S.** (2009). Innovative Strategies to Build IT Workforce, *Proceedings of 22nd Conference on Software Engineering Education and Training*, 202-209.
5. **Bagui, S.** Mohammad, I. (2010). Query optimization in large databases using Association Rule Mining, *Proceedings of the 48th ACM Southeast Conference*, Oxford, MS, April 15-17.
6. El-Sheikh, E., **Bagui, S.**, Firesmith, D., Petrov, I., Wilde, N., Zimmermann, A. (2013). Towards Semantic-Supported SmartLife System Architectures for Big Data Services in the Cloud. *Proceedings of the 5th International Conferences on Advanced Service Computing*, May 27-June 1, Valencia, Spain, IARIA XPS Press.
7. Zimmermann, A., Gonen, B., Schmidt, R., El-Sheikh, E., **Bagui, S.**, and Wilde, N. (2014). Adaptable Enterprise Architectures for Software Evolution of SmartLife Ecosystem. *Proceedings of IEEE EDOC – SoEA4EE 2104: The Sixth Workshop on Service oriented Enterprise Architecture for Enterprise Engineering*, Sept. 1-5, 2014, Ulm, Germany.
8. Gonen, B., Fang, X., El-Sheikh, E., **Bagui, S.**, Wilde, N., Zimmermann, A., and Petrov, I. (2014). Maintaining SOA Systems of the Future: How Can Ontological Modeling Help?

Proceedings of KEOD 2014: *The International Conference on Knowledge Engineering and Ontology Development*, October 21 – 24, 2014, Rome, Italy.

Refereed Extended Abstracts

1. **Bagui, S.**, Mondal, A. and Bagui, S. (2018). Efficient KNN algorithm using Locality Sensitive Hashing in the MapReduce Framework, *Proceedings of the ACMSE 2018 Conference*, Eastern Kentucky University, Richmond, KY, March 29-31.
2. **Bagui, S.**, Dhar, P. (2018). Mining Positive and Negative Association Rules in Hadoop's MapReduce Environment, *Proceedings of the ACMSE 2018 Conference*, Eastern Kentucky University, Richmond, KY, March 29-31.
3. **Bagui, S.**, Nandi, D., Bagui, S. (2018). A Hybrid Genetic Algorithm for Network Intrusion Detection, *Proceedings of the ACMSE 2018 Conference*, Eastern Kentucky University, Richmond, KY, March 29-31.
4. **Bagui, S.**, John, S., and Baggs, J. (2018). A Comparative Study of MapReduce and Hive Based on the Design of the Information Gain Algorithm for Analytical Workloads, *Proceedings of the ACMSE 2018 Conference*, Eastern Kentucky University, Richmond, KY, March 29-31.

Book Chapters

1. Earp, R. and **Bagui, S.** (2000). Building An Entity Relationship Diagram: A Software Engineering Approach, *Data Management Handbook*, CRC Press, Auerbach Publications, **22-10-41**, Dec., 1-16.
2. Earp, R. and **Bagui, S.** (2001). Extending Relationships in the Entity Relationship Diagram, *Data Management Handbook*, CRC Press, Auerbach Publications, **22-10-42**, May, 1-14.
3. Earp, R. and **Bagui, S.** (2002). Binary Relationships in Entity Relationships in Entity Relationship (ER) Diagrams, *Data Management Handbook*, CRC Press, Auerbach Publications, **22-10-43**, April, 1-17.
4. **Bagui, S.** and Earp, R. (2003). Ternary and Higher-Order ER Diagrams, *Data Management Handbook*, CRC Press, Auerbach Publications, **22-10-44**, June, 1-21.

5. Wilde, N., **Bagui, S.**, Coffey, J., El-Sheikh, E., Reichherzer, T., White, L., Goehring, G., Terry, C., Baskin, A. (2013). Interoperable Systems and Software Evolution: Issues and Approaches, *Digital Enterprise Design and Management 2013, Advances in Intelligent Systems and Computing*, Volume 205, 2013, chapter 10, 45-56, Springer Berlin Heidelberg, doi={10.1007/978-3-642-37317-6_5}.

Other Publications

1. Earp, R., and **Bagui, S.** (2000). Oracle's Joins, *Oracle Internals*, **2**(3), 6-14.
2. Earp, R. and **Bagui, S.** (2001). Oracle's Triggers, *Oracle Internals*, **2**(10), 14-20.
3. Earp, R. and **Bagui, S.** (2001). An In-depth look at Oracle's Correlated Subqueries, *Oracle Internals*, **3**(4), 2-8.
4. **Saha, Sikha** (1988). Software Review of ENABLE, *Journal of Computer Based Instruction*, **15**(1).
5. **Saha, Sikha**, (1988). Book Review, Files and Databases, An Introduction, *Interfaces*, **18**(3).

Papers re-printed as Book Chapters

1. Earp, R., and **Bagui, S.** (2004). Oracle's Joins, *Oracle Internals: Tips, Tricks, and Techniques for DBAs*, edited by Donald K. Burleson, Auerbach Publications, Taylor and Francis Group.
2. Earp, R. and **Bagui, S.** (2004). Oracle's Triggers, *Oracle Internals: Tips, Tricks, and Techniques for DBAs*, edited by Donald K. Burleson, Auerbach Publications, Taylor and Francis Group.
3. Earp, R. and **Bagui, S.** (2004). An In-depth look at Oracle's Correlated Subqueries, *Oracle SQL Training and CBO Internals*, edited by Kimberly Floss, Rampant Press.
4. Earp, R., and **Bagui, S.** (2004). Oracle's Joins, *Oracle SQL Training and CBO Internals*, edited by Kimberly Floss, Rampant Press.
5. **Bagui, S.** (2008). An Approach to Mining Crime Patterns, *Data Warehousing and Mining: Concepts, Methodologies, Tools, and Applications*, edited by John Wang, IGI Global Publications.

6. **Bagui, S.** (2009). An Approach to Mining Crime Patterns, *Selected Readings on Database Technologies and Applications*, edited by Terry Halpin, IGI Global Publications.
7. **Bagui, S.** (2009). Mapping Generalizations and Specializations and Categories to Relational Databases, *Handbook of Research on Innovations in Database Technologies and Applications: Current and Future Trends*, edited by Viviana E. Ferragine, Jorge H. Doorn, Laura C. Rivero, Information Science Reference. ISBN-13: 9781605662428, 1-11.
8. **Bagui, S.** and Loggins, A. (2011). Automating the Generation of Joins in Large Databases and Web Services, *Web Engineered Applications for Evolving Organizations: Emerging Knowledge*, edited by Ghazi, I. Alkhatib, IGI Global Publications. ISBN: 978-1-60960-523-0.
9. **Bagui, S.**, Islam, M., and Bagui, S. (2012). An Architecture for Query Optimization Using Association Rule Mining, *Intelligence Methods and Systems Advancements for Knowledge-Based Business*, IGI Global.
10. **Bagui, S.**, and Nyugen, L. (2015). A Key Based Database Sharding Implementation for Big Data Analytics, *Advanced Research on Cloud Computing Design and Applications*, IGI Global (in press).

Workshops

1. Bilal Gonen, Xingang Fang, Eman El-Sheikh, Sikha Bagui, Norman Wilde, Semantic Traversing Documents by Using Semantic Relationships, *Workshop on Grand Challenges in Engineering and Applied Sciences*, Princeton University, Princeton, NJ, May 15-18, 2014.

Grant Reports

1. Caffrey, J., Landing, W., **Bagui, S.**, Bagui, S. (2009). *Atmospheric Deposition of Mercury or Trace Metals to the Pensacola Bay Watershed*, February 15, 2009.

Submittals/In preparation

43. **Bagui, S.**, Devulapalli, K., Coffey, J., “A Heuristic Approach for Load Balancing the FP-Growth Algorithm on MapReduce, submitted to *IEEE Transactions on Big Data*, July 28, 2017.
44. **Bagui, S.**, Devulapalli, K., Sharon, J. “MapReduce Implementation of a Mixed and Multinomial Naïve Bayes Classifier,” submitted to *Data and Knowledge Engineering*, Sept 14, 2018.

45. **Bagui, S.**, and Butler, J. “Mining Trends in Chronic Health Care Conditions in the United Stated from 2012-2015, submitted to IJHTM.

Series Editor for “Foundation for Database Design Books” for CRC press.

Books in this series:

1. Garmany, J, Walker, J., and Clark, T. (2005). *Logical Database Design Principles*, CRC Press, Auerbach Publications, ISBN: 0-8493-1853-X.
2. Chao, L. (2005). *Database Development and Management*, CRC Press, Auerbach Publications, ISBN: 0-8493-3318-0.

Editorial Board member:

- i. *International Journal of Data Analysis Techniques and Strategies (IJDATS)*.
 - ii. *World of Computer Science and Information Technology Journal (WSCIT)*.
 - iii. *Universal Journal of Computer Science and Engineering Technology (UniCSE)*.
 - iv. *Inventi Journals*, <http://www.inventi.in>
 - v. *Amity Journal of Engineering and Technology*.
 - vi. *Journal of Technologies* (<http://www.mdpi.com/journal/technologies>, ISSN 2227-7080).
 - vii. *Journal of Applied Information Science*
(<http://submission.publishingindia.com/index.php/JAIS>)
 - viii. *International Journal of Technology in Computer Science and Engineering (IJTCSE)*.
2. **Associate Editor:**
- i. *International Journal of Advanced Computer Science and Applications (IJACSA)*.

Technical Committee Member

International Conference on Intelligent Systems and Control (ISCO'2013).

REVIEWED

Articles for

IEEE Transactions for Data and Knowledge Engineering
IEEE Transactions for Parallel and Distributed Computing
IEEE/ACM Transactions on Computational Biology and Bioinformatics
IEEE Computer
Data and Knowledge Engineering
Pattern Recognition Letters
Journal of Big Data
Journal of Technologies

International Business Schools Computing Quarterly
Encyclopedia of Database Technologies and Applications
Iranian Journal of Electrical and Computer Engineering (IJECE)
Handbook for Technology Management
 ACMSE
International Journal of Data Analysis Techniques and Strategies (IJDATS)
International Journal of Knowledge Engineering and Data Mining (IJKEDM)
International Journal of Intelligent Information and Database Systems (IJIIDS)
International Journal of Advanced Computer Science and Applications (IJACSA)
Consortium for Computing Sciences in Colleges (CCSC)
International Journal of Computer Engineering Research (IJCER)
Data Science Journal
Journal of Systems and Software
Intelligent Systems and Control (ISCO 2013)
8th International Conference on Knowledge Generation, Communication and Management: KGCM 2014.
Information.
2nd International Conference on Information System and Data Mining (ICISDM 2017).
3rd International Conference on Information System and Data Mining (ICISDM 2018).

Grants for

1. Kentucky Science and Engineering Foundation, 2007; April 2012.
2. Kentucky Science and Engineering Foundation. Grant title: Tools for reusing data modeling patterns: Development and evaluation, 2008.
3. NSF Database Grant for Kennesaw State University, titled: Animated Database Courseware (ADbC), 2009.
4. Florida Consortium in Cybersecurity, 2014.
5. Florida Consortium of Cybersecurity (FC2) Seed Grant Program, 2014-2015.

Books

1. *Data Structures and Algorithms in C++* (2002), by Goodrich, Tamassia, & Mount, for John Wiley & Sons.
2. *Oracle – Physical Database Design* by Don Burleson, for CRC Press.
3. *GO Series in Microsoft Office, 2003*, for Prentice Hall.
4. *Quick, Simple MicroSoft Office 2000*, by Erickson, for Prentice Hall.

HONORS & AWARDS

Research Awards

1. Recipient of **2012 Distinguished Research and Creative Activities Award**, UWF.

2. Recipient of *2007 Distinguished Research and Creative Activities Award*, UWF.

Teaching Awards

1. Recipient of *Excellence in Teaching and Advising Award*, 2012, UWF.
2. Recipient of *Excellence in Undergraduate Teaching and Advising Award*, 2006, UWF.
3. Recipient of *Teaching Incentive Program (TIP) Award*, 2002-2003, UWF.
4. Recipient of *Excellence in Undergraduate Teaching and Advising Award*, 2001-02, UWF.

Other

- Nominated for *Distinguished Teaching Award* by Student Government, 2000-01, UWF.
 Recipient of Special Summer Graduate *Scholarship*, 1999, UWF.
 Recipient of Delores A. Auzenne Graduate *Fellowship*, 1999, UWF.

GRANTS RECEIVED

1. NSF funded travel grant for Sixth Annual Winter Workshop: Data Mining, Statistical Learning and Bioinformatics, UF Gainesville, January 2004, \$400.00.
2. Recipient of University Summer 2005 Research Award of \$6250, for proposal entitled, *Pattern Classification in Breast Cancer Data: A Data Mining Approach*.
3. Grant recipient of Graduate Research Assistant, from Graduate Office, UWF, Spring 2006, \$1,500.00.
4. Workshop: *Advanced SQL Server (Database) Training*, Operations IT Staff from Saufley Field, US Navy, L3 group (Summer 2005), conducted at ATC, UWF, \$5,000.
5. **Senior Key Personnel**, Electric Power Research Institute (EPRI) Grant, titled: *“Atmospheric deposition of mercury and trace metals in the Pensacola Bay Watershed Phase II”*, 2009, for \$287,020.
6. **Co-PI**, Florida’s Great North West Workforce Innovation Consortium Grant, North West Florida Computing and Engineering Training Scholarship Program (Fall 2009 – Dec 2010), \$1,000,000.
7. **Senior Key Personnel**, Electric Power Research Institute (EPRI) Grant, titled: *“Atmospheric deposition of mercury and trace metals in the Pensacola Bay Watershed Phase III”*, 2010, for \$287,020.

GRANTS SUBMITTED (Not funded)

1. PI, *Mining Breast Cancer Data*, grant submitted to Department of Defense, for approx. \$300,000 for 3 years. Submitted: 2002.
2. PI, Developing a Java Based Parser Software for Converting XML Documents to the ER and EER model and relational databases, for approx \$186.800, for 2 years. Submitted: August 2006.

3. Co-PI, STEP Grant: *Building Sustainable Futures Through STEM Program Initiative*, \$994,029, NSF 0856031, 5 years. Submitted: September 2008.
4. Co-PI, PRISM Grant: *PRISM Through Early Engagement of Introductory Level Students in Discovery and Research*, for \$960,625. NSF: 08-596 IRF, 3 years. Submitted: February 2009.
5. PI, Longitudinal Study of Multiple Lipid Indices to Predict Cardiovascular Disease, NIH Challenge Grants, RFA-OD-09-003, \$246,413, 1 year. Submitted: April 2009.
6. Senior Key Personnel for Synthesis and investigation of superconducting semiconductors and approach for a new generation of electronic components, submitted to AFOSR. Total: ~ \$1,500,000 in total for 5 years. Submitted: Summer 2009.
7. Co-PI, S-STEM Grant: Scholarships to Promote Interdisciplinary Undergraduate STEM Research, NSF Proposal Number: 1060363: \$598,785, 5yrs. Submitted: Summer 2010.
8. PI, TAACCCT, Department of Labor (DOL) Consortium grant, \$500,000, June 2014
9. Co-PI, H1b Grant, DOL Consortium grant, \$500,000, June 2014.
10. UWF PI, NSF Grant: Big Data Spokes SPOKE: SOUTH: Collaborative: The Academic and Professional Learning Initiative for Applied Data Science, \$400,000, February, 2016.
11. Senior Key Personnel. Project Title: Integrated Water Quality and Habitat-Use Monitoring to Evaluate Restoration Success in the Florida Panhandle Estuaries, \$1.46 million, Summer, 2017.
12. Co-PI, NSF Grant: IIS- BD Spokes: Small: South: Interactive Automated Data Analytics Using the Hadoop Framework – IADA, \$384,499, September 2017.
13. PI, NSF Grant: "CSS&E: D3SC: ChemVec - Context-aware representation learning algorithms to generate meaningful chemical fragment vectors and molecular vectors", \$282,876, October, 2017.
14. PI, NSF Grant: RET Site: Computer Science Research Experiences for Teachers Focused on Security of Internet of Things (IoT) and Data Analysis, \$599,190, October, 2017.

PRESENTATIONS

International Conferences

- 1. A Java Based Parser Software for Converting XML Documents to the ER Model and Relational Databases*, World Congress in Computer Science, WORLDCOMP 2007, Computer Engineering, and Applied Computing, Las Vegas, NV, June, 2006.
2. *Developing a Conceptual Model for XML Schema*, World Congress in Computer Science, WORLDCOMP 2007, Computer Engineering, and Applied Computing, Las Vegas, NV, June, 2007.
 3. *Optimizing Outerjoins in Large Databases using Cluster-based partitioning*, World Multiconference on Systemics, Cybenetics and Informatics (WMSCI) 2010, Orlando, FL June 29-July 2, 2010.
 4. *Role of Climate and Local Emission Sources in the Wet Deposition of Mercury and Major Ions in the Pensacola Region*, 10th International Conference on Mercury as a Global Pollutant (ICMGP), Halifax, Nova Scotia, July 24-29, 2011.
 5. *Temporal and Spatial Variability of Mercury, pH, and Non-Sea Salt Sulfate Fluxes Associated with Changes in Anthropogenic Emissions in the Pensacola Bay Region*, Eighth National Monitoring Conference, April 30 – May 4, 2012, Portland, Oregon.
 6. *Interoperable Systems and Software Evolution: Issues and Approaches*, Digital Enterprise Design & Management (DED&M), Paris, France, February, 2013.
 7. *Towards Semantic-Supported SmartLife System Architectures for Big Data Service in the Cloud*, SERVICE COMPUTATION 2013, The Fifth International Conferences on Advanced Service Computing, Valencia, Spain, May/June, 2013, <http://www.iaria.org/conferences2013>.
 8. *Ontology-Based SmartLife Enterprise Services Architectures for Big Data in the Cloud*, ESOC 2013, Malaga, Spain, September 11 – 13, 2013.
 9. Bilal Gonen, Xingang Fang, Eman El-Sheikh, **Sikha Bagui**, Norman Wilde, Alfred Zimmermann and Ilia Petrov, *Semantic Search to Support the Evolution of SmartLife Applications*, 9th International Joint Conference on Software Technologies, Vienna, Austria, August 29-31, 2014.
 10. Alfred Zimmermann, Bilal Gonen, Rainer Schmidt, Eman El-Sheikh, **Sikha Bagui**, and Norman Wilde, *Adaptable Enterprise Architectures for Software Evolution of SmartLife Ecosystems*, *The 18th IEEE International EDOC Conference (EDOC 2014) "The Enterprise Computing Conference"*, Ulm, Germany, September 1-5, 2014.
 11. Kalaimannan, E., Mitchell, C., **Bagui, S.** and Bagui, S. (2015). *An Automated Method of Classifying and Analyzing Malware based Operating System Calls*, Annual Computer Security Applications Conference, December 2015, Los Angeles, CA.
 12. **Bagui, S.**, John, S., Baggs, J., Bagui, S. (2018). *A Parallel Implementation of Information Gain Using Hive in conjunction with MapReduce for Continuous Features*, *PAISI, The 22nd Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, Melbourne, Australia, June 3-6.

National Conferences

1. **Bagui, S.** (2004). Discovering Crime Patterns in a State Database, University of Florida *Sixth Annual Winter Workshop: Data Mining, Statistical Learning and Bioinformatics*.
2. **Bagui, S.** (2005). Rules for Migrating from Entity Relationship (ER) and Extended Entity Relationship (EER) diagrams to Object Relationship (OR) diagrams, *ACMSE*, Kennesaw, GA, March 18-20.
3. **Bagui, S.** (2009). Database Education in the New Millenium, *Consortium for Computing Sciences in Colleges (CCSC)*, Hammond, LA, April 24-25.
4. Gonen, B., Xingang F. El-Sheikh, E., **Bagui, S.**, Wilde, N. (2014). Semantic Traversing Documents by Using Semantic Relationships, *Workshop on Grand Challenges in Engineering and Applied Sciences*, Princeton University, Princeton, NJ, May 15-18.
5. **Bagui, S.**, Mondal, A. and Bagui, S. (2018). Efficient KNN algorithm using Locality Sensitive Hashing in the MapReduce Framework, *ACMSE*, Richmond, KY, March 29-31 (poster presentation).
6. **Bagui, S.**, Dhar, P. (2018). Mining Positive and Negative Association Rules in Hadoop's MapReduce Environment, *ACMSE*, Richmond, KY, March 29-31 (poster presentation).
7. **Bagui, S.**, Nandi, D., Bagui, S. (2018). A Hybrid Genetic Algorithm for Network Intrusion Detection, *ACMSE*, Richmond, KY, March 29-31 (poster presentation).
8. **Bagui, S.**, John, S., and Baggs, J. (2018). A Comparative Study of MapReduce and Hive Based on the Design of the Information Gain Algorithm for Analytical Workloads, *ACMSE*, Richmond, KY, March 29-31 (poster presentation).

Regional Conferences/Symposiums

1. “*Database Development for Atmospheric Deposition in Pensacola Bay Watershed*”, Center for Environmental Diagnostics and Bioremediation (CEDB), University of West Florida, Pensacola, FL., Nov 6th, 2008.
2. “*Some Aspects of Skew-Normal Distribution*”, Presented at Mathematics Association of America (MAA) Florida Chapter Meeting, The University of West Florida, Pensacola, FL., Nov. 21, 2008.
3. “*Designing a Relational Database for tracking and analysis of Atmospheric Deposition of Mercury and Trace Metals in the Pensacola Bay Watershed*”,

Mercury Deposition Meeting, Organized by Center for Diagnostics and Bioremediation, University of West Florida, Pensacola, FL, Jan 13-15, 2010.

4. *Database Development for Tracking and Analysis of Atmospheric Data*, Hg Measurements Meeting, University of West Florida, Pensacola, FL., February 2-3, 2011.
5. *Spatial and Temporal Trends in Atmospheric Deposition of Mercury, Trace Metals and Major Ions in the Pensacola Bay Watershed*, Hg Measurements Meeting, University of West Florida, Pensacola, FL, February 2-3, 2011.
6. *Nonrigorous Proofs of Stirling's Formula*, presented at the Florida Chapter of the MAA Meeting, The University of University of West Florida, November, 2012.

Other Presentations

1. Presented several seminars on using Enable, DBASE III Plus, and Lotus 123 to faculty at The University of Toledo in 1987.
2. "*Multimedia, Hypermedia & CD-ROM technology*", presented at Kent State University, April, 1991.
3. "*Impact of Kolb's Learning Style on the Authoring of Multimedia/Hypermedia*", presented at The Department of Computer Science, The University of West Florida, Pensacola, FL, October, 2000.
4. "*Breast Cancer Detection Using Rank Nearest Neighbor Classification Rules*", presented in Joint Statistical Meetings of American Statistical Association, Atlanta, GA, August, 2001.
5. "*Mining Association Rules for Insurance Data*", presented at The Department of Computer Science, University of West Florida, Pensacola, FL, March, 2002.
6. "*Data Mining: Discovering Association Rules for Insurance Data*," invited talk, presented at The Department of Computer Science, Florida A&M University, Tallahassee, FL, July 2002.
7. Invited Panel Discussion: *Challenges facing Information Studies/Information Technologies*, participated at Florida State University, College of Information Studies, Tallahassee, FL, July 2002.
8. Invited talk: *Database Concepts*, College of Information Technology, Georgia Southern University, Statesboro, GA, October, 2002.
9. Invited talk: *Database Interface of VB.Net*, Roger Williams University, Bristol, RI, February, 2003.

10. “*Association Rule Mining*”, presented at The Department of Computer Science, Florida A & M University, Tallahassee, FL, July 2003.

Local Symposium Presentations

1. “*An Algorithm and Code for Computing Exact Critical Values for the Kruskal-Wallis Nonparametric One-Way ANOVA*”, presented at SEASTARS 2004, April 19, 2004 (poster session).
2. “*Discovering Crime Patterns in a State Database*,” presented at SEASTARS 2004, April 19, 2004 (poster session).
3. “*An Algorithm and Code for Computing Exact Critical Values for the Friedman’s Nonparametric ANOVA*”, presented at SEASTARS 2005, April 19, 2005 (poster session).
4. “*Rules for Migrating from Entity Relationship (ER) Diagrams*,” presented at SEASTARS 2005, April 19, 2005 (poster session).
5. “*A Java Based Parser Software for Converting XML Documents to ER Diagrams and Relational Databases*,” presented at SEASTARS 2006, April 26, 2006 (poster session).
6. “*An Algorithm and Code for Computing Percentiles of Skew-Normal Distributions*”, presented at SEASTARS 2006, April 26, 2006 (poster session).
7. “*SOA and Databases*”, departmental seminar series, Computer Science Department, Sept 8, 2008.
8. *Calculating Support, Confidence and Lift in Multi-relational XML Data*, SSE Seminar Series, Dec 7, 2012.
9. **Bagui, S.**, *The Transformation of Data*, Rite of Passage Lecture, The University of West Florida, March 28, 2014.
10. Gonen, B., Fang, X., El-Sheikh, E., **Bagui, S.**, and Wilde, N. (2014). *Semantic Traversing Documents by Using Semantic Relationships*. 2014 Faculty Research Showcase, University of West Florida, Pensacola, FL, April 24, 2014.
11. **Bagui, S.**, *Cybersecurity at UWF*, presentation made to UWF’s IT Pack, October 29, 2014.
12. **Bagui, S.**, *Cybersecurity, how does it work*, presentation made at Open House, April 11, 2015.

SERVICE

Departmental Service, Fall 1999 – Spring 2005

1. Departmental committees:

Undergraduate Committee (1999 - 2005); Online committee (2005); Chair Search committee (Spring 2005 – Summer 2005), Lecturer Search committee (Summer 2005), Java Programming Committee (COP2253) (Fall 2004 – 2005).

2. Course Coordinator commitments:

Aug 1999 – August 2005:

Microcomputer Application Packages (CGS 2570), Multimedia Systems (CGS 3994), Web Page Design (CGS 3823), Database Systems (COP 4710), Advanced Database Systems (COP 5715), Desktop Publishing (CGS 2580), Visual Programming (CGS 3464). Developed CCRs for the above courses during this period, and was instrumental in putting Microcomputer Application Packages online for the first time.

Summer 2001 to August 2005:

Database Systems (COP4710), Advanced Database Systems (COP5715), Data Structures and Algorithms (COP3530) (Summer 2001 – April 2003)

3. ABET coordinator for review for (Fall 1999 – Fall 2001):

Database Systems (COP 4710), Data Structures and Algorithms (COP3530).

4. Programming Competitions

1. Prepared, coordinated, and evaluated UWF's AITP C++ Programming Competition, Spring 2001.

2. Prepared students for Oracle's Nation-wide competition, 2000-01.

5. Directed Independent Study students: Spring 2009 – 3; Fall 2008 – 1; Fall 2007 – 1; Spring – 2; Fall, 2005 – 1; Spring 2005 – 1; Spring 2003 – 1; Summer 2002 – 1; Fall 2001 – 1.

6. Conducted Java Boot Camp, Fall, 2005.

Departmental Service, FALL 2006 – Present

1. Coordinator, Ed.D. Program, Computer Science specialization (2007 – 2015).

2. Coordinator, Medical Information Technology Program (2007 – 2013).

3. Coordinator for CS Department's Certificate programs (2006 – present).

Certificates developed:

i. Certificate in Database Systems (2007).

ii. Certificate in Web Technologies (2007).

iii. Certificate in Cybersecurity (2014).

iv. Certificate in GeoComputing (2014).

v. GeoCyber Certificate (2015).

vi. Data Science Certificate (2015).

4. MSDNAA Coordinator (2007 – 2010).

5. Program reviews:

- i. Chair, IT Program Review, 2009-2010.
- ii. Chair, CS Undergraduate and Graduate Program Review, 2013-2014.
- iii. Chair, IT Program Review, 2016-2017.

6. Committees served on:

a. Search Committees:

- i. Search committee, Office Support Specialist position (in Computer Science), member, Fall 2006
- ii. Chair, CS Faculty Search Committee, Fall 2009, Fall 2010.
- iii. Member, CS Department Faculty Search Committee, Spring, 2012.
- iv. Chair, CS coordinator/advisor search committee, Spring, 2012.
- v. Chair, Cybersecurity Faculty Search Committee, 2013-14.
- vi. Hiring official, Cybersecurity Office Administrator Search Committee, Summer, 2014.
- vii. Hiring official, Cybersecurity Advisor Search Committee, Summer, 2014.
- viii. Hiring official, IT Techie Search Committee, Fall, 2014.
- ix. Hiring official, Battle Lab Techie Search Committee, Fall 2014.
- x. Chair, CS Faculty Search Committee, 2014-15.

b. Other committees:

- i. Junior Faculty Mentoring committee (2005 – 2006)
- ii. Departmental Web Page development committee, 2007- present
- iii. SE Curriculum development committee, member, 2007-2008.
- iv. Grand Opening Planning Committee, member, Fall 2009.
- v. Assessment Committee, member, Summer 2010 – present.
- vi. Common Pre-requisites Committee, department representative, Spring 2011 – present.
- vii. Member, CS departmental scholarship committee, 2009 - present
- viii. Member, CS departmental assessment committee, 2011-present.
- ix. Chair, CS department strategic planning committee, 2013-present.
- x. Battle lab renovation committee, 2014-2015.

- xi. Hadoop Cluster Purchase committee, 2014-2015.
- xii. Chair, CS Department Equipment committee, 2014-present.
- xiii. Member, By-Laws Committee, 2014-present.

7. Developed CCRs for:

- i. Advanced Database Systems (COP6727) – graduate database course
- ii. Data Mining (CAP4770/5771) – dual listed data mining course
- iii. Database Administration (COP4723/5775) – dual listed course
- iv. CIS major, CIS minor, IT major, IT minor
- v. IT Tracks – Networking and Telecommunications Technologies, Human Computer Interaction, Information Technology, and Digital Enterprise.
- vi. MSIT program CCR, 2015.
- vii. MSIT/Cybersecurity specialization, 2015.
- viii. MSIT/Database specialization, 2015.

8. New Courses developed:

- 1. Advanced Database Systems (COP6727)
- 2. Data Mining(CAP4770/CAP5771)
- 3. Database Administration(COP4723/COP5775)

9. Online courses developed:

- 1. Database Systems (COP4710/COP5725)
- 2. Advanced Database Systems (COP6727)
- 3. Data Mining(CAP4770/CAP5771)
- 4. Database Administration(COP4723/COP5775)
- 5. Seminar in SOA(COP5990).

10. New Specializations developed:

- 1. MSA/DBA (2007).
- 2. MS/CS/DB (2010).
- 3. BS/CS/CyberSecurity (2013).

11. New Programs developed:

- 1. MSIT

- i. MSIT/Database Management (2015).
- ii. MSIT/Cybersecurity (2015).

12. Student recruitment efforts

1. Articulation with Junior Colleges: March 2007, March 2008.
 2. CS Department Open House: Jan 2007; Nov 2007; Feb 2009; Nov 2009; April 2010; June 13, 2011; June 16, 2011; June 20, 2011; June 23, 2011; July 14, 2011; Sept 17, 2011; Oct 15, 2011, Mar 17, 2012; Nov 2013; Nov 11, 2014; April 11, 2014;
 3. Pensacola Junior College visits: March 20, 2008, April 8, 2008.
 4. Holodeck presentation to Middle School teachers, April 16, 2010.
 5. West Florida High School, May 2011.
13. Coordinated, prepared and administered test for student – to test out of Web Page Design Course (CGS3823), Spring 2006.
14. Outreach Activities – visited: Alpha Data Corporation, FW Beach, NAS Pensacola, Bullet Technologies, General Dynamics, Pall Corporation, Cogon, App River, Avalex Technologies, Media Com, Coco, Beyond.com, Booz Allen Hamilton.
15. Participated in SSE Grand Opening Events, Feb 3-5, 2010.
16. Directed independent study students: (2009-2010): 12; supervised one honors thesis; coordinated 6 internships; and served on one master's committee.
17. Advising:
1. 2009-2010: 55 undergraduate advisees and 42 graduate advisees.
 2. 2010 – 2011: 60 undergraduate advisees and 45 graduate advisees
 3. 2011 – 2012: 55 undergraduate advisees and 48 graduate advisees
18. Chair, Ed.D. committee, 2011 – 2014.
19. International Collaborations:
1. Working with China, 2013.
 2. Working with Faith University in Turkey, 2014-2015
 3. Working with Reutlingen University in Germany, 2011 – present.
20. Meetings:
1. Organized and hosted Florida Consortium on Cybersecurity (FC2) at UWF's Department of Computer Science, Sept 16, 2014.

2. Committee member, STARTUP weekend, 2013-present.
3. Committee member, Cyberthon, 2015.

21. Articulation Agreements

1. Articulation with Pensacola State College

22. Non-Disclosure Agreements

1. General Dynamics IT (GDIT), February, 2015.
2. Los Alamos Technical Associates, Inc. (LATA), February, 2015.

23. Accreditations and Designations

1. Professional Master's Designation (PSM) for Master of Science in Administration, with a specialization in Cybersecurity.
2. CAE, 2015.

COLLEGE-WIDE SERVICE

1. Elections Committee (At Large), member, 2006 -2008, 2008-2010, 2011-2013, 2013-2015.
2. Academic Standards Committee, member, 2006-2009.
3. CAS Council, member, 2007-2010.
 - a. Chair, CAS Graduate Program Committee (CAS Council ad hoc committee), fall 2010.
4. Search Committee, Art Department, member, 2008.
5. Search Committee, CEDB, member, 2008.
6. Search Committee, Physics, member, 2008.
7. Tenure and promotion mentoring committee, Art Department, member, 2008-09, 2012-13.
8. Tenure and promotion mentoring committee, Biology, 2012-2013.
9. ATC Search Committee, member, Spring 2011.
10. Graduate Council, Fall 2018 – 2021.

UNIVERSITY-WIDE SERVICE

1. Excellence in Undergraduate Teaching and Advising Committee, member, 2002-2003.
2. Academic Technology Advisory Council (ATAC), member, Fall 2004 – 2006.

3. Faculty Merit Scholarship Program Review Committee, member, 2005 – 2006.
4. Faculty Phone-A-Thon, Admissions Office, UWF, student recruitment, Fall and Spring, 2006.
5. Excellence in Undergraduate Teaching and Advising Committee, member, 2007.
6. Co-chair, Faculty and Staff Campaign, UWF, 2007 – 2009; member, 2010.
7. Participated in UWF's Fund Raising Campaign – Great Futures Campaign, 2007.
8. Computer Science Video Clips for Office of Admissions (for recruitment), Summer 2009.
9. Faculty Video Profile for SSE, Summer 2009.
10. University Faculty Personnel Committee, 2010-2013.
11. Member of STRIDE task force (part of ADVANCE – NSF grant), 2012 – 2015
12. Member of ADVANCE (part of NSF grant), 2012-2015.
13. Member of Chair's Handbook Composition Committee, 2012-2013.

COMMUNITY SERVICE

1. Judge in Math/Computer Science Judge for 49th Annual West Panhandle Regional Science and Engineering Fair, February, 2004.
2. Lead judge in Math/Computer Science Judge for 50th Annual West Panhandle Regional Science and Engineering Fair, February, 2005.
3. Served for *Tsunami* fund raising event, January, 2005.

PROFESSIONAL SERVICE

1. Guided student in creating database for Gulf Coast Kids Club, Fall 2005.
 1. Developed Alumni database for Department of Computer Science, UWF, (Fall 2006-Spring 2007).
 2. Serving on Oracle Customer Advisory Panel, 2013 – 16.
 3. On Advisory Council, Florida Center for Cybersecurity (FC2), 2014-2016.
 4. Represent Department of Computer Science at Pensacola Chamber of Commerce, 2013-2016.

Conferences Chaired/Co-chaired

5. **Co-chaired** session at *World Multiconference on Systemics, Cybenetics and Informatics (WMSCI)* 2010, Orlando, FL June 29-July 2, 2010.
6. **Co-chaired** session at *PAISI, The 22nd Pacific Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, Melbourne, Australia, June 3-6.

Conferences Committees

1. Serving on *International Conference on Information Systems and Data Mining (ICISDM)* Committee, 2017-2018.

PROFESSIONAL DEVELOPMENT

1. Attended UWF's Mini-Conference on Best Practices for Active Learning and Student Engagement (March, 2007).
2. CUTLA Workshop on Writing and Evaluating Student Learning Outcomes, May 16, 2007.
3. UWF 2007 Mini-Conference on Best Practices for Face-to-Face and Online Learning: Promoting Active Learning and Student Engagement, UWF, Nov 8, 2007.
4. Completed **LEAD**, UWF's Leadership Training Program, 2007-08.
5. Studio-e – Training for Online Teaching, Fall 2007-08.
6. Attended 2011 ABET Symposium, April 14-16, 2011.
7. Attended Howie-in-the-Hills, September, 2012.
8. Attended SPOL – Strategic Planning Online Workshop, Oct 2013.
9. Attended workshop on Discrimination and Harassment for Supervisors, 10/1/2013.
10. Attended STEM Retention Workshop, 2/28/2014.
11. Attended UWF's Office of General Counsel's, "Identity Theft: Protecting Personal Information," Nov, 21, 2014.
12. Attended Diversity Recruitment, Hiring and Retention, Department Chair Workshop, Jan 28th, 2015.

PROFESSIONAL MEMBERSHIPS

Member of ACM 2004-05; 2010 – 2012; 2018 – present.

Member of UWF Charter of Upsilon Pi Epsilon, an International Honor Society for Computing and Information Disciplines (2006 – present).

STUDENTS GUIDED

Graduate Project Advisor

Dustin Mink, 2006-2007, Datamining; Gerald Rush, Bioinformatics with BLAST, 2008-2009; Paul Brown, AERO Project, NAS Pensacola, 2008-2009; Sandeep Ramani, Genetic Algorithm, 2007-2008; Adam Loggins, 2008-2009; Jiri Just, 2008-2009; Brandon Youngblood, Optimizing Queries, 2009 – 2010; Mohammad Islam, Optimizing Queries, 2009-2010; Cecil Musgrove, Optimizing Queries, 2009-2010; Duane Christi, Data Warehousing for Escambia County’s School Board System, 2009-2010; James Teichart, 2011-2011; Robert Lyons, Cloud computing, 2012; Sweta Ghosh, 2011-2012; Anton Parker, 2012-2013; Loi Nguyen, Database Sharding, 2012-2014; Sean Spratlin, Mining XML Data, 2011-2013; Mariko Young, Data Mining, 2011-2012; James Bouressa, RDF, 2013-2014; Robert Jamie White, Phishing, 2014; Mason Evans, SQL Injection, 2014; Xingang Fang, Chem-informatics, 2014-2015; Joseph Sheehan, 2015-2016, Malware Analysis; Sharon Kirthana John, 2017-2018; Debarghya Nandi, 2017-2018; Probal Chandra Dhar, 2017-2018; Arup Kumar Mondal, 2017-2018; John Baggs, 2017-2018; John Compo, 2017-2018.

Thesis Committees

Carlos Perez, 2009-2010

Dissertation Committees (Chair)

Evorell Fridge, 2011-2014; Sean Spratlin, 2014 – present.

Computer Science Department Honors Project Advisor

Tabatha DeJesus, Fall 2013

Directed Studies and Undergraduate Research

Damien Walker, Developing JAVA based Parser Software, 2005; Utkarsh Shah, Optimizing Queries, Summer 2008; Nicholas Fox, Optimizing Queries, Summer 2008; Clark Mitchell, Malware Analysis - Datamining, Summer 2015; Renan Lordello, SQL Injection Attacks, Summer 2015; Keenal Shah, 2018; Bhaynesh Mishra, 2018.

External Dissertation Committee:

Angie Cox, 2015, Trident University; Dustin Mink, University of South Alabama.

PostDocs:

Xingang Fang (2015-2016)

Curriculum Vitae

Jia Liu

Personal:

Current Position	Associate professor
Office Address	Department of Mathematics and Statistics
Phone:	850 474 3202
Email Address:	jliu@uwf.edu
Personal Website	http://www.uwf.edu/jliu

Education:

- Ph.D. Mathematics, Emory University, 2006.
- M.S. Mathematics, Central China Normal University, 2001.
- B.S. Mathematics, Central China Normal University, 1998, *with highest honor*.

Research Interests: Numerical Linear Algebra, Sparse Matrix Computations, Iterative Methods for Systems of Linear Equations, Preconditioning Techniques, Optimization, Complex networks, Machine Learning.

Publications:

1.J. Liu, *A priori estimate for nonlinear elliptic boundary value problem without divergence form*, J. Central China Normal Univ. Natur. Sci. 35(2001), no. 3, 267-269.

2.M. Benzi and J. Liu, *An efficient solver for the incompressible Navier-Stokes equations in rotation form*, SIAM J. Scientific Computing, 29 (2007), pp. 1959-1981. (*this work was supported by NSF grants:DMS-02075999 and DMS-0511336*)

3.M. Benzi and J. Liu, *Block preconditioning for saddle point systems with indefinite (1,1) block*, International Journal of Computer Mathematics, 84 (2007), pp. 1117-1129. Special issue on "Fast and Preconditioned Iterative Methods for Linear and Nonlinear Systems" (K. Chen, editor).

4.J. Liu, *Optimal Boundary Control of the Incompressible Fluid Problems in Rotation form*, Journal of Mathematics and Statistics 6(2): pp. 174-182, 2010

5.J. Liu and Z. A. Wang, *Classical solutions and steady states of an attraction-repulsion chemotaxis in one dimension*, Journal of Biological Dynamics, Online. doi:10.1080/17513758.2011.571722, 2011

6.J. Liu, *A comparative study of the block preconditioners of the incompressible fluid problems*, Journal of Mathematics and Statistics; 2011, Vol. 7 Issue 4, p255.

- 7.J. Liu , *An alternative Hermitian and Skew-Hermitian preconditioner for the incompressible Navier-Stokes problems in rotation form*, Special Issue on Preconditioning Techniques for Sparse Linear Systems, Journal of Applied Mathematics, Volume 2012 (2012), Article ID 307939, 12 pages. doi:10.1155/2012/307939
- J. Liu, L. Wu, *A fast iterative methods for unsteady incompressible flows*, ICCIS, 2013, 2013 Fifth International Conference on Computational and Information Sciences (ICCIS), 2013 Fifth International Conference on Computational and Information Sciences (ICCIS) 2013, pp. 910-913, doi:10.1109/ICCIS.2013.244.
- 8.J. Liu, L. Wu and X. Fang, *Using Python to Solve the Navier-Stokes Equations-Applications in the Preconditioned Iterative Methods*, volume 7, Journal of Scientific research and report, 2015, DOI : 10.9734/JSRR/2015/17346.
- 9.L. Wu, S. Wei, J. Liu and Y. Li, *Discovering Geometric and Topological Properties of Ellipsoids by Curvatures*, British Journal of Mathematics and Computer Science, volume 8, 2015. DOI : 10.9734/BJMCS/2015/17178
10. L. Wu, J. Liu and Y. Li, *Exploration of Calculus Teaching and Calculus Assessment through Artwork*, International Journal of Applied Research, 2015; 1(8): 731-135.
11. J. Liu, , *An efficient iterative solver for different incompressible flows* International Journal of Development Research , Vol 06, Issue 06, pp 8073-8076, June, 2016. (IF: 4.753)
12. L. Wu, J. Liu and Y. Li, *Discovering Liouville-type Problems for p -Energy Minimizing Maps in Closed Half-Ellipsoids by Calculus Variation Method*, World Academy of Science, Engineering and Technology International Journal of Mathematical, Computational, Physical, Electrical, and Computer Engineering, vol 10, no 10, 2016, pp 496-502.
13. J. Uvah, J. Liu and L. Wu *A Robust Preconditioned Iterative Method for the Navier-Stokes Equations with High Reynolds Numbers* , Applied and Computational Mathematics 2017; 6(4): 202-207 doi: 10.11648/j.acm.20170604.18
14. Wu, L. , Li, Y. , Liu, J. *Applying p -Balanced Energy Technique to Solve Liouville-Type Problems in Calculus*, World Academy of Science, Engineering and Technology, International Science Index 138, International Journal of Mathematical, Computational, Physical, Electrical and Computer Engineering, 12(6), 90 - 95. 2018
15. F. Hu, M. Wang, Y. Zhu* and J. Liu. *A Time Simulated Annealing-Back Propagation Algorithm and Its Application in Disease Prediction*, submitted to Journal of Applied Physics, current under the review.
16. F. Hu, Y. Zhu*, J. Liu and J. Jia *A modified spectral Clustering Algorithm for Detecting Communities in Complex Networks*, ready to submit.

Research Presentations and Activities:

- Invited talk: *Numerical solutions for large sparse matrices with the application of Python*, Central China Normal University, Wuhan, China, June 2017.
- Contributed talk: *Numerical solutions for turbulent channel flow with high Reynolds number*, 2nd symposium on international mathematics and computational science, Suzhou, China, 2017
- Contributed talk: *Using Python to solve Partial Differential Equations* The 2014 International Conference on Tensors and Matrices and their Applications, December, 2014, Suzhou, China.
- Invited talk: *the application of Python in solving Partial Differential Equations* International Conference on Partial Differential Equations and Variational Methods, May, 2014, Wuhan, China.
- Invited talk: *Linear algebra and Google*, UWF ADVANCE Scholar March Luncheon
- Contributed talk: *An Fast iterative method for Saddle point systems*, AMS joint national meeting, January 2012.
- Student Panel discussion: *How to be successful in Mathematics*, March 2011.
- Invited Panel discussion: STEM Symposium for Women, April 2011.
- Contributed talk: *An alternative Hermitian and Skew-Hermitian splitting preconditioner for the unsteady Oseen problem*, International Conference on Scientific Computation and Differential Equations. July, 2011.
- Invited one-hour talk: *Preconditioned techniques for large sparse linear systems*, Central China Normal University, Wuhan, China, June, 2010.
- Contributed talk: *Preconditioned techniques for Saddle Point Systems in rotation form*, AMS national meeting, San Francisco, January, 2010.
- Invited one-hour talk: *Preconditioned techniques for Saddle Point Systems*, International workshop of Linear Algebra in Control, Fudan University, Shanghai, China, July, 2007.
- Colloquium: *Preconditioned techniques for the Navier-Stokes equations*, Department of Mathematics, University of West Florida, February 16 2007.
- Contributed talk: *Preconditioned techniques for Saddle Point Systems with indefinite (1,1) block*, Hawaii international conference on Mathematics, statistics, and related fields, Honolulu, Hawaii, January, 2007.
- Contributed talk: *Preconditioned techniques for the Navier-Stokes problems in rotation form*, Ninth Copper Mountain Conference on Iterative Methods, Copper Mountain, CO, April, 2006.

Professional Services

- AIMS Mathematics, Editor board.
- Journal of Applied Mathematics, Editor board.

- International Journal of Scientific Engineering and Science, Editor board.

Service Activities:

- Graduate Council, UWF
- College Personnel Committee
- Resource Allocation Committee, Chair.
- Graduate Committee Chair, Department of Mathematics and Statistics.
- Search committee chair for multiple positions across the campus.
- International Faculty Discussion Panel.
- Open House events for perspective students
- Invited Speaker at McArthur Elementary School.
- American Mathematics Competitions 2007-present.
- Mathematics Tournament at Milton High School, 2007.
- Florida-China Linkage Institute Festival on the green.
- Invited Judge at Pensacola High School Mathematics competition.
- MAA Florida Local Chapter Meeting Committee, 2006-2010. Committee chair, 2010. *http :
//www.uwf.edu/mathstat/MAA/*
- CAS Resource Allocation Committee, Chair
- General Studies Committee
- CAS Council
- SEA STAR events.
- Student Research Symposium 2011.
- UWF Women in STEM.
- Employee Benefits Committee, 2013.
- Math/Stat Colloquium Committee, Chair
http : //www.uwf.edu/mathstat/colloquia/

Appendix E

University of West Florida Graduate Admissions and Graduation Requirements

ADMISSION AND GRADUATION REQUIREMENTS

<http://catalog.uwf.edu/graduate/academicpolicies/graduation/>

GENERAL INFORMATION

The Graduate School administers the application, admission, and readmission process for all degree-seeking and non-degree seeking graduate students. It also assists prospective graduate students in obtaining information about UWF.

General Policies

The University of West Florida encourages applications for admission from qualified students regardless of gender, culture, religion, ethnic background, age, marital status, or disability. Students with documented visual impairments, hearing impairments, motor impairments, or specific learning disabilities may petition for substitution of admission requirements provided such substitution does not significantly alter the nature of the program for which admission is being sought. For more information about the University's admission requirement substitution policy contact the Graduate School.

Admission of students to the University of West Florida is within the jurisdiction of the University, but subject to the minimum standards adopted by the UWF Board of Trustees and the Florida Board of Governors.

Conditions of Admission

The Graduate School will notify the applicants of the admission decision. Admission to the University is often contingent upon the subsequent receipt of satisfactory and official college or university transcripts and verification of baccalaureate degrees. Failure to submit such documents may result in the cancellation of admission. Refer to [Provisional Admission](#) for more information.

Ownership of Submitted Documents

All credentials and documents submitted become the property of the University of West Florida. The originals or copies of the originals will not be returned to the applicant or forwarded to another institution, agency, or person.

Fraudulent Records

If it is found that an applicant has made a false or fraudulent statement or a deliberate omission on the application for admission, the residency statement, or any other accompanying documents or statements, the applicant may be denied admission. If the student is already enrolled when the fraud is discovered, the case will be adjudicated using the procedures specified for violations of the UWF Student Conduct System as contained in the [Student Handbook](#).

Applicant Conduct

The University shall evaluate an applicant's previous conduct to determine whether offering the applicant admission is in the best interest of the University. Applicants with a record of previous misconduct at an educational institution or criminal conduct will be evaluated during the admission process in accordance with [UWF/REG 3.003](#).

Request for Admission for a Later Semester

Applicants are admitted to the University only for the semester for which they apply. Students who do not enroll in the semester for which they have been admitted and want consideration for a different semester must reapply for admission and pay another application processing fee. Applicants will be considered for admission under the policies in effect at that time. Admission is not automatic. If an applicant has attended, or is currently attending, another collegiate institution since the submission of the previous application, the applicant must indicate the institution on the new application and provide an official transcript of all work attempted.

Admission Documents Required

Applicants for graduate admission must provide the Graduate School with the following documents:

Application for Admission

Applicants must apply for [graduate level admission online](#). The application for admission and a non-refundable, non-deferrable \$30 processing fee payable to the University of West Florida, should be submitted six to nine months prior to the semester for which admission is requested. It is the policy of the University not to defer or waive the application for admission and the application processing fee. The application processing fee must be in U.S. currency and drawn from a U.S. bank. There is an option to pay via credit card when the web application is submitted.

College Transcripts

Applicants must submit one official transcript from each college and university attended to the Graduate School. Applicants who received their undergraduate degree from UWF do not need to provide UWF transcripts. Transcripts are considered official when they are sent from a college or university directly to the Graduate School and bear an official seal and signature. Transcripts bearing the statement "Issued to Student," faxed transcripts, or transcripts submitted by the applicant are not considered official. Original documents, or signed officially certified photocopies of original documents, may be submitted by the applicant only when institutions outside the U.S. will not send academic records to other institutions. The verifying signature should preferably be that of an officer of the institution attended. All academic records that are not in English must be accompanied by certified English translations.

Test Scores

Official test results from a nationally standardized graduate admission test are required for all applicants unless otherwise specified by the graduate program to which the applicant is applying.

Applicants should contact the graduate department for which he/she applied to inquire as to which test is acceptable for that program or if it may be waived. The University of West Florida accepts the Graduate Record Examination (GRE), the Miller Analogies Test (MAT), and the Graduate Management Admissions Test (GMAT). For the majority of departments, it is recommended that the graduate admission test be taken no later than April for the fall semester, August for the spring semester, or January for the summer semester. Applicants should contact the specific department for departmental deadlines for admission tests. Applicants to the Ed.D. program should take the GRE, MAT, or GMAT one year prior to desired admission. The test scores are considered official only when they are sent directly to the Graduate School from the testing agency. Examinee copies are not considered official. The GRE, GMAT, and MAT are offered several times a year at numerous testing centers in the U.S. and abroad. Advanced registration is required. Registration forms, as well as detailed information on the availability and character of the examinations, may be obtained from the UWF Testing Center.

Departmental Requirements

Some departments have additional admission requirements such as auditions, portfolios, goal statements, letters of recommendation, departmental applications, writing samples, personal interviews, and diagnostic testing. Applicants should contact the department directly regarding any departmental admission requirements.

Deadlines for Applications and Supporting Documents

The final deadlines for applications and supporting documents for graduate applicants are: Because some departments have earlier deadlines, applicants should contact the specific academic departments for departmental deadlines. It is in an applicant's best interest to apply early. Files completed after the published deadlines may not be processed in time for the applicant to be considered for enrollment in the desired semester.

Application for Graduation

Applications for Graduation are submitted for the term in which the student is completing their degree requirements. All applications must be submitted during the application period. Specific dates are noted in the [Academic Calendar](#). Students who miss the deadline should contact their academic department to determine eligibility and to request a late submission. Students submitting a late application risk not being included in the commencement program important graduation communication.

Retroactive graduation to a prior semester will not be approved.

Master's and Specialist Degrees

Students fulfilling requirements for a UWF master's or specialist degree must follow the instructions for [Applying for Graduation](#) and also the [Graduation Guide](#).

GRADUATION PROCESS

Degree Requirements

All degree requirements must be complete by the last day of the semester for which the graduation application is submitted. Students whose Graduation Application is denied for any reason or do not meet the requirements for graduation must submit a new application for the semester in which the requirements are met.

Good Standing Status

A student must be in good standing to receive a UWF degree. Accordingly, any student who is subject to suspension or probation for scholastic or disciplinary reasons will not graduate until the conditions of suspension or probation have been satisfied.

Appendix F

National/International Organizations Hiring Data Scientists in Northwest

Florida

Business Intelligence Data Analyst

Capstone Corporation - Pensacola, FL

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Capstone is seeking an Analyst II to support the Navy's Manpower Personnel Training Education Enterprise (MPTE) Technical Services Support (TSS) contract.

- Performs initial screening and processing of all application requests, reviews and ensures accuracy of account applications, tracks account status, notifies users when accounts are created, disabled or require updating, and maintains statistics on account status.
- Communicates to the Project Director on all requests for assistance regarding significant issues.
- Maintains a database for tracking of all requests for assistance.
- Provides assistance in building queries, interpretation of data, and identification of data required to support functional requirements.
- Works with functional representatives to document functional requirements for expansion of the systems to meet evolving needs of users.
- Supports the definition and documentation of new requirements.
- Provides ad hoc reports in support of FLTMPs analysis and customer requests for special reports.
- Designs/drafts new reports to support customer requirements for inclusion into existing applications.
- Conducts a monthly review of all ad hoc reports generated in support of customers and the analysis conducted to identify possible applicability to other users.
- Forwards all requests for on-site training outside San Diego, Norfolk or Pensacola to the NTMPS Project Director.
- Develops Student Handouts that summarize the training sessions, except those conducted on-site in Pensacola and training conducted by Analysts shall be conducted remotely using web conferencing/meeting software.
- Assists customers in entering completions records for various courses of instruction.

Minimum education and experience:

- Bachelor's degree in information technology, computer science, mathematics, statistics, business, engineering, or physical science.
- Six (6) years of Data Analysis, Statistical Analysis, Problem Solving, Content Management, Software and Network Programming experience.

Minimum qualifications:

- Candidate must have data analysis experience for technical system performance reporting, for service quality reporting, service consumption reporting, or some combination of each.
- Candidate professional experience must include solicitation and refinement of information reporting requirements, communication of data gaps and gap impacts, collaboration with data owners for access to data sources.

Minimum clearance:

- DoD Secret clearance.

Job Type: Full-time

Benefits offered:

- Paid time off
- Parental leave
- Health insurance
- Dental insurance
- Other types of insurance
- Healthcare spending or reimbursement accounts such as HSAs or FSAs
- Retirement benefits or accounts
- Education assistance or tuition reimbursement
- Child Care benefits
- Commuting/travel assistance

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If you require alternative methods of application or screening, you must approach the employer directly to request this as Indeed is not responsible for the employer's application process.

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Data Analyst 122650

University of West Florida Pensacola, FL

University of West Florida - 10 days ago



IT Business Analyst

Capstone Corporation Pensacola, FL

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4 days ago



Help Desk Analyst 122350

University of West Florida Pensacola, FL

University of West Florida - 5 days ago



EMR TRAINING & DEVELOPMENT II

Lakeview Center Inc. Pensacola, FL 32501

Lakeview Center Inc. - 4 days ago



Manufacturing IT & Control Systems Analyst Job

Armstrong World Industries Pensacola, FL

Armstrong - 7 days ago



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Business Intelligence Analyst jobs in Pensacola, FL

Jobs at Capstone Corporation in Pensacola, FL

IT Business Analyst

Capstone Corporation - Pensacola, FL

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Capstone Corporation

54 reviews

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Capstone is seeking an IT Business Analyst to support the Navy's MPTE TSS located in Pensacola, FL. This analyst position supports the development and maintenance of Navy training systems. The analyst facilitates communication and understanding between the business and project team, and is responsible for evaluating business needs, defining use cases/user stories, and identifying the appropriate solutions. The ideal candidate for this position will have experience eliciting software requirements from stakeholders, analyzing and documenting those requirements with either Waterfall or Agile documentation, and translating the requirements into a format understandable to the software developers. Other responsibilities will include developing and executing test scripts or scenarios; facilitating user acceptance testing; creating and tracking system projects; addressing system incidents and documenting solutions; responding to informational requests; and providing other related support to our Navy customer with a sense of urgency and due professional care.

- Collaborates with the team during Sprint Planning and participate in the planning to accomplish items from backlog.
- Participates in daily stand-up meetings, planning meetings, reviews, and retrospectives.
- Participates in backlog management and maintain an emphasis on user experience and specifications.
- Develops clear, specific, and testable acceptance criteria, and create and execute test scenarios and scripts.
- Provides Tier 2 trouble-shooting support on assigned applications for the Naval Education and Training Command Information Technology department.
- Utilizes strong written and verbal communication skills to work well with teams as well as independently.
- Analyzes and evaluates Commercial Off The Shelf (COTS) products to assess the feasibility and usability of the product to best support operations that are related to the project.
- Develops and documents a gap analysis, details the functional capabilities satisfied by the COTS, and identifies strengths and weaknesses.
- Utilizes current SQL-based products and tools for extraction and reporting of information to support business requirements analysis and development. Products may include TOAD, PL/SQL Developer, or Oracle Business Intelligence.
- Demonstrates experience with software testing methodologies.
- Demonstrates proficiency using Microsoft office suite 2010/2016 and related tools.
- Utilizes strong problem solving, critical thinking, and analytical skills.

Minimum education and experience:

- Bachelor's degree in Information Technology, Management Information Systems, Computer Science, Mathematics, Statistics, Business, Engineering, or Physical Science.
- 3 years of data analysis, statistical analysis, problem solving, and business process improvement experience.

Minimum qualifications:

- Data analysis, statistical analysis, problem solving, and business process improvement experience.
- Advanced skills in Microsoft Office..

Certification:

- Must obtain IAT Level II certification (CCNA Security or SA+ or GICSP or GSEC or Security+CE or SSCP) within 6 months of hire date.

Minimum clearance:

- Secret.

Job Type: Full-time

Benefits offered:

- Paid time off
- Parental leave
- Dental insurance
- Health insurance
- Healthcare spending or reimbursement accounts such as HSAs or FSAs
- Other types of insurance
- Retirement benefits or accounts
- Education assistance or tuition reimbursement
- Child Care benefits
- Commuting/travel assistance

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Other jobs you may like

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Capstone Corporation Pensacola, FL

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IT Business Analyst

Capstone Corporation Pensacola, FL

Capstone Corporation - 2 days ago



Help Desk Analyst 122350

University of West Florida Pensacola, FL

University of West Florida - 5 days ago



IT Support Analyst

Ascend Performance Materials Pensacola, FL

Ascend Performance Materials - 6 days ago



Windows System Administrator

Raytheon Pensacola, FL 32502

Raytheon - 21 days ago



IT Analyst jobs in Pensacola, FL

Jobs at Capstone Corporation in Pensacola, FL

IT Analyst salaries in Pensacola, FL

Business/Systems Analyst

CACI - Pensacola, FL 32508

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Job Description

What You'll Get to Do:

Conducts analysis on work procedures and recommends changes to improve the effectiveness of the organization's processes/procedures. Able to perform studies on ways to increase efficiency. Collects and analyzes quantitative and qualitative data including financial and cost data, builds process models, develops solutions or alternative practices, collects and organizes information from a variety of sources, and recommends process, procedures, or organizational changes.

- Acts as liaison between end-user communities, stakeholders, and service providers within an enterprise
- Interviews personnel from functional user area under study to learn general purpose of systems and information requirements of positions involved in the data flow
- Analyzes business and user needs, documents requirements, and revises existing system logic difficulties as necessary.

More About the Role:

- Assesses information and sources to ensure data collected is relevant to the core issue.
- Identifies issues or gaps and devises appropriate next steps.
- Practical understanding of statistics.
- Familiarity with a variety of the field's concepts, practices, and procedures.
- Relies on experience and judgment to plan and accomplish goals.
- Prepares reports and/or presentations.
- A high degree of creativity and latitude is expected.

You'll Bring These Qualifications:

- Typically has a University Degree or equivalent experience and minimum 3 years of related work experience.
- Requires active SECRET Clearance

These Qualifications Would be Nice to Have:

- Knowledge of Navy Personnel data and business rules.
- Ability to work as a team member in a diverse group; ability to deal effectively with both Government and contracted workforce members.

What We Can Offer You:

- We've been named The Top Place to Work by the Commercial Appeal.
- Our employees value the flexibility at CACI that allows them to balance quality work and their personal lives.
- We offer competitive benefits and learning and development opportunities.
- We are mission-oriented and ever vigilant in aligning our solutions with the nation's highest priorities.
- For over 55 years, the principles of CACI's unique, character-based culture have been the driving force behind our success.

Job Location

US-Pensacola-FL-PENSACOLA-EGLIN AFB

CACI employs a diverse range of talent to create an environment that fuels innovation and fosters continuous improvement and success. At CACI, you will have the opportunity to make an immediate impact by providing information solutions and services in support of national security missions and government transformation for Intelligence, Defense, and Federal Civilian customers. CACI is proud to provide dynamic careers for employees worldwide. CACI is an Equal Opportunity Employer - Females/Minorities/Protected Veterans/Individuals with Disabilities.

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 Niceville, FL

 job title, keywords

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Data Scientist in Niceville, Florida

Data Scientist

Description

ABOUT THIS POSITION

- The successful candidate will be part of the KBRwyle team supporting the Test Resource Management Center's (TRMC) Big Data (BD) and Knowledge Management (KM) Team working on prototype BD and KM systems for DoD testing Ranges and various acquisition programs.
- The successful candidate will support our customers with insights gained from analyzing DoD Test & Evaluation data.
- The ideal candidate is adept at using large data sets to find opportunities for process/workflow optimization and using models to test the effectiveness of different courses of action.
- They must have strong experience using a variety of data mining/data analysis methods, using a variety of data tools, building and implementing models, using/creating algorithms and creating/running scripts and reports.
- They must have a proven ability to drive decisions with their data-based insights.
- They must be comfortable working with a wide range of stakeholders and functional teams.
- The right candidate will have a passion for discovering solutions hidden in large data sets and working with stakeholders to improve business outcomes.
- The successful candidate will be expected to utilize BD and KM tools and follow processes that ensure high quality products are delivered.

[Apply Now](#)



Current Search Criteria

Data Scientist

Niceville

Florida

Clear All

- The successful candidate will have extensive technical expertise in data science, academic or industry experience, and have excellent communication skills. As a Data Scientist, you will be part of a technical team responsible for evaluating customer requirements pertaining to complex big data analytic challenges.
- You will meet frequently with DoD analysts to discuss needs and effectively communicate solutions at both a programmatic and technical level.
- This team will provide analytical services and solutions to various DoD testing Ranges and acquisition programs.
- You will be responsible for developing and implementing solutions using machine learning tools, statistical data analytics, and providing input on the design and development of analytical products and reports.
- You will work in design, maintenance, completion, and end user training for a highly visible data analytic project, at multiple DoD ranges, creating efficient solutions with the goal of ultimately improving data analytics within DoD Test and Evaluation.
- Data Scientists of all seniority levels are encouraged to apply and will be considered.
- This position will require travel of at least 1 week a month to support end users located at various DoD Ranges in the CONUS.
- Come join the BD and KM team on the ground floor and be a part of the team responsible for revolutionizing how data analysis is performed across the entire Department of Defense!

Qualifications

REQUIRED QUALIFICATIONS:

- This position requires a bachelor's degree in Computer Science, Data Science, Statistics or related, technical field, and 7-10 years of experience. Advanced degrees may be substituted for years of experience on a year-for-year basis. Data Scientists of all seniority levels are encouraged to apply and will be considered.
- Previous experience must include five (5) years of hands on experience in big data analytics or machine learning.
- Strong command of principles of: statistical analysis, data mining algorithms, mathematical segmentation, machine learning, and modeling.
- Proven analytical skills and experience in handling large volume of data.
- Experience in dealing with imperfections in data.
- Experience in implementing Data Visualization solutions.

Security clearance:

Active or Current Secret Clearance required - Top Secret Clearance preferred.

Knowledge / Skills / Abilities:

- Well-rounded skills in data science: computer programming (e.g., Python, R), data structures (e.g., SQL, Hadoop), statistics (e.g., Bayesian modelling), data visualization (e.g., Tableau), modeling and simulation are required.
- Proficiency using Python or R programming language

- One-year experience developing applications using Big Data databases (e.g., Accumulo, HBase, MongoDB, Cassandra)
 - Experience with some of the following: Hadoop, Cloudera, Hortonworks, Apache Storm, Apache Spark, HBase, YARN, map-reduce, big-data analytics, semantic-web (RDF, OWL), and graph-databases.
 - Experience with working in teams in the data science industry is preferred.
 - The Data Scientist must have the ability to work closely with other scientists or software engineers to develop the best technical design and approach for new analytical products.
 - Ability to problem solve, debug, and troubleshoot while under pressure and time constraints is required.
 - Expertise in statistical data analytics, machine learning, open source and proprietary tools and applications. Must have an excellent knowledge of advanced methods, and experience in applying those methods to solve problems.
 - Ability to communicate effectively about technical topics to both experts and non-experts at both the management and technical level is required.
 - Excellent interpersonal skills, oral and written communication skills, and strong personal motivation are preferred.
 - Knowledge of software design patterns, and Agile Development methodologies is a plus.
 - Ability to work independently and provide appropriate recommendations for optimal analysis and development.
 - Excellent written and verbal communications skills are required, as the Data Scientist will be in frequent contact with the project technical lead, be taking direction from various government leads, and will frequently be interacting with end users to gather requirements and implement solutions while away from other team members.
- ADDITIONAL QUALIFICATIONS**The preferred candidate will have experience working in government/defense labs and their computing restrictions. Knowledge of the Test and Training Enabling Architecture (TENA), the Joint Mission Environment Testing Capability (JMETC), and Distributed Testing and Training. Experience working with major DoD Acquisition programs such as Joint Strike Fighter (JSF) or Missile Defense Agency (MDA) is a plus. Knowledge of DoD Cybersecurity policies.

WHO WE ARE:

KBRwyle is KBR's global government services organization. We deliver mission critical, full life cycle services that improve military readiness, drive innovation, and help ensure mission success. Since WWII, we have led many of the federal government's most important programs in the areas of defense, space and technology. Today, our employees are solving some of the world's most challenging problems and inspiring the future. KBRwyle core capabilities include engineering, engineering, operations, logistics, science, program and acquisition management, IT, cyber and security services.

Learn more about KBRwyle by visiting <http://www.kbrwyle.com/> .

KBR is an equal opportunity employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, disability, sex, sexual orientation, gender identity or expression, age, national origin, veteran status,

genetic information, union status and/or beliefs, or any other characteristic protected by federal, state, or local law.

Job: Systems Engineering

Primary Location: US-US-FL-Niceville

Req ID: 1077516

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Consulting Support Analyst I, Performance Improvement - Pensacola, FL (2019 Start)

Huron Consulting Group Inc. - Pensacola, FL

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Huron Consulting Group Inc.

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At Huron, you have the opportunity to discover your professional passions by being an integral part of our teams and getting exposure to a variety of projects. Our Analysts join us from a wide range of backgrounds and have immediate access to the training and coaching they need to drive impact and develop into the innovators and leaders of tomorrow. We provide the opportunity to enhance analytical skills while working as part of a team committed to developing creative insights, implementing processes, and driving tangible results.

The Consulting Support Analyst I supports various Performance Improvement consulting engagements through data gathering and analysis, functional and technical research regarding clients' processes and work, account sampling, technical testing, and research/resolution of technical issues regarding Huron's tools. Work is completed in the Pensacola office off-site from the client engagement teams, who are deployed at healthcare providers across the country. As such, this role requires frequent and effective communication via phone, email, and instant messaging. Direct client contact will vary by project, client, and task. Strong oral and written communication skills, analytical skills, ability to work independently and be self-motivated are required.

We pride ourselves on our company culture and the quality of character of our employees. We hold ourselves to the highest standards of professionalism, in order to meet the high expectations of both our clients and ourselves. At Huron you can expect to make an impact and develop to your greatest potential.

This position is located in our Pensacola, FL office.

Qualifications:

- Four-year bachelor's degree
- Strong performance in your degree of choice, with a minimum cumulative GPA of 3.0
- Highly proficient in Microsoft Excel and other Microsoft Office products

About Huron:

At Huron, we're redefining what a consulting organization can be. We go beyond advice to deliver results that last. We inherit our client's challenges as if they were our own. We help them transform for the future. We advocate. We make a difference. And we intelligently, passionately, relentlessly do great work...together.

Are you the kind of person who stands ready to jump in, roll up your sleeves and transform ideas into action? Then come discover Huron.

Whether you have years of experience or come right out of college, we invite you to explore our many opportunities. Find out how you can use your talents and develop your skills to make an impact immediately. Learn about how our culture and values

provide you with the kind of environment that invites new ideas and innovation. Come see how we collaborate with each other in a culture of learning, coaching, diversity and inclusion. And hear about our unwavering commitment to make a difference in partnership with our clients, shareholders, communities and colleagues.

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IT Specialist Mid (*ACTIVE SECRET CLEARANCE REQUIRED*)

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SECRET CLEARANCE REQUIRED
COMPTIA SECURITY+ REQUIRED

Job Description/Duties:

Under general direction, applies specialized knowledge in a single discipline such as assembly/integration, cross-discipline functions, data engineering, industry expertise, knowledge engineering or legacy evolution.

- Applies specialization to conceptualize, design, construct, test and implement portions of business and technical information technology solutions through application of appropriate software development life cycle methodology.
- Interacts with the customer to gain an understanding of the business environment, technical context and organizational strategic direction.

- Defines scope, plans and deliverables for assigned projects.

- Collects, identifies, defines and organizes detailed user and information technology requirements.

Coordinates and collaborates with others in analyzing collected requirements to ensure plans and identified solutions meet customer needs and expectations. Confirms and prioritizes project plans and deliverables with the customer.

- Participates in business and technical information technology solution implementations, upgrades, enhancement and conversions.
- Understands and uses appropriate tools to analyze, identify and resolve business and or technical problems.
- Applies metrics to monitor performance and measure key project criteria.
- Prepares system documentation.
- Establishes and maintains security, integrity and business continuity controls and documents. Participates in special studies.
- Stays current on emerging tools, techniques and technologies.
- Assists information engineers on application of specialized knowledge to coding, testing, implementation and documentation projects.

Qualifications

- High school Diploma or General Equivalency Diploma (GED)
- 4-9 years of related experience in information systems.
- Valid DoD 8570: A+ce Certification (could accept Network +ce, Security +ce, or CISSP). If expiration date of Certification is less than 60 days from hire date, must provide a CompTIA report showing candidate has at least 75% of required CE Units needed to renew cert on file with CompTIA. P

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Bay State Pensacola, FL

Bay State - 5 days ago



Security Analyst (CIRT)

Novel Applications of Vital Information Pensacola, FL

Easily apply

17 days ago



Business Intelligence Data Analyst

Capstone Corporation Pensacola, FL

Easily apply

4 days ago



IT infrastructure specialist

Mott MacDonald Pensacola, FL

Mott MacDonald - 30+ days ago



Risk Management Framework, Information Assurance, Assessment, and Authorization Specialist

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Booz Allen Hamilton - 6 days ago



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Database Engineer

NBS Enterprises, LLC in Pensacola, FL, USA

Computers/Software | Pensacola, FL

Title: Database Engineer

Location: Pensacola, FL

Emp Status: Regular / Full-time

PRIMARY FUNCTION

Solutions3, LLC, based out of Mahwah, NJ is seeking a junior to mid-level Database Engineer to support a contract in Pensacola, FL. In this role, the qualified candidate will provide technical expertise for database design, development, implementation, information storage and retrieval, data flow and analysis. You will develop relational and/or Object-Oriented databases, database parser software, and database loading software. You will be responsible for developing a database structure that fits into the overall architecture of the system under development and has to make trades among data volumes, number of users, logical and physical distribution, response times, retention rules, security and domain controls. You will work primarily at the front end of the lifecycle-requirements through system acceptance testing and Initial Operational Capability (IOC). You will develop requirements from a project's inception to its conclusion for a particular business and Information Technology (IT) subject matter area (i.e., simple to complex systems). You will assist with recommendations for, and analysis and evaluation of systems improvements, optimization, development, and/or maintenance efforts. You will translate a set of requirements and data into a usable document by creating or recreating ad hoc queries, scripts, and macros; updating existing queries, creating new ones to manipulate data into a master file; and building complex systems using queries, tables, Open Database Connectivity and database storage and retrieval while using Cloud methodologies.

ESSENTIAL SKILLS & RESPONSIBILITIES

- Zero (0) to Six (6) or more years of configuration management experience.
- Bachelor's degree in Computer Science, Mathematics, Statistics or a related field. Four (4) years of experience may be substituted for a degree.
- Master's degree in a related discipline may substitute for two (2) years of experience. Four (4) years of experience (for a total of six (6) or more years) may be substituted for a degree.
- Ph.D. may substitute for four (4) years of experience. Eight (8) years of experience (for a total of fourteen (14) or more years) may be substituted for a degree.
- DODI 8570.1 Compliance at IAT Level I certification.
- Apache Hadoop, PostgreSQL, MYSQL, VMware, Oracle DBMS knowledge or SQL Server and its tools including the facets of successfully administering a wide range of simple to highly complex environments.
- Experience with data and schema design and engineering
- Demonstrated practical experience with data migration from legacy systems to central repositories
- Industry standard exchange schema implementation experience (E.g. Cybox or Capec)
- Be able to evaluate and install new software releases, patches and system upgrades.
- Knowledge and understanding of all aspects of database tuning: software configuration, memory usage, data access, data

- Experience with development and execution of database security policies, procedures and auditing-experience with database authentication methods, authorization methods, and data encryption techniques.
- Supervises development of databases, database parser software, and database loading software.
- Coordinates development of database structures that fit into the overall architecture of the system under development.
- Assesses requirement recommendations from a project's inception to its conclusion for a particular Business and IT subject matter area (i.e. simple to complex systems)
- Leads development of databases, database parser software, database loading software and database structures that fit into the overall architecture of the system under development.
- Develops requirement recommendations from a project's inception to its conclusion for a particular Business and IT subject matter area (i.e. simple to complex systems).
- Possesses excellent oral and written communication skills.
- Must work well in a team environment as well as independently.
- Must exhibit good time management skills, independent decision making capability; focus on customer service.
- Ability to work with the other technical members of the team to administer and support the overall database and applications environment.

PREFERRED BUT NOT REQUIRED:

- The following certifications are desired: Cloudera Certified Professional (CCP): Data Scientist, CCDH: Cloudera Certified Developer for Apache Hadoop, CCAH: Cloudera Certified Administrator for Apache Hadoop, CCSHB: Cloudera Certified Specialist in Apache HBase & CSSLP Certified Secure Software Lifecycle Professional
- Understanding of Certification and Accreditation (NIST 800-53) processes as they apply to database technologies
- Experience with Map/Reduce technologies
- Experience with process development and deployment
- Trained in Six Sigma Methodology
- ITIL knowledge and certification
- Experience database engineering support to DHS, DoD or Intelligence Customers
- Data Scientist skills and experience
- Operating system and hardware platform knowledge preferred.
- Experience working with large unstructured data sets

CLEARANCE:

- U.S. Citizenship
- Active Top Secret/Sensitive Compartmented Information (TS/SCI) security clearance.

Solutions3 LLC is an equal opportunity employer and will not discriminate against any employee or applicant on the basis of age, color, disability, gender, national origin, race, religion, sexual orientation, veteran status, or any classification protected by federal, state, or local law



About NBS Enterprises, LLC:

NBS Enterprises creates competitive advantages. We isolate and overcome constraints to deliver performance value for all involved: you, your customer, and your employees. We break current market staffing trends with price-sensitive strategies solutions.

order levels. NBS' innovative 'Triangle' approach to staffing support provides you, your customer, and your future employee a risk mitigation solution that is second to none.

Company website: <http://nbs-advantage.com/careers>

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Analyst III

DELTA Resources, Inc. - Pensacola, FL

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DELTA Resources, Inc.

28 reviews

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About us

DELTA Resources, Inc. is a woman-owned business, established in 2000 to provide support services to the Federal government and private sector. With over 300 employees and annual revenues exceeding \$50 million, the company has sustained growth in the delivery of Systems Engineering, Integration, and Test solutions to DOD clients. DELTA achieves its corporate objectives through a commitment to excellent customer service and employee development. Our Mission: DELTA enables government decision-makers to make the best decisions for our country's future through quality products delivered by skilled professionals to ensure the highest caliber of service. DELTA accomplishes its mission through a partnership with our employees and customers.

Analyst III

General description / experience:

Data Analysis, Statistical Analysis, Financial Analysis, and Business Process Improvement.

General requirements:

Bachelor's degree in mathematics, statistics, business, law, engineering, social sciences, physical/applied science or management discipline such as business administration, accounting, finance, economics or management information technology.

5 years of experience

Must be eligible for a DOD Security Clearance

Preferred:

Prior U.S. Navy active service

Prior U.S. Navy Analyst experience

EEO Statement DELTA Resources Inc. provides equal opportunity for all persons and prohibits discrimination in employment because of race, color, religion, sex, sexual orientation, gender identity, national origin, age, disability (including pregnancy, childbirth or related medical conditions), veteran or marital status, or any other factor prohibited by law. This policy applies to all terms and conditions of employment, including, but not limited to hiring, placement, promotion, termination, layoff, recall, transfer, leave, compensation, and training.

DELTA maintains an Affirmative Action Plan to establish fair access to employment opportunities and to create a work community that is an accurate reflection of the qualified workforce. Due to security clearance requirements, U.S. citizenship is required for most positions.

DELTA Resources, Inc. - 30+ days ago - [report job](#) - [original job](#)

Other jobs you may like

Revenue Manager

Innisfree Corporate Office Gulf Breeze, FL
INNISFREE HOTELS - 19 days ago



Program Management Analyst (OCM/Transformation/DoD) - FL

The LDM Group Pensacola, FL
[Easily apply](#)
14 days ago



Sr Manager RO Business Operations

Hilton Grand Vacations (HGV) Orlando, FL 32885
Hilton Grand Vacations (HGV) - 21 days ago



UWSD18-406: Financial Analyst II

Systems Planning and Analysis Pensacola, FL
Systems Planning and Analysis - 13 days ago



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Senior Analyst jobs in Pensacola, FL

Jobs at DELTA Resources in Pensacola, FL

Senior Analyst salaries in Pensacola, FL

REMOTE - Project Manager to Support PoC/PoVs (Work From Home)

Anonos - United States

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Contract

Anonos is a fast growing company looking for a ProjectManagerwho wants to be part of an exciting period in the company's development and growth.

Please do not contact us if you are an agency or recruiter. We conduct our own in-house recruiting.

Why Anonos?

Our Co-Founders have been business partners for over 18 years and have an extremely successful track record. They previously built a company that was recognised as one of the fastest growing software companies on the Inc 500®for two years in a row, and was ultimately acquired by Nasdaq OMX. They have built a solid and cohesive team at Anonos which works quickly, acts quickly and values energy and focus.

We just received our 6th patent for our foundational technology, and Gartner named us a "Cool Vendor" due to our innovation and uniqueness in the marketplace.

We are launched, funded, have customers, an established partner channel, and are now ready for fast growth.

If you thrive working with the brightest engineers, the latest technologies, like to contribute and be challenged at the same time, and are comfortable working remotely, we should be a great fit for you.

About Our Product and Solutions

Anonos®BigPrivacy®patented technology enables compliant data innovation, analytics, use, sharing, combining, and re-linking by technically enforcing automated privacy and security controls in compliance with internal restrictions and external regulatory requirements.

Responsibilities for the Project Manager role to Support PoC/PoVs

PoC's

- Lead 3 hour tech sessions – step by step configuration of all PDI and BP steps in demo using Anonos synthetic data

PoV's

- Scoping and defining requirements of client IT environment vs Engine requirements
- Ability to work with client synthetic data (schema, data types, cleaning)
- Support synthetic data generation when required
- Support translation of client use case into VT configurations and data process flows
- Support client install and performs some initial first line troubleshooting

- Create and edit documentation
- Support HV “on-site” project manager
- Work closely with IT-Novum to ensure technical issues are addressed
- Training of HV and IT-Novum staff as needed

Backup Demo's

- Able to perform sales demos when needed
- Able to modify, update and improve existing demo's or create new ones

Skills

- (Technical/IT) Project Management experience; MS Project (or similar)
- Experience with data analytics – use cases, hands on, challenges
- Intermediate Excel (pivot tables, functions, data formatting, dates)
- Knows Tableau (or equiv) or can learn
- Using VPNs
- GitHub, ZenHub (or Jira or equiv)
- Command line (windows or linux) and vim (text editor); basic SQL
- Ability and desire to work 100% remote, completely virtual firm, but still highly collaborative, self-starter
- Superior verbal and written communication skills
- Interest in working for early stage startup – risks, flexibility, adaptability

Experience with any of the following is a significant plus

- PDI or other ETL tools
- Docker
- Kafka, AVRO
- Hadoop, MapR, HDFS or other BigData tools
- SSH
- Encryption or Tokenization
- Financial Service data and analytics use cases, especially at a large global fin svcs firm
- Agile development methodologies

If this sounds like the right environment for you, we welcome your application.

Learn more about Anonos at www.anonos.com

Job Type: Contract

Contract Length:

276

- More than 1 year

Contract Renewal:

- Likely

1 day ago - [report job](#)

If you require alternative methods of application or screening, you must approach the employer directly to request this as Indeed is not responsible for the employer's application process.

Recommended Jobs

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Project Manager jobs in United States

Jobs at Anonos in United States

Project Manager salaries in United States

Appendix G
Northwest Florida Organizations Hiring Data
Scientists

Data Analyst

Woodlands Medical Specialists - Pensacola, FL 32503

Apply Now

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Woodlands Medical Specialists

17 reviews

Read what people are saying about working here. >

Woodlands Medical Specialists is currently seeking a Data Analyst. The primary role of the Data Analyst is to provide recurring and ad hoc financial reporting, information, and analyses to members of management.

Major Responsibilities

- Compiles data for various administrative reports.
- Prepares /summarizes information from raw data using spreadsheets or other software.
- Requires the ability to create mathematical computations in spreadsheets and convert to presentation level materials.
- Works autonomously and collaboratively with report requestors, providing guidance to define report requirements and validate results
- Works collaboratively across departments to understand and meet the organization's clinical quality analytic needs
- Assists with maintenance of practice management and EMR systems
- Assists with new employee onboarding
- Special projects

*

Qualifications

- Bachelor's Degree in a healthcare-related field, science/social sciences, mathematics/statistics, information technology, or public/business administration
- Strong Excel including creating macros and SQL skills.
- Experience working with databases, large data sets, multiple data sources and interpreting complex data to create meaningful information
- Maintains strong attention to details and prioritizes workload while meeting deliverables and expectations
- Exhibits critical thinking and problem solving skills
- Excellent organization and people skills.

Woodlands Medical Specialists (www.woodlandsmed.com) is a twenty plus physician multispecialty, independent private practice offering patient-centered services at a state-of-the-art medical facility.

The Woodlands culture places high value on employees that demonstrate excellent customer service and are consistently team oriented. Learn more about our patient centered approach to healthcare at www.WoodlandsMed.com.

Job Type: Full-time

Education:

- Bachelor's (Required)

If you require alternative methods of application or screening, you must approach the employer directly to request this as Indeed is not responsible for the employer's application process.

Other jobs you may like

Driver

Uber Pensacola, FL

Sponsored



Desktop Support Specialist (Secret Clearance)

SOC, LLC Pensacola, FL

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6 days ago



Healthcare Business Analyst - HealthRules

Impresiv Health Pensacola, FL

Impresiv Health - 15 days ago



IT Support Analyst

Ascend Performance Materials Pensacola, FL

Ascend Performance Materials - 6 days ago



VISTA- Data Coordinator and Analyst (Achieve)

United Way of Escambia County Pensacola, FL 32502

\$12,278 a year

[Easily apply](#)

15 days ago



Systems Administrator - Junior

XOR Security Pensacola, FL

[Easily apply](#)

19 days ago



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Data Analyst jobs in Pensacola, FL

Jobs at Woodlands Medical Specialists in Pensacola, FL

Data Analyst salaries in Pensacola, FL

QUALITY ANALYST

Baptist Management Services - Pensacola, FL

[Apply Now](#)

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Overview

The Quality Analyst is responsible for performing professional duties related to collecting, transforming, analyzing and reporting quality outcomes and process data that support stakeholders' decisions related to quality initiatives; patient safety; performance improvement initiatives; regulatory standards compliance; and policies and procedures. S/he will be responsible for preparing, analyzing and distributing reports in the form of dashboards, scorecards or other presentation tools. The Quality Analyst will be expected to develop expertise in specific, complex quality payment and reporting programs, as well as quality metrics and measures as defined by regulatory programs, and specific and specialized needs of clinical and business partners.

The person in this position works under general supervision, is responsible for various shifts, may be subject to over 40 hours per week and/or callback as required, and may be required to remain on campus immediately before, during, and after severe weather and/or disasters.

Qualifications

- Bachelor's Degree in Business, Healthcare, Tech or related field is required.
- Previous experience in work compiling, analyzing and/or presenting data is required
- Advanced Computer Skills required
- Advanced Microsoft Office Professional Suite skills, specifically including Microsoft Excel required
- Proficiency with MS Access or Power Query preferred
- Proficiency with Power BI, Tableau, Qlik or other data visualization tool preferred

Baptist Health Care - 30+ days ago - [report job](#) - [original job](#)

Other jobs you may like

VISTA- Data Coordinator and Analyst (Achieve)

United Way of Escambia County Pensacola, FL 32502

\$12,278 a year

[Easily apply](#)

15 days ago



Healthcare Business Analyst - HealthRules

Impresiv Health Pensacola, FL

Impresiv Health - 15 days ago



Security Analyst (CIRT)

Wood Consulting Pensacola, FL

Wood Consulting - 20 days ago



Project Coordinator II

Navy Federal Credit Union Pensacola, FL

Navy Federal Credit Union - 19 days ago



ORGANIZATIONAL DEVELOPMENT COORDINATOR

Baptist Management Services Pensacola, FL

Baptist Health Care - 23 days ago



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Quality Analyst jobs in Pensacola, FL

Jobs at Baptist Management Services in Pensacola, FL

Quality Analyst salaries in Pensacola, FL

Data Analyst 122650

University of West Florida - Pensacola, FL

Apply Now

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University of West Florida

176 reviews

Read what people are saying about working here. >

The Data Analyst reports to the Director of Operational Performance Improvement and is responsible for collecting and analyzing data to generate reports, creating dashboards, surveys, and work plans, and performing advanced statistical data analysis predictive models. The incumbent designs, develops, implements, and manages data delivery systems that link the supply of data and the demand for data in the most efficient and effective manner. The incumbent creates and maintains exception reports, primarily in Tableau, assisting with data integrity, verification and associated cleanup. The incumbent defines and documents internal business processes and definitions in Confluence and works collaboratively with all units to define data needs and designs reports to empower users to make informed decisions. The incumbent proposes innovative solutions to complex business needs using all available reporting tools and technologies.

FLSA

Exempt

Minimum Qualifications

Master's degree in an appropriate area of specialization; or a bachelor's degree in an appropriate area of specialization and two years of appropriate experience.

Preferred Qualifications

Proven experience with report writing and technical requirements analysis, business process modeling/mapping, methodology development, and data modeling. Proven experience with reporting tools, software, and other applications, including Tableau. Considerable exposure to the operation and analysis of Oracle and SQL relational database and standards, as well as data retrieval methodologies. Extensive practical knowledge in importing data for use in report software, spreadsheets, graphs, and flowcharts.

Essential Functions

Description of Job Duty

Work with stakeholders to define business and systems requirements for new BI, analytics, and data warehousing. Ensure the efficient utilization of data resources across different business units. Oversee all reports, dashboards, and information artifacts. Facilitate system feasibility studies, proof of concepts, pilot project, and testing. Examine, refine, and develop BI metrics. Develop, implement, and maintain all key BI and data management policies and procedures, including standards, purchasing, monitoring, and service provision.

Percentage Of Time

35

Essential Functions

Description of Job Duty

Manage the deployment, monitoring, maintenance, development, upgrade, and support of BI systems, data integration, high availability, security, and data privacy. Define the short- and long-term strategies for BI/analytics program to ensure effective delivery of information that meets current and future requirements. Analyze existing operations and make recommendations for the improvement and growth of the BI architecture. Conduct research and remain current with the latest data technologies and solutions in support of future data management procurement efforts.

Percentage Of Time

25

Essential Functions

Description of Job Duty

Work with application development staff to coordinate the creation and management of data queries. Collaborate with unit directors, end users, development staff, and other stakeholders to integrate data mining applications with existing systems. Provide and apply quality assurance best practices for data mining/analysis services across the organization. Create data definitions for new database file/table development and/or changes to existing ones. Determine required network components to ensure data access, as well as data consistency and integrity. Develop routines for end users to facilitate best practices use of data mining tools. Collaborate with database and disaster recovery administrators to ensure effective protection and integrity of data assets. Monitor data mining system details within the database, including stored procedures and execution time, and implement efficiency improvements. Respond to and resolve data mining performance issues.

Percentage Of Time

20

Essential Functions

Description of Job Duty

Coordinates the design and publication of FLVC online surveys, using established survey software. Works with in-house subject experts to determine appropriate content for data collection tools such as surveys. Monitors progress, and compiles, compares and validates results. Creates narrative or statistical reports for delivery in electronic format to external and internal audiences.

Percentage Of Time

10

Essential Functions

Description of Job Duty

Ensure change management practices conform to organization-wide standards. Establish and maintain regular written and in-person communications with the organization's executives, department heads, and end users regarding information-based decision making.

Other duties as assigned.

Percentage Of Time

10

Physical Demands

Physical Requirements

1- No unusual physical requirement.

Standing

Daily

Walking

Daily

Sitting

Daily

Reaching with hands and arms

Daily

Climbing or balancing

Occasionally

Stooping, kneeling, crouching or crawling

Occasionally

Use of hands to handle objects

Daily

Lifting up to 10 pounds

Daily

Lifting up to 25 pounds

Daily

Lifting over 25 pounds

N/A

Talking: Express or exchange ideas verbally

Daily

Hearing: Perceive sound by ear

Daily

Vision: Ability to distinguish similar colors, depth perception, close vision

Daily

Special Requirements or Considerations of the Job

Special Requirements or Considerations of the Job

This position requires a criminal background screen.

Posting Details

Posting Details

Employment based visa sponsorship will NOT be considered for this position.

Requisition Number

Number of Vacancies

1

Normal Work Hours

Monday through Friday, 8:00 a.m. to 5:00 p.m. unless otherwise authorized.

Contract Period

FTE

1

Salary Range

60,000-65,000

Pay Basis

Annually

Work Location

Pensacola, FL

Desired Start Date

02/25/2019

Position End Date

Open Date

Close Date

02/18/2019

Open Until Filled

Yes

Special Instructions to Applicants

Candidates must apply online through the University of West Florida website: <https://jobs.uwf.edu>.

Applicants are required to attach a resume, cover letter, and list of three professional references.

An opportunity to upload these documents will be provided during the application process.

For assistance, please contact Human Resources at 850-474-2694 or email jobs@uwf.edu.

University of West Florida - 10 days ago - [report job](#) - [original job](#)

Help Desk Analyst 122350

University of West Florida Pensacola, FL

University of West Florida - 5 days ago



VISTA- Data Coordinator and Analyst (Achieve)

United Way of Escambia County Pensacola, FL 32502

\$12,278 a year

[Easily apply](#)

15 days ago



Program and Policy Analyst (DoD)

The LDM Group Pensacola, FL

[Easily apply](#)

30+ days ago



Business Intelligence Data Analyst

Capstone Corporation Pensacola, FL

[Easily apply](#)

4 days ago



Program Management Analyst (OCM/Transformation/DoD) - FL

The LDM Group Pensacola, FL

[Easily apply](#)

14 days ago



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Data Analyst jobs in Pensacola, FL

Jobs at University of West Florida in Pensacola, FL

Data Analyst salaries in Pensacola, FL

Database Administrator & Researcher

Ropella - Milton, FL 32583

Apply Now

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The Database Administrative Assistant & Researcher, as part of the Ropella Media team, will be a dynamic, highly motivated individual who maintains the Ropella databases by identifying and solving database concerns in support of various users, and provides research in support of marketing requirements. The successful candidate will be extremely detail oriented with excellent communication skills, and will be required to assist with other administrative and business development duties. The database administrator works very closely with all Ropella Group professionals, as well as Xcavate personnel.

Duties & Responsibilities

- Database management/cleaning.
- Basic and advanced data entry.
- Research verification by telephone and interview.
- Internet research for competitive information.
- Write and disseminate reports.
- Identify database requirements by interviewing customers; analyzing department applications, programming, and operations; evaluating existing systems and designing proposed system upgrades.
- Recommend solutions by defining database physical structure and functional capabilities, database security, data back-up, and recovery specifications.
- Install revised or new systems by proposing specifications and flowcharts; recommending optimum access techniques; coordinating installation requirements.
- Maintain database performance by calculating optimum values for database parameters; implementing new releases; completing maintenance requirements; evaluating computer operation systems and hardware products.
- Prepare database users by conducting training; providing information; resolving problems.
- Support database functions by designing and coding utilities.
- Maintain quality service by establishing and enforcing organizational standards.
- Maintain professional and technical knowledge by attending educational workshops; reviewing professional publications; establishing personal networks; benchmarking state-of-the art practices; participating in professional societies.
- Help to identify new database sources, cost of sourcing and data transfer.
- Participate in the research process by generating names for specific assignments using the phone, print materials, and a wide range of online information resources.
- Identify, generate, and distribute supporting research information for active search assignments
- Support search consultants for specific engagements by generating names of potential candidates for a specified search.

Requirements

- At least 2 to ideally 4 years' experience designing, developing and generating reports from a relational database application.
- Database design, deployment and management experience is highly desirable.
- Detail oriented and ability to effectively prioritize multiple tasks.
- Good verbal and written communicator.
- Expert knowledge of various communications media and tools, including: E-mailing software as well as Microsoft Outlook and Exchange; office software (Word, Excel, PowerPoint, Acrobat).

- Keyboarding/ typing ability required (40 words per minute).
- Demonstrate knowledge and skills in project management methodologies, practices, and techniques/tools.
- The ideal candidate must have the ability to multitask with a number of different constituencies on a number of simultaneous projects.
- Undergraduate degree in business or statistics is strongly desired. With courses of study in: operational research, mathematics, electronics, computer science/studies or software/computer engineering is advantageous.
- Required upon hire to sign a non-compete agreement, a drug-free and tobacco-free workplace.

Ropella - 30+ days ago - [report job](#) - [original job](#)

Other jobs you may like

Website Manager

Footbridge Media Pensacola, FL

Footbridge Media - 16 days ago



Web Application Developer

Engility Pensacola, FL 32504

Engility - 13 days ago



IT Support Analyst

Ascend Performance Materials Pensacola, FL

Ascend Performance Materials - 6 days ago



MIDDLEWARE SYSTEM ADMINISTRATOR

Baptist Hospital Pensacola, FL

Baptist Health Care - 22 days ago



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76 new >

Database Administrator jobs in Milton, FL

Jobs at Ropella in Milton, FL

Database Administrator salaries in Milton, FL

----- Forwarded message -----

From: <Will_Ussher@navyfederal.org>
Date: Wed, Jan 23, 2019 at 10:34 AM
Subject: Re: [External]Data Science at UWF
To: Jaromy Kuhl <jkuhl@uwf.edu>
Cc: <Traci_White@navyfederal.org>

Hello Jaromy,

Traci has transitioned to a new role at Navy Federal, so I am your contact if needed.

Navy Federal is always looking for Data Analyst enthusiasts, below are some of our positions we hire for on a full time basis periodically.

By the way, Dr. Liu reached out to me as well and we are working on potentially scheduling an information session in February or March.

Below is a list of common job titles seeking candidates with a relevant degree such as Analytics. A copy of a job posting for a Business Operations Analyst in Vienna, VA is below.

Let me know if you have any questions.

- Business Intelligence Analyst**
- Workforce Management Analyst**
- Predictive Modeler**
- Business Operations Analyst**
- Business Systems Analyst**
- Financial Risk Analyst**
- ISD Analyst**
- ISD Engineer**

Job Description

Employee Perks

Why You Will Love Being Part of the Navy Federal Team:

- *Competitive compensation with opportunities for annual raises, promotions, and bonus potential
- *Best-in-Class Benefits! (7% 401k match / Pension plan / Tuition reimbursement / Great insurance options)
- *On-site amenities include fitness center, wellness center, cafeteria, etc. at Pensacola, FL; Vienna, VA and Winchester, VA campuses
- *Consistently Awarded Top Workplace
- *Nationally recognized training department by TRAINING Magazine
- *An employee-focused, diverse, and service-oriented workplace environment

Basic Purpose

Fraud rule writer for the Card Fraud Prevention Analytics team.

Major Responsibilities:

- Data querying, correlation, detailed analysis, and rule deployment to mitigate credit card and debit card fraud
- Define, analyze and study fraud related financial and operational issues
- Perform qualitative and quantitative analysis using analytical techniques, tools, models, simulations, etc.
- Perform other duties as assigned

Qualifications:

- Bachelor's Degree in a related field or the equivalent combination of training, education, and experience
- Advanced research, data querying, analytical, and problem solving skills
- Expert level of proficiency in MS Office (Excel, PowerPoint, Word)
- Advanced SQL
- Experience with JMP desired

Will Ussher

Recruiter, Talent Acquisition

Navy Federal Credit Union

5550 Heritage Oaks Dr

Pensacola, FL 32526

[Join Navy Federal Credit Union Today](#)

Follow NFCU on [Twitter](#) and [LinkedIn](#)

Office: 850-912-5249

iphone: 850-503-5108

Fax: 850-912-0096

Happy New Year Dr. Liu,

Theresa Goodyear's Lending Analytics team may have full time openings starting in June which could be ideal for the May 2019 graduates within your program.

We are always looking for sharp data science graduates at UWF as we continue to strengthen our partnership.

For your reference, our positions are posted on www.navyfederal.org. If you have any students seeking full time opportunities effective May 2019, they can monitor our website for positions relevant to their skill set. I'm a resource for you as well.

Is it possible we can host another information session in February or March time frame? That could be another opportunity to connect with your students about our positions.

Will Ussher

Recruiter, Talent Acquisition

Navy Federal Credit Union

5550 Heritage Oaks Dr

Pensacola, FL 32526

[Join Navy Federal Credit Union Today](#)

Follow NFCU on [Twitter](#) and [LinkedIn](#)

Office: 850-912-5249

iphone: 850-503-5108

Fax: 850-912-0096

Appendix H

Email Exchange Between UWF and UCF

Re: FW: Combined UWF/UCF education/research program

1 message

Thu, Feb 7, 2019 at 9:46 AM

----- Forwarded message -----

From: **Subhash Bagui** <sbagai@uwf.edu>

Date: Wed, Aug 29, 2018 at 9:05 AM

Subject: FW: Combined UWF/UCF education/research program

To: Jaromy Kuhl <jkuhl@uwf.edu>

Hi Jaromy: See the email below from Professor J. Kapat from UCF. I will contact him today for a possible visit at UWF on Sept 14.

From: Jayanta Kapat <Jayanta.Kapat@ucf.edu>

Sent: Tuesday, August 28, 2018 11:56 AM

To: sbagui@uwf.edu

Cc: Seetha Raghavan <Seetha.Raghavan@ucf.edu>; Jeffrey L. Kauffman <JLKauffman@ucf.edu>; Pallavoor Vaidyanathan <vaidy@ucf.edu>

Subject: Combined UWF/UCF education/research program

Dear Prof. Bagui,

It was nice talking to you.

I am also copying my colleagues and our Assistant VP for Research.

(Since we do not have a combined (or 3 way) disclosure agreement with GE, I have removed the GE-related components from the following picture.)

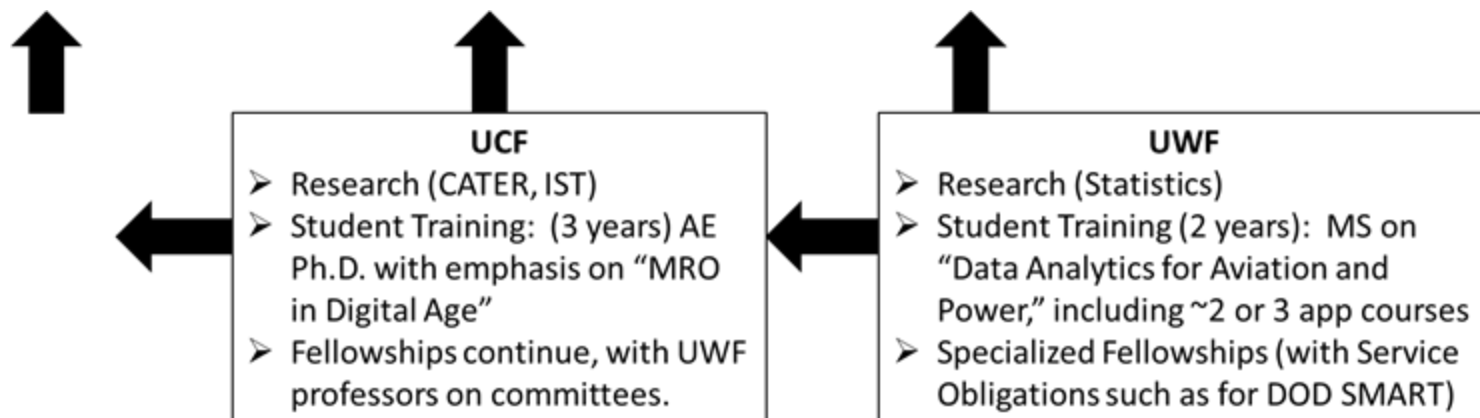
GE Aviation and Triumph Gulf Coast (TGC) are in discussion to potentially have a project funded by TGC for digital aspects of MRO (maintenance, repair and overhaul of airplanes). So GE Aviation approached us, and we realize that there must be a strong workforce development component in this proposal.

So based on the brainstorming session between us and TGC, and GE and us, we thought of the following arrangement.

[Of course, there will also be potential research components for UWF and UCF. But we will get into that once three groups (GE, UWF and UCF) sit down together.]

This email is for potential teaming together between UWF/UCF for a 5-year program on MS on "Data Analytics for Aviation and Power" in UWF, followed by Ph.D. in Aerospace Engineering with emphasis on MRO in Digital Age at UCF. Of course, we can have collaborations at various levels: professors from one university in the thesis/dissertation committees in the other place, joint publications etc.

Our objective is to create a joint research-based MS/Ph.D. degree program, with GE as an industry partner, that is unique in the country or even in the world, and with great reputation.



At the end, whatever we do must be win-win-win-win for UWF/UCF/GE/TGC.

Looking forward to more discussion, and possibly visiting you on September 14.

Best Regards,

Jayanta

Jayanta S Kapat, Sc.D. (MIT)

UCF Pegasus Professor, and Trustee Chair Professor

Mechanical & Aerospace Engineering Department

Founding Director, Center for Advanced Turbomachinery & Energy Research (CATER)

Associate Director, Florida Center for Advanced Aero-Propulsion (FCAAP)

University of Central Florida

12760 Pegasus Drive, Room 407E, ENGR Building

Orlando, FL 32816-2450

(407) 823-2179 (office), jayanta.kapat@ucf.edu

(407) 617-1201 (mobile), jkapat@alum.mit.edu

UWF Board of Trustees Meeting
Academic Affairs Committee
May 15, 2019

Issue/Agenda Recommendation: Tenure as a Condition of Employment

Proposed Action: Approval

Background Information:

The University of West Florida Board of Trustees considers all nominations for tenure at its June meeting. Tenure nominations as a condition of employment will be considered as needed.

The following faculty are to be considered for tenure:

College of Education and Professional Studies

Dr. Hasan Buker, Chair and Associate Professor, Department of Criminology and Criminal Justice

Implementation Plan: Dr. Buker begins his appointment on June 1, 2019.

Fiscal Implications: None

Supporting documents:

Dr. Hasan Buker support for tenure

http://pages.uwf.edu/aadocs/bot/TENURE_Support_and_CV_Buker.pdf

Prepared by: George Ellenberg, Provost and Senior Vice President
474-2035, gellenberg@uwf.edu

Presented by: George Ellenberg, Provost and Senior Vice President

April 1, 2019

Memo

To: Dr. George Ellenberg
Provost and Senior Vice President

To: Dr. William Crawley 
Dean, College of Education and Professional Studies

From: Dr. Diane Scott 
Associate Dean, College of Education and Professional Studies
and Interim Chair of department of Criminology and Criminal Justice

Re: Dr. Hasan Buker – Tenure Review

I facilitated the Department of Criminology and Criminal Justice tenure review for Dr. Hasan Buker, Chair. There are three tenured faculty members in the department eligible to vote on tenure. They each voted in person by secret ballot.

The vote is in support of tenure (Vote 3-0). The envelope containing the secret ballot is attached.

Please let me know if further information is needed.

Assoc. Prof. Dr. Hasan Buker

Minot State University
Department of Criminal Justice
500 University Ave. W. Memorial Hall 400B
Minot ND 58707 USA

Curriculum Vitae

A. Education

<i>Degree</i>	<i>Institution</i>	<i>Year</i>
<u>Completed Degrees</u>		
<i>Doctor of Philosophy (PhD)</i>	Washington State University, Criminal Justice Program / Political Science Department <i>Preliminary Examination Fields:</i> <ul style="list-style-type: none">- Criminal Justice- Criminology- Law Enforcement <i>Dissertation:</i> Malpractice in the US Publicly-funded crime laboratories: Exploring the causes, vulnerability, and prevention policies. <i>Chair:</i> Nicholas P. Lovrich, PhD	2007
<i>Master of Science</i>	University of Ankara, Institute of Interdisciplinary Judiciary Sciences	2003
<i>Bachelors of Art</i>	Turkish National Police Academy- Faculty of Security Sciences	1999
<u>Other Studies</u>		
<i>Master of Art</i>	University of Arkansas at Little Rock, Department of Criminal Justice	2004
<i>Master of Art</i>	University of North Texas, Department of Criminal Justice	2003
<i>Bachelors of Art</i>	Anadolu University, Faculty of Open Education, Department of Sociology	2014- Present

B. Work Experience

POSITION	INSTITUTION	YEAR
<u>Academic Assignments</u>		
<i>Associate Professor – Tenured</i>	Minot State University, Department of Criminal Justice	2018 - Present
<i>Associate Professor – Tenure Track</i>	Minot State University, Department of Criminal Justice	2015 - 2018
<i>Associate Professor</i>	Van Yuzuncuyil University (Turkey), Department of Public Administration, Division of Judicial	2015

	Studies _	
<i>Director & Research Associate</i>	Center for the Children, Youth and Women Studies, Center for Children, Youth, and Women Studies -Global Policy and Strategy Institute 20	2014-2015
<i>Associate Professor</i>	Turkish National Police Academy, Faculty of Security Sciences	2012-2015
<i>Director</i>	Turkish National Police Academy, Center for Criminological Research (SAMER)	2012-2014
<i>Adjunct Faculty</i>	Atatürk University	2012-2014
<i>Adjunct Faculty</i>	Ankara University	2012-2013
<i>Assistant Professor / Research Associate</i>	Turkish National Police Academy, Center for Criminological Research (SAMER)	2009-2012
<i>Adjunct Faculty</i>	Turkish National Police Academy	2008-2009
<i>Assistant Professor</i>	Minot State University, Department of Criminal Justice	2006-2007
<i>Adjunct Faculty</i>	Washington State University, Department of Political Science / Criminal Justice Program	2006

Non-Academic Assignments

<i>Police Supervisor (Training Manager)</i>	Center for Criminal Research and Technical Training, Turkish National Police, HQ	2007-2009
<i>Peer Tutor</i>	Student Advising and Learning Center at WSU (Certified by College Reading and Learning Association)	2005-2006
<i>Monitor</i>	Graduate and Professional Students Association Study Center at WSU	2005-2006
<i>Police Supervisor (Expert)</i>	Turkish National Police, HQ	1999-2003

C. Publications

Manuscripts currently under review

1. Erbay, A. & **Buker, H.** Youth who Kill: A study on Juvenile Homicide Offenders, their Offenses, and their Differences from other Juvenile Offenders. Submitted to *Journal of Interpersonal Violence*, on August 2018.

Manuscripts currently under progress

*Student co-author

1. **Buker, H.** & Flinn, M. * Control v. Affection: An Exploration of the Role of Parents in Preventing On-line Victimization of Youth
2. **Buker, H.** & Shadat, N. * “*Quis custodiet ipsos custodes?*”—Self-Control? Testing the Positions of three Rival Criminological Theories in Understanding Police Corruption.
3. **Buker, H.** & AlHarbi, F. * An Assessment of the Functions and Needs of Child Advocacy Centers in North Dakota.

4. **Buker, H.** Online Dating Violence among Youth: Victims, Perpetrators, And Risk Factors.
5. **Buker, H. & Erbay, A.** Youth sex offenders: An Exploration of Risk Factors and Differences from other Youth Offenders.

Peer-reviewed Journal Articles

1. **Buker, H.,** Gultekin, S. & Akgul, A* . (Forthcoming -2018). Expected Functions of an Effective Child Justice System Administration? A Framework Developed through a Qualitative Study in Turkey. *Journal of Human Sciences*.
2. **Buker, H. & A. Erbay *** . (2018). Is this kid a likely experimenter or a likely persister?: An Analysis of Individual-Level and Family-Level Risk Factors Predicting Multiple Offending Among a Group of Adjudicated Youth. *International Journal of Offender Therapy and Comparative Criminology*, 63, 4024–4045.
3. Dolu, O., **Buker, H.** & Uludağ, S. (2012). A Critical Assessment of the Deterrent Capacity of the Turkish Criminal Justice System, *Journal of Ankara University Law School*, 61, 69-106.
4. **Buker, H.** (2012). What Do Bureaucrats Want? Bureaucratic Behavior Theories in the Context of the Paradigm Shift in Public Administration. *Turkish Journal of Administration*, 474, 35-54.
5. **Buker, H.** (2011). Formation of Self-Control: Gottfredson & Hirschi's General Theory of Crime and beyond. *Aggressive and Violent Behavior: A Journal of Review*. 16, 265-276.
 - Received a prize from the Scientific and Technological Research Council of Turkey
6. Dolu, O., **Buker, H.** & Uludağ, S. (2010). Effects of Violent Video Games on Children: An Assessment on Aggression, Violence and Delinquency. *Turkish Journal of Forensic Sciences*, 9, 54-75.
7. **Buker, H.** & Dolu, O. (2010). Police Job Satisfaction in Turkey: Effects of Demographic, Organizational and Jurisdictional Factors. *International Journal of Comparative and Applied Criminal Justice*, 34, 25-51.
8. **Buker, H.** (2010). How important is it to Know “How a Police Officer Feels” for Police Supervisors? Assessing a Rare Police Supervisor Promotion System. *Police Practice and Research: An International Journal*, 11, 61-77.
9. Dolu, O. & **Buker, H.** (2009). Limits of Deterrence: A Critical Approach to Deterrence-based Crime Prevention Policies. *Turkish Journal of Police Studies*, 11, 1-22.
10. Ellis, L., Das, S., **Buker, H.** (2008). Androgen-promoted Bodily Traits and Criminality: A test of the Evolutionary Neuroandrogenic Theory. *Personality and Individual Differences*, 44, 699-709.
11. **Buker, H.** & F. Wiecko (2007). Are causes of Stress Global? Testing the Effects of Common Police Stressors on the Turkish National Police. *Policing: An International Journal of Police Strategies and Management*, 30, 291-309.
12. **Buker, H.** (2002). Evidence at Crime Scene of Traffic Accidents with Unknown Agent. *Turkish Journal of Forensic Sciences*, 1, 37-41.
13. **Buker, H.** (2002). The Value of Footwear Impressions as an Evidence: The Footwear Evidence in O. J. Simpson Trial. *Turkish Journal of Police Studies*, 4, 155-170.
14. **Buker, H.** & O. Yavas. (2001). Using the Electrostatic Vacuum Box (R) for lifting two-dimensional (2d) dry origin footwear impressions. *Forensic Science International*, 136, 344-345.

Books

1. **Buker, H.** (Eds.) (2014). *Children and Violence: Children Under the Pressure of Social Violence, Volume 1: Children as the Victims of Violence*. SAMER Scientific Publication Series: İstanbul - Turkey.
2. **Buker, H.,** Dolu, O. & Çakmak, C. (Eds.) (2014). *Children and Violence: Children under the Pressure of Social Violence, Volume 3: Selected Proceedings of 5th Int. Symp. On Children at Risk and in Need of Protection*. SAMER Scientific Publication Series: İstanbul - Turkey.

3. **Buker, H.** (2014). *Self-Assessment in the Child Care Institutions – Practitioners’ Handbook* UNICEF-Turkey. Ankara, Turkey.
4. **Buker, H. & Gultekin, S.** (2014). *Self-Assessment in the Child Care Institutions – Trainers’ Handbook*. UNICEF-Turkey. Ankara, Turkey.
5. **Buker, H. & Gultekin, S.** (2013). *Coordination in Child Protection Services Handbook (Editions in Users’ and Trainers’ versions)*. UNICEF-Turkey. Ankara, Turkey.
6. Dolu, O.; Uludag, S. and **Buker, H.** (2012). *Crime, Justice, and Children in Turkey: A Critical Assessment of the Turkish Juvenile Justice System*. Netherlands Police Academy Publication (OBT): Den Haag, Netherlands.
7. **Buker, H.** (2012). *Fraudulent Forensic Evidence: Malpractice in Crime Laboratories*. LFB Scholarly Publishing: El Paso, TX.
8. Eryılmaz, B.M.; Güleç, D.B.; **H. Buker.** (2012). *Protection of Vulnerable Groups—Especially Women*. Ministry of Interior Publications, Number 703, Ankara.
9. Uludağ, Ş., C. Doğutaş, O. Dolu & **H. Buker** (Ed.) (2009). *Children in Conflict with the Law: Multidisciplinary Cooperation in Solving Problems and Best Practices*. Turkish National Police Academy Publications. Ankara.

Peer-Reviewed Book Chapters, Proceedings, and Entries

1. **Buker, H. & Herberholz, M.** ¹ (Forthcoming, 2018). Sex offenders in Prisons. In Robert Worley & Vidisha Worley (Ed.). *American Prisons and Jails: An Encyclopedia of Controversies and Trends*. ABC-CLIO, Santa Barbara, CA.
2. **Buker, H. & Balcioglu, E.** (2016). Domestic Violence. In A. Sozer and E. Balcioglu.. (Eds.) *Criminology*, pp. 373-400. Nobel Publications, Istanbul - Turkey.
3. **Buker, H.** (2013). Accountability and Transparency in Organizations. In S. Gultekin (Eds.) *Organization Theories: Classical and Modern Perspectives*, pp. 131-170. Seckin Publications, Ankara – Turkey.
4. **Buker, H.** (2012). Malpractice as an Administrative Problem: Individual or Organizational Level Failure? In H. Kavruk, *Public Administration in Turkey from a Theoretical and Practical Perspective*, pp. 699-724. Todaie-Türkiye Ve Orta Doğu Amme İdaresi Enstitüsü: Ankara – Turkey.
5. **Buker, H. & Dolu, O.** (2010). Colvin, Mark, Francis T. Cullen, and Thomas Vander Ven: Coercion, Social Support, and Crime. In T. Cullen & Pamela Wilcox (Eds.), *Encyclopedia of Criminological Theory*, pp. 203-206. Sage Publications: Thousand Oaks, CA, USA. DOI: <http://dx.doi.org/10.4135/9781412959193.n56>
6. Dolu, O. & **Buker, H.** (2010). Colvin, Mark: Coercion Theory. In T. Cullen & Pamela Wilcox (Ed.), *Encyclopedia of Criminological Theory*, pp. 194-197. Sage Publications: Thousand Oaks, CA, USA. DOI: <http://dx.doi.org/10.4135/9781412959193.n54>
7. **Buker, H.** (2010). Changing the Organization and Organizing the Change in the Context of Community Policing. In A. Sozer (Eds.), *Community Oriented Policing: Society, Crime, and Security*, pp. 115-135, Adalet Yayınevi: Ankara, Turkey.
8. **Buker, H.** (2009). Need to Protect Children at Risk and in Conflict with the Law: For an Introduction. In Uludağ et al. (Eds.). *Children in Conflict with the Law: Multidisciplinary Cooperation in Solving Problems and Best Practices*, pp. 27-30. Polis Akademisi Yayınları, Ankara.
9. **Buker, H.** (2009). Program / Policy Evaluation. In K. Böke (Ed.) *Research Methods in Social Sciences*, pp. 367-384. Alfa Publication, Istanbul.

Other Journal Articles / Book reviews

1. **Buker, H.** (2011). Threatening Offense as a Sociological Phenomenon: Criminological Perspectives. *Voice of Administrator*, September- October, 58-61.
2. Akdogan, H., Kose, Y. & **Buker, H.** (2008). The impact of leadership attributes on job satisfaction. *ISREF Perspective: Leasership*, 1(3), 46-56.

3. **Buker, H.** (2007). A commentary on transported women sex workers: From Nigeria to Europe. *Crime & Justice International*, 23, 4-12.
4. **Buker, H.** (2006). Substance Abuse in Turkey: A Critical Review. *Crime & Justice International*, 22, 4-12
5. **Buker, H.** (2005). Review of 'Into the Killing Zone: A Cop's Eye View of Deadly Force by David Klinger,' 'Understanding Police Use of Force by Howard Rahtz' and "Understanding Police use of Force: Officers, Suspects and Reciprocity by Geoffrey P. Alpert and Roger G. Dunham.' *International Journal of Police Science and Management*, 7, pp. 208.

Policy Papers / Technical Reports

1. **Buker, H.;** S. Gultekin; A. Akgul. (2016) *A Review on the Administration of the Child Justice System in Turkey and Development of a Set of Comparative Recommendations*. A Research Report Submitted to Turkish Ministry of Justice and UNICEF, Turkey.
2. Darcy, J.; Durston, S.; Ballarin, F.; Duncalf, J.; Basbug, B.; **Buker, H.** (2015). *An independent evaluation of UNICEF's response to the Syrian refugee crisis in Turkey, 2012-2015*.
3. **Buker, H.;** K. Gultekin; E.B. Benlioğlu; (2015). *Where Is Turkey In Tackling With Violence Against Women? Global Policy and Strategy – Analyses Series 4*. Ankara. Global Policy and Strategy – Reports Series 4. Ankara.
4. **Buker, H.** (2015) *Summer-Swim-Sadden: Prevention of Child Deaths by Drowning*. Global Policy and Strategy – Analyses Series 4. Ankara.
5. **Buker, H.** (2014). *Final Report: Up-Scaling the National Coordination Strategy*. Presented to: UNICEF, Turkey (ToR-TURA-2012-01).
6. **Buker, H.** (2014). *The Final Draft of the National Strategy Document and Action Plan on Violence against Children*. Presented to: UNICEF, Turkey (ToR-TURA-2012-01).
7. Ceceli, F., Özkilinc, M.A., Avci, I., **Buker, H.**, Sayer, H., Baser, H., Kabadayi, E., Kardas, T. (2013). *An Assessment on the Capacity of the Central and Local Governmental Agencies and Non-governmental Organizations for Tackling with Violence against Women and Children*. A Research and Assessment Report by the State Inspection Council of the Turkish Republic Presidency.

D. Conference Presentations

1. Buker, H. (2018- Forthcoming). Social Bonds and On-line Victimization among Youth: Utilizing Hirschi's Perspective in explaining Youth On-line Victimization. American Society of Criminology Conference, Atlanta, GA.
2. Erbay, A. & Buker, H. (2018- Forthcoming). Infinite Spiral of Violence: Children vs. Society. American Society of Criminology Conference, Atlanta, GA.
3. Erbay, A. & **Buker, H.** (2017). The impact of social contextual factors in determining the risk for multiple delinquency: A study among Turkish youth. Presented at: The 2017 American Society of Criminology Conference. Philadelphia, PA.
4. **Buker, H.** & Alharbi, F. (2017). An Assessment of the Functions and Needs of Child Advocacy Centers in North Dakota. Presented at: Annual MSU Faculty and Student Research Poster Session.
5. **Buker, H.** (2016). Why do they deviate? Searching for a criminological explanation to police deviance. Presented at American Society of Criminology Conference. New Orleans, LA.
6. Erbay, A. & **Buker, H.** (2016). Persistent delinquent offenders: Understanding the impact of family. Presented at American Society of Criminology Conference. New Orleans, LA.
7. **Buker, H.** (2014). Police as an actor of the child protection system: the case of Turkey UNICEF regional Conference on Strengthening Child Protection Systems to Protect Children from neglect, Abuse Exploitation and Violence – Minsk, Belarus.
8. Dolu, O., **Buker, H.**, Uludag, S. (2013). Policing Missing Children in Turkey: Problems and Solution Proposals. 5th International Symposium on Children at Risk and in Need of Protection, Antalya- Turkey.

9. **Buker, H.** (2013). Where is Turkey in Tackling with Violence against Children? Objectives, Opportunities, and Obstacles. 5th International Symposium on Children at Risk and in Need of Protection, Antalya- Turkey.
10. **Buker, H.,** Uludag, S.& Dolu, O. (2013). Why do police commit crime? A criminological and administrative perspective. Presented at European Society of Criminology Conference, Budapest, Hungary.
11. **Buker, H.** (2012). Malpractice as a Threat Facing the Forensic Institutions' integrity: Views from the Field. Presented at: 22nd Congress of the International Academy of Legal Medicine, Istanbul-Turkey.
12. **Buker, H.,** Gundogmus, N., Tutkun, H., Polat, Y.I (2012). A Legal, Medical, and Preventive Approach to the Phenomena of Violence against Women. Presented at: 22nd Congress of the International Academy of Legal Medicine, Istanbul-Turkey.
13. **Buker, H. &** Dolu, O. (2012). Self-Control and Violent Behavior: A Test of the General Theory Of Crime On A Sample Of Turkish Youth. Presented at European Society of Criminology Conference. Bilbao, Spain.
14. Dolu, O., **Buker, H. &** Ellis, L. (2012). Androgen-promoted bodily traits and violent offending: testing the 2d:4d finger length ratio hypothesis in a sample of high school students in Turkey. Presented at European Society of Criminology Conference. Bilbao, Spain.
15. **Buker, H.,** Balcioglu, E., Uludag, S. & Dolu, O. (2012). Unraveling the criminological determinants of police crimes: Findings from a qualitative research. Presented at European Society of Criminology Conference. Bilbao, Spain.
16. **Buker, H.** (2007). Productivity or Trustworthiness? Contemporary Challenges Facing Publicly Funded Forensic Crime Laboratories. Presented at: Miscarriages of Justice Conference: Current Perspective. University of Central Missouri, Warrensburg, MO.
17. **Buker, H.** (2006). Errors and misconducts in crime labs. Presented at: American Society of Criminology Conference. Toronto, Ontario.
18. **Buker, H.** (2005). A comparative examination of organizational climate, job satisfaction and work place stress: The case of Turkish National Police. Presented at: American Society of Criminology Conference. Toronto, Ontario.
19. **Buker, H.** (2004). Towards a more comprehensive police organization in Turkey: Modernization efforts in Turkish National Police Laboratories. Presented at American Society of Criminology Conference. Nashville, TN.

E. Funded Research / Consultancy Experience

<i>Position</i>	<i>Title / Funding Agency</i>	<i>Year</i>
1. <i>Principal Investigator</i>	Developing A Social Support Program for the Children of Incarcerated Parents in Minot, ND and Surrounding Communities. Funded by TIAA (\$5000)	2018
2. <i>Principal Investigator</i>	An Assessment of the Functions and Needs of Child Advocacy Centers in North Dakota. A research project funded by Minot State University (\$3000).	2016-2017
3. <i>National Senior Consultant</i>	To UNICEF and Turkish Ministry of Justice for “ <i>Review on the Administration of the Child Justice System in Turkey and Development of a Set of Comparative Recommendations (REF-PRO/TURA/2016-D)</i> ”	2016
4. <i>National Senior Consultant</i>	To UNICEF and Turkish Ministry of Family and Social Policies for “ <i>Up-Scaling the National coordination Strategy and Supporting child Protection in Emergencies and Foster Care System in Turkey (REF-PRO/TURA/2015-F)</i> ”	2015
5. <i>Co-investigator</i>	<i>Independent Evaluation of UNICEF’s Response to the Syria Refugee Crisis in Turkey 2012-2014</i>	2015

6. National Senior Consultant	To UNICEF for “Developing a Training Programme of Self-Assessment System (ToR-TURA-2014-F)” for the Turkish Ministry of Family and Social Policies	2014
7. Consultant	A Research Project on Children Early Warning System” by The Scientific and Technological Research Council of Turkey (TUBİTAK – BİLGEM) for the Turkish Ministry of Family and Social Policies	2013
8. Co-investigator	Smart Video-Surveillance System to Detect and Prevent Local Crimes in Urban Areas (<i>Research project, FP7-SEC-2013/ Grant agreement no: 606952 – SmartPrevent.</i>) Funded by; Council of Europe, 7 th Frame Cooperation Program.	2013
9. National Senior Consultant	Up-Scaling the National Coordination Strategy (ToR-TURA-2012-01), Justice for Children in Turkey Project by the European Union with the technical support of UNICEF	2012-2014
10. Co-investigator	<i>New Crimes in Europe and Trust-based Policies.</i> Council of Europe, 7 th Frame Cooperation Program: Socio-economic and Human Sciences, Call No: FP7-SSH-2011-2/Proposal No.290563 – FIDUCIA.	2011-2015
11. Principal Investigator and Research Manager	Unraveling the Criminological Determinants of Civil Servant Crimes and Disciplinary Crimes Committed by Police Officers, and Developing a Policy Model to Prevent These Crimes. Research project sponsored by the Scientific and Technological Research Council of Turkey (No: 110K463).	2010-2011
12. Co-investigator	Research Committee of the Turkish President’s Inspection Agency on Violence against Women and Children.	2010-2011
13. Principal Investigator	Preventing Violence against Women and Children: Domestic Communication Project. Sponsored by TR Ministry of Development.	2011
14. Co-investigator	Developing a Research-based Policy Approach for the Juvenile Criminal Justice System. Sponsored by the European Union - Project No: MAT09/TR/9/3	2010
15. Investigator	Effects of Community Oriented Policing Activities on the Prevention of Juvenile Delinquency: The Case of Mardin Sponsored by TR Ministry of Development.	2009
16. Summer Research Fellow	Thomas S. Foley Institute of Public Policy and Public Service, Washington State University	2006
17. Student Researcher (Travel Grant)	Division of Governmental Studies and Services of Washington State University	2006
18. Principal Investigator	Strategy Planning for the Turkish National Police Crime Labs, HQ	2007
19. Principal Investigator	Organizational Environment and Workplace Stress in the Turkish National Police. Sponsored by the Turkish National Police, HQ.	2005

F. Unfunded Grant Proposals:

1. Co-Principal Investigator	A Nationwide Assessment of Evidence-Based Parenting Classes for Institutionalized Populations (with Maria Buchholz-Kerzmann). Submitted for MSU faculty research fund	2018
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2. *Principal Investigator* The Nature, Impact, and Prevention of Residential Burglaries. 2013
Submitted to the Scientific and Technological Research
Council of Turkey (Project# 113K089)

G. Teaching Experience

Courses Taught at Undergraduate Level

- | | |
|-------------------------------------|-------------------------------------|
| 1. Crimes against Children | 2. Criminological Theory |
| 3. Criminal Investigation | 4. Criminal Psychology |
| 5. Policing | 6. Criminal Law |
| 7. Public Administration | 8. Juvenile Delinquency / Justice |
| 9. Introduction to Criminal Justice | 10. Criminal Justice Administration |
| 11. Cybercrimes | 12. Law & Society |
| 13. Introduction to Law | 14. Victimology |
| 15. Terrorism and Homeland Security | |

Courses Taught at Graduate Level

- | | |
|------------------------------------|---|
| 1. Criminological Theory | 2. Criminal Justice: Actors, Processes and Agencies |
| 3. Research Methods | 4. Independent Research |
| 5. Research Methods-2 (Statistics) | |

H. Thesis / Dissertation Chairmanships and Committee Memberships

<i>Student</i>	<i>Degree</i>	<i>Title</i>	<i>Institution</i>	<i>Year</i>
1. <i>Mustafa Cengiz</i>	Masters	Counter-Terrorism Policing in Turkey	Turkish National Police Academy	2011
2. <i>Hasim Ugurer</i>	Masters	Pilot Fatigue and Aviation Security	Turkish National Police Academy	2013
3. <i>Ferhat Karabulut</i>	Masters	Problems that Law Enforcement Officers are Dealing in Domestic Violence Cases	Turkish National Police Academy	2014
4. <i>Bekir Vatansever</i>	Masters	White Collar Crimes Committed in Non-profit Public Organizations in Turkey	Turkish National Police Academy	2013
5. <i>Numan Karaca</i>	Masters	Increasing the Efficiency of Practical Driver Training	Turkish National Police Academy	2013
6. <i>Bekbolot Ismadiarov</i>	PhD	The Effect of Exposition to Domestic Violence on the Violent Behavior of High School Youth: The Case of Bursa Province	Turkish National Police Academy	2014
7. <i>Fallon Clouse</i>	Masters	The "Black Box" of Community Supervision: Another Look Inside the	Minot State University	2016

I. Academic Service

<i>Position</i>	<i>Institution</i>	<i>Year</i>
1. <i>Member</i>	Director of Academic Assessment Search Committee – <i>Minot State University</i>	2018
2. <i>Secretary</i>	Curriculum Committee – <i>Minot State University</i>	2017-Present
3. <i>Campus Delegate</i>	Undergraduate Research Council - <i>North Dakota University System</i>	2017- Present
4. <i>Chair</i>	Academic Policies Committee – <i>Minot State University</i>	2018- Present
5. <i>Member</i>	Academic Policies Committee – <i>Minot State University</i>	2017- 2018
6. <i>Member</i>	Budget and Salary Committee – <i>Minot State University</i>	2016-2017
7. <i>Member</i>	Faculty Search Committee - <i>Minot State University, Criminal Justice Department</i>	2015-2016
8. <i>Chair</i>	Faculty Search Committee, <i>Minot State University</i>	2006-2007

J. Professional Service

<i>Position</i>	<i>Institution</i>	<i>Year</i>
1. <i>Deputy Director of the Organization Board</i>	5 th International Symposium on Children at Risk and in Need of Protection	2013
2. <i>Associate Editor</i>	Turkish Journal of Police Studies	2012-2013
3. <i>Associate Managing Editor</i>	Police Practice and Research: An International Journal	2006-2007
4. <i>Editorial Board Member</i>	Turkish Journal of Criminology and Criminal Justice	2007-2009
5. <i>Ad hoc Referee</i>	<ul style="list-style-type: none"> • Justice Quarterly • Policing: An International Journal of Police Strategies and Management • Journal of Violence against Women: An International, Interdisciplinary Journal • Turkish Journal of Police Studies • Policing & Society • Journal of Child and Family Studies • Forensic Research & Criminology International Journal • International Journal of Criminal Justice Sciences 	Different Dates
6. <i>Session Chair</i>	<ul style="list-style-type: none"> • 5th International Symposium on Children at Risk and in Need of Protection, Antalya- Turkey. • American Society of Criminology Conference • American Society of Criminology Conference 	2013 2015 2006

K. Community Service

<i>Position</i>	<i>Institution</i>	<i>Year</i>
1. <i>Youth Mentor</i>	Companions for Children, Minot, ND.	2016-2018
2. <i>Secretary</i>	Executive Board of Directors – Northern Plains Children’s Advocacy Center, Minot, ND.	2017- Present
3. <i>Member</i>	Children of Incarcerated Parents Workgroup - ND Department of Corrections	2018- Present

L. Awards

<i>Achievement</i>	<i>Awarding institution</i>	<i>Year</i>
1. <i>Award for International Scientific Publications</i>	Scientific and Technological Research Council of Turkey for the article entitled “Formation of Self-Control: Gottfredson & Hirschi’s General Theory of Crime and Beyond”	2011
2. <i>Pi Sigma Alpha Political Science Honor Society Membership</i>	Washington State University	2006
3. <i>Scholarship for Graduate Studies in the USA</i>	Turkish Ministry of Interior	2003
4. <i>Two Extra Salaries Award</i>	Turkish National Police due to outstanding investigative work.	2002 & 2008
5. <i>Certificate of Admiration</i>	Turkish National Police due to outstanding performance.	2001

M. Professional Degrees / Licenses

<i>Degree / license</i>	<i>Institution</i>	<i>Year</i>
1. <i>Police Supervisor License</i>	Turkish National Police Academy-Faculty of Security Sciences	1999
2. <i>Forensic Expert Certificate</i>	Turkish National Police Crime Labs HQ	2003
3. <i>Certificate of Completion for Graduate Preparation Course</i>	University of North Texas	2003
4. <i>Tutoring Certificate</i>	College Reading and Learning Association	2005
5. <i>Associate Professorship (Docent Degree)</i>	Turkish Board of Higher Education	2012
6. <i>Child Forensic Interviewer License (National level)</i>	Gundersen National Child Protection Training Center (ChildFirst®)	2015

N. Professional Development Activities

<i>Activity</i>	<i>Year</i>
1. <i>FBI Terrorist Crime Scene Course</i>	1999
2. <i>International Conference for Law Enforcement Cooperation</i>	2008
3. <i>Child Forensic Interviewing Course</i>	2015
4. <i>Training Program on A Multi-Disciplinary Team Approach to Child Maltreatment</i>	2017
5. <i>In justice: Rethinking America's Criminal Justice System Conference</i>	2017
6. <i>Suicide First Aid Training</i>	2018
7. <i>National Children's Alliance Leadership Conference / Commercial Sexual Exploration of Children Training Program</i>	2018

O. Invited Talks – Lectures (Selected)

<i>Topic</i>	<i>Activity</i>	<i>Year</i>
1. <i>I am Thankful to my Law Enforcement Officers, because...</i>	Minot Optimistic Club Annual Law Enforcement Appreciation Ceremony	2018 (05/23)
2. <i>Sex Offenders in Prisons</i>	Invited radio talk at Prairie Public – Main Street show, Host: Doug Hamilton.	2018 (01/29)
3. <i>Police as an actor of the child protection system: The case of Turkey</i>	UNICEF regional Conference on Strengthening Child Protection Systems to Protect Children from neglect, Abuse Exploitation and Violence – Minsk, Belarus	2014
4. <i>Psychology of Criminals: Detecting Lies and Deceptions</i>	Training for the Employees of Turkish Central Bank	2013-2014
5. <i>Domestic Violence and Police: Practices, Problems, Proposals</i>	TAIEX Symposium for Practitioners	2014
6. <i>Crimes Committed by Police: A Criminological Perspective</i>	Annual Meeting of HR Department Chiefs of TNP	2013
7. <i>Why do Children Commit Crime? Theoretical Foundations of Juvenile Delinquency</i>	Training for the Employees of the Turkish Ministry of Family and Social Policies.	2012
8. <i>Children, Crime, and Justice in Turkey</i>	Closing Conference of MATRA Research Project	2012
9. <i>Real Mission of Modern Policing: Crime Prevention</i>	National Meeting of Police Chiefs	2012
10. <i>What to Pay Attention in Scientific Publications</i>	Seminar for Faculty and Graduate Students of the TNPA	2011

UWF Board of Trustees Meeting
Academic Affairs Committee
May 15, 2019

Issue/Agenda Recommendation: Tenure

Proposed Action: Approve

Background Information:

The University of West Florida Board of Trustees tenure approval procedure contemplates that the Board of Trustees award tenure based on the President's recommendation. The University's current collective bargaining agreement with the faculty also requires that tenure be awarded by the Board following the specified process.

The procedure reads as follows:

BOT Tenure Approval Process

- The UWF BOT considers all nominations for tenure at its (June) meeting. Tenure nominations as a condition of employment will be considered as needed.
- The University President submits to the BOT a list of faculty nominated for tenure for approval by the BOT. The President's transmittal certifies that each nominee has met the requirements necessary to be granted tenure and will continue to contribute to the University. Any request for tenure as a condition of employment also includes a statement justifying the special circumstances including a brief summary of the nominee's academic credentials.

Nine individuals were nominated for tenure having fulfilled all necessary requirements. These faculty were nominated for approval in accordance with the requirements of the tenure approval procedure. This recommendation constitutes the Presidents certification concerning the nominee in accordance therewith.

The faculty being recommended for Tenure are as follows:

College of Arts, Social Sciences and Humanities **Department**

- | | |
|--|------------|
| 1. Raina Garrett , <i>Assistant Professor</i> | English |
| 2. John Jensen , <i>Assistant Professor</i> | History |
| 3. Jacob Shively , <i>Assistant Professor</i> | Government |
| 4. Erin Stone , <i>Assistant Professor</i> | History |

College of Business **Department**

- | | |
|--|------------------------|
| 5. Brian Elzweig , <i>Assistant Professor</i> | Accounting and Finance |
|--|------------------------|

College of Education and Professional Studies **Department**

- | | |
|---|----------------------------------|
| 6. Natalie Goulette , <i>Assistant Professor</i> | Criminology and Criminal Justice |
|---|----------------------------------|

Hal Marcus College of Science and Engineering **Department**

- | | |
|---|-----------|
| 7. Alexis Janosik , <i>Assistant Professor</i> | Biology |
| 8. Tanay Kesharwani , <i>Assistant Professor</i> | Chemistry |
| 9. Christopher Varney , <i>Assistant Professor</i> | Physics |

Implementation Plan: Tenure grant to be effective August 8, 2019.

Fiscal Implications: None

Supporting documents:

2018-19 Tenure and Promotion Criteria

http://pages.uwf.edu/aadocs/bot/Tenure_Promotion_Evaluation_Guidelines_2018_2019.pdf

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Presented by: George Ellenberg, Provost and Senior Vice President



UNIVERSITY *of* WEST FLORIDA

Tenure, Promotion, & Evaluation Guidelines

Policies and Procedures for:

Tenure

Promotion

Annual Evaluation

Sustained Performance Evaluation

2018-2019



UWF

Division of
Academic Affairs

ANNUAL EVALUATION, TENURE, AND PROMOTION POLICY

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PART I. FRAMEWORK FOR DECISIONS

A. DEFINITION OF TERMS

1. “Regional Comprehensive University”

Henderson (2007) elaborated the following unique features of the regional comprehensive university.¹ Such institutions

- democratize education, making a college education broadly available to students with diverse preparation and motivation;
- focus specific attention on meeting the workforce needs of the region;
- emphasize the importance of effective teaching over research productivity;
- range from medium to large in size;
- concentrate on undergraduate education but offer selected graduate courses at the master’s level and a limited number of doctorates;
- are primarily supported through state funding and tuition.

The term “comprehensive” does not imply that the university will offer every conceivable university program, but instead connotes that the university is multi-purpose and selective in its goals. As such, faculty roles can be diverse in the regional comprehensive university, including those entirely committed to teaching and others whose primary focus is research. However, the majority of faculty will strive to balance commitments across teaching, scholarly and creative projects, and service in accordance with their departments’ mission.

2. Compliance Levels

When describing procedures and requirements, this policy document uses the verbs **must**, **should**, and **may**. The meanings follow:

- a. **Must** implies that the department must comply in all cases, without exception.
- b. **Should** implies a presumptive requirement, and the department is expected to comply in all cases. However, when “should” is used, the *department* may, in certain limited circumstances, deviate from the requirement. Deviations should be the exception, not the rule, and should be justified by the department during the review process.
- c. **May** indicates a polite suggestion that departments are encouraged to address, if appropriate.

¹ Henderson, B.B. (2007). *Teaching at the people’s university: An introduction to the state comprehensive university*. Bolton, MA: Anker Publishing.

3. Criteria and Performance Indicators

- a. “University tenure and promotion criteria” addresses expectations about aspects of performance for major personnel decisions that are common across departments and programs.
- b. “Department tenure and promotion criteria” refers to the expectations departments develop for purposes of tenure and promotion decisions.
- c. “Department annual evaluation performance indicators” describes how departments adapt university criteria to fit their disciplines. Performance indicators reflect activities that faculty must have actually accomplished so that personnel committees can fairly evaluate whether a candidate satisfies the university and department expectations. These indicators might also be viewed as outcome measures, as they capture the outcomes that are expected for achieving a given performance rating.

4. Categories of Performance

These adjectives are ordinal rankings of the department annual evaluation performance criteria: **distinguished, excellent, good, fair, poor**. Departments **must** use performance criteria that reflect the same ordinal scale and the same adjectives to depict that scale.

Distinguished performance clearly exceeds department expectations for excellence.

Excellent performance is defined as meeting department expectations; no major areas of weakness exist.

Good performance indicates *moderate* progress in a given area but one or more weaknesses render the performance not quite to the expectations of *excellence* in the department.

Fair performance suggests minor progress in an evaluation area because one or more major weaknesses exist in performance. Although there may be one or more strengths as well, the performance clearly is not consistent with the department’s expectations for excellence. Performance at this level warrants remediation planning.

Poor performance is characterized as having *substantial* weaknesses that jeopardize professional progress as a UWF faculty member. Performance at this level requires remediation activity. In extreme cases, out-counseling may be the most appropriate course of action to assist the faculty to find an institution that will be a better match for the faculty member’s abilities, values, and/or work ethics.

B. TENURE AND PROMOTION CRITERIA

1. University Criteria for Tenure and Promotion

This section describes the university criteria for promotion and tenure for regular, full-time, tenure earning faculty.

Reflecting the mission of UWF as a regional comprehensive university, the university criteria emphasize teaching relative to scholarship/creative projects and service. A minimum of excellent teaching performance is required in all promotion and all tenure and promotion decisions. Favorable promotion decisions also require excellent performance in scholarship/creative projects and service for promotion decisions. However, faculty need not achieve excellent ratings in all three areas to achieve tenure. As shown in Table 1, good ratings in either service or scholarship/creative projects, combined with an excellent or distinguished rating in the other area and excellent or distinguished rating in teaching, should result in a favorable tenure decision. Except in unusual circumstances (e.g., egregious ethical violation), if faculty members meet the criteria described above, they should receive favorable decisions, but the meeting of such criteria cannot be construed as a guarantee of either tenure or promotion.

Table 1. University Criteria for Tenure and Promotion Decisions

	<i>For a favorable personnel decision the weight of evidence must show sustained performance at these levels</i>		
Personnel Decision	Teaching	Scholarship and Creative Projects	Service
<i>Tenure</i>	Excellent	At least Excellent in one category and at least Good in the other category	
<i>Promotion to associate</i>	Excellent	Excellent	Excellent
<i>Promotion to professor</i>	Distinguished in at least one category and at least excellent in the other two categories		

2. Department Criteria for Tenure and Promotion

Departments should strive to create tenure and promotion evaluation criteria that are as straightforward and transparent as possible. Department tenure and promotion criteria **must** clearly state how ordinal annual evaluation rankings (along with other factors the department determines are important) translate to the conclusions drawn in tenure and promotion decisions as shown in Table 1.

Candidates for tenure and promotion are responsible for assembling portfolios in which the weight of evidence documents sustained performance at the appropriate levels required for favorable decisions. Departments **should** provide guidance to faculty on what constitutes acceptable sustained performance. For example, departments **may** require a specific level of achievement for two or three years as evidence of readiness for promotion or tenure. Departments **may** also establish a target number of publications, creative works, or performances that must take place during the evaluation period.

C. DEPARTMENT ANNUAL EVALUATION PERFORMANCE INDICATORS

Departments should devise Annual Evaluation Performance Indicators that reflect the mission of the university and department. In each of the three areas (teaching, scholarship/creative projects, and service) departments **must** develop specific and measurable performance indicators that address the following:

- *Quality criteria relevant to each activity;*
- *The frequency of activities and outcomes expected within review period, where relevant.*

Performance indicators **must** clearly distinguish the differences between and among performance criteria (ordinal rankings: distinguished, excellent, good, fair, and poor). Appendix A provides university-level behavioral criteria for the five levels of performance that guide department discussions of their criteria.

1. Performance Indicators for Teaching

Because high-quality teaching is critical to the university's *regional comprehensive* mission and vision, excellent performance is required for all tenure and promotion decisions. Teaching includes all teaching and learning activities in and out of the classroom that result in relevant, appropriate course learning outcomes, including the following:

- *Face-to-face classroom teaching at Pensacola or branch campuses*
- *Online teaching*
- *Teaching in distance learning circumstances*
- *Research group and one-on-one supervision and mentoring*
- *Studio teaching in group or one-on-one formats*
- *Continuing education assignments*
- *Advising*

Department performance indicators for teaching **should** include student evaluations of teaching. Conclusions drawn about teaching performance **may** also be influenced by the following indicators:

- a. Teaching awards and other accomplishments related to teaching
- b. Peer evaluations of teaching
- c. Pedagogical and quality enhancement activities that improve learning (e.g., active learning and student engagement techniques)
- d. Participation in professional development activities that improve teaching
- e. Respect for students and their rights
- f. Quality of teaching philosophy
- g. Quality of syllabi and course goals
- h. Effectiveness of assessment practices
- i. Evidence of student support practices
- j. Effectiveness of advising, mentoring, and student supervision practices
- k. Quality of execution of special teaching assignments (e.g., honors, capstone, General Studies)
- l. Quality of supervision of thesis, dissertations, or field experiences
- m. Other relevant performance indicators specified by the department

2. Performance Indicators for Scholarship and Creative Projects

Departments **must** adopt performance indicators for scholarship and creative projects, taking into consideration issues of both quality and frequency of production, where relevant, that are consistent with the university's mission, vision, and resources to support scholarly and creative work. Accordingly, departments **should** consider a broad range of activities that express their mission and vision. Moreover, departments **should** recognize that regional comprehensive universities have limited resources that may constrain scholarly expectations (e.g., relatively limited travel support diminishes the opportunity for international participation).

Scholarship and creative projects **must** be externally reviewed and publicly available. These projects include the following:

- Creation, production, exhibition, artistic performance, or publication of works by one or more individuals demonstrating originality in design or execution
- Discovery of new knowledge
- Development of new technologies, pedagogy, methods, materials, or uses
- Integration of knowledge leading to new understanding
- Application of knowledge to consequential problems

Departments **should** consider and address a wide range of venues for disseminating scholarly and creative projects, including the following:

- Peer-reviewed publications
- Editorially reviewed publications

- Convention and conference contributions
- Grant activity
- Electronic outlets
- Broad performance venues for the creative and performing arts
- Other performance indicators for service *deemed acceptable to the department*

Conclusions drawn about the quality of scholarly and creative projects **may** be influenced by the following performance indicators:

- a. Recognition or awards earned
- b. Scholarly or creative projects agenda or creative plan
- c. Peer reviews or other evidence of quality
- d. Adherence to ethical standards
- e. Professional development activity (e.g., licensure, technology training, etc.)
- f. External grants or other support to facilitate scholarship or creative activities
- g. Time management skills
- h. Skilled use of collaboration as demonstrated by the commitments proposed, accepted, and fulfilled (e.g., group projects, creative activities, and grants)
- i. Other relevant performance indicators specified by the department

3. Performance Indicators for Service

Departments **must** adopt performance indicators for service, taking into consideration issues of both quality and frequency, which are consistent with the university's mission and vision. Moreover, departments **should** recognize that service is relatively more important in a regional comprehensive university than what might be expected at a research-intensive university.

Service activities may include the following:

- Service to university or college or department
- Discipline-related service to the community
- Service as Department Chair or Program Director
- Unremunerated consultancies
- Community activities related to one's discipline
- Advising student organizations
- Service to academic or professional organizations (e.g., editorial review boards, organization leadership; conference organizer)
- Travel time to and from remote campuses locations

Although there is no specific requirement about the balance of service activities that faculty should select, there is an expectation that the faculty member will function effectively as a department citizen, assisting in completing the work of the department's programs.

Faculty will vary in their execution of a service plan. For example, service may reasonably emphasize activity on the campus at the expense of the other options where that plan works with the university and department missions. In such a case, greater depth of service would be expected.

As faculty progress in their service commitments, the general trend is to move from less involved participation (e.g., "sitting" on a committee and being reactive to emerging plans) through more intense investment (e.g., exercising leadership and solving service problems proactively).

At the outset of employment, service activities are likely to be the relatively lowest priority of the three categories. As such, department Chairs and Program Directors should advise new faculty about the necessity of service in a regional comprehensive university and how these activities can be incorporated strategically into their work assignments. Service expectations should be somewhat lighter for new faculty who are establishing themselves as teachers and scholars/artists, but new faculty should ultimately be encouraged to render high quality service in their selected activities. Departments should provide equitable access to service opportunities for all members and be reasonable in making service assignments that fit with other faculty responsibilities.

Community service is more valuable when it is related to a faculty member's disciplinary background. For example, a biology professor serving as the director of a local church choir would not represent service contributions for the purpose of promotion and tenure evaluation. However, such service for a music professor probably would. Departments' performance indicators *may* address how compensated service should be evaluated in the context of their discipline and department.

Conclusions drawn about quality of service *may* be influenced the following performance indicators:

- a. A measure of the scope of service activities
- b. Peer evaluation of contributions to the service mission
- c. Quality of service leadership
- d. Service agenda well suited to regional comprehensive university mission
- e. Service contributions represent strategic decisions that balance demands from the discipline, department, campus, and community
- f. Recognition for service inside or outside of the university or both
- g. Synergy between faculty member's area of expertise and service function
- h. Other service activities defined by the department

PART II. ADMINISTRATIVE GUIDELINES

A. TENURE

1. Eligibility for Tenure

- a. **Faculty beginning careers at UWF.** Candidates for tenure must submit for tenure review no later than the fall of the 6th year of employment. Candidates for tenure with unusually strong performance records may submit for review no earlier than the fall of the 5th year.
- b. **Faculty transferring to UWF.** Faculty members may negotiate up to 2 years of credit toward tenure based on past performance. The initial appointment letter must clearly identify the number of years of credit toward tenure. When the Dean grants 2 years of credit toward tenure, regular consideration for tenure will transpire in the fall of the 4th year of employment. Early consideration for tenure, in cases where candidates demonstrate unusually strong performance, will initiate tenure review in the fall of the 3rd year. In cases for which service outside UWF produced credit toward tenure, a copy of the initial appointment letter documenting this credit must be included in the portfolio. Any subsequent changes to years of credit toward tenure also must be documented and included in the portfolio.

2. The Role of Chair's Annual Evaluation in Tenure Review

The Chair's annual evaluations provide systematic feedback to the faculty member over the course of employment. The Chair shall evaluate each faculty member annually in writing, assess progress toward tenure and promotion, give the faculty member a copy of the written evaluation, and discuss the written evaluation with the faculty member. If the evaluation reflects deficiencies in the faculty member's performance, the Chair shall make specific suggestions to give the faculty member an opportunity to improve performance, thereby enhancing the likelihood of successful tenure and/or promotion. The faculty member may submit a rebuttal to the annual evaluation that will become part of the official file.

The Chair's annual evaluations should carry some degree of weight in tenure and promotion decisions; however, this perspective represents just one component of the formal review process. At each level of review, the candidate's accomplishments are subject to professional and peer scrutiny. Therefore, strong annual evaluations represent summative feedback about faculty performance but cannot be construed as a guarantee of either tenure or promotion.

3. The Department's Role in Preparation of Tenure-Track Faculty

Departments must have a procedure devoted to mentoring new faculty. Departments have the responsibility for designing and maintaining a mentoring program that facilitates new faculty members' professional growth and adaptation to the university.

It is also the responsibility of the department to conduct a review during the mid-point of the probationary period. The Dean must identify the approximate date of the mid-point review in the initial appointment letter. The Chair shall take responsibility for ensuring that the department completes the review, whether the Chair provides the evaluation or delegates the responsibility (e.g., mentoring committee). The procedure for the review shall be described in departmental by-laws.

The mid-point review is intended to provide formative feedback to optimize faculty success in the tenure decision. The review should corroborate success and encourage faculty who are making solid progress toward tenure, inform faculty who may need to improve in selected areas of performance, and warn faculty where lack of progress could jeopardize a favorable outcome. Faculty members may elect to include a copy of the mid-point review in the tenure portfolio; however, inclusion is not required.

All mid-point reviews should address the performance of annual assignments including teaching, scholarly and creative projects, and service occurring during the preceding tenure-earning years of employment. In addition, all reviews should assess overall performance and contributions critically in light of mid-point expectations. The mid-point review will not be as extensive as the formal tenure review that occurs toward the end of the probation period, but should be based on a set of documents, including a current vita; annual evaluations; student/peer evaluation of teaching; selected examples of teaching materials and scholarship; and a self-evaluation by the faculty member. The Dean will review the department's written mid-point review and respond to the department and the faculty member in writing. Further use of these materials is at the discretion of the faculty member.

4. The Role of the Department in Tenure Evaluation

The Chair will request all tenured full-time faculty members to submit a formal evaluation on tenure for each eligible faculty member within the appropriate unit. (See Appendix C.) The evaluation form should be completed and signed by each faculty member and submitted to the Chair. Other full-time faculty (excluding visiting faculty) may provide the Chair with opinions of the candidate's dossier. On a separate document, all tenured faculty in the department or unit shall vote regarding the acceptability of tenure for the candidate. The unsigned votes will be included in the tenure dossier in an envelope without disclosure of how individual faculty voted in the decision. (See Appendix D for the form on which to record the results of the secret ballot.)

B. PROMOTION

1. Eligibility for Promotion

The faculty member and the Chair shall confer about the readiness of the faculty member as a candidate for promotion. The process of submitting a dossier for consideration for promotion shall be initiated upon request of the faculty member or upon agreement between the faculty member and Chair. The Chair will forward the request to the Dean.

Eligibility for promotion involves both quality of performance and time served in existing rank. Candidates will typically be considered worthy of promotion when their annual evaluations demonstrate quality in performance consistent for three prior years with the expected level of performance for the rank to which the candidate aspires. Candidates will also have to achieve any specific targets for production of scholarly and creative projects that are identified in department by-laws, criteria or policies.

If candidates do not succeed in their bid for promotion, they should refrain from immediate resubmission unless the intervening changes show substantial improvements. Results of all prior unsuccessful reviews shall be required in subsequent promotion reviews.

- a. **Promotion to Professor.** Candidates for Professor will typically complete at least 5 years of employment at the associate level, 3 of which should transpire at UWF. Candidates may submit for review after the completion of 4 years of employment at the associate level, at least 3 years of which have transpired at UWF, in exceptional cases where annual evaluations point to success in meeting performance expectations. A candidate being reviewed for promotion to Professor should demonstrate at least excellent ratings in all areas of review (teaching, scholarly and creative projects, and service) and at least 1 area should be rated as distinguished in the 3 years immediately preceding submission of the dossier. The distinguished rating can be in different areas over the course of the 3 years but a minimum of one distinguished rating each year must be reflected in the evaluation.
- b. **Promotion to Associate.** Candidates for Associate Professor will typically complete 5 years of employment at the assistant professor level before submitting a dossier for review in the fall of the 6th year. Candidates may submit for review after the completion of 4 years of employment in exceptional cases where annual evaluations point to success in meeting performance expectations for the preceding 3-year period. A candidate being reviewed for promotion to Associate

Professor should be expected to have at least excellent ratings in all 3 categories of review for 3 years at UWF prior to submission of the dossier.

2. The Role of the Chair's Annual Evaluation in Promotion Decisions

The Chair shall be responsible for keeping the faculty member informed about the Chair's assessment of the faculty member's accomplishments and progress toward promotion. Candidates and administrators should refer to relevant articles in the Collective Bargaining Agreement for guidance.

3. The Role of the Department Members in Promotion Evaluation

The Chair will request all full-time faculty (excluding visiting faculty) in the department or unit to submit an evaluation on promotion for the promotion candidate. (See Appendix B.) The evaluation form should be completed and signed by each faculty member and submitted to the Chair. Should a faculty member decline to submit an evaluation of a colleague, the faculty member should return the evaluation with a notation that the faculty member declined to complete an evaluation. The decision to decline the evaluation will be placed in the promotion file without attribution to the source of the decision. Promotion recommendations do not require a formal vote; however, eligible faculty members should provide input on this important decision.

In cases where there are fewer than three tenured faculty to assist in making the promotion evaluation decisions, the respective college council shall develop a procedure to provide an additional evaluation method. Chairs shall notify the college council at the start of the academic year when an alternative needs to be implemented.

C. GENERAL PRINCIPLES AND PROCESSES FOR TENURE AND PROMOTION

- 1. Confidentiality.** All evaluators, including faculty, Chairs, Deans, and committee members as well as staff members who assist in the process shall keep all recommendations and committee deliberations in strict confidence.
- 2. Securing colleague supporting materials.** Candidates will secure a total of 6 colleague evaluations for inclusion in their dossiers.
 - a. External evaluations.** In consultation with the candidate, the Chair must secure 3 evaluation letters for personnel decisions (tenure and/or promotion) from knowledgeable peers outside the university who have expertise in the candidate's discipline. For these letters, peers should be in a position to make independent judgments. The evaluators should specify how long and in what capacity they have known the candidate and include an abbreviated curriculum vita. Prior to

the consideration of the faculty member's candidacy, the candidate should review the contents of the relevant file and may attach a brief response to any materials therein.

- b. **Internal letters of support.** Candidates must include 3 letters of support from knowledgeable peers within the university (outside the home department).
3. **Preparing the dossier.** Faculty members are encouraged to consult with the Chair as a mentor to facilitate the smoothest preparation process possible; however, ultimately the candidate shall be responsible for including all pertinent information in the dossier in the recommended order and meeting appropriate deadlines. The Chair shall assist the candidate with preparation of the dossier and shall make available to the candidate all necessary materials, information, and forms.
4. **Levels of Review.** Before the President makes a final decision on the status of the application, the candidate's dossier will undergo sequential review by the following entities:
 - the department and Chair;
 - the College Faculty Personnel Committee (CFPC);
 - the Dean;
 - the University Personnel Committee (UFPC); and
 - the Provost.

Each review judgment should be regarded as independent and advisory.

A review by the UFPC will be required if there are any negative reviews from any prior reviewing bodies. Additionally, the Provost may request a UFPC review if he or she believes that further deliberation and input will facilitate the most defensible decision. Any candidate may also request a review by the UFPC.

A review by the UFPC will not be required under the following conditions:

- a) The departmental faculty render majority support or tie vote in favor of the candidate; *and*
- b) The Chair agrees with the majority (or breaks the tie) in favor of the candidate; *and*
- c) The CFPC agrees in favor of the candidate, with no negative opinions; *and*
- d) The Dean agrees in favor of the candidate.

In summary, a candidate whose dossier produces no negative feedback through the Dean's level of review should not expect to be reviewed by the UFPC unless extenuating circumstances prompt to the Provost to ask for additional assistance from the UFPC.

The President shall recommend to the University Board of Trustees on all tenure matters, taking into account the recommendations of all groups or individuals described in this statement. Promotion decisions do not go before the Board for confirmation, which means the President is the final authority in these decisions.

5. **Review Decisions.** All reviewers shall exercise independent judgment. Each decision, starting with the decision rendered by the Chair, must be accompanied by a rationale for the decision rendered. When a decision is unfavorable, the rationale should provide sufficient detail to enable the candidate to address the concerns in a rebuttal. The conclusions of the CFPC and UFPC committee must reveal the vote tally; however, the decision must not disclose how individual committee members voted in the decision.
6. **Department Procedures and/or Bylaws.** Departments shall ensure that relevant department procedures and/or bylaws are in accord with the principles outlined in this document.
7. **Promotion and Tenure Review Calendar.** The following represents the schedule by which the various levels of decisions will be rendered for promotion and tenure.

2018

JUL 2	The Dean shall provide to each Chair a list of faculty members eligible to apply for tenure and promotion in the Chair's department.
SEP 3	Deadline for those faculty members with credit towards tenure to withdraw all or a portion of such credit. (May only be withdrawn once)
SEP 7	Candidate provides curriculum vitae (CV) update and other materials as set out on page 19, Suggested Ordering of Materials in Promotion and Tenure Dossiers.)
SEP 28	Chair receives peer evaluations and confers with candidate.
OCT 29	Chair adds his/her evaluation to the dossier and must assure that a copy of his/her evaluation is accessible by the candidate no later than this date.
NOV 5	Candidate adds rebuttal letter (if he/she chooses) to the dossier. Chair forwards dossier to the Dean.
NOV 6	Dean forwards the dossier to the College Faculty Personnel Committee (CFPC).
DEC 3	CFPC adds its recommendation and returns the dossier to Dean. CFPC must assure that a copy of the recommendation is accessible by the candidate no later than this date.

DEC 10 Candidate provides a rebuttal letter (if he/she chooses). The Dean includes the rebuttal in the dossier.

2019

JAN 7 Dean adds his/her recommendation to the dossier and must assure that a copy of the recommendation is accessible by the candidate no later than this date. Dean also informs the members of CFPC regarding his/her recommendation and sends a copy of recommendation to the candidate's Chair.

JAN 14 Candidate provides a rebuttal letter (if he/she chooses). The Dean includes the rebuttal in the dossier.

JAN 15 Dean forwards complete dossier to Provost who forwards dossier to University Faculty Personnel Committee (UFPC), when necessary.

FEB 11 UFPC adds its recommendation and forwards complete dossier to Provost. UFPC sends a copy of the recommendation to the candidate, Chair, and Dean.

FEB 18 Candidate provides a rebuttal letter to Provost, if he/she chooses, to be included in dossier.

MAR 15 *Deadline for withdrawal for tenure and/or promotion consideration.*

MAR 18 Provost adds his/her recommendation and sends a copy to candidate, Chair, Dean, and members of the CFPC and UFPC.

MAR 25 Candidate provides a rebuttal letter (if he/she chooses). The Provost includes the rebuttal in the dossier.

MAR 26 President receives complete dossier.

APR 22 President informs the candidate of the promotion decision and/or tenure recommendation, in writing, with copies to Chair, Dean, Provost, and the Chairs of the CFPC and UFPC. Dossier returned to Deans' Office.

D. SPECIAL CONSIDERATIONS

1. Linkage of Tenure and Promotion

Many candidates will go up for promotion to associate and tenure at the same time; however, that linkage is not a university requirement. Reviewers should recommend tenure, but not promotion, only when they have confidence that the candidate is close to qualifying for promotion. Otherwise, departments may end up with the challenge of having made a career commitment to a faculty member who will be

unable to realize the full range of faculty demands during their careers at the university, perhaps having an adverse long-range impact on the quality or scope of what the department can accomplish.

2. Enhanced Department Requirements

Departments can exercise more stringent performance requirements than the university standards as described in Part I, as long as they are consistent with the Collective Bargaining Agreement. Such enhancements must be clearly identified in department bylaws as enhancements beyond university standards so reviewers who do not share the department's disciplinary orientation can understand and support the department's standards.

3. Changing Department Standards

When departments choose to change or enhance their standards, the UFPC must review these proposed changes. Changes in department standards must be consistent with the applicable provisions in the Collective Bargaining Agreement.

4. Early Review Considerations

Some candidates for tenure and/or promotion may be inclined to take advantage of the option to go up early for review for tenure or promotion. In general, candidates should only go up early when the history of work supports a favorable and easy decision at all levels of review. If the candidate is unsuccessful in an early bid for tenure and/or promotion, the results of the first review along with any recommendations made by the reviewing body will be included in any subsequent review.

5. Joint Appointment

If a faculty member is hired as a joint appointment, the Chairs of the respective departments will confer at the time of the appointment to determine which department will serve as the primary for administrative purposes. The Chair of the primary department shall be responsible for personnel decision processes, but is obliged to confer with the Chair of the secondary department before rendering judgment. The relevant departments shall confer regarding how the faculty member's scholarly or creative agenda should relate to relevant evaluation criteria. If an existing faculty member's status is changed to a joint appointment, the administrative responsibilities between the departments should be determined at the point the change in status transpires. In a joint appointment, the standard for scholarly production should be a hybrid of the two departments' expectations; the faculty in a shared appointment should not be expected to meet separate production targets for both departments.

E. SUGGESTED ORDERING OF MATERIALS IN PROMOTION AND TENURE DOSSIERS

1. Format, Scope, and Custody of Dossier Materials

To facilitate the work of review committees and responsible University officials, candidates applying for promotion and/or tenure should arrange their binders and supporting material in the order listed below. Candidates are limited to only one 3-ring binder (up to 3" in size) and one box for supporting materials (primarily the candidate's scholarly and creative projects).

When a candidate is applying for promotion and tenure in the same year, one portfolio should be used for both with a divider marking off the section for official recommendations for promotion.

Candidates should restrict the inclusion of materials in their evaluation files to those that are germane to fair consideration of candidate's contributions. Evaluation files that include irrelevant or redundant materials inhibit the work of committees and administrators and are inimical to the best interests of the faculty member and the institution.

Once the candidate submits the dossier, the custody of the dossier moves from Chair to Dean to Provost, in accordance with the tenure and promotion schedule. Should the candidate wish to include additional material after submitting the dossier, the custodian of the dossier will indicate date of receipt on the added materials. The custodian must notify the candidate if materials (e.g., late-arriving evaluations) are added to the file after submission. A copy of the materials will be sent to the faculty member within 5 days. See the Collective Bargaining Agreement for additional detail. Materials added after submission shall not trigger reevaluation from reviewers who have already rendered judgment.

2. Order of Dossier Materials

- a. A copy of the approved departmental promotion and tenure criteria.
- b. Statement of contributions justifying tenure and/or promotion. This statement should include the candidate's self-evaluation concerning teaching, creative and scholarly activities, and service. The candidate should address not only the quantity but the quality and significance of his/her work.
- c. Curriculum Vitae (CV). The CV should clearly define publication headings; e.g., books and other monographs, journal articles, conference proceedings, and technical reports. Published items and items forthcoming should be clearly distinguished and separately listed. The CV should also distinguish work that is peer reviewed.
- d. Letter of initial appointment.

- e. Annual work assignments and Chair's evaluations of the candidate's performance since joining UWF or since his/her last promotion. Candidates may initially choose to redact the Chair's statements regarding progress toward tenure; however, the candidate must honor a request from any reviewer to submit the statements of progress.
- f. Student evaluation data. Candidates must submit numerical results of all student course evaluations that have been conducted during the 3 years preceding the review. Those who have been on sabbatical or leave during the preceding 3 years should submit all student course evaluations conducted over the 4 years preceding the review. Ideally, the 3 most recent years of student evaluation data should be considered. If any data are missing for any other reason, the candidate shall offer an explanation.
- g. External evaluations (3 letters, extra letters may be placed in bin).
- h. Internal letters of support (3 letters from UWF colleagues outside the home department).
- i. Departmental peer evaluations.
- j. Secret ballot results (in the case of tenure).
- k. Recommendation of Chair. (Any rebuttal letter.)
- l. Recommendation of CFPC (including the vote tally). (Any rebuttal letter.)
- m. Recommendation of Dean. (Any rebuttal letter.)
- n. Recommendation of UFPC (including the vote tally). (Any rebuttal letter.)
- o. Recommendation of Provost. (Any rebuttal letter.)
- p. Documentation of special circumstances. Any situations that require a departure from expected procedure should be documented in this section. Examples include:
 - If a candidate has been unsuccessful in a prior application for tenure and/or promotion, the candidate must include the judgments and recommendations (Chair, CFPC, Dean, UFPC, Provost, and President) from the prior deliberation in this section of the current dossier.
 - If a candidate or Chair has requested materials to be included after the dossier has been submitted, the cover letter making the request should be included in this section of the current dossier.
- q. List of supporting materials, e.g., books, reprints, and research reports. (Examples of scholarship and/or creative activity should be submitted in a separate container along with selected materials addressing teaching and service.)

F. ANNUAL EVALUATION PROCEDURES

1. Evaluation Period

The evaluation period should correspond to the type of appointment. For example, 12-month faculty should be evaluated over the entire year whereas 9-month faculty should

be evaluated only for those semesters included in the regular contract; summer teaching for 9 month faculty members should not be included.

2. Materials

a. Faculty Prepared Materials

For the evaluation period, the faculty member will prepare the following for submission to the Chair:

- Updated CV
- CAERS forms or other indication of distribution of effort
- Statement of contribution. The purpose of the statement is to highlight noteworthy achievements of the year. Any extenuating circumstances that should be considered in rendering judgment about unusual constraints should also be articulated in the statement. The contribution form may include a self-assessment of quality where endorsed by the department or college. The statement of contribution should not merely repeat or list data provided in either the vita or CAERS form. Instead, the emphasis should be on quality of effort and scope of impact. Chairs, Deans, and the Provost may require specific forms or narrative formats for the statement of contribution.

Examples of appropriate contributions may include the following:

- a) indication of high quality of course-related student contacts, including advising, counseling, student conferences, and thesis and/or intern supervision;
- b) high quality of course syllabi that provide appropriate and clear direction, including articulation of student learning outcomes;
- c) evidence of appropriately rigorous intellectual demands made upon students, including examples of high quality of test design or assignments;
- d) peer or Chair classroom evaluation;
- e) assessment data reflecting appropriate student progress in mastering course content and achieving course outcomes;
- f) description of substantial revision of established courses or development and teaching of new courses;
- g) description of professional growth that will enhance the faculty member's value as a teacher;

- h) peer evaluations that identify progress made toward achieving pedagogical goals;
- i) evidence of quality derived from peer reviewed process related to a performance or scholarly work;
- j) a formal note of appreciation for service that emphasizes scope of impact or significance of service; and
- k) self-assessment that highlights how submitted material supports success in fulfilling course objectives and achievement at a particular performance level.

b. Student Evaluation Data

Student evaluations will be conducted on all courses and all sections for the contract period. The faculty member has access to the evaluations only after grades in the courses have been assigned.

Candidates must submit numerical and narrative student comments on all courses conducted during the regular academic year. Candidates may choose to submit additional evaluation material from the summer session, but it is not required.

3. Order of Materials for Annual Evaluation File

- a. Assignment letter;
- b. Statement of contributions;
- c. CAERS form or equivalent;
- d. Updated vita;
- e. Student Evaluation Data;
- f. Any relevant materials that support the evaluation;
- g. Chair's evaluation and appraisal of progress toward tenure and promotion;
- h. Dean's evaluation; and
- i. Rebuttal letters, if any, should be placed immediately following the rebutted evaluation.

4. The Chair's Review

The Chair and faculty member discuss the evidence the faculty member has submitted. The Chair considers and weighs all evidence relevant to the decision and produces a defensible judgment that is subsequently reported to the faculty member. The Chair may propose that judgment as tentative and request further feedback and discussion from the faculty member. The Chair's judgment will include both quality of performance during the academic year as well as estimate progress, or lack thereof, toward relevant tenure and promotion decisions.

Both the Chair and the faculty member sign the evaluation. Faculty signature signifies that the discussion has been conducted. It does not connote agreement with the Chair's conclusions. The Chair submits to the Dean the total annual evaluation file on which the Chair's judgment was based.

5. Faculty Rebuttal

A faculty member who is convinced that the Chair has rendered judgment that underestimates performance is encouraged to submit a written rebuttal to the Chair's evaluation, which becomes an official part of the annual evaluation file.

6. Dean's Review

The Dean's judgment about both annual performance and progress of tenure and promotion decisions must be rendered in writing. Any unresolved differences between Chair and Dean evaluations shall be discussed concurrently among the Chair, Dean, and faculty member. Either the Chair or Dean can initiate a meeting to address and resolve the difference in opinion.

7. Provost's Review

Generally, only those annual evaluations for tenure-earning faculty will be forwarded to the Provost for review.

8. Review Calendar for Annual Evaluations

The calendar governing annual evaluations should be followed by all parties involved in the process and should reflect the general targets below:

2019

MAY 31	Faculty member provides evaluation file to Chair.
JUN 21	Chair shares his/her written evaluation with faculty member.
JUN 28	Faculty provides a rebuttal letter (if he/she chooses) which is added to the evaluation file. The complete file is then forwarded to the Dean.
JUL 19	Dean provides his/her written evaluation to the faculty member.
JUL 26	Faculty provides a rebuttal letter (if he/she chooses) which is added to the evaluation file. The complete file is then forwarded to the Provost (<i>tenure-earning faculty only</i>).

G. SUSTAINED PERFORMANCE EVALUATION

1. Process

The Sustained Performance Evaluation Process was changed as of the 2014-2017 Collective Bargaining Agreement. Additional revisions and refinements to the process were made in the 2017-2020 Collective Bargaining Agreement. *Please reference CBA articles **11.1 (b)** and **11.3 (b)** for full details.*

Tenured Professors and Associate Professors, University Librarians and Associate University Librarians will receive a Sustained Performance Evaluation. *CBA 11.1 (b)*

The purpose of the Sustained Performance Evaluation is to assess the faculty member's sustained performance and professional growth as of the date of the evaluation. The expectations for sustained performance shall be aligned with the qualifications for tenure in place at the time of the evaluation. For faculty in the ranks of Librarian or Associate University Librarian, the expectation shall be aligned with the qualifications for promotion in place at the time of the evaluation. *CBA 11.3 (b)(1)*

The Sustained Performance Evaluation shall be conducted in the tenured faculty member's sixth (6th) year after receiving tenure and every sixth (6th) year thereafter and will evaluate the faculty member on his or her performance over the previous six (6) year period. **Each faculty member may elect a one (1) year deferral once in his or her career at UWF.** This would allow the sustained performance evaluation to be conducted in the seventh (7th) year. When a faculty member elects to utilize the one-time, one-year postponement of the SPE, the faculty member's next, and all subsequent, SPEs will follow a six-year schedule from the one-year postponement. For University Librarians and Associate University Librarians this Sustained Performance Evaluation shall be conducted the sixth (6th) year after appointment or promotion to the rank of University Librarian or Associate University Librarian and every sixth (6th) year thereafter. *CBA 11.3 (b)(2)*

If a faculty member has entered into the D.R.O.P. program or Phased Retirement Program and has an SPE scheduled within year 4 or 5 of D.R.O.P. or Phased Retirement, the SPE will be optional and at the discretion of the faculty member. *CBA 11.3 (b)(3)*

There are three tiers for the Sustained Performance Evaluation. The attainment of **Distinguished (Tier One)** shall reflect distinction that clearly exceeds the University and

departmental tenure standards and expectations in place at the time of the evaluation for excellence in quantity, quality or both. The attainment of **Satisfactory (Tier Two)** shall satisfy the University and departmental tenure standards and expectations in place at the time of the evaluation for excellence in quantity, quality or both. An evaluation that is **Unsatisfactory (Tier Three)** reflects performance that does not satisfy the University and departmental tenure standards and expectations in place at the time of the evaluation for excellence in quantity, quality or both. A Tier Three Rating will require the faculty member to enter into a formal Performance Improvement Plan. University Librarians and Associate University Librarians will be evaluated in the same manner except that the University and departmental promotion standards and expectations in place at the time of the evaluation will apply. *CBA 11.3 (b)(4)*

Faculty receiving a ‘Distinguished’ (Tier 1) or ‘Satisfactory’ (Tier 2) will receive a base salary increase. An ‘Unsatisfactory’ (Tier 3) rating will result in no wage increase. The chart below summarizes the Tiers and associated increases outlined in *CBA 11.3 (b)(5)*.

Rank	SPE Tier	Increase
Professor / University Librarian	Tier 1	\$6,000
Professor / University Librarian	Tier 2	\$4,000
Professor / University Librarian	Tier 3	no increase
Assoc. Professor / Assoc. Univ. Librarian	Tier 1	\$3,000
Assoc. Professor / Assoc. Univ. Librarian	Tier 2	\$2,000
Assoc. Professor / Assoc. Univ. Librarian	Tier 3	no increase

If a faculty member goes up for promotion and SPE simultaneously in the same academic year, and both the promotion and the SPE are successful, the amount of the SPE tier salary increase will be at the rate of the new rank. *CBA 11.3 (b)(6)*

2. Steps of the SPE Evaluative Process for Faculty Members.

The faculty member’s dossier for the Sustained Performance Evaluation shall be submitted to the faculty member’s Department Chair for review. The Chair shall make a recommendation to the Dean regarding whether tenure criteria were met. The Dean will ask the College Personnel Committee for a recommendation regarding whether tenure criteria were met. Neither the Chair nor the College Personnel Committee will make a recommendation as to the tier rating. The language used by the Department Chair and the College Personnel Committee in their respective evaluations will not be restricted as long as neither makes a tier rating. The Dean will make a separate review and recommendation to the Provost including a recommended tier rating. The recommendations of the Chair, College Personnel Committee and Dean will be submitted to the Provost who will conduct a separate review and make a final decision regarding whether the tenure criteria were met and the assign a tier rating. *CBA 11.3 (b)(9)*

3. Steps of the SPE Evaluative Process for Librarians.

The Librarian will submit his or her SPE binder to the Library Faculty Committee (LFC) subcommittee for review. The Committee will make a recommendation to the employee's supervisor regarding whether the employee met the applicable promotion criteria in place at the time of the evaluation. The supervisor will review the SPE binder and the LFC recommendation and make a recommendation to the Dean of Libraries. The Dean will review the dossier, recommendations of the supervisor and LFC, and make a recommendation to the Provost regarding whether the employee met the applicable promotion criteria in place at the time of the evaluation and regarding the SPE Tier at which the employee should be ranked. The Provost will make a final decision on whether the employee has met the applicable promotion criteria in place at the time of the evaluation and assign a tier rating.

4. Dossier for Sustained Performance Evaluation*

All materials, except for supporting documents, should be submitted in a 3-ring binder (up to 3" in size).

The materials to be submitted by the faculty member being evaluated will reflect the six years corresponding to the candidate's SPE and will be the same as an application for tenure or in the case of a University Librarian or Associate University Librarian as an application for promotion. There shall be no internal or external letters of recommendation included in the submission. Evidence of sustained performance must be substantive and detailed with documentation. *CBA 11.3 (b)(8)*

**Librarians should refer to the Policies and Procedures for Assignment, Evaluation, Merit & Promotion.*

Order of Materials

- 1) A copy of the approved, current, departmental tenure criteria.
- 2) Statement of contributions justifying sustained performance and establishing how the employee meets the tenure criteria in place at the time of the evaluation. This statement should include the faculty member's self-evaluation concerning teaching, creative and scholarly activities, and service. The faculty member should address not only the quantity but the quality and significance of his/her work.
- 3) Curriculum Vitae (CV). The CV should clearly define publication headings; e.g., books and other monographs, journal articles, conference proceedings, and technical reports. Published items and items forthcoming should be clearly distinguished and separately listed. The CV should also distinguish work that is peer reviewed.
- 4) Letter conveying tenure and letter conveying of promotion to highest rank.

- 5) Annual work assignments and Chair's evaluations of the faculty member's performance for the previous six (6) year period.
- 6) Student evaluation data. Faculty members must submit numerical results of all student course evaluations that have been conducted during the 3 years preceding the review. Those who have been on sabbatical or leave during the preceding 3 years should submit all student course evaluations conducted over the 4 years preceding the review. Ideally, the 3 most recent years of student evaluation data should be considered. If any data are missing for any other reason, the candidate shall offer an explanation.
- 7) Recommendation of Chair.
- 8) Letter rebutting Chair's recommendation, if applicable.
- 9) Recommendation of CFPC (including the vote tally).
- 10) Letter rebutting CFPC's recommendation, if applicable.
- 11) Recommendation of Dean.
- 12) Letter rebutting Dean's recommendation, if applicable.
- 13) Documentation of prior SPE ratings.
- 14) Any situations that require a departure from expected procedure should be documented in this section. For example:
 - If a faculty member has requested materials to be included after he or she has submitted the dossier, the cover letter making the request should be included in this section of the current dossier.
- 15) List of supporting materials, e.g., books, reprints, and research reports. (Examples of scholarship and/or creative activity should be submitted in a separate container along with selected materials addressing teaching and service.)

5. Performance Improvement Plan

Faculty receiving "Unsatisfactory" ratings on a sustained performance evaluation will enter into a Performance Improvement Plan. The Performance Improvement Plan will be developed by the Chair in concert with the Dean within thirty (30) days of the date of the evaluation. The faculty member will be provided with an opportunity to provide input into the Performance Improvement Plan. The Performance Improvement Plan shall outline each of the areas needing attention and improvement so that the Faculty member shall meet the tenure standards (or promotion standards for Librarians and Associate Librarians) in place at the time of the evaluation, upon successful completion of the Performance Improvement Plan. The Performance Improvement Plan shall provide specific performance targets and a time period for achieving the targets. The Performance Improvement Plan must be approved by the Provost. The Chair will meet regularly with the faculty member to review progress toward meeting the performance targets. However, it is the responsibility of the faculty member to attain the performance targets specified in the performance improvement plan within the specified time frame and demonstrate competency in his or her position. Upon successful completion of a Performance Improvement Plan within two (2) years of

receipt of the unsatisfactory Sustained Performance Evaluation, the faculty member will receive a salary increase in the amount of corresponding “Tier II” increase. The faculty member’s next SPE will follow a new six-year schedule beginning with the academic year following the academic year of completion of the Performance Improvement Plan.
CBA 11.3 (b)(11)

6. Calendar (*Actions must be completed by dates shown*)
Librarian-specific parts are noted in red.

2018

- MAY 4** The Provost notifies Deans of the Faculty/Librarians who will undergo a SPE during the upcoming academic year.
- MAY 7** Dean’s Office notifies Faculty/Librarian, and Chair/Supervisor, that he or she will undergo a Sustained Performance Evaluation during the upcoming academic year.
- SEP 7** Faculty/Librarians who are electing one-time one-year deferral must make election in writing and provide it to Chair/Supervisor by this date. A copy is sent to the Dean and Provost.
- SEP 10** Faculty member provides dossier, including updated CV and all other required materials, to Chair.
Librarian provides dossier, including updated CV and all other required materials, to the Library Personnel Committee (LPC).
- OCT 15** Chair reviews dossier and provides recommendation to the Dean. A copy of recommendation is sent to the faculty member.
LPC reviews dossier and provides recommendation to the Supervisor. A copy of recommendation is sent to librarian.
- OCT 22** If faculty member wishes to rebut, he or she must submit rebuttal to Chair by this date.
If librarian wishes to rebut, he or she must submit rebuttal to Chair by this date.
- OCT 23** Dean forwards dossier to College Faculty Personnel Committee so that it can make a recommendation.
LPC forwards dossier to Supervisor for recommendation.
- DEC 3** College Faculty Personnel Committee adds its recommendation to the dossier and returns it to the Dean. A copy of recommendation is sent to faculty member.
Supervisor reviews dossier and provides recommendation to the Dean. A copy of recommendation is sent to librarian.

DEC 10 If faculty member wishes to rebut CFPC recommendation, he or she must submit rebuttal to Dean by this date.
If librarian wishes to rebut Supervisor recommendation, he or she must submit rebuttal to Supervisor by this date.

2019

JAN 7 Dean reviews dossier and makes a recommendation. A copy of recommendation is sent to faculty/librarian.

JAN 14 If faculty/librarian wishes to rebut Dean's recommendation, he or she must submit rebuttal to Dean by this date.

JAN 15 Dean provides dossier to Provost.

FEB 18 Provost informs faculty/librarian of SPE decision in writing, with copies to Chair/Supervisor, College/Library Personnel Committee Chair, and Dean.

MAR 20 Any Performance Improvement Plan(s) are due to Provost.

APR 12 Provost reviews and approves Performance Improvement Plan.

APPENDIX A

GUIDELINES FOR DEPARTMENTAL ANNUAL EVALUATION PERFORMANCE INDICATORS

Departments must use scaled performance indicators that clearly delineate the differences between the performance levels of *distinguished*, *excellent*, *good*, *fair*, and *poor*. Departments must not merely list the performance indicators without providing guidance about the relative importance of the indicators that are required for each performance level. Moreover, those indicator measures must both cohere with university criteria described in this document and fairly capture unique characteristics of their disciplinary and departmental cultures.

The following sections provide guidelines for departments on how to make appropriate judgments for tenure and promotion recommendations on quality of performance (i.e., distinguished, excellent, good, fair and poor).

TEACHING PERFORMANCE INDICATORS

Distinguished Performance

Distinguished performance demonstrates that the weight of evidence supports an unusually high degree of quality in teaching as shown by the following indicators that build upon performance indicators for excellence.

Performance indicators that may be used to support distinguished ratings:

- a. Numerical student evaluation data document clear statistical exceptionality
- b. Narrative statements emphasize powerful impact on learner or transformative learning experiences
- c. Teaching awards honor high caliber of performance
- d. Leadership evident in the promotion of high quality teaching and curriculum development in the department

Excellent Performance

Excellent performance represents consistent high quality teaching with positive outcomes for students as reflected by the performance indicators below.

Performance indicators that may be used to support excellent ratings:

- a. Student evaluations document consistently positive impact on learning (above average)
- b. Teaching philosophy provides foundation for coherent course planning and activities
- c. Syllabi outlines comprehensive, clear, and appropriate performance expectations
- d. Assessment practices enhance student learning and contribute to department needs
- e. Goals and course content routinely provide evidence of successful continuous improvement effort
- f. Pedagogical practices facilitate optimal learning conditions
- g. Student support practices facilitate optimal student development

- h. Advising, mentoring, and student supervision practices receive consistent favorable review
- i. Special teaching assignments (e.g., honors, capstone, General Studies) executed with expert skill
- j. Appropriate standards of academic integrity promoted, including respect for students and their rights
- k. Participates voluntarily in professional development activities to improve teaching quality and flexibility

Good Performance

Good performance demonstrates overall teaching effectiveness but some minor areas for concern. In general, the weight of evidence suggests that teaching performance is below what is required for tenure and promotion decisions.

Performance indicators that may be used to support good ratings:

- a. Student evaluations data document adequate impact on learning
- b. Teaching philosophy expressed in course planning and activities
- c. Syllabi provide reasonably clear and appropriate expectations
- d. Assessment practices support student learning and contribute to department needs
- e. Goals and course content give evidence of continuous improvement effort
- f. Majority of pedagogical practices are appropriate and effective
- g. Majority of student support practices are appropriate and effective
- h. Advising, mentoring, and student supervision practices are appropriate and effective
- i. Special teaching assignments (e.g., honors, capstone, General Studies) executed with reasonable skill
- j. Maintains appropriate standards of academic integrity, including respect for students and their rights
- k. Participates in teaching development activities when directed to do so

Fair Performance

Fair performance demonstrates some positive teaching outcomes but produces major areas for concern for the department. The weight of evidence suggests that teaching performance in this performance category is below what is required for tenure and promotion decisions.

Performance indicators that may be used to support fair ratings:

- a. Student evaluations data document areas of moderate concern (ratings below the department average)
- b. Teaching philosophy may not be clearly expressed in course planning and activities
- c. Syllabi need to provide clearer and more appropriate expectations
- d. Assessment practices show some difficulty in supporting student learning and meeting department needs
- e. Goals and course content reflect limited continuous improvement effort
- f. Some pedagogical practices need attention
- g. Some student support practices need improvement

- h. Advising, mentoring, and student supervision practices need improvement
- i. Special teaching assignments (e.g., honors, capstone, General Studies) could be executed with greater competence
- j. Occasional challenges related to academic integrity
- k. Some indications of disrespect for students and their rights
- l. Does not typically participate in teaching development activity

Poor Performance

Poor performance demonstrates *serious* problems in attaining success in teaching role as reflected either by (1) a combination of many negative indications, or (2) fewer but more extreme behaviors that produce substantial negative outcomes on students and their learning. In general, the weight of evidence suggests teaching performance is well below the department norms. Because of the high priority placed on teaching at UWF, this level of performance requires major remedial work.

Performance indicators that may be used to support poor ratings:

- a. Student evaluations data document consistent and substantive problems (ratings well below the department average)
- b. Teaching philosophy missing, poorly articulated or poorly expressed in course activities and planning
- c. Syllabi fail to establish clear and relevant expectations
- d. Assessment practices are inadequate to support student learning and department needs (e.g., learning outcomes are inadequate, inappropriate, or missing; testing strategies are not effective or fair)
- e. Goals and course content reflect no continuous improvement efforts
- f. No assistance rendered for department assessment plan
- g. Pedagogical practices are unsound (e.g., disorganization; late, missing, unhelpful feedback; standards too lax or too challenging; routinely poor preparation; disengaging, chaotic, or hostile classroom environment)
- h. Student support practices are unsound (e.g., late or absent for class, not responding to email, not keeping keep office hours, showing favoritism)
- i. Consistent and very negative ratings in advising, mentoring, and supervision of students scholarly or creative activities
- j. Special teaching assignments (e.g., honors, capstone, General Studies) avoided or poorly executed
- k. Chronic academic integrity concerns identified including evidence of disrespect for students and their rights

SCHOLARSHIP AND CREATIVE PROJECTS PERFORMANCE INDICATORS

Distinguished Performance

Distinguished performance demonstrates unusually high degree of skill in design and execution of scholarly and creativity projects as shown by the performance indicators below that build upon the performance indicators for excellence. In general, the weight of evidence in this performance *exceeds* department criteria for excellence.

Performance indicators that may be used to support distinguished ratings:

- a. Both quantity and quality measures clearly exceed department expectations
- b. Wide national or international audience
- c. National or international recognition earned for quality
- d. Awards received for scholarly or creative projects
- e. Achievements in continuing professional training show unusual merit
- f. Strong record of grant pursuit, grant awards, successful completion, and dissemination of results

Excellent Performance

Excellent performance demonstrates satisfactory execution of scholarship or creative activity agenda as shown by the performance indicators below.

Performance indicators that may be used to support excellent ratings:

- a. Refined scholarly agenda or creative plan well suited to regional comprehensive university context
- b. Meets department production targets for both quantity and quality of scholarship
- c. Favorable review by and respect from majority of colleagues in the department for scholarly and creative works
- d. Potential for wide recognition of quality outside of the University
- e. Completes appropriate schedule of professional educational opportunities (e.g., licensure, technology training, etc.) in a timely fashion
- f. External support captured to facilitate scholarship or creative activities agenda
- g. Adheres to relevant ethics conventions for scholarly and creative projects
- h. Skilled time management facilitates success of scholarly agenda or creative plan
- i. Skilled use of collaboration as demonstrated by the commitments proposed, accepted, and fulfilled (e.g., group projects, creative activities, and grants)

Good Performance

Good performance demonstrates moderate tangible progress in scholarship or creative activity agenda as shown by the performance indicators below but the weight of evidence suggests that work falls mildly below department standard of excellent.

Performance indicators that may be used to support good ratings:

- a. Specific scholarly agenda or creative plan identified, including appropriate timelines and preferred dissemination or display venues

- b. Scholarly and creative projects completed but falls short of department criteria related to the rate of completion or quality of dissemination venue.
- c. Appropriate professional educational opportunities pursued
- d. Involvement with professional organizations that will support scholarly or creative goals
- e. Grants developed and submitted to capture external support
- f. Adheres to relevant ethics conventions for scholarly and creative projects
- g. Reasonably effective time management strategies contribute to success
- h. Commitments made and reasonably fulfilled in collaborative activity (e.g., group projects, creative performances, and grants)

Fair Performance

Fair performance demonstrates only minor tangible progress toward executing a scholarly and creative agenda. In general, the weight of evidence suggests that scholarly and creative projects are moderately below the department norms. This level of performance offers no immediate support for tenure or promotion decisions but provides evidence of some promise for future productivity. Remediation is recommended.

Performance indicators that may be used to support fair ratings:

- a. General focus of interest identified, but falls short of rate of production required for promotion and tenure decisions
- b. Evidence of some completion of beginning stages of scholarly or artistic process, (e.g., data collection, manuscript outline, artistic plan), but falls short of the production required for tenure and promotion decisions
- c. Exploration of possible scholarly collaboration or resource network to help with specific plan
- d. Identification of professional organizations that will support scholarly and creative goals, but not actively involved at this time
- e. Appropriate professional educational opportunities (e.g., licensure, technology training, special educational opportunities) identified
- f. Sources of external support for scholarship or creative activities agenda identified and explored
- g. Judgment about ethical standards for scholarly and artistic production may be problematic at times
- h. Questionable time management strategies limit production
- i. Erratic performance in collaborative activities (e.g., grants, research collaborations, creative performance) negatively influences project quality

Poor Performance

Poor performance demonstrates *serious* problems in developing a scholarship or creative agenda. In general, the weight of evidence suggests that scholarly and creative production is well below the department norms attributed to inactivity or avoidance, absence of planning, poor time management, problematic collaborative behavior, or ethical challenges. In such circumstances, major remediation efforts may be identified and pursued.

Performance indicators that may be used to support poor ratings:

- a. Scholarly agenda or creative plan has not been identified (e.g., central focus of career interest has not materialized)
- b. Minimal pursuit of scholarly and creative projects
- c. Avoidance of professional organization involvement that could help disseminate or display faculty work
- d. Failure to pursue expected professional enhancement activities (e.g., licensure, continuing education, technology training)
- e. Avoidance of grant exploration or pursuit
- f. Ethical regulations violated regarding scholarly or artistic production
- g. Poor time management strategies work output handicap
- h. Unreliability and problematic collaborative skills harm project completion and quality

SERVICE PERFORMANCE INDICATORS

Distinguished Performance

Distinguished performance demonstrates a high degree of skill in service contributions as shown by the performance indicators below that build upon performance indicators for excellence. In general, the weight of evidence in the faculty service contributions *exceeds* the criteria for excellent.

Performance indicators that may be used to support distinguished ratings:

- a. Leadership demonstrated in targeted arenas of service (e.g., holds elected office)
- b. Collaboration is skillful and innovative
- c. Problems solved proactively through vigorous contributions
- d. Wide external recognition (local, national or international audiences) or awards achieved for quality of service contributions
- e. Community service, if applicable, provided significant and measurable impact; service provides excellent synergy between the faculty member's area of expertise and the service function

Excellent Performance

Excellent performance demonstrates satisfactory execution of service contributions as shown by the performance indicators below.

Performance indicators that may be used to support excellent ratings:

- a. Scope and effort level meet department criteria
- b. Colleagues view contributions to department as effective
- c. Service agenda well suited to regional comprehensive university mission
- d. Service contributions represent strategic decisions that balance demands from the discipline, department, campus, and community
- e. Potential shown for wide recognition inside and outside of the university

Good Performance

Good performance demonstrates *moderate* tangible progress in service contributions but may reflect some minor challenges that interfere with excellent performance. The weight of evidence suggests that work falls mildly below department criteria of excellent.

Performance indicators that may be used to support good ratings:

- a. Emerging service agenda reflects reasonable expectation for rank
- b. Selection of service activity expresses understanding of faculty service role in regional comprehensive university
- c. Usually participates actively and constructively in service activity
- d. Usually effective in service as citizen of department
- e. Balance across service obligations may be a struggle
- f. Community service, if applicable, provided reasonable synergy between the faculty member's area of expertise and the service function

Fair Performance

Fair performance demonstrates only minor tangible progress in service contributions that can be the result of many factors, including limited pursuit of service, passive participation, or inability to manage obligations. In general, the weight of evidence suggests that service is moderately below department norms. Remediation is recommended to assist the faculty member to come to terms with the service obligations and appropriate behaviors to achieve positive outcomes in the regional comprehensive university context.

Performance indicators that may be used to support fair ratings:

- a. Appropriate arenas for service identified and explored
- b. Minimal contributions made in service role (e.g., "sits" on committees as compared to active participation)
- c. Recognition of service obligation in faculty role shapes consideration
- d. Over-commitment to service spreads faculty time and energy too thinly to facilitate effectiveness

Poor Performance

Poor performance demonstrates serious problems in fulfilling appropriate service role for faculty. In general, the weight of evidence suggests that service is well below the department norms. Remediation should be required to help the faculty member develop an appropriate orientation to service in a regional comprehensive university context and strategic plan to accomplish that objective.

Performance indicators that may be used to support poor ratings:

- a. Service activity nonexistent or very poor in quality, producing a potentially adverse impact on the goals of the relevant organization
- b. Significance of the obligation of service in the faculty role in a regional comprehensive university not apparent (e.g., faculty seems resistant or oblivious to service needs)
- c. Community service, if applicable, does not in any way provide synergy between the faculty member's area of expertise and the service function

APPENDIX B

**EVALUATION FORM FOR DEPARTMENT COLLEAGUE REVIEW
FOR NOMINEES BEING CONSIDERED FOR **PROMOTION****

DEPARTMENT OF: _____

COLLEGE OF: _____

UWF policy provides that each nomination for promotion shall be acted upon, with careful consideration being given to the qualifications of the faculty member, including evaluations by colleagues. After carefully reviewing the candidate's dossier, including the departmental criteria for awarding promotion, please complete the evaluation form below which will help in the evaluation process. Please deliver your completed evaluation form to your department chair by **[insert date]**, for inclusion in the dossier being assembled.

PEER EVALUATION FOR: **Insert name** _____

	Distinguished	Excellent	Good	Fair	Poor	Insufficient Information	Not Applicable
Teaching Effectiveness							
Scholarship and Creative Projects							
Service Effectiveness							
Academic Advising Effectiveness							
Interactions With Students							
Disciplinary Expertise							
Works Constructively Within the Department							
Overall Contribution to Your Faculty							
Overall University Contribution							
Overall Candidate Ranking							

Please attach additional comments if needed.

EVALUATOR: _____

DATE: _____

APPENDIX C

**EVALUATION FORM FOR DEPARTMENT COLLEAGUE REVIEW
FOR NOMINEES BEING CONSIDERED FOR **TENURE****

DEPARTMENT OF: Insert name

COLLEGE OF: Insert name

UWF policy provides that each nomination for tenure shall be acted upon, with careful consideration being given to the qualifications of the faculty member, including evaluations by colleagues. After carefully reviewing the candidate’s dossier, including the departmental criteria for awarding tenure, please complete the evaluation form below which will help in the evaluation process. Please deliver your completed evaluation form to your department chair by insert date, for inclusion in the dossier being assembled.

PEER EVALUATION FOR: Insert name

	Distinguished	Excellent	Good	Fair	Poor	Insufficient Information	Not Applicable
Teaching Effectiveness							
Scholarship and Creative Projects							
Service Effectiveness							
Academic Advising Effectiveness							
Interactions With Students							
Disciplinary Expertise							
Works Constructively Within the Department							
Overall Contribution to Your Faculty							
Overall University Contribution							
Overall Candidate Ranking							

Please attach additional comments if needed.

EVALUATOR: _____

DATE: _____

APPENDIX D

**SECRET BALLOT BY *TENURED* MEMBERS OF DEPARTMENT FOR NOMINEES BEING
CONSIDERED FOR TENURE**

DEPARTMENT OF: Insert name

COLLEGE OF: Insert name

SECRET BALLOT FOR: Insert name

 YES

 NO