



**Board of Trustees Academics and Campus Environment Committee**

Monday, February 21, 2023  
Time: 9:00am  
Microsoft Teams Virtual Meeting

*Trustees:* Chair Oscar Horton; Jenifer Jasinski Schneider, Lauran Monbarren,  
Nithin Palyam, Rick Piccolo, Melissa Seixas  
*USF Foundation Board Liaison:* Debbie Sembler  
*Interim Provost and Executive Vice President:* Eric Eisenberg

**A G E N D A**

- I. Call to Order and Opening Remarks Chair Oscar Horton
  
- II. New Business – Action Items
  - a. [Approval of November 21, 2022 Meeting Minutes](#) Chair Horton
  
  - b. [Tenure as a Condition of Employment](#) Sr. Assoc Vice President Haywood Brown  
Interim Vice Provost Elizabeth Bell
  
  - c. New Degree Proposal
    - i. [B.S. Business Analytics & Information Systems, CIP 52.1301](#) Interim Dean GJ de Vreede
  
- III. New Business – Information Items
  - a. [Accreditation Reaffirmation Timeline Update](#) Dr. Christopher Combie
  - b. State of Admissions Update Vice President Cindy DeLuca
  - c. Roundtable Discussion
  
- IV. Public Comments Subject to USF Procedure Chair Oscar Horton
  
- V. Adjournment Chair Horton



**Board of Trustees Academics and Campus Environment Committee**

November 21, 2022  
Microsoft Teams Virtual Meeting

**MINUTES**

ACE Committee Chair Oscar Horton welcomed everyone and called the meeting to order. Chair Horton asked Kiara Guzzo to call the roll.

**Kiara Guzzo called the roll**

- Trustee Oscar Horton
- Trustee Jennifer Jasinski Schneider
- Trustee Lauran Monbarren
- Trustee Nithin Palyam – Did not participate
- Trustee Fredrick Piccolo
- Trustee Melissa Seixas

There were no public comments.

**New Business- Action Items**

**Approval of the Minutes**

August 23, 2022

Chair Horton requested a motion to approve the Minutes. The motion was given by Trustee Seixas and seconded by Trustee Jasinski Schneider. The Minutes were approved.

**Tenure as a condition of Employment**

Sr. Associate Vice President Hayward Brown presented.

Administrators such as the President, Provost, Deans, Chairs and senior faculty who are recruited to USF are normally rewarded tenure as a condition of employment. These highly qualified individuals have earned tenure at their previous institutions, which makes them attractive candidates to USF. In order to attract them, USF must provide a package that is competitive with other nationally and internationally ranked universities.

The two nominees are:

Dr. Christina McCrae joined the USF College of Nursing on August 15, 2022 as a Full Professor. Dr. McCrae obtained her Ph.D. in clinical psychology (APA Accredited) from Washington University St. Louis, MO.

Dr. Ukamaka Oruche Ph.D., PMHCNS-BC, FAAN Joined the USF Health College of Nursing on September 13, 2022, as the Gordon Keller Professor of Nursing, Indianapolis IN. from Indiana University.

Trustee Horton requested a motion to approve. It was given by Trustee Piccolo and seconded by Trustee Monbarren. Tenure as a condition of employment was approved.

Trustee Jasinski Schneider comments concerned the significance of Tenure in connection to the Board of Governors regulations on post Tenure Review.

Chair Horton had questions concerning the benefits of having Tenure.

President Law thanked Trustee Jasinski Schneider for her support on academic freedom and accountability for the USF Faculty members. The President reported that Trustee Jasinski Schneider is forwarding comments concerning the Tenure regulation to the BOG. The President also made comments on the Stop Woke Act and USF modifying regulations to comply.

USF General Counsel Gerard Solis comments concerned House Bill 7 - Federal Court for the Northern District of Florida issued a stay of the enforcement mechanisms. A lawsuit was filed by both a faculty member and a student. The cases were combined. Mr. Solis commented that under the direction of the President, we'll continue working with the Faculty Senate on strengthening and clarifying our Academic Freedom Policy.

Chair Weatherford commented on plans to give candid and thoughtful feedback to the BOG.

### **Institutes & Centers 7-year reviews**

As part of Board of Governors Regulation 10.015, for state of Florida Institutes and Centers (I &C) universities must provide a summary of 7-year reviews of each I&C to the Board of Governors. In accordance with the updated regulation, each University's board of trustees must certify that the evaluation/review contained all elements specified in Regulation 10.015 using a template provided by the Chancellor. Copies of the most recent evaluations need to be submitted to the Board of Governors along with certification template. The reports for I&Cs reviewed in CY 2022 and the certification template will must be submitted to the BOG by January 10, 2023 close of business.

Vice Provost Theresa Chisolm presented. She acknowledged colleagues: Dean of the College of Arts and Science at USFSP Magali Michael, Dean of the College of Education Anthony Rolle, Centers Directors Dr.'s Christian Wells and Anne Cranston Gingras.

Vice Provost Chisolm gave a special acknowledgement to Dr. Rebecca Gibbons from the Office of Decision Support. She works with the faculty, Institutes, Center Directors and Deans to ensure that the individual and summary reports required by the BOG are completed.

A power point was provided which highlighted the following:

- Institutes and Centers 7-year reviews  
USF Board of Trustees ACE Committee November 21, 2022
- SUS BOG Regulation 10.015 Institutes & Centers
- Required Review Components
- Institutes and Centers – 7 year Formal Reviews (2022) -Trustees were given copies of each report and a summary excel file submitted to the BOG.

**Center for Brownfields Research and Development Director Christian Wells presented,**

- Center for Brownfields Research and Redevelopment
- Brownfields
- Research
- Redevelopment
- Education

**Associate Dean for Academic and Student Affairs Dr. Ann Cranston Gingras presented.**

- Center for Study of Migrant Education
- Return on Investments
- Education
- Research
- Additional COEDU Centers Reviewed
- BOT Action Item – Certification that all required review components are included in each report and in Excel template

Chair Horton had questions on the Brownfields and the public's awareness.

Chair Horton requested a motion to approve. It was given by Trustee Piccolo and seconded by Trustee Jasinski Schneider. The motion was approved.

**New Business – Information Items**

**a. Degree Program Productivity Report**

Vice Provost Theresa Chisolm provided a power point presentation. She gave special acknowledgment for the hard work done by Director Cynthia Brown Hernandez and her team in the Office of Decision Support.

- Degree Productivity Annual Review – USF Board of Trustees – ACE Committee Annual Review November 21, 2022
- Degree Program Productivity Review
- Principles of Degree Program Review
- Results of 7 Year and Degree Productivity
- Two Reports
- Summary of Results

Trustee Seixas expressed an appreciation for this valuable information. She asked if there was a need to update or tweak the evaluation process given post consolidation?

Faculty members and Deans are provided with campus level data. It's also provided for the annual productivity report.

Vice Provost Chisolm announced that she will take on a new role next month to work with Chancellor Christian Hardigree focusing on ensuring our academic programs across the USF campus is being utilized and fully subscribed to, as well as meeting the workforce needs and student demands in the communities.

Trustee Seixas commended the Vice Provost on her upcoming new roll and commented that she will be of value to USFSP as well as the University community. Trustee Seixas would like to bring this issue before the USFSP Campus Board.

Dean Eric Eisenberg commented on retention challenges at the USF St. Petersburg campus. There isn't a broad inventory of majors that interest the students. A solution would be to look at the employer needs and compare things that were proposed at the point of consolidation. Talk with students about what they want and try to build those majors out. This will help with retention and progression.

Chair Horton questioned if the programs match up to the needs of the workplace?

The Vice Provost commented that many of the programs are long standing. Occasionally we must adjust the curriculum to make sure that we're educating students for today.

Chair Horton asked what is the make-up of an advisory board?

Dr. Chisolm commented that there are different disciplines however people in the community who can be consumers of the students would be a great choice.

Having no further business Chair Horton adjourned the ACE Committee meeting.

**Agenda Item: III b**

**USF Board of Trustees**  
March 7, 2023

**Issue:** Tenure Nomination as a Condition of Employment

---

**Proposed action:** Approve Tenure as a Condition of Employment

---

**Executive Summary:**

Administrators such as the President, Provost, Deans, Chairs, and senior faculty who are recruited to USF are normally awarded tenure as a condition of employment. These highly qualified individuals usually have earned tenure at their previous institutions, which makes them attractive candidates to USF. In order to attract them, USF must provide a package that is competitive with other nationally and internationally ranked institutions. Tenure upon appointment for qualified candidates, among other things, is a term and condition of the employment package that makes USF an institution of choice.

**Financial Impact:**

---

**Strategic Goal(s) Item Supports:**

USF Strategic Plan 2022-2027, Goal II

**Workgroup Review Date:**

Academic and Campus Environment Work Group – February 21, 2023

**Supporting Documentation Online (please circle):**  Yes  No

- Memorandum to William Weatherford, Chair, USF Board of Trustees
- Tenure Nominations as a Condition of Employment
- Faculty Profiles

**USF System or Institution specific:** USF

**Prepared by:** Elizabeth Bell, Interim Senior Vice Provost



**MEMORANDUM**

**DATE:** March 7, 2023  
**TO:** William Weatherford, Chair  
**FROM:** Rhea Law, President  
**SUBJECT:** Tenure as a Condition of Employment Nominations

I am requesting approval by the USF Board of Trustees of the enclosed Tenure as a Condition of Employment Nominations at USF. In nominating these faculty members for tenure, I certify that the requirements and conditions contained in USF Regulations, Policies, and Procedures for the granting of tenure have been met. I am satisfied that the nominee will make a significant professional contribution to USF and the academic community.

Enclosures

**Faculty Nominations for Tenure as a Condition of Employment**  
**USF Board of Trustees Meeting – March 7, 2023**

<u>College</u>	<u>Name</u>	<u>Rank</u>	<u>Department/ School</u>	<u>Degree of Effort*</u>	<u>Previous Institution</u>	<u>Tenure at Previous Institution</u>
College of Nursing	Dena Adele Evans	Professor	N/A	1.0	University of North Carolina Charlotte	Yes
Engineering	Prasant Mohapatra	Professor & Provost	Department of Computer Science and Engineering	1.0	University of California-Davis	Yes

\*If less than 1.0 FTE



## Tenure Nominations as a Condition of Employment

### **Dena Evans, Ed.D., MPH, MSN, RN, CNL, CNE**

Dr. Dena Evans, Ed.D., MPH, MSN, RN, CNL, CNE, joined the College of Nursing (CON) on January 9, 2023, as Vice Dean for Academic Affairs. Previously, she served as Associate Academic Dean and Director of the School of Nursing at the University of North Carolina (UNC) at Charlotte where she was a tenured Associate Professor. Dr. Evans earned her Ed.D. from North Carolina University at Charlotte (2010), focusing on higher education in the health professions. Her leadership training includes Master of Science degrees in Nursing Science and Public Health Nursing, Policy, and Leadership from UNC, Chapel Hill, the Price-Babson Fellows Program for Entrepreneurship Educators, and the Wharton Fellow's Program. Dr. Evan's teaching excellence was honored with the Mary Adelaide Nutting Award for Outstanding Teaching or Leadership in Nursing Education, the Outstanding Teaching Award at the University of North Carolina, Pembroke, and nomination for North Carolina Board of Governors Excellence in Teaching Award. Dr. Evans' excellence in research and scholarship has been demonstrated through publications and grant-funded projects, largely related to challenges for the nursing workforce and improving nursing education access for members of underserved communities. As primary investigator, Dr. Evans' grants total \$3.4 million, focusing on community/university partnerships and providing scholarships for nursing students in need. She published 6 peer reviewed articles as first author; 3 as co-author (9 total); and has 2 manuscripts in progress. Dr. Evans demonstrated excellence in service by chairing 6 unit committees and serving as member on numerous committees, workgroups and taskforces (2 national, 11 state level, 23 college/university). The College of Nursing APT Committee; Dr. Usha Menon, Dean and Distinguished University Health Professor and Senior Associate Vice President, USF Health, Dr. Charles J. Lockwood, Executive Vice President, USF Health and Dean, Morsani College of Medicine; and President Rhea Law all concur in recommending Dr. Evans for tenure at the rank of Full Professor.

**COLLEGE OF NURSING OFFICE OF THE DEAN | SENIOR ASSOCIATE VICE-PRESIDENT – USF HEALTH**

University of South Florida | 12901 Bruce B. Downs Blvd. MDC 22 | Tampa, FL 33612-4766

813-974-7597 | nursing-dean@usf.edu | health.usf.edu/nursing

Page 1 of 1



University of South Florida

Tenure at the Rank of Professor

**Prasant Mohapatra, Ph.D.**

Dr. Mohapatra will join the USF College of Engineering on March 1, 2023, as a Professor with the Department of Computer Science and Engineering (CSE) and as Provost of the University of South Florida. Dr. Mohapatra is an internationally recognized researcher for his work in mobile computing and wireless networks. He is a Fellow of AAAS and a Fellow of IEEE. He comes to USF from the University of California, Davis, where he served as Vice Chancellor for Research and a tenured Distinguished Professor in the Computer Science Department. He previously served in positions including Dean of Graduate Studies, Associate Chancellor, Interim Vice Provost and CIO at the University of California, Davis. Dr. Mohapatra earned a B.S. degree from the National Institute of Technology in Rourkela, India, in 1987, an M.S. from the University of Rhode Island in 1989, and a Ph.D. from The Pennsylvania State University in 1993. His extensive research experience includes receiving 75 grants as a PI or co-PI, totaling many tens of millions of dollars. He has co-authored 9 books and book chapters, 128 peer-reviewed journal articles, 277 peer-reviewed papers for selective conferences, and 10 patents. These research publications have received over 20,000 citations and produced an h-index of 68 and an i10-index of 293. Dr. Mohapatra also has extensive teaching and mentoring experience, having advised 13 postdoctoral researchers, 43 doctoral dissertations, and 28 Master's theses. Furthermore, Dr. Mohapatra has served as Editor-in-Chief for the IEEE Transactions on Mobile Computing, as an editorial board member and guest editor for numerous high-quality research journals, as a program chair and program committee member for numerous selective conferences, and as a panelist for several funding agencies including the National Science Foundation. The faculty of the Department of Computer Science and Engineering recommend tenure upon hire at the rank of Professor, a recommendation strongly supported by Robert Bishop, Dean of the College of Engineering. President Rhea Law joins in supporting this recommendation.

**Agenda Item:**

**USF Board of Trustees**  
March 7, 2023

**Issue:** Bachelor of Science in Business Analytics and Information Systems  
CIP Code 52.1301

---

**Proposed action:** Approval

---

**Executive Summary:**

The proposed Bachelor of Science in Business Analytics and Information Systems (BAIS) is an undergraduate STEM degree designed to prepare graduates for high-demand, high-paying jobs in Florida, the USA, and throughout the world. The BAIS program draws its pedagogy and content from the multi-disciplinary fields of Management Science, Data Science, and Information Systems, offering students competencies in the development of socio-technical systems and information sciences theory and practice. Management Science (CIP Code 52.1301) is an area of strategic emphasis under STEM, as recognized by the Florida Board of Governors (BOG).

**Financial Impact:**

There will be no financial impact because existing faculty and resources will be reallocated for this new degree program.

---

**Strategic Goal(s) Item Supports:** Goal 1: To promote the lifelong success of well educated, highly skilled, and adaptable alumnae/alumni who lead enriched lives, are engaged citizens and thrive in a dynamic global market.

**BOT Committee Review Date:** February 21, 2023

**Supporting Documentation Online (please circle):**

**Yes**

**No**

**Prepared by:** Cynthia Brown Hernandez, Director, Office of Decision Academic Planning and Operational Reporting



Board of Governors, State University System of Florida  
**REQUEST TO OFFER A NEW DEGREE PROGRAM**

In Accordance with BOG Regulation 8.011

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

University of South Florida  
 Institution Submitting Proposal

Fall 2023  
 Proposed Implementation Term

Muma College of Business  
 Name of College(s) or School(s)

School of Information Systems and Management  
 Name of Department(s)/Division(s)

Management Science  
 Academic Specialty or Field

Business Analytics and Information Systems  
 Complete Name of Degree

52.1301  
 Proposed CIP Code (2020 CIP)

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's Signature Date

\_\_\_\_\_  
 Board of Trustees Chair's Signature Date

\_\_\_\_\_  
 Provost's Signature Date

**PROJECTED ENROLLMENTS AND PROGRAM COSTS**

Provide headcount (HC) and full-time equivalent (FTE) student estimates for Years 1 through 5. HC and FTE estimates should be identical to those in Appendix A – Table 1. Indicate the program costs for the first and the fifth years of implementation as shown in the appropriate columns in Appendix A – Table 3A or 3B. Calculate an Educational and General (E&G) cost per FTE for Years 1 and 5 by dividing total E&G by FTE.

Implementation Timeframe	HC	FTE	E&G Cost per FTE	E&G Funds	Contract & Grants Funds	Auxiliary/Philanthropy Funds	Total Cost
Year 1	390	325	4,080	1,325,881	0	0	1,325,881
Year 2	420	350					
Year 3	460	383					
Year 4	480	400					
Year 5	500	417	3,899	1,625,929	0	0	1,625,929

## Additional Required Signatures

I confirm that I have reviewed and approved Need and Demand Section III.F. of this proposal.

DocuSigned by:



2DEE6E58D2DF460...

**Signature of Equal Opportunity Officer**

1/30/2023 | 11:17 EST

**Date**

I confirm that I have reviewed and approved Non-Faculty Resources Section VIII.A. and VIII.B. of this proposal.

DocuSigned by:

**Todd Chavez**

66E3D6D1A2B34A1...

**Signature of Library Dean/Director**

1/25/2023 | 10:34 EST

**Date**

## Introduction

### I. Program Description and Relationship to System-Level Goals

#### A. Describe within a few paragraphs the proposed program under consideration, and its overall purpose, including:

- **degree level(s)**
- **majors, concentrations, tracks, specializations, or areas of emphasis**
- **total number of credit hours**
- **possible career outcomes for each major (provide additional details on meeting workforce need in Section III)**

The proposed Bachelor of Science in Business Analytics and Information Systems (BAIS) is an undergraduate STEM degree (Florida Board of Governors 2025 System Strategic Plan) designed to prepare graduates for high-demand, high-paying jobs in Florida, the nation, and throughout the world. The BAIS program draws its pedagogy and content from the multi-disciplinary fields of Management Science, Data Science, and Information Systems, offering students competencies in the development of socio-technical systems and information sciences theory and practice. Management Science (CIP Code 52.1301) is an area of strategic emphasis under STEM, as recognized by the Florida Board of Governors (BOG). The School of Information Systems and Management (SISM) at the University of South Florida (USF) is uniquely positioned to offer this STEM program based on the distinction of its faculty's teaching and research in the emphasis areas of business analytics and information systems. This proposal will replace USF's existing B.S. BAIS major in CIP Code 52.1201 (Management Information Systems, General), in which it is one of two majors, with a unique degree in CIP Code 52.1301. The second major in CIP Code 52.1201 is B.S. Information Assurance and Cybersecurity Management and will remain in USF's inventory. The splitting of the two majors will allow USF to better track workforce needs and employment outcomes and align each major with the CIP code that best fits the curricula. The current curriculum for the B.S. in BAIS has evolved from preparing individuals to provide and manage data, as described for CIP 52.1201), to focusing on statistical modeling, data warehousing, data mining, software systems programming, and machine learning/forecasting, which aligns the curriculum more closely with CIP Code 52.1301.

The proposed program will require a total of 120 credit hours, which promote skills and knowledge necessary to enter the rapidly advancing world of business data analytics and information systems. This includes a highly sought concentration in Cybersecurity with rigorous classes designed to meet the current demands in business processes, information systems, and analytics practiced within complex cybersecurity operational environments.

The proposed BAIS degree program and its Cybersecurity concentration offer the knowledge and proficiencies necessary to meet the great demand for a highly-skilled workforce in the following career areas:

- **Business Data Analytics** – emphasis on business processes, transactions on information systems, and decision-making supported by analytics. Job opportunities for students include Business Analyst, ERP Analyst, Data Analyst, and Data Scientist.
- **Database Administration** – emphasis on database technologies, such as relational database management systems, big data, and NoSQL being managed in on-premise data centers and within enterprise cloud-based platforms. Job opportunities for students include Database Administrator, SQL Database Developer, Big Data Developer, and DevOps Engineer.

- **Network Administration** – emphasis on the management, security, and operation of enterprise data communication networks. Job opportunities for students include Network Administrator, Network Engineer, and Network Manager.
- **IT Project Management** – emphasis on the management of small- to large-size Information Technology (IT) projects. This includes the procurement of resources, management of resources, and understanding the requirements related to IT projects. Job opportunities for students include Project Manager, IT Operations Specialist, and IT Procurement.
- **Business Intelligence** – emphasis on the design, development, and operational support for business intelligence solutions, including Artificial Intelligence (AI) technologies. This includes engineering data from multiple business systems, extraction of data, transformation of data, data modeling, data warehousing, data mining, and data reporting. Job opportunities for students include Business Intelligence Analyst, Reporting Analyst, Data Engineer, and Dashboard Developer.
- **Security Operations** – emphasis on the skills required to work in a Security Operations Center. This includes skills such as analyzing cybersecurity events, analyzing cybersecurity data, and operating cybersecurity systems. Job opportunities for students include Security Operations Center Analyst, Security DevOps Engineer, and Security Data Analyst.

**B. If the proposed program qualifies as a Program of Strategic Emphasis, as described in the Florida Board of Governors 2025 System Strategic Plan, please indicate the category.**

- **Critical Workforce**
  - Education
  - Health
  - Gap Analysis
- **Economic Development**
  - Global Competitiveness
  - Science, Technology, Engineering, and Math (STEM)
- Does not qualify as a Program of Strategic Emphasis.**

**II. Strategic Plan Alignment, Projected Benefits, and Institutional Mission and Strength**

**A. Describe how the proposed program directly or indirectly supports the following:**

- **System strategic planning goals (see link to the 2025 System Strategic Plan on the [New Program Proposals & Resources](#) webpage)**
- **the institution's mission**
- **the institution's strategic plan**

This degree program falls under the Florida State University System’s strategic planning goals summarized in the “2025 System Strategic Plan”. The University of South Florida is driven by a commitment to excellence in teaching and learning, research and scholarship, and creative works and innovation. Changing the world through educating leaders in a diverse, inclusive environment

and developing knowledge and practice to address critical challenges, USF will grow in recognition among the nation's and the world's top public research universities.

The proposed B.S. in Business Analytics and Information Systems program supports this vision by producing highly-skilled graduates in the essential STEM fields of data analytics, complex information systems development, business intelligence, and cybersecurity.

The following summarizes how the proposed program directly supports the 2025 System Strategic Planning Goals:

- **Teaching & Learning (Excellence): Strengthen Quality & Reputation of Academic Programs & Universities** – The proposed B.S. in BAIS program supports high-quality teaching and academic programming at the University of South Florida, a preeminent University through innovative pedagogical methods that are applied to deliver the latest intellectual and practical program content.
- **Teaching & Learning (Productivity): Increase Degree Productivity & Program Efficiency** – The current B.S. BAIS major, and the proposed B.S. in BAIS program, delivers courses in multiple campus locations (Sarasota-Manatee, St. Petersburg, and Tampa) to accommodate a large population of on-campus student participation. The goal is to reach a diverse audience of students throughout the Tampa Bay area, the State of Florida, the nation, and the world. When appropriately indicated, course content from the B.S. in BAIS program will be made accessible in additional modalities of instruction to include online and hybrid modes to accommodate a larger audience of students.
- **Teaching & Learning (Strategic Priorities): Increase the Number of Degrees Awarded Within Programs of Strategic Emphasis** – The proposed B.S. in BAIS program will be offered under a federally and state designated STEM CIP Code. The current program design for the B.S. in BAIS has evolved from preparing individuals to provide and manage data (52.1201) to focusing on statistical modeling, data warehousing, data mining, software systems programming, and machine learning/forecasting, which aligns the program more closely with CIP Code 52.1301 and the *Strategic Priorities for a Knowledge Economy*. This transformation supports the specific STEM workforce demands at the State of Florida and national levels.
- **Scholarship, Research, and Innovation (Excellence): Strengthen Quality & Reputation of Scholarship, Research, & Innovation** – Undergraduate students enrolled in the current BAIS major, which will be available in the proposed new degree program, have an exciting opportunity to participate in undergraduate research projects. Knowledge and skills gained in research enhances the undergraduate experience and leads to new career opportunities for the students. Several options exist to show mentored undergraduate research activity on a student's official transcript. If no credit is needed, students may be eligible to enroll in IDS 4914 Advanced Undergraduate Research Experience course. This course will not impact degree credits or GPA but will show on an official transcript and document the experience.

Faculty members are involved in cutting-edge research in areas such as artificial intelligence, blockchain and big data analytics. Undergraduate students have opportunities to be involved in these research activities. Additionally, high-end research by the faculty members in analytics, operations research and machine learning strengthen the classroom teaching and course contents.

- **Scholarship, Research, and Innovation (Productivity): Increase Research Activity & Attract More External Funding** – Students from this proposed BAIS program can participate in research activities that attract research funding from external federal and

private resources. One example is a private funding source that partnered with the USF Muma College of Business to train BAIS students (and others throughout USF) on cybersecurity analyst skills. This funding source resulted in a \$1 million gift to the USF Muma College of Business (<https://wusfnews.wusf.usf.edu/university-beat/2018-10-31/usf-teams-with-reliaquest-on-1m-cybersecurity-labs>, Last visited: 12/06/2022). Following several years of BAIS students (and others) participating in this funded effort, research was published to better understand how information systems (IS) researchers partnering with practitioners can use this research as an exemplar of a method to design, build, and evaluate innovative co-curricular IS programs (<https://link.springer.com/article/10.1007/s10796-022-10332-y>, Last visited: 12/06/2022).

- **Scholarship, Research, and Innovation (Strategic Priorities): Increase Commercialization of Research Activity** – BAIS students have access to the USF Student Incubator Program (<https://www.usf.edu/research-innovation/rf/usf-connect/sii/>, Last visited: 12/06/2022). Under this program, BAIS students have created start-ups to support sustainable business processes (<https://usfbusiness.com/2021/04/24/paula-souto-stefani-business-analytics-and-information-systems-and-management-dual-degrees/>, Last visited: 12/06/2022). These programs support the enhancements of entrepreneurial and innovation environments throughout the Tampa Bay area, the State of Florida, the nation, and the world.
- **Community & Business Engagement (Excellence): Strengthen Quality & Recognition of Commitment to Community & Business Engagement** – The BAIS program is committed to partnering with the local Tampa Bay area public school systems and private company partners as shown through events hosted at the University, such as the KForce Big Data Day. KForce Big Data Day is an event that introduces high school seniors to professional opportunities in Business Analytics and Information Systems. (<https://www.usf.edu/business/schools/information-systems-management/big-data-days.aspx>, Last visited: 12/06/2022)
- **Community & Business Engagement (Productivity): Increase Community & Business Engagement** – The BAIS program is committed to faculty and student involvement in community and business engagement activities. For example, as part of a White House initiative to meet employers' needs for technically-skilled workers, faculty and students from the USF's BAIS major participated in a \$3.8 million Department of Labor grant to train young adults within the Tampa Bay area to fill technology roles in the information systems sector. The Practice Center at the Muma School of Information Systems and Management offer opportunities for students to engage in industry funded projects in analytics and information systems area at the University. (<https://www.usf.edu/business/schools/information-systems-management/practice-center.aspx>, Last visited: 01/05/2023)
- **Community & Business Engagement (Strategic Priorities): Increase Community & Business Workforce** – An exit survey of recent graduates from the BAIS major demonstrated the wide range of companies employing our students. Students are actively sought and employed by CCG Analytics, Citi, Deloitte, Ernst & Young, KPMG, Publix, Reliaquest, TD Synnex, Think Stack, and USAA. From this same collection of survey data, students reported job titles post-graduation from the BAIS program such as: Business Analyst, Cybersecurity Analyst, Business Intelligence Analyst, Financial Analyst, Operations Analyst, Systems Engineer, and IT Support.

The proposed BAIS program aligns closely with the University of South Florida's mission and goals in the following ways:

**Goal 1: Student success at USF and beyond** - The proposed BAIS program will produce STEM graduates who are well-educated and highly skilled in the latest technologies that are in great demand in high paying occupations throughout Florida, the nation, and the world.

**Goal 2: Faculty Excellence in Research and Innovation** - The current faculty members in the School of Information Systems and Management (SISM) have years of outstanding experience in teaching, research, service, and industry in these various discipline areas, such as Information Systems, Business, etc. They not only have the required academic qualifications in BAIS areas but also conduct outstanding research in the BAIS areas, with high-impact publication records in peer-reviewed journals. Many have extensive work experience in industry, to include working on consulting projects that have saved millions of dollars for clients in multiple countries over the years.

**Goal 3: Partnerships and Engagement with Local, National, and Global Impact** – Faculty members involved with the current B.S. BAIS are well known for their impact at the local, national and global levels. Examples of this are as follows:

**Alan Hevner** is a Fellow of the American Association for the Advancement of Science (<https://www.aaas.org/news/aaas-members-elected-fellows-2>, Last visited: 01/05/2023).

**Matthew Mullarkey** presented at the United Nations General Assembly (<https://www.usf.edu/business/news/2022/10-14-unga-mullarkey.aspx>, Last visited: 01/05/2023).

**Clinton Daniel** received a state grant to overhaul digital technology education in secondary education (<https://www.usf.edu/business/news/2022/07-22-cybergrant-daniel.aspx>, Last visited 01/05/2023).

The School of Information Systems and Management regularly executes industry-funded projects through the Practice Center (<https://www.usf.edu/business/schools/information-systems-management/practice-center.aspx>, Last visited: 01/05/2023). These projects are funded by local and national companies demonstrating the recognition faculty members have within the community.

**B. Describe how the proposed program specifically relates to existing institutional strengths. This can include:**

- **existing related academic programs**
- **existing programs of strategic emphasis**
- **institutes and centers**
- **other strengths of the institution**

The current faculty members in the School of Information Systems and Management have earned terminal degrees in Information Systems, Business/Management, and various Engineering fields, such as Computer Science (from AACSB- and ABET-accredited institutions), with a major emphasis on courses in quantitative decision-making. The faculty have strengths in teaching, academic coursework, research, and employment experience. They have designed and will teach the courses proposed in the BAIS program.

The faculty not only have the required academic qualifications in BAIS areas but also conduct outstanding research in the BAIS areas with high-impact publication records in peer-reviewed

journals. Researchers in the Muma College of Business were ranked No. 95 in the nation from 2017 to 2021 for the number of publications in journals, according to a 2022 ranking by the University of Texas at Dallas (<https://jsom.utdallas.edu/the-utd-top-100-business-school-research-rankings/index.php>, Last visited: 12/06/2022).

Many faculty members have extensive work experience in industry, to include working on consulting projects that have saved millions of dollars for clients in multiple countries over the years. The experiences and expertise they bring into the classroom will certainly help prepare the next generation workforce for the challenges of BAIS applications in industry.

The Muma College of Business has a Center of Analytics and Creativity (<https://www.usf.edu/business/centers/analytics-creativity/>, Last visited: 12/06/2022). The activity of the Center directly aligns with the course content of the B.S. BAIS program.

The SISM Practice Center (<https://www.usf.edu/business/schools/information-systems-management/practice-center.aspx>, Last visited: 12/06/2022) provides opportunities to students in the current B.S. BAIS major--and will continue in the proposed program--to work on real industry-funded projects. This opportunity provides students the required real-life experience in an academic environment.

In addition, the SISM faculty have experience with successfully administering the current B.S. BAIS major, the M.S. Business Analytics and Information Systems program, and the Ph.D. Big Data Analytics program.

The analytics focus in the proposed program directly aligns with USF's Muma College of Business' mission "*The Muma College of Business leverages analytics and critical thinking as a means to advance student success, produce scholarship with impact, and generate innovation in partnership with our stakeholders.*" (<https://www.usf.edu/business/about/mission.aspx>, Last visited: 12/06/2022) The program will teach students how to use analytics in the business. This will help the graduates from the program to secure high paying jobs and will also help local businesses to be more efficient in their operations.

**c. Provide the date the pre-proposal was presented to the Council of Academic Vice Presidents Academic Program Coordination (CAVP ACG). Specify whether any concerns were raised, and, if so, provide a narrative explaining how each concern has been or will be addressed.**

The pre-proposal was presented to the CAVP ACG on April 26, 2022, and no concerns were expressed.

**D. In the table below, provide a detailed overview and narrative of the institutional planning and approval process leading up to the submission of this proposal to the Board office. Include a chronology of all activities, providing the names and positions of both university personnel and external individuals who participated in these activities.**

- If the proposed program is a bachelor's level, provide the date the program was entered into the APPRiSe system, and, if applicable, provide narrative responding to any comments received from APPRiSe.
- If the proposed program is a doctoral-level program, provide the date(s) of the external consultant's review in the planning table. Include the external consultant's report and the institution's responses to the report as Appendix B.

Date	Participants	Planning Activity
Fall 2016	University-wide	Launch of B.S. Business Analytics major in CIP Code 52.1201
Fall 2020	SISM Faculty, Muma College of Business Faculty, ODS-Academic Planning	Discussion relative to requesting new degree in CIP Code 52.1301
Fall 2021	SISM Faculty, Muma College of Business Faculty, ODS-Academic Planning	Completion of the B.S. BAIS pre-proposal
Fall 2021	SISM Faculty, Muma College of Business Faculty	Approval of the B.S. BAIS pre-proposal
Spring 2022	University-wide (College, School, University Faculty Council, ODS-Academic Planning)	Added the bachelor's in CIP Code 52.1301 to USF's 2022 Accountability Plan
Spring 2022	SUS CAVP Academic Coordinating Group	Presented BAIS pre-proposal and no concerns expressed
April 2022	USF BOT	Approval of USF's 2022 Accountability Plan
June 2022	FL BOG	Approval of USF's 2022 Accountability Plan
June 2022	ODS-Academic Planning	Added the program information in APPRiSe and no comments were received
Fall 2022	SISM Faculty, Muma College of Business Faculty, ODS-Academic Planning	Completion of the B.S. Business Analytics and Information Systems new degree proposal written and submitted for College and University reviews
December 2022	Muma College Curriculum Committee	Approval of B.S. BAIS new degree proposal in CIP code to 52.1301
January 2023	University Faculty Council	Approval of B.S. BAIS new degree proposal in CIP code to 52.1301
February 2023	USF's Academic Campus Environment Advisory Council (ACEAC)	Approval of B.S. BAIS new degree proposal in CIP code to 52.1301
February 2023	BOT ACE Committee	Approval of B.S. BAIS new degree proposal in CIP code to 52.1301
March 2023	USF's Board of Trustees	Approval of B.S. BAIS new degree proposal in CIP code to 52.1301
March 2023	BOG Staff	Submission of proposal to BOG staff

**E. Provide a timetable of key events necessary for the implementation of the proposed program following approval of the program by the Board office or the Board of Governors, as appropriate, and the program has been added to the State University System Academic Degree Program Inventory.**

Following approval of the program by the Board of Governors' office (and addition to the FL BOG Academic Program Inventory), University personnel will take the following actions to implement the new degree:

Spring/Summer 2023:

- Add to USF's Degree Inventory
- Add to USF's Student Information System
- Add to USF's 2023/2024 Undergraduate Catalog
- Add to Undergraduate Admissions Applications
- Market and Recruit for Program

Fall 2023

- Launch program

## Institutional and State Level Accountability

### III. Need and Demand

**A. Describe the workforce need for the proposed program. The response should, at a minimum, include the following:**

- **current state workforce data as provided by Florida's Department of Economic Opportunity**
- **current national workforce data as provided by the U.S. Department of Labor's Bureau of Labor Statistics**
- **requests for the proposed program from agencies or industries in your service area**
- **any specific needs for research and service that the program would fulfill**

According to the Florida Department of Economic Opportunity's website, the number of online ads for Florida jobs, as per December 2022, in related areas are listed in the following table. This table demonstrates the shortage of skilled bachelor degree holders in the State in these areas.

<b>Top Occupations in Demand for Florida — Bachelor's Degree Not Seasonally Adjusted</b>	<b>Occupation Code</b>	<b>Online Ads October 2022</b>	<b>Online Ads October 2021</b>
Software Developers, Applications	15113200	7,285	6,242
Computer Systems Analysts	15112100	2,236	1,920
Computer Systems Engineers/Architects	15119902	2,192	1,746
Information Technology Project Managers	15119909	1,948	1,693
Operations Research Analysts	15203100	1,369	1,306
Business Intelligence Analysts	15119908	1,277	1,529
Database Administrators	15114100	952	1,043
Software Quality Assurance Engineers and Testers	15119901	938	808

Source: *Florida Department of Economic Opportunity* ([https://lmsresources.labormarketinfo.com/special/hwol\\_occupations\\_req\\_bachelors\\_florida.xls](https://lmsresources.labormarketinfo.com/special/hwol_occupations_req_bachelors_florida.xls), Last visited: 12/06/2022 and <https://www.floridajobs.org/workforce-statistics/products-and-services/help-wanted-online>, Last visited: 12/06/2022)

The significant impacts of the BAIS program will be to meet workforce and economic development needs at all levels of employment. The following Lightcast data (also see Appendix I) highlights the number of for job postings over the past 12 months for graduates of program sin CIP Code 52.1301 CIP shows:

- 24,656 postings in the Tampa Bay region
- 89,678 postings in Florida
- 1,642,204 postings in the nation

The Florida Classification of Instructional Programs (CIP) to Standard Occupational Classification (SOC) crosswalk provided by the Florida Department of Education (published October 26, 2022) data indicates an increase nationally and statewide of employment opportunities in CIP Code 52.1301. The data indicates a 25 percent increase in Florida employment demand from 2021-2023 for Management Analysts, Information System Mangers, Information Research Scientists, and Operations Research Analyst. The same CIP-SOC crosswalk indicates an 18 percent increase nationally over the same period for the same jobs.

Data Analytics and Data Science are among the hottest occupations in today's world. Data from the Bureau of Labor Statistics' website ([https://www.bls.gov/oes/2020/may/oes\\_fl.htm#15-0000](https://www.bls.gov/oes/2020/may/oes_fl.htm#15-0000), Last visited: 12/06/2022) show employment to be 220,900 within Florida with an average annual salary of \$82,810, in job titles such as, Computer Analyst, Database Administrators, Information Security Analysts, Operations Research Analyst, and Data Scientist. According to [payscale.com](http://www.payscale.com/research/US/Skill=Big_Data_Analytics/Salary) ([http://www.payscale.com/research/US/Skill=Big\\_Data\\_Analytics/Salary](http://www.payscale.com/research/US/Skill=Big_Data_Analytics/Salary), Last visited: 01/02/2023), annual salaries for Data Analysts are on average \$119,000.

A recent search (November 2022) in LinkedIn jobs on "Analytics" alone yielded 15,000 jobs in the Tampa Bay area, 28,000 jobs in Florida and 102,000 in the USA. Another search using the same term on Indeed.com (url visited November 2022) yielded 4,940 jobs in Florida; and 400,000 jobs in the nation.

This great shortage of skilled STEM personnel needs to be urgently addressed. It is imperative to train our future workforce in BAIS with a high-quality curriculum, taught by the distinguished SISM faculty. If enough graduates are not trained in the Tampa Bay area and across Florida, companies will work to find ways to fill the shortfall through transient employees and outsourcing. Outsourcing these high-skilled, high-paying jobs overseas is not a sustainable path for Florida's economy. The BAIS program at USF will provide a sustainable solution for a brighter future for the state and the nation.

The current B.S. BAIS major helps students acquire skills that provide them with knowledge and skills that will enhance their ability to acquire certifications from several premier professional organizations. The same will be true for the proposed new degree. Here a few examples based on BAIS course content:

- SAS® Certified Base Programmer
- CCA Spark and Hadoop Developer Exam
- Cloudera Certified Administrator for Apache Hadoop (CCA-H)
- DataStax Professional Certification on Apache Cassandra™
- Society for Human Resources Management (SHRM) Certificate
- Microsoft Technology Associate
- Certified Professional in Python Programming
- Amazon Web Services (AWS) Certified Solutions Architect – Associate
- AWS Certified Developer – Associate
- AWS Certified Big Data – Specialty

The School of Information Systems and Management's Advisory Board asked the School to focus on analytics, management science, data management, operations management area for this new degree program. The Advisory Board has representatives from Raymond James,

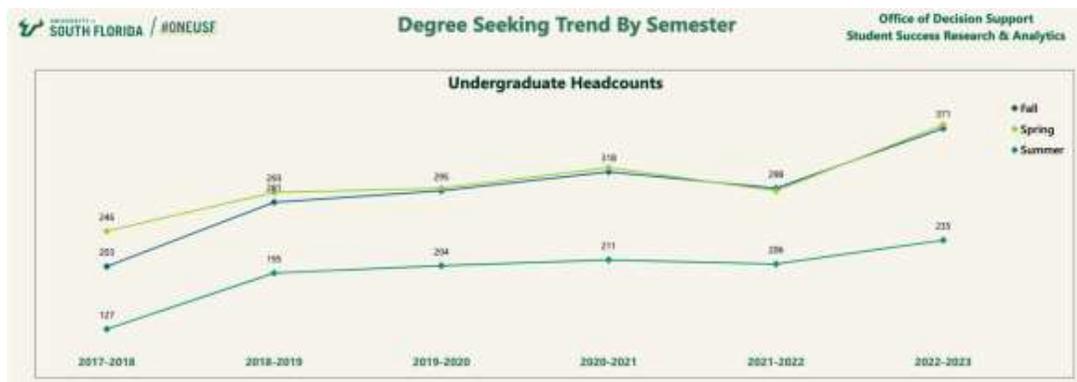
Citi Bank, Bank of America, Amgen, K-Force, Verizon, Amazon, Tampa General Hospital and Hillsborough County Public Schools Board, to name a few companies.

The School has invested quite heavily in analytics-related research. Faculty members have published in the area of Information Systems and Analytics. The proposed program will help faculty members to focus more in the area and use of student resources to engage in analytics-related research. It will fulfill the local demand of such research and knowledge.

**B. Provide and describe data that support student demand for the proposed program. Include questions asked, results, and other communications with prospective students.**

According to internal data, USF’s BAIS major (in CIP Code 52.1201) had a Fall 2021 headcount of 298 students. The UF and FIU Fall 2021 headcount in CIP 52.1301, undergraduate degree, was 351 and 362 respectively. (UF and FIU Fall 2021 enrollment pulled 01-02-2023 from the FL BOG’s dashboard-<https://www.flbog.edu/resources/data-analytics/dashboards/headcount-enrollment-by-classification-of-instructional-programs-cip-code/>.)

Even with UF and FIU offering undergraduate programs in CIP Code 52.1301, USF’s headcount in Fall 2022 in 52.1201, the current B.S. BAIS major, has increased to 371, as per USF internal data (see table below). USF’s B.S. BAIS major (CIP 52.1201) has evolved over time into covering competencies that aligns with the description for CIP 52.1301 Management Science: “A general program that focuses on the application of statistical modeling, data warehousing, data mining, programming, forecasting and operations research techniques to the analysis of problems of business organization and performance. Includes instruction in optimization theory and mathematical techniques, data mining, data warehousing, stochastic and dynamic modeling, operations analysis, and the design and testing of prototype systems and evaluation models” (<https://nces.ed.gov/ipeds/cipcode/cipdetail.aspx?y=56&cip=52.130>, Last visited 12/06/2022. Consequently, we can conclude that there is growing demand for undergraduate programs in CIP Code 52.1301 Management Science.



USF intends to grow that enrollment gradually over the next five years with the increased focus on the analytics and management science in the program. The demand for an analytics-based program in Business is clear in the market, and USF intends to support this with the proposed B.S. BAIS program.

Due to the high enrollment in the current B.S. BAIS in CIP Code 52.1201, a student interest/demand survey was not conducted.

**C. Complete Appendix A – Table 1 (1-A for undergraduate and 1-B for graduate) with projected student headcount (HC) and full-time equivalents (FTE).**

- **Undergraduate FTE must be calculated based on 30 credit hours per year**
- **Graduate FTE must be calculated based on 24 credit hours per year**

**In the space below, provide an explanation for the enrollment projections. If students within the institution are expected to change academic programs to enroll in the proposed program, describe the anticipated enrollment shifts and impact on enrollment in other programs.**

The current BAIS major (CIP 52.1201) will be terminated, and all students and resources will be moved to the proposed new B.S. BAIS program (CIP 52.1301). CIP 52.1201 will continue to offer the undergraduate major in Information Assurance and Cybersecurity Management, which has a sustained enrollment over the last 5 years of approximately 50 students.

The current B.S. BAIS major has annual sustained enrollments of more than 500 students. USF expects the enrollment to be consistent in the proposed new degree with that of the current major in CIP Code 52.1201. The majority of students in the current B.S. BAIS major are FTICs or Florida College System transfers.

Current USF data indicates that on average annually 20 upper-level students transfer from existing USF majors into the B.S. BAIS. Due to the low number of students who transfer into the current B.S. BAIS major, there is marginal impact on other majors at USF.

Approximately 60-80 student come from upper-level transfers outside of the Florida College System.

**D. Describe the anticipated benefit of the proposed program to the university, local community, and the state. Benefits of the program should be described both quantitatively and qualitatively.**

As previously mentioned in Section III.A., Data Analytics, Data Science, and Software Development are among the hottest occupations in today's world.

A recent search (url visited: November 2022) in LinkedIn jobs on "Analytics" alone yielded 15,000 jobs in the Tampa Bay area, 28,000 jobs in Florida and 102,000 in the nation. Another search using the same term on Indeed.com (url visited: November 2022) yielded 4,940 jobs in Florida; and 400,000 jobs in the USA.

This great shortage of skilled STEM personnel needs to be urgently addressed. It is imperative to train our future workforce in BAIS with a high-quality curriculum, taught by the distinguished SISM faculty. If enough graduates are not trained in the Tampa Bay area and across Florida, companies will work to find ways to fill the shortfall through transient employees and outsourcing. Outsourcing these high-skilled, high-paying jobs overseas is not a sustainable path for Florida's economy. The BAIS program at USF will provide a sustainable solution for a brighter future for the state and the nation.

The proposed BAIS program will add the following advantages to Florida.

1. Increase availability of workforce with Management Science (Analytics) skills. This will attract more large data-focused enterprises to setup offices in Florida.
2. Enable local Florida residents to create enterprises focused toward data analytics, creating more jobs in the region.
3. Help students navigate in today's data-driven, complex world.
4. Establish Florida as a leading source of data analytics professionals.

5. Data analytics is the foundation of business and research in today's world. Thus, graduates with the data analytics skill-sets will help USF and the broader community.

**E. If other public or private institutions in Florida have similar programs that exist at the four- or six-digit CIP Code or in other CIP Codes where 60 percent of the coursework is comparable, identify the institution(s) and geographic location(s). Summarize the outcome(s) of communication with appropriate personnel (e.g., department chairs, program coordinators, deans) at those institutions regarding the potential impact on their enrollment and opportunities for possible collaboration in the areas of instruction and research.**

Business Analytics and Information Systems (BAIS) is an area of strategic emphasis under STEM. Undergraduate programs in CIP Code 52.1301 are currently offered at the University of Florida (UF) and Florida International University (FIU). USF's program is consistent with these existing programs, while offering more extensive content in advanced areas of data analytics, complex systems development, and business intelligence. The BAIS program will explore ways to collaborate with the faculties at UF and FIU to increase the synergy and reach of the three programs across the state.

USF's Muma College of Business' Interim Dean, Gert-Jan de Vreede, communicated with chairs of the respective departments that have Information Systems and Analytics faculty members at University of Miami, Florida International University, the University of Florida, and Embry-Riddle Aeronautical University. He communicated USF's intent to offer such a program and sought suggestions/support in this regard. Please see Appendix K for a letter of support from FIU and email correspondence from other Florida institutions. FIU and Embry-Riddle University chairs have extended their explicit support for this program.

The Interim Dean reached out to the Chair of the Department of Information Systems and Operations Management at the University of Florida and also to the Chair of the Department of Management Science at the University of Miami because both institutions offer a program in CIP Code 52.1301.

**F. Describe the process for the recruitment and retention of a diverse student body in the proposed program. If the proposed program substantially duplicates a program at FAMU or FIU, provide a letter of support from the impacted institution(s) addressing how the program will impact the institution's ability to attract students of races different from that which is predominant on the FAMU or FIU campus. The institution's Equal Opportunity Officer shall review this Section of the proposal, sign, and date the additional signatures page to indicate that all requirements of this section have been completed.**

USF is committed to attracting and retaining a diverse student body and the steps taken to recruit for all programs will be used for the BAIS program as well. The College and School will implement the following approaches:

- SISM's personnel organize an annual Big Data Day where high school students interested in computer or related technologies are invited to USF. The students go through hands-on exercises in analytics to facilitate understanding about the field. In 2022, 600 high school students from Hillsborough County attended this program.
- Faculty members in SISM are involved in multiple federally-funded projects in collaboration with Hillsborough County Public Schools to promote analytics-related

courses in the high schools, which proves helpful when building relationships with Hillsborough County Public Schools and attracting students to the program.

- In 2022, the Muma College of Business disbursed \$900,000 in scholarships through the generous gift of donors. These scholarships help to retain students and keep them on the path towards graduation.
- The recently-founded Muma College of Business Bellini Center for Talent Development of Student Success offers a “Credly” badge to students to develop skillsets such as communication, resume building, and interview preparation.
- All MCOB undergraduate students participate in the collaborative Citizen Data Science certificate that prepares them to prepare them for the analytics job market. This certificate is offered in association with Tableau, a data visualization tool.

The University’s Office of Admissions team facilitates recruitment of a diverse population of students using the following approaches, which will be used to recruit students in the proposed B.S. BAIS:

- Utilizes a Customer Relationship Management (CRM) System to manage prospective student information and to execute a communication plan consisting of mail, email, and phone call campaigns. Admissions has communication in place that is designed to reach and attract a diverse student body. An example includes sharing profiles and testimonials of current students and alumni who are from underrepresented populations.
- Attends college fairs in the local market, as well as visiting local high schools, to give presentations and provide information about USF across all three campuses and across all academic programs.
- Meets with prospective students at their high schools for instant decision days in the fall and offer on-the-spot acceptance to qualified students. Students who do not meet admissions requirements at that time are given guidance on what they may do to strengthen their application.
- Purchases contact information of high school students who take the ACT and/or SAT to then communicate with them about USF and its academic programs. Admissions is then able to target students by demographics and geographic locations.
- Hosts open house programs, information sessions, and other events on campus for potential students.
- Visits local state and community colleges to attend events, set up information tables, and/or to speak to classrooms of students.

The current B.S. BAIS major student body at USF is primarily from the greater Tampa Bay region. The proposed new degree program will be offered primarily face-to-face. Thus even though FIU has a similar program, USF’s program will not impact FIU’s program. Rather it will open up opportunities of an outstanding data analytics program in another large urban area in Florida--the greater Tampa Bay region.

Please see Appendix K for a letter of support from FIU and email correspondence from other Florida institutions. Please note that letters of support internal to USF are not included because the program’s major curriculum is contained within the School.

## IV. Curriculum

- A. Describe all admission standards and all graduation requirements for the program. Hyperlinks to institutional websites may be used to supplement the information provided in this subsection; however, these links may not serve as a standalone response. For graduation requirements, please describe any additional requirements that do not appear in the program of study (e.g., milestones, academic engagement, publication requirements).**

Students interested in pursuing a B.S. degree in Business Analytics and Information Systems at USF, must complete the required prerequisites before entering the program, in addition to other related criteria listed below.

Completion of the following Common Prerequisites (or equivalents) with an overall 2.5 GPA:

- ACG X021 Financial Accounting
- ACG X071 Managerial Accounting
- CGS X100 Computers in Business
- ECO X013 Principles of Macroeconomics
- ECO X023 Principles of Microeconomics
- MAC X233 Elementary Calculus or MAC X230
- STA X023 Introductory Statistics or QMB X100 or STA X122

### University Admissions:

Students applying to the University of South Florida are expected to meet the University's admissions standards as follows:

#### First Time In College (FTIC) Requirements:

- A diploma from a public or accredited high school or the state-approved General Education Development (GED) diploma is required for freshman admission.
- For freshman applicants earning a high school diploma, the following college preparatory academic units (year-long courses or equivalents) normally offered in grades nine through twelve are required:
  - Four (4) units of English;
  - Four (4) units of Mathematics;
  - Three (3) units of Natural Sciences;
  - Three (3) units of Social Sciences;
  - Two (2) units of the same Foreign Language; and
  - Two (2) additional units of academic electives.

#### Transfer Requirements:

*Lower-Level (LL) Transfer = 12-29 hours of transferable credit including in-progress*

- Applicants are required to have successfully completed a minimum of 67 percent of all credit hours attempted at currently and previously enrolled institutions.
- Transfer post-secondary GPA  $\geq 2.5$
- High school GPA  $\geq 2.5$

- High school units:
  - Four (4) units of English;
  - Four (4) units of Mathematics;
  - Three (3) units of Natural Sciences;
  - Three (3) units of Social Sciences; and
  - Two (2) units of the same Foreign Language.
- Test score requirements:
  - SAT overall: 1100
  - SAT Reading  $\geq$  24, SAT Writing  $\geq$  25, SAT Math  $\geq$  24, OR
  - ACT overall: 22
  - ACT Reading  $\geq$  19, ACT English  $\geq$  17, ACT Math  $\geq$  19

*Mid-Level (ML) Transfer = 30-59 hours of transferable credit including in-progress:*

- Applicants are required to have successfully completed a minimum of 67 percent of all credit hours attempted at currently and previously enrolled institutions.
- Transfer GPA  $\geq$  2.5
- 2 years of foreign language in high school and/or 2 semesters at the collegiate level
- C or better in college-level English composition course
- C or better in college-level math course

*Upper-Level (UL) Transfer = 60+ hours of transferable credit including in-progress:*

- Applicants are required to have successfully completed a minimum of 67% of all credit hours attempted at currently and previously enrolled institutions.
- With an Associate of Arts (AA) from a Florida College System institution
  - Transfer GPA  $\geq$  2.0
- Without an Associate of Arts (AA) from a Florida College System institution
  - Transfer GPA  $\geq$  2.3

All applications must submit the following items, based on the admission type:

Item	FITC	LL Transfer	ML Transfer	UL Transfer
USF Application	√	√	√	√
Application Fee	√	√	√	√
Official High School Transcripts	√	√	√	
Official College Transcripts	√	√	√	√
Official SAT or ACT Scores	√	√		

**Graduation Requirements:**

Satisfactory completion of the following requirements:

1. General Education Program (36 credit hours), including State Core General Education Requirements;
2. State Computation (6 credit hours);
3. State Communication (6 credit hours, in addition to ENC 1101 and ENC 1102);
4. Minimum of 120 unduplicated credit hours;

5. A minimum adjusted grade point average (GPA) of 2.0 on all coursework taken at USF and an overall 2.0 GPA average on all college-level coursework;
6. Major and college requirements in a chosen degree program;
7. Nine credit hours of coursework taken during the summer term(s) (if entered USF with less than 60 credit hours);
8. Registration and successful completion at USF of at least thirty (30) of the last sixty (60) credit hours;
9. 42 credit hours of upper-level coursework;
10. Civics Literacy;
11. Career Readiness.

**B. Describe the specific expected student learning outcomes associated with the proposed program and include strategies for assessing the proposed program's learning outcomes. If the proposed program is a baccalaureate degree, include a hyperlink to the published Academic Learning Compact and the document itself as Appendix C.**

Program Goal 1: Discipline-Specific Knowledge: Graduates will demonstrate discipline-specific knowledge and skills.

1. Program Learning Outcome Statement: Students should be able to identify the basic mechanisms for organizing, developing, and debugging programs.
2. Program Learning Outcome Statement: Students should be able to analyze a business case narrative and select an appropriate descriptive model; identify the concepts and processes in the lifecycle of information systems with an emphasis on analysis and design.
3. Program Learning Outcome Statement: Students should be able to describe the concepts and processes involved in designing, developing, implementing, maintaining, using, and managing database systems and how to apply them in business situations.

Program Goal 2: Critical Thinking Skills: Graduates will demonstrate critical thinking and analysis skills.

1. Program Learning Outcome Statement: Students should be able to understand and appreciate the complex interactions between individual/organizational forces in the business lifecycle of IT related products. In this process, students will develop convincing positions in managing a technology-focused business and articulate an in-depth analysis of the business case.

Program Goal 3: Communication Skills: Graduates will demonstrate an ability to communicate effectively.

1. Program Learning Outcome Statement: Students should be able to create and deliver effective oral presentations, with convincing positions concerning applying analytical approaches in technology-focused business decision making. Students should demonstrate the minimum level of oral communication skills required for successful entry into the BAIS workforce (as determined by the School's faculty through students' oral presentations made in class).
2. Program Learning Outcome Statement: Students should demonstrate effective written communication skills, with convincing positions concerning applying analytical approaches in technology-focused business decision making.
3. Program Learning Outcome Statement: Students should be able to communicate effectively in group discussions.

**Assessment Methods:**

Course Related Assessments:

- Oral Presentation
- Written Report or Essay
- Instructor Constructed Exam
- Course Embedded Assignment
- Class Performance or Presentation
- Project Evaluation
- Pre-Test/Post-Test Evaluation

Cumulative Assessments:

- Capstone Course Examination and Assignment
- Portfolio of Student Work

**C. If the proposed program is an AS-to-BS capstone, provide evidence that it adheres to the guidelines approved by the Articulation Coordinating Committee for such programs, as outlined in [State Board of Education Rule 6A-10.024](#). Additionally, please list the prerequisites, if any, and identify the specific AS degrees that may transfer into the proposed program.**

**Not applicable to this program because it is not an AS-to-BS Capstone.**

**D. Describe the curricular framework for the proposed program, including the following information where applicable:**

- **total numbers of semester credit hours for the degree**
- **number of credit hours for each course**
- **required courses, restricted electives, and unrestricted electives**
- **a sequenced course of study for all majors, concentrations, tracks, or areas of emphasis**

The B.S. Business Analytics and Information Systems degree requires 24 credit hours in the major and is a 120-credit hour degree program. Following is the curriculum/credit hours breakdown:

**General Education and Non-Business Electives – 36 credit hours**

*Specific courses are chosen by students with assistance from MCOB advisors.*

**Common Prerequisites (USF's courses are listed) – 21 credit hours:**

- ACG 2021 Financial Accounting (3 credit hours)
- ACG 2071 Managerial Accounting (3 credit hours)
- CGS 2100 Computers in Business (3 credit hours)
- ECO 2013 Principles of Macroeconomics (3 credit hours)
- ECO 2023 Principles of Microeconomics (3 credit hours)
- MAC 2233 Business Calculus (3 credit hours)
- QMB 2100 Business and Economic Statistics I (3 credit hours)

**Business Foundation – 30 credit hours:**

- BUL 3320 Law and Business I (3 credit hours)
- FIN 3403 Principles of Finance (3 credit hours)
- GEB 3033 Business Workplace Skills and Best Practices (3 credit hours)
- GEB 4890 Strategic Management and Decision Making (3 credit hours)
- ISM 3011 Information Systems in Organizations (3 credit hours)
- QMB 3200 Business and Economic Statistics II (3 credit hours)

- MAN 3025 Principles of Management (3 credit hours)
- MAN 4504 Operations and Supply Chain Management (3 credit hours)
- MAR 3023 Basic Marketing (3 credit hours)
- RMI 3004 Principles of Risk Management (3 credit hours)

**Supporting** – 9 credit hours:

The following courses are supporting courses for this major. They are required for the major. The degree will not be awarded if these courses have not been taken by the end of the student's final semester.

- SPC 2608 Public Speaking (3 credit hours)  
or COM 3110 Communication for Business and the Professions (3 credit hours)
- ENC 3250 - Professional Writing (3 credit hours)  
or ENC 3310 Expository Writing (3 credit hours)
- Contemporary International Topics Course (3 credit hours)
  - FIN 3604 International Finance
  - GEB 3373 International Business
  - ISM 4041 Global Cyber Ethics
  - MAN 4600 International Management
  - MAN 4743 Response of Business to Environmental Problems
  - MAR 4156 International Marketing
  - SCM 3144 Global Sourcing
  - SCM 4120 Global Commerce

**BAIS Major Core** – 18 credit hours:

- ISM 3232 Business Application Development (3 credit hours)
- ISM 4212 Database Design and Administration (3 credit hours)
- ISM 3113 Systems Analysis and Design (3 credit hours)
- ISM 4300 Managing Information Resources (3 credit hours)
- ISM 4041 Global Cyber Ethics (3 credit hours)
- ISM 4402 Business Intelligence (3 credit hours)  
or ISM 4220 Business Data Communications (3 credit hours)

Students complete a General BAIS program of study (6 credit hours) or complete a Cybersecurity concentration (6 credit hours):

**Business Analytics and Information Systems Major General Electives** - 6 credit hours:

Select two courses from the following list of courses:

- ISM 4141 Java Programming (3 credit hours)
- ISM 4153 Enterprise Resource Planning Systems (3 credit hours)
- ISM 4234 Object-Oriented Design and Development (3 credit hours)
- ISM 4314 Project Management (3 credit hours)
- ISM 4323 Information Security and IT Risk Management (3 credit hours)
- ISM 4432 Software Testing (3 credit hours)
- ISM 4542 Statistical Programming for Business Analytics (3 credit hours)
- ISM 4930 Selected Topics in MIS (3 credit hours)
- ISM 4940 Business Analytics & Information Systems Internship (3 credit hours)
- ISM 4263 Cloud Solution Architectures (3 credit hours)
- ISM 4641 Python for Business Analytics (3 credit hours)
- MAN 4505 Healthcare Operations Management (3 credit hours)

*Note: If ISM 4220 or ISM 4402 is used to satisfy the major requirements, it may not be used to fulfill the general electives requirement.*

**Cybersecurity Concentration** - 6 Credit Hours:

Concentration Core:

- ISM 4323 - Information Security and IT Risk Management (3 credit hours)

Concentration Electives:

Select one course from the following list of courses.

- ISM 4220 Business Data Communications (3 credit hours)
- ISM 4402 Business Intelligence (3 credit hours)
- ISM 4432 Software Testing (3 credit hours)
- ISM 4940 Business Analytics & Information Systems Internship (3 credit hours)
- ISM 4321 Cybersecurity Threat Intelligence (3 credit hours)
- ISM 4570 Cybersecurity Governance and Planning (3 credit hours)
- ISM 4263 Cloud Solution Architectures (3 credit hours)
- ISM 4641 Python for Business Analytics (3 credit hours)

*Note: If ISM 4220 or ISM 4402 is used to satisfy the major requirements, it may not be used to fulfill the concentration requirements.*

Please see Appendix J for the eight- and four-semester plans.

**E. Provide a brief description for each course in the proposed curriculum.**

**Common Prerequisite Courses:**

ACG 2021 Principles of Financial Accounting (3 credit hours)

Study of basic accounting principles including the recording and reporting of financial activity. The preparation and interpretation of financial statements.

ACG 2071 Principles of Managerial Accounting (3 credit hours)

A study of the accountant's role in assisting management in the planning and controlling of business activities.

CGS 2100 Computers in Business (3 credit hours)

A study of the use and impact of computers in all areas of business organizations. Course includes hands-on experience and the use of software packages for business analysis.

ECO 2013 Economic Principles (Macroeconomics) (3 credit hours)

Introduces students to basic economic terminology, definitions and measurements of macroeconomic data, simple macroeconomic models, fiscal and monetary policy, and international macroeconomic linkages.

ECO 2023 Economic Principles (Microeconomics) (3 credit hours)

Introduction to the theory of price determination. How an economy decides what to produce, how to produce, and how to distribute goods and services.

MAC 2233 Business Calculus (3 credit hours)

Linear equations and functions, mathematics of finance, differentiation and integration of algebraic, exponential and logarithmic functions with applications to business, finance and economics.

QMB 2100 Business and Economic Statistics I (3 credit hours)

Data description; exploratory data analysis; introduction to probability; binomial and normal distributions; sampling distributions; estimation with confidence intervals; tests of hypotheses; control charts for quality improvement.

### **Business Foundation Courses:**

#### **BUL 3320 Law and Business I (3 credit hours)**

This course covers the nature of legal and societal institutions and environments, the major aspects of public, private, commercial and business-related law including diversity, discrimination law and global dispute resolution.

#### **FIN 3403 Principles of Finance (3 credit hours)**

Study of the processes, decision structures, and institutional arrangements concerned with the use and acquisition of funds by a firm. Includes the management of the asset and liability structure of the firm under certain and risky situations. The financial decision process will include and recognize the international as well as domestic aspects of financial management.

#### **GEB 3033 Business Workplace Skills and Best Practices (3 credit hours)**

This course prepares students for success in the business world. It addresses the most frequently cited set of skills employers seek when hiring employees.

#### **GEB 4890 Strategic Management and Decision Making (3 credit hours)**

This capstone course focuses on helping students develop a top-level executive perspective on managing a business, and requires students to integrate the theoretical and functional area concepts, principles, and skills learned in previous coursework.

#### **ISM 3011 Information Systems in Organizations (3 credit hours)**

An introduction to the language, concepts, structures and processes involved in the management of information systems including fundamentals of computer-based technology and the use of business-based software for support of managerial decisions.

#### **QMB 3200 Business and Economic Statistics II (3 credit hours)**

Simple linear regression and correlation; multiple regression and model building; forecasting models; analysis of variance; chi-square tests; nonparametric methods.

#### **MAN 3025 Principles of Management (3 credit hours)**

Examines intrapersonal, interpersonal, group/team, organizational, and environmental (both stakeholder and societal) factors influencing the management task.

#### **MAN 4504 Operations and Supply Chain Management (3 credit hours)**

This course provides an introduction to the integration of operations and supply chain management that enables organizations to compete successfully in the global marketplace.

#### **MAR 3023 Basic Marketing (3 credit hours)**

Survey of the marketing of goods and services within the economy. Attention is paid to the impact of marketing on other functional areas of business as well as society.

#### **RMI 3004 Principles of Risk Management (3 credit hours)**

This course is an introduction to the general principles of risk management and their role in business. The tools and techniques of the risk management process are explored and applied. Means of identification, evaluation, and treatment of these risks are analyzed, with the methods of treatment including risk financing and risk control. Roles and resources that support the risk management function are investigated.

### **Supporting Courses:**

#### **SPC 2608 Public Speaking (3 credit hours)**

The nature and basic principles of human communication; emphasis on improving speaking and listening skills common to all forms of oral communication through a variety of experiences in public discourse.

#### **COM 3110 Communication for Business and Professions (3 credit hours)**

Identification of communication situations specific to business and the professions. Analysis of variables related to communication objectives and preparation of oral presentations in the form of informational reports, conference management, persuasive communications, interviews, and public hearings.

#### **ENC 3250 Professional Writing (3 credit hours)**

The course is an introduction to the techniques and types of professional writing, including correspondence and reports. It is designed to help strengthen skills of effective business and professional communication in both oral and written modes.

#### **ENC 3310 Expository Writing (3 credit hours)**

This is a course that teaches the techniques for writing effective prose, (excluding fiction), in which student essays are extensively criticized, edited, and discussed in individual sessions with the instructor and with peers.

#### **FIN 3604 International Finance (3 credit hours)**

Study of factors affecting international business, assessment of risks, international managerial finance, institutions and instruments of international business finance.

#### **GEB 3373 International Business (3 credit hours)**

An overview of unique problems faced by firms engaging in international activities across a broad spectrum of business activities including topics such as: accounting, finance, management, marketing, import-export, multi-national; country-risk analysis.

#### **ISM 4041 Global Cyber Ethics (3 credit hours)**

This course provides students an in-depth look at the social costs and moral problems that have arisen by the expanded use of the Internet, and offers up-to-date legal and philosophical perspectives on the global scale for the business community.

#### **MAN 4600 International Management (3 credit hours)**

Examines the effects of international cultural differences on business practices within and outside the United States and provides methods to build synergies and establish/enhance competitive advantage via those differences.

#### **MAN 4743 Response of Business to Environmental Problems (3 credit hours)**

Focuses on managing the effectiveness of multi-national corporations and other global organizations operating in the Anthropocene--an era of unprecedented human impact on the rest of the natural environment. Relevant to macro and micro policy issues.

#### **MAR 4156 International Marketing (3 credit hours)**

A study of procedures and problems associated with establishing marketing operations in foreign countries. Includes the institutions, principles and methods involved in the solution of these business problems as well as the effects of national differences on business practices and buyer behavior.

SCM 3144 Global Sourcing (3 credit hours)

Global sourcing includes analysis of the sourcing environment and components of the international distribution system emphasizing information flows and the application of quantitative techniques to establish and control strategic sourcing.

SCM 4120 Global Commerce (3 credit hours)

Provides a comprehensive overview of the fundamentals of global commerce including the logistics of importing and exporting. Focus on regulatory, economic, and infrastructure differences that affect the movement of goods and services across the world.

**Major Required Courses:**

ISM 3232 Business Application Development (3 credit hours)

Presentation of business application development using an object-oriented programming language. Good program design techniques are emphasized. Business applications are developed.

ISM 4212 Database Design and Administration (3 credit hours)

An introduction to the concepts and principles of database management. Provides potential designers, users and managers of database systems with an understanding of physical vs. logical representations, data modeling, implementation, and data management.

ISM 3113 Systems Analysis and Design (3 credit hours)

The course presents concepts, procedures, and tools needed to build computer-based information systems. The objective is to develop project management, data collection, analysis, design, testing and documentation skills.

ISM 4300 Managing Information Resources (3 credit hours)

Current issues in information systems management focusing on managing computer resources and social issues such as ethics, privacy, and legal issues including intellectual property.

ISM 4041 Global Cyber Ethics (3 credit hours)

This course provides students an in-depth look at the social costs and moral problems that have arisen by the expanded use of the Internet and offers up-to-date legal and philosophical perspectives on the global scale for the business community.

ISM 4402 Business Intelligence (3 credit hours)

For undergraduate information systems students, as well as other interested business students. The course covers the rapidly emerging business intelligence and data mining technologies that are likely to play a strategic role in business organizations.

ISM 4220 Business Data Communications (3 credit hours)

Fundamentals of data communication, including network architectures, communication protocols, transmission standards, and internetworking. Basic concepts in distributed computing will also be covered.

**Major General Electives and Concentration Courses:**

ISM 4402 Business Intelligence (3 credit hours)

For undergraduate information systems students, as well as other interested business students. The course covers the rapidly emerging business intelligence and data mining technologies that are likely to play a strategic role in business organizations.

**ISM 4220 Business Data Communications (3 credit hours)**

Fundamentals of data communication, including network architectures, communication protocols, transmission standards, and internetworking. Basic concepts in distributed computing will also be covered.

**ISM 4141 Java Programming (3 credit hours)**

Utilizes Java to provide hands-on experience in working with object-oriented programming concepts and techniques. Covers a variety of application features including GUIs, database connectivity, client-server computing, and web applications.

**ISM 4153 Enterprise Resource Planning Systems (3 credit hours)**

An introduction to the use, configuration and implementation of enterprise resource planning systems, and their application to key business processes. This course is restricted to business majors only.

**ISM 4234 Object-Oriented Design and Development (3 credit hours)**

This course presents an object-oriented approach to software development of business information systems. Students will learn to create object models of the business world and to develop information system designs based on these objects.

**ISM 4314 Project Management (3 credit hours)**

This course in project management covers the basic principles, processes, and tools of modern project management. Principles and areas of the Project Management Body of Knowledge (PMBOK) are covered utilizing information technology examples.

**ISM 4323 Information Security and IT Risk Management (3 credit hours)**

Senior standing, all majors. Introduction to information security and IT risk management in organizations. Covers essential IT general controls and frameworks to assess IT risk in a business environment.

**ISM 4432 Software Testing (3 credit hours)**

The quality assurance of software systems requires rigorous methods for the verification of requirements, design, and implementation. This course surveys the best practices of software testing and explores the latest research ideas.

**ISM 4542 Statistical Programming for Business Analytics (3 credit hours)**

This course introduces SAS for statistical programming as a business analytics tool to explore data for managerial purposes such and maintaining or improving day-to-day operations or identifying new opportunities.

**ISM 4930 Selected Topics in MIS (3 credit hours)**

Selected topics in MIS.

**ISM 4940 Business Analytics & Information Systems Internship (3 Credit Hours)**

The course focuses on professional development skills and an experiential learning experience. The on-site experience averages 10 hours/week for a total of 120 hours and provides industry experience and the ability to apply knowledge of business practices.

**ISM 4263 Cloud Solution Architectures (3 credit hours)**

Introduction to cloud architecture fundamentals, principles and practices and their application in cloud adoption and implementation. Exposure to latest thinking on cloud native architectures, cloud technology services, cloud performance, and cloud security.

ISM 4641 Python for Business Analytics (3 credit hours)

Introduction to programming using Python is a hands-on course using projects, providing in-depth understanding and application of programming, machine learning, and data science.

ISM 4321 Cybersecurity Threat Intelligence (3 credit hours)

Exploration of cyber intelligence key concepts, tools and terminologies used by professionals in the field. Investigation of practical applications of cyber intelligence tools and models in real-world events.

ISM 4570 Cybersecurity Governance and Planning (3 credit hours)

Investigation of the role of governance, risk management, and compliance (GRC) in cybersecurity management process including key functions of cybersecurity policies, management, planning and implementations.

MAN 4505 Healthcare Operations Management (3 credit hours)

This course provides an overview of methodologies and approaches used in the healthcare operations, including performance improvement tools, project management and scheduling.

- F. For degree programs in medicine, nursing, and/or allied health sciences, please identify the courses that contain the competencies necessary to meet the requirements identified in [Section 1004.08, Florida Statutes](#). For teacher preparation programs, identify the courses that contain the competencies necessary to meet the requirements outlined in [Section 1004.04, Florida Statutes](#).**

**Not applicable to this program because the program is not a medicine, nursing, allied health sciences, or teacher preparation program.**

- G. Describe any potential impact on related academic programs or departments, such as an increased need for general education or common prerequisite courses or increased need for required or elective courses outside of the proposed academic program. If the proposed program is a collaborative effort between multiple academic departments, colleges, or schools within the institution, provide letters of support or MOUs from each department, college, or school in Appendix D.**

The proposed major does not require additional resources for General Education or other required courses outside of the proposed academic program. All Business majors enroll in specific General Education and Business Foundation courses.

The students in the proposed B.S. BAIS program will take the same courses as those in the current major (52.1201), with the exception of the few core courses that are currently required between the two majors in 52.1201 due to the shared core courses. Since the new B.S. BAIS program will replace the existing B.S. BAIS major (52.1201), a shared core set of courses is no longer required. Thus, the 52.1301 curriculum is more focused on analytics, data modeling, and management science concepts.

- H. Identify any established or planned educational sites where the program will be offered or administered. If the proposed program will only be offered or administered at a site(s) other than the main campus, provide a rationale.**

The program will be offered across USF's three campuses: Tampa, Sarasota-Manatee, and St. Petersburg.

- I. Describe the anticipated mode of delivery for the proposed program (e.g., face-to-face, distance learning, hybrid). If the mode(s) of delivery will require specialized services or additional financial support, please describe the projected costs below and discuss how they are reflected in Appendix A – Table 3A or 3B.**

The proposed program will be offered in a combination of online, hybrid and face-to-face classes. Though the objective is to offer the majority of major classes face-to-face on all campuses, the feasibility of offering such courses on the St. Petersburg and Sarasota-Manatee campuses depends on enrollment. All major courses have gone through online conversions and quality checks by USF's Innovative Education team. Thus, these courses may be offered in HB and AD modality to give greater flexibility to students.

No specialized services or additional funds are needed.

- J. Provide a narrative addressing the feasibility of delivering the proposed program through collaboration with other institutions, both public and private. Cite any 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 B.S. BAIS program will be offered solely at USF. There is no current plan to deliver the program in collaboration with other institutions.

- K. Describe any currently available sites for internship and/or practicum experiences. Describe any plans to seek additional sites in Years 1 through 5.**

**Not applicable to this program because the program does not require internships or practicums.**

The proposed program does not require an internship for completion. However, the program offers a three-credit hour elective (ISM 4940 Business Analytics and Information Systems Internship) for those students who are participating in a qualified internship and would like to apply elective credit toward the completion of the program. Some of the internship sites available are as follows: Global Electronics Testing Services, Bristol Myers Squibb, ReliaQuest, Ketone Technologies LLC, SiteZeus, Coca-Cola Beverages Florida, LLC, TD Synnex, JP Morgan Chase & Co., Raymond James, Jabil, Southwest Florida Water Management District, USSOCOM, Citi Group, Hartford Funds.

The College has no plans to add additional internship sites over the next five years. Additional internship sites maybe opened as the need arises and companies have availability.

## **V. Program Quality Indicators - Reviews and Accreditation**

- A. List all accreditation agencies and learned societies that would be concerned with the proposed program. If the institution intends to seek specialized accreditation for the proposed program, as described in [Board of Governors Regulation 3.006](#), provide a timeline for seeking specialized accreditation. If specialized accreditation will not be sought, please provide an explanation.**

All Muma College of Business undergraduate programs, except for Hospitality Management, are accredited through the Association to Advance Collegiate Schools of Business (AACSB).

The B.S. Hospitality Management has specialized accreditation through the Accreditation Commission for Programs in Hospitality Administration (ACPHA).

The current B.S. Business Analytics and Information Systems major is accredited by AACSB. The major in CIP Code 52.1201 will be terminated when USF is approved to offer the degree in CIP Code 52.1301, which will also be accredited by AACSB.

The current major is accredited through the University's SACSCOC accreditation, which will be the case for the degree program in 52.1301.

**B. Identify all internal or external academic program reviews and/or accreditation visits for any degree programs related to the proposed program at the institution, including but not limited to programs within academic unit(s) associated with the proposed degree program. List all recommendations emanating from the reviews and summarize the institution's progress in implementing those recommendations.**

The most recent AACSB program review for the programs in the Muma College of Business was January 28-30, 2018, with included the undergraduate degree program in CIP Code 52.1201. Following are the highlights of the feedback received from that review:

1. Brief description of major changes made since the previous program review:
  - Addition of the Master of Science in Sport and Entertainment Management (31.0504).
  - Addition of the Doctor of Business Administration (52.0201).
  - A major revision of the undergraduate learning outcomes occurred since the prior review to better align with the college's new mission and strategic priorities. This resulted in adjusting prior assessment processes and performance targets appropriately.
  - Curriculum modifications were made to the following master's programs: Business Administration, Accountancy, Business Analytics and Information Systems, and Finance to include new and revised courses that better meet the changing business environment.
  - A major push was undertaken to add online courses—resulting in a tremendous increase in online SCH—20 percent in 2015-2016 and 25 percent in 2016-2017. Most of our principles courses are now online as an option, along with the face-to-face sections.
  - Several student success initiatives have been added – an executive internship with the USF Federal Credit Union, degree applicable internship courses in all majors, a collaboration with Sandler Systems, Inc to offer a required undergraduate “soft skills course” called Business and Workplace Skills and Best Practices.
  - All programs offer a study abroad course at least annually.
2. Summary of current strengths of the program (Note: most are taken from the accreditation report):
  - The College has completed a robust strategic planning process in consultation with the faculty.
  - The College has succeeded in fostering and institutionalizing a culture of innovation and benefits from a motivated cadre of faculty and staff who welcome change.
  - The College has formed effective partnerships with software and service providers (e.g., Tableau and Sandler) to enhance the applied/practice-oriented components of the curriculum.

- The annual Assurance of Learning process and the associated “closing the loop” have been adopted as part of their (College) identity and serves as a key point of pride.
  - The College has highlighted student success as a key priority. The formation and naming of the Collier Student Success Center is noteworthy and central to meeting the needs of the undergraduate student body.
3. Summary of current weaknesses of the program:
- The AACSB Business reaccreditation team identified no current weaknesses in the Muma College of Business programs. However, as a College:
    - We continuously work to improve our AOL (assurance of learning) processes. With diverse faculty and multiple programs, the integration and effective measure of AOL is something we can always strive to improve.
    - We continually work to ensure qualified faculty are available to teach our courses. Increasingly, we have relied on adjuncts to meet the increased demand we see for courses.
4. Summary of recommendations and/or proposed action plans made as a result of the review
- The AACSB Business reaccreditation team identified no matters related to the accreditation standards.
  - Consultative report on matters not related to the accreditation decision:
    - “As the College raises its sights for hiring research faculty of increasingly higher quality, there will be pressure to make competitive offers and put together competitive packages incorporating starting salaries, summer support (to support research), and teaching loads.”
    - Graduate career support needs to become a priority. (A career coach has been hired.)
    - Consider more prestigious titles for non-tenure-earning faculty. (This is currently being considered and proposed.)
    - College should consider instituting five years of support for some doctoral students. (Currently offering fifth year support to star doctoral students, this is limited.)

The AACSB review data was utilized to complete the seven-year academic program review report for the 52.1201 undergraduate degree program, which was submitted to the Florida Board of Governors’ office on June 5, 2018.

**C. For all degree programs, discuss how employer-driven or industry-driven competencies were identified and incorporated into the curriculum. Additionally, indicate whether an industry or employer advisory council exists to provide input for curriculum development, student assessment, and academic-force alignment. If an advisory council is not already in place, describe any plans to develop one or other plans to ensure academic-workforce alignment.**

USF’s Muma College of Business and the School of Information Systems and Management both have advisory councils/boards that consist of Tampa Bay area business leaders who provide advisory review of program curriculum, student performance, and industry demand.

The links for these advisory councils/boards are as follows:

1. Muma College of Business (<https://www.usf.edu/business/about/advisory-councils/>, Last visited 11/21/2022);

2. School of Information Systems and Management  
 (<https://www.usf.edu/business/schools/information-systems-management/board.aspx>, Last visited 11/21/2022).

## VI. Faculty Participation

**A. Use Appendix A – Table 2 to identify existing and anticipated full-time faculty who will participate in the proposed program through Year 5, excluding visiting or adjunct faculty. Include the following information for each faculty member or position in Appendix A – Table 2:**

- the faculty code associated with the source of funding for the position
- faculty member's name
- highest degree held
- academic discipline or specialization
- anticipated participation start date in the proposed program
- contract status (e.g., tenure, tenure-earning, or multi-year annual [MYA])
- contract length in months
- percent of annual effort that will support the proposed program (e.g., instruction, advising, supervising)

**This information should be summarized below in narrative form. Additionally, please provide the curriculum vitae (CV) for each identified faculty member in Appendix E.**

The proposal assumes the initial headcount to be 390, which translates to 325 FTE. In five years, we estimate the program to grow up to 500 students, with 417 FTE. A detailed analysis reveals, with a class size of 50 and the support of summer classes, these 417 FTE in Year 5 may be served across all three USF campuses--Tampa, St. Petersburg and Sarasota-Manatee--by the eight faculty mentioned in Appendix A Table 2. The teaching load of these faculty members have been determined based on their research productivity and the rank (tenure-track or non-tenure track). Additionally, based on the student enrollment in individual classes, some courses may be offered as AD or HB modalities to provide more access for students.

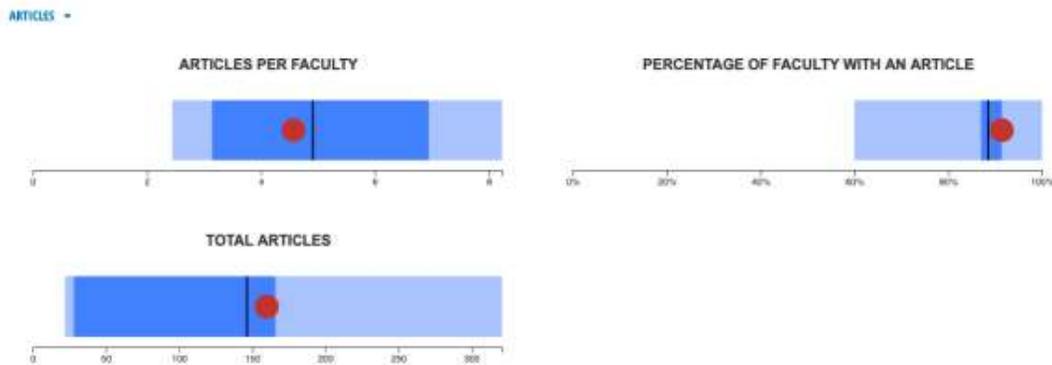
All eight faculty members in the program have terminal degrees (Ph.D./D.B.A.) in Information Systems, Business/Management, and various Engineering fields, such as Computer Science or related fields and are currently funded through E&G funds. The eight individuals are full-time faculty members both in tenure track and non-tenure track positions. No additional funds will be needed to meet the salaries and costs of these faculty members.

These faculty are currently teaching in the B.S. BAIS major (CIP 52.1201) and will teach in the proposed program (CIP 52.1301). The faculty members are recruited on a nine-month contract. Many will give at least 50 percent of their effort toward the program in the form of teaching, advising, and research in Year 1, and by Year 5, all eight faculty will give 50-100 percent of their effort toward the proposed new degree program. The faculty members are very well achieved. All faculty members have met the highest AACSB standard (Scholarly Academic) as per the Muma College of Business policy (<https://www.usf.edu/business/documents/about/aacsb-qualified-faculty.pdf>, Last visited 12/06/2022).

The detailed credentials of the faculty members may be found in Appendix E.

**B. Provide specific evidence demonstrating that the academic unit(s) associated with the proposed program 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, and other qualitative indicators of excellence (e.g., thesis, dissertation, or research supervision).**

The following visualizations are from Academic Analytics, a tool available at USF that allows for benchmarking of like disciplines. The data below were retrieved using like faculty in all AAU schools. USF's SISM's faculty members (as represented by the red dot) are around the median in terms of faculty with an article and total number of articles in the last five years (2017-2022). The following data screenshot is taken from the Academic Analytics' website ([https://www.usf.edu/ods/data-tools/benchmarking\\_portal.aspx](https://www.usf.edu/ods/data-tools/benchmarking_portal.aspx), Last visited 11/21/2022):



As per Academic Analytics, some of the journals where faculty members have published are as follows.

Journal Name	Articles JF	Peer Articles JF	Peer Disc Citation Rate
MIS Quarterly	8	20	20.5
Information Systems Research	8	27	24.2
Informing Science: The International Journal of an Emerging Transdiscipline	6	6	1.5
Decision Support Systems	5	8	8.6
Production and Operations Management	5	31	14.5
European Journal of Information Systems	4	5	43.6
Journal of Management Information Systems	4	12	14.0
Government Information Quarterly	3	3	23.3
Information and Management	3	3	55.7
International Journal of Information Management	3	4	46.0
IEEE Access	3	19	4.6
Electronic Markets	2	3	4.7
Journal of the American Medical Informatics Association	2	4	2.8
Service Science	2	5	2.4
Journal of the American Society for Information Science and Technology	2	10	20.9
IEEE Transactions on Engineering Management	1	3	8.7
Computers in Human Behavior	1	4	29.0
Big Data	1	4	38.5

Some of the grant amounts received by SISM's faculty members are as follows – (Source: Academic Analytics)

Release	Discipline	Discipline ID	Agency	Amount	Percentage
AAD2021.01.02179	Information Technology/Information Systems	101	NSF	\$1,637,7015	81
AAD2021.01.02179	Information Technology/Information Systems	101	AFRO	\$776,968	4
AAD2021.01.02179	Information Technology/Information Systems	101	HHS	\$137,096	1
AAD2021.01.02179	Information Technology/Information Systems	101	NASA	\$236,655	1
AAD2021.01.02179	Information Technology/Information Systems	101	NAVY	\$1,908,448	10
AAD2021.01.02179	Information Technology/Information Systems	101	NIH	\$747,655	4

The following examples demonstrate that SISM faculty members have been productive in teaching, research, and service.

**Gert-Jan de Vreede** and **Alan Hevner** were named the top Management Information Systems scholars from USF on a list that measures productivity and citations of a professor's work. Prepared by the University of Arizona, the list ranks academics' publishing productivity combined with the frequency their work was cited in other research. The h-index grades how influential a researcher's work is in the scientific community. ([https://ailab-ua.github.io/courses/resources/h-index\\_mis\\_jan2019.pdf](https://ailab-ua.github.io/courses/resources/h-index_mis_jan2019.pdf), Last reviewed: 01/04/2023)

**Alan Hevner** is an American Association for the Advancement of Science (AAAS) Fellow and was named a USF Distinguished University Professor in May 2017 for the impact of his research.

Several faculty members have worked with businesses to conduct research that is being used for decision-making in the workplace. A few examples follow:

**Don Berndt** and fellow USF researchers **James McCart** and **Saurav Chakraborty** worked with David Boogers of Finametrics.com to implement an agent-based model of the U.S. corporate bond market, with classes of agents that include mutual funds, insurance companies and hedge funds. An agent-based model simulates the actions and interactions of individual autonomous agents to better understand the emerging system-wide dynamics of such complex systems.

Seventeen faculty were awarded research grants, totaling \$2.3 million. Following are a few of the individual grants awarded:

**Don Berndt**, PI- 2014-2018, CIFRAM: Distributed Computing Approaches for the Analysis of Enterprise and Systemic Risk using a Financial Contract-Based Infrastructure--funded by the National Science Foundation, \$298,727.

**Grandon Gill**, PI- 2014-2016, EDU: Developing Open Authentic Case Studies for a M.S. Cybersecurity Capstone course--funded by the National Science Foundation, \$299,468.

**Shivendu Shivendu**, PI; **Matthew Mullarkey**, Co-Investigator; and **Clinton Daniel**, Co-Investigator – USF Muma Innovative Programming. Sponsor: CareerSource Tampa Bay via the U.S. Department of Labor, Award: \$205,723. The bootcamp is designed to equip Tampa Bay citizens ages 17-24 with the necessary skills to develop mobile applications for business use.

**Clinton Daniel** received a grant from the Florida Department of Education for \$630,000 to overhaul the Digital Information Technology course for secondary students.

An example of Teaching and Learning Impact follows:

SISM's faculty member **Anol Bhattacharjee** authored an open-source textbook that is among the top downloaded textbook among all colleges and universities using Digital Commons with 1.25 million downloads as of February 1, 2023. (2012, *Social Science Research: Principles, Methods, and Practices*, Global Text Project).

Following are additional recent examples of specific evidence demonstrating that the academic unit(s) associated with the proposed program have been productive in teaching, research, and service:

**Matthew Mullarkey** awarded a Core Fulbright Scholarship to Study in Ireland (<https://www.usf.edu/business/news/articles/190207-mullarkey-fulbright.aspx>, Last visited 12/06/2022).

**Sunil Mithas** awarded USF's World Class Scholar (<https://www.usf.edu/business/news/articles/181004-sunil-mithas-world-class-scholar.aspx>, Last visited 12/06/2022).

Researchers in the Muma College of Business' School of Information Systems and Management were ranked highly in the nation from 2017 to 2021 for the number of publications in journals, according to a ranking released in 2022 by the University of Texas at Dallas (UTD) (<https://www.usf.edu/business/about/points-of-pride.aspx>, Last visited 12/06/2022). The UTD 24 ranking counts only publications in the top 24 Business journals.

## VII. Budget

- A. Use Appendix A – Table 3A or 3B to provide projected costs and associated funding sources for Year 1 and Year 5 of program operation. In narrative form, describe all projected costs and funding sources for the proposed program(s). Data for Year 1 and Year 5 should reflect snapshots in time rather than cumulative costs.**

Since this proposal is to create a program that replaces an existing one that has been in existence for a number of years, resources are already currently allotted to support the program. Salary and benefits are computed based on participant faculty members and their percentage FTE (Year 1=\$1,177,518; Year 5=\$1,455,312) as given in Table 3A. Row 4 "Salaries and Benefits (A&P and USPS)" includes the portions of salaries of undergraduate advisors and staff who will support the proposed new B.S. BAIS program (Year 1=\$23,289;

Year 5=\$26,783). The staff and advisors' salaries are proportionally allocated based on all graduate, undergraduate and certificate programs in the School. The OPS (Row 5) includes the cost of the six Graduate Assistants and Students Assistants to support the program (Year 1=\$110,073; Year 5=\$126,584). The Programmatic Expenses include the cost of additional software necessary to support the program such as Microsoft partnership and Amazon Web Services (AWS) partnership (Year 1=\$15,000; Year 5=\$17,250).

A fifteen percent increase over five years in the cost of all line items in Table 3A is reflected in the table. This is to account for annual salary increases, cost of business increases, etc.

The program will be fully supported through E&G funds. Thus, Table 3B has not been completed.

- B. Use Appendix A – Table 4 to show how existing Education & General (E&G) funds will be reallocated to support the proposed program in Year 1. Describe each funding source identified in Appendix A – Table 4, and provide a justification below for the reallocation of resources. Describe the impact the reallocation of financial resources will have on existing programs, including any possible financial impact of a shift in faculty effort, reallocation of instructional resources, greater use of adjunct faculty and teaching assistants, and explain what steps will be taken to mitigate such impacts.**

The current B.S. BAIS major will be terminated. Thus, the E&G budget associated with the current B.S. BAIS major will be transferred to the proposed new B.S. BAIS program.

- C. If the institution intends to operate the program through continuing education, seek approval for market tuition rate, or establish a differentiated graduate-level tuition, as described in [Board of Governors Regulation 8.002](#), provide a rationale and a timeline for seeking Board of Governors' approval.**

**Not applicable to this program because the program will not operate through continuing education, seek approval for market tuition rate, or establish a differentiated graduate-level tuition**

- D. Provide the expected resident and non-resident tuition rate for the proposed program for both resident and non-resident students. The tuition rates should be reported on a per credit hour basis, unless the institution has received approval for a different tuition structure. If the proposed program will operate as a continuing education program per [Board of Governors Regulation 8.002](#), please describe how the tuition amount was calculated and how it is reflected in Appendix A – Table 3B.**

For the 2022-2023 academic year, the undergraduate tuition rate is \$211.19 per credit hour for Florida residents and \$575.01 for non-residents ([https://www.usf.edu/business-finance/controller/documents/student-services/one\\_usf\\_undergraduate\\_tuition\\_rates\\_2022-2023.pdf](https://www.usf.edu/business-finance/controller/documents/student-services/one_usf_undergraduate_tuition_rates_2022-2023.pdf) - URL accessed on 11/20/2022).

There is no plan to operate this undergraduate program through continuing education.

- E. Describe external resources, both financial and in-kind support, that are available to support the proposed program, and explain how this amount is reflected in Appendix A – Table 3A or 3B.**

The current B.S. BAIS major is supported fully with existing E&G funds, and this will be the case for the proposed new degree program.

## **VIII. Non-Faculty Resources**

### **A. Describe library resources currently available to implement and/or sustain the proposed program through Year 5 below, including but not limited to the following:**

- **the total number of volumes and serials available in the discipline and related disciplines**
- **all major journals that are available to the university's students**

**The Library Director must sign the additional signatures page to indicate that they have reviewed Sections VIII.A. and VIII.B.**

#### **Part I – Overview of USF Libraries, Mission, and Program/Discipline Strengths**

The University of South Florida (USF) is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award associate, baccalaureate, master's, specialist and doctorate degrees. The institution was initially accredited in 1965 and was last reviewed and reaffirmed in 2015.

The University of South Florida Libraries consist of USF's main research library and the Hinks and Elaine Shimberg Health Sciences Library, both located on the Tampa campus; the Nelson Poynter Memorial Library, located on the St. Petersburg campus; and an Information Commons on the Sarasota-Manatee campus.

The USF Libraries inspire research, creativity, and learning by connecting the USF community to relevant and high-quality information. The vision is to become the center of a highly engaged university community, driven to produce high-impact research and to nourish creativity. Together, the USF Libraries provide access to more than 3 million volumes and an extensive collection of electronic resources including approximately 75,333 e-journal subscriptions and over 946 aggregator databases containing another 32,815 unique e-journal titles, 895,997 e-books, and 30,000,000 digital images. In addition, students have access to over 73,885 audio/visual materials including electronic media, music scores, audiobooks, CDs, and DVDs.

#### **Part II - USF Libraries' Collections**

##### **MONOGRAPHS (Print and Ebooks)**

The USF Library contains extensive holdings of books in both print and e-book format that support student and faculty instructional and research needs in the program. To identify the scope of relevant books, titles were derived from searching the library's catalog by Library of Congress Subject Headings relevant to Business Analytics and Information Systems studies.

<b>MONOGRAPHIC COUNTS</b>				
<b>Library of Congress Subject Headings for Business Analytics and Information Science</b>				
<b>LC Subject Headings</b>	<b>Representative Numbers</b>	<b>Call</b>	<b>Print</b>	<b>Electronic</b>
Artificial Intelligence	Q335.A7857		1,254	12,529
Big Data	QA76.73P98		193	949
Business Forecasting	HB3730.B3		166	194
Business Intelligence	HD38.G72		89	985
Business Planning	HD30.28		1,293	3,867
Cloud Computing	TK5105.88813		24	465
Data Warehousing	QA76.9D37		44	132
Databases	QA76.9C37		970	7,694
Database Management	QA76.9 D3 B666		551	2,172
Digital Communications	TK5103.7 B377		145	773
Econometric Models	HB141.H458		541	1,400
Electronic Commerce	HF5548.32 F64		360	3,968
Finance Mathematical Models	HG173- HG4012		288	326
Geographic Information Systems	G70.2 C37- G70.212		324	675
Human-Computer Interaction	QA76.9H85 C37		273	3,177
Information Resources Management	T.58.64 B87		219	735
Investment Analysis	HG4529.M53		278	432
Marketing – Models	HF5415.2B8		56	134
Marketing Research	HF5415.2L8		302	936
Management Information Systems	HD30.213 HD31.B7818	F49-	583	5,776
Mobile Communication Systems	TK6570.M6 I36		212	909
Multimedia Systems	QA76.575.C73 2005		277	1,558
Operations Research	T57.6A1		475	2,552
Probability Statistics	HA29.F64, QA273 M592		235	1,375
Regression Analysis	QA278.2B46		190	327
Semantic Web	TK5105.88815		34	108
System Analysis	T57.6.H366 –N49		114	7,771
<b>Totals</b>			<b>6,366</b>	<b>61,919</b>

Total Number of Monographs

- Print = 6,366
- Electronic = 61,919

#### **Ebooks and Ebook Collections**

- APA Handbook of Industrial and Organizational Psychology
- Knovel Handbook of Mathematical Functions with Formulas, Graphs, and Mathematical Tables
- Oxford Scholarship Online and University Press Scholarship Online
- ProQuest Ebook Central

- Spring eBook Collection in Business Management
- Springer eBook Collection in Computer Science
- Springer eBook Collection in Economics and Finance
- Springer eBook Collection in Mathematics
- Springer Ebook Collection in Professional Computing and Web Design
- Springer Lecture Notes in Computer Science
- Springer Lecture Notes in Mathematics
- Springer Lecture Notes in Statistics
- Synthesis Digital Library of Engineering and Computer Science
- Taylor & Francis and CRCNetBase eBooks

**B. Discuss any additional library resources that are needed to implement and/or sustain the program through Year 5. Describe how those costs are reflected in Appendix A – Table 3A or 3B.**

**Not applicable to this program because no additional library resources are needed to implement or sustain the proposed program.**

The proposed new B.S. BAIS program will replace the existing B.S. BAIS major. Additionally, the School offers a M.S. BAIS program. Thus, the Library has all required resources necessary to support the proposed B.S. BAIS program. No additional resources are necessary.

**C. Describe any specialized equipment and space currently available to implement and/or sustain the proposed program through Year 5.**

The School of Information Systems and Management has two dedicated computer labs located within the CIS Building on the Tampa campus. These dedicated lab environments are used by BAIS faculty to provide instruction to students on various technical courses across the campuses. No additional space is required. Additional resources are available digitally such as, Florida CyberHub, USF Research Computing and the USF Virtual Lab Systems.

**D. Describe any additional specialized equipment or space that will be needed to implement and/or sustain the proposed program through Year 5. Include any projected Instruction and Research (I&R) costs of additional space in Appendix A – Table 3A or 3B. Costs for new construction should be provided in response to Section X.E. below.**

**Not applicable to this program because no new I&R costs are needed to implement or sustain the 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. Appendix A – Table 3A or 3B includes only 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.**

**Not applicable to this program because no new capital expenditures are needed to implement or sustain the program through Year 5.**

**F. Describe any additional special categories of resources needed to operate the proposed program through Year 5, such as access to proprietary research facilities, specialized services, or extended travel, and explain how those projected costs of special resources are reflected in Appendix A – Table 3A or 3B.**

**Not applicable to this program because no additional special categories of resources are needed to implement or sustain the program through Year 5.**

**G. Describe fellowships, scholarships, and graduate assistantships to be allocated to the proposed program through Year 5, and explain how those are reflected in Appendix A – Table 3A or 3B.**

**Not applicable to this program because no fellowships, scholarships and/or graduate assistantships will be allocated to the proposed program through Year 5.**

The program offers very technical classes, and these classes are supported by graduate assistants (GA). The School employs a total of six GAs to support the courses offered for the current B.S. BAIS major. The proposed new B.S. BAIS (52.1301) classes will require similar support of six GAs in Year 1.

A 15 percent increase from Year 1 (\$110,073) to Year 5 (\$126,584) is expected in GA assistanceships due to increased operating costs.

## IX. Required Appendices

The appendices listed in tables 1 & 2 below are required for all proposed degree programs except where specifically noted. Institutions should check the appropriate box to indicate if a particular appendix is included to ensure all program-specific requirements are met. Institutions may provide additional appendices to supplement the information provided in the proposal and list them in Table 4 below.

**Table 1. Required Appendices by Degree Level**

Appendix	Appendix Title	Supplemental Instructions	Included? Yes/No	Required for Degree Program Level		
				Bachelors	Masters/ Specialist	Doctoral/ Professional
A	Tables 1-4		Yes	X	X	X
B	Consultant's Report and Institutional Response		No			X
C	Academic Learning Compacts	Include a copy of the approved or proposed Academic Learning Compacts for the program	Yes	X		
D	Letters of Support or MOU from Other Academic Units	Required only for programs offered in collaboration with multiple academic units within the institution	No	X	X	X
E	Faculty Curriculum Vitae		Yes	X	X	X
F	Common Prerequisite Request Form	This form should also be emailed directly to the BOG Director of Articulation prior to submitting the program proposal to the Board office for review.	Yes	X		
G	Request for Exemption to the 120 Credit Hour Requirement	We are not seeking approval to exceed the 120-credit hour requirement	No	X		
H	Request for Limited Access Status	We are not requesting limited access status.	No	X		

**Table 2. Additional Appendices**

<b>Appendix</b>	<b>Appendix Title</b>	<b>Description</b>
I	Lightcast Data	Employment and Program Data
J	Eight- and Four-Semester Plans	Eight- and Four-Semester Plans
K	Letters of Support from Outside USF	Letters of Support from Outside USF

Appendix A: Tables

**APPENDIX A**  
**TABLE 1-A**  
**PROJECTED HEADCOUNT FROM POTENTIAL SOURCES**  
**(Baccalaureate Degree Program)**

Source of Students (Non-duplicated headcount in any given year)*	Year 1 HC	Year 1 FTE	Year 2 HC	Year 2 FTE	Year 3 HC	Year 3 FTE	Year 4 HC	Year 4 FTE	Year 5 HC	Year 5 FTE
Upper-level students who are transferring from other majors within the university**	20	17	20	17	20	17	20	17	20	17
Students who initially entered the university as FTIC students and who are progressing from the lower to the upper level***	150	125	160	133	170	142	180	150	190	158
Florida College System transfers to the upper level***	150	125	160	133	170	142	180	150	190	158
Transfers to the upper level from other Florida colleges and universities***	60	50	70	58	80	67	80	67	80	67
Transfers from out of state colleges and universities***	0	0	0	0	0	0	0	0	0	0
Other (Explain - Second Degree)***	10	8	10	8	20	17	20	17	20	17
<b>Totals</b>	<b>390</b>	<b>325</b>	<b>420</b>	<b>350</b>	<b>460</b>	<b>383</b>	<b>480</b>	<b>400</b>	<b>500</b>	<b>417</b>

\* 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**  
**Anticipated Faculty Participation**

Faculty Code	Faculty Name or "New Hire" Highest Degree Held Academic Discipline or Specialty	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	Ehsan Sheybani, Ph.D. Electrical Engineering	Professor	Tenure	Fall 2023	9	0.50	0.50	0.25	9	1.00	0.50	0.50
A	Rouzbeh Behnia, Ph.D. Computer Science	Assistant Professor	Tenure-Track	Fall 2023	9	0.75	1.00	0.75	9	0.75	1.00	0.75
A	Clinton Daniel, D.B.A. Business Administration	Instructor	Non-Tenure	Fall 2023	9	0.75	0.25	0.19	9	0.75	0.50	0.38
A	Bhuvan Unhelkar, Ph.D. Information Science	Professor	Tenure	Fall 2023	9	0.75	0.25	0.19	9	0.75	0.50	0.38
A	Alan Hevner, Ph.D. Computer Science	Professor	Tenure	Fall 2023	9	0.75	0.50	0.38	9	0.75	0.50	0.38
A	Harvey Hyman, Ph.D. Information Systems	Instructor	Non-Tenure	Fall 2023	9	0.75	1.00	0.75	9	0.75	1.00	0.75
A	Giti Javidi, Ph.D. Instructional Technology/ Computer Science Concentration	Professor	Tenure	Fall 2023	9	0.75	1.00	0.75	9	0.75	1.00	0.75
A	He Zhang, Ph.D. Industrial Engineering and Management Science	Assistant Professor	Tenure-Track	Fall 2023	9	0.75	1.00	0.75	9	0.75	1.00	0.75
<b>Total Person-Years (PY)</b>								<b>4.00</b>				<b>4.63</b>

Faculty Code	Code Description	Source of Funding	PY Workload by Budget Classification	
			Year 1	Year 5
A	Existing faculty on a regular line	Current Education & General Revenue	8.00	8.00
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
F	Existing faculty on endowed lines	Philanthropy & Endowments	0.00	0.00
G	New faculty on endowed lines	Philanthropy & Endowments	0.00	0.00
H	regular/tenure-track line course load	Enterprise Auxiliary Funds	0.00	0.00
<b>Overall Totals for</b>			<b>8.00</b>	<b>8.00</b>

**APPENDIX A**  
**TABLE 3A**  
**ENROLLMENT AND GROWTH**  
**PROJECTED COSTS AND FUNDING SOURCES**

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P															
1	Institutions should not edit the categories or budget lines in the table below. This table is specific to state-funded (E&G) programs, and institutions are expected to explain all costs and funding sources in Section VII.A. of the proposal. Detailed definitions for each funding category are located at the bottom of the table.																														
	Budget Line Item	Reallocated Base** (E&G) Year 1	Enrollment Growth (E&G) Year 1	New Recurring (E&G) Year 1	New Non-Recurring (E&G) Year 1	Contracts & Grants (C&G) Year 1	Philanthropy/ Endowments Year 1	Other Funding Year 1 - Please Explain in Section VII.A. of the Proposal	Subtotal Year 1	Continuing Base** (E&G) Year 5	New Enrollment Growth (E&G) Year 5	Other*** (E&G) Year 5	Contracts & Grants (C&G) Year 5	Philanthropy/ Endowments Year 5	Other Funding Year 5 - Please Explain in Section VII.A. of the Proposal	Subtotal Year 5															
2	Salaries and Benefits (Faculty)	1,177,518	0	0	0	0	0	0	\$1,177,518	1,455,312	0	0	0	0	0	\$1,455,312															
3	Salaries and Benefits (A&P and USPS)	23,289	0	0	0	0	0	0	\$23,289	26,783	0	0	0	0	0	\$26,783															
4	OPS (including assistantships & fellowships)	110,073	0	0	0	0	0	0	\$110,073	126,584	0	0	0	0	0	\$126,584															
5	Programmatic Expenses****	15,000	0	0	0	0	0	0	\$15,000	17,250	0	0	0	0	0	\$17,250															
6	<b>Total Costs</b>	<b>\$1,325,881</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,325,881</b>	<b>1,625,929</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,625,929</b>															
7	*Identify reallocation sources in Table 4.																														
8	**Includes recurring E&G funded costs ("reallocated base," "enrollment growth," and "new recurring") from Years 1-4 that continue into Year 5.																														
9	***Identify if non-recurring.																														
10	****include library costs, expenses, OCO, special categories, etc.																														
11	<b>Faculty and Staff Summary</b>																														
12	<table border="1" style="width: 100%;"> <thead> <tr> <th>Total Positions</th> <th>Year 1</th> <th>Year 5</th> </tr> </thead> <tbody> <tr> <td>Faculty (person-years)</td> <td>4.00</td> <td>4.63</td> </tr> <tr> <td>FTE (A&amp;P and USPS)</td> <td>0.3</td> <td>0.3</td> </tr> </tbody> </table>																Total Positions	Year 1	Year 5	Faculty (person-years)	4.00	4.63	FTE (A&P and USPS)	0.3	0.3						
Total Positions	Year 1	Year 5																													
Faculty (person-years)	4.00	4.63																													
FTE (A&P and USPS)	0.3	0.3																													
13	<table border="1" style="width: 100%; margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="3">Calculated Cost per Student FTE</th> </tr> <tr> <th></th> <th>Year 1</th> <th>Year 5</th> </tr> </thead> <tbody> <tr> <td>Total E&amp;G Funding</td> <td>\$1,325,881</td> <td>\$1,625,929</td> </tr> <tr> <td>Annual Student FTE</td> <td>325</td> <td>417</td> </tr> <tr> <td>E&amp;G Cost per FTE</td> <td>4080</td> <td>3899</td> </tr> </tbody> </table>																Calculated Cost per Student FTE				Year 1	Year 5	Total E&G Funding	\$1,325,881	\$1,625,929	Annual Student FTE	325	417	E&G Cost per FTE	4080	3899
Calculated Cost per Student FTE																															
	Year 1	Year 5																													
Total E&G Funding	\$1,325,881	\$1,625,929																													
Annual Student FTE	325	417																													
E&G Cost per FTE	4080	3899																													
14	<b>Table 3 Column Explanations</b>																														
15	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 4 – Anticipated reallocation of E&G funds and indicate their source.																												
16	Enrollment Growth (E&G)	2	Additional E&G funds allocated from the "Student and Other fees Trust Fund" contingent on enrollment increases.																												
17	New Recurring (E&G)	3	Recurring funds appropriated by the Legislature to support implementation of the program.																												
18	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 VII.A.) of the proposal. These funds can include initial investments, such as infrastructure.																												
19	Contracts & Grants (C&G)	5	Contracts and grants funding available for the program.																												
20	Philanthropy Endowments	6	Funds provided through the foundation or other Direct Support Organizations (DSO) to support the program.																												
21	Continuing Base** (E&G)	7	Includes the sum of columns 1, 2, and 3 over time.																												
22	New Enrollment Growth (E&G)	8	See explanation provided for column 2.																												
23	Other*** (E&G)	9	These are specific funds provided by the Legislature to support implementation of the program.																												
24	Contracts & Grants (C&G)	10	See explanation provided for column 5.																												
25	Philanthropy Endowments	11	See explanation provided for column 6.																												
26	Other Funding	12	Any funding sources not already covered in any other column of the table. Please provide an explanation for any funds listed in these columns in the narrative for Section VII.A. of the proposal.																												

**APPENDIX A**  
**TABLE 4**  
**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
Example: 555-555 World exploration fund (example)	0	0	<b>\$0</b>
140700 Tampa	1,138,150	1,138,150	<b>\$0</b>
511407 St. Petersburg	243,889	243,889	<b>\$0</b>
521407 Sarasota-Manatee	243,889	243,889	<b>\$0</b>
<b>Totals</b>	<b>\$1,625,929</b>	<b>\$1,625,929</b>	<b>\$0</b>

\* If not reallocating E&G funds, please submit a zeroed Table 4

## Appendix C: Academic Learning Compact

### **B.S. Business Analytics and Information Systems** **Cip Code: 52.1301**

#### **Program Mission**

The **University of South Florida Muma College of Business** emphasizes creativity and analytics to promote student success, produce scholarship with impact, and engage with all stakeholders in a diverse global environment.

The Business Analytics and Information Systems (BAIS) major is intended to provide students with an understanding of key concepts and the ability to use specific tools involved in developing, implementing, and managing information systems in contemporary organizations. In addition to major requirements, all students complete the Strategic Management capstone course and the Business Core, a series of courses that address the need for foundation business knowledge in accounting, economics, finance, marketing, information systems, quantitative methods, and the legal environment of business. Together, these courses prepare students for a variety of entry-level positions in the MIS industry as well as for graduate study in MIS.

*All learning outcomes align with AACSB Standard 5 (2020 Standards) that addresses assurance of learning for programs in business.*

#### **Program Goal 1: Discipline-Specific Knowledge: Graduates will demonstrate discipline-specific knowledge and skills.**

##### **1. Program Learning Outcome Statement**

Students should be able to identify the basic mechanisms for organizing, developing, and debugging programs.

##### **2. Program Learning Outcome Statement**

Students should be able to analyze a business case narrative and select an appropriate descriptive model; identify the concepts and processes in the lifecycle of information systems with an emphasis on analysis and design.

##### **3. Program Learning Outcome Statement**

Students should be able to describe the concepts and processes involved in designing, developing, implementing, maintaining, using, and managing database systems and how to apply them in business situations.

#### **Program Goal 2: Critical Thinking Skills: Graduates will demonstrate critical thinking and analysis skills.**

##### **1. Program Learning Outcome Statement**

Students should be able to understand and appreciate the complex interactions between individual/organizational forces in the business lifecycle of IT related products. In this process, the student will develop convincing positions in managing a technology-focused business and articulate an in-depth analysis of the business case.

**Program Goal 3: Communication Skills: Graduates will demonstrate an ability to communicate effectively.**

**1. Program Learning Outcome Statement**

Students should be able to create and deliver effective oral presentations, with convincing positions concerning applying analytical approaches in technology-focused business decision making. Students should demonstrate the minimum level of oral communication skills required for successful entry into the BAIS workforce (as determined by the School's faculty through students' oral presentations made in class).

**2. Program Learning Outcome Statement**

Students should demonstrate effective written communication skills, with convincing positions concerning applying analytical approaches in technology-focused business decision making.

**3. Program Learning Outcome Statement**

Students should be able to communicate effectively in group discussions.

**Assessment Methods**

**Course Related Assessments:**

- Oral Presentation
- Written Report or Essay
- Instructor Constructed Exam
- Course Embedded Assignment
- Class Performance or Presentation
- Project Evaluation
- Pre-Test/Post-Test Evaluation

**Cumulative Assessments:**

- Comprehensive Exam
- Faculty Designed Comprehensive or Capstone Examination and Assignment
- Portfolio of Student Work

Appendix E - Faculty Curriculum Vitae

**Ehsan Sheybani, Ph.D.**

8350 N. Tamiami Trail, Sarasota, FL 34243  
 Phone: (941) 359-4387 [sheybani@usf.edu](mailto:sheybani@usf.edu)

**EDUCATION**

**Ph.D. Electrical Engineering:** University of South Florida , 2002  
 Ph.D. Dissertation: ATMTN: a high-speed telemammography network architecture.  
**MS Electrical Engineering:** Florida State University, 1992  
 Master Thesis: Coherence time of scattered laser signal propagating through turbid water.  
**BS Electrical Engineering:** University of Florida, 1989

**ACADEMIC EXPERIENCE**

Professor of Electrical Engineering, Curtesy Appointment, Department of Electrical Engineering, University of South Florida, Tampa, Florida 2020-Present  
 Full/Associate/Assistant Professor, School of Information Systems and Management, MCOB, University of South Florida, Sarasota, Florida 2016/2018/2020-Present  
 Full/Associate/Assistant Professor (Tenure Track), Computer Engineering, Virginia State University Petersburg, Virginia 2004/2009/2013-2016  
 Assistant Professor (Tenure Track), SET/EET, University of Southern Mississippi Hattiesburg, Mississippi 2003-2004  
 Assistant Professor (Tenure Track), IET, Morehead State University Morehead, Kentucky 2002-2003  
 Assistant Professor (Tenure Track), CS/CIS/MIS, Hillsborough Community College DM/YB Campuses, Tampa, Florida 1999-2002  
 Visiting Lecturer, Research Associate, Graduate Research/Teaching Assistant in the Departments of Electrical Engineering, Oceanography and Marine Sciences, and the Digital Medical Imaging Program, Dept. of Radiology, H. Lee Moffitt Cancer Center & Research Institute at the University of South Florida Tampa, FL 1992-2000  
 CS/CIS/MIS/BSET Instructor/Chairperson, Tampa Technical Institute Tampa, FL 1996-1998  
 Graduate Research/Teaching Assistant, Florida State University Tallahassee, FL 1989-1992

**INDUSTRIAL EXPERIENCE**

Technical Consultant, Trainer and Contractor, Sean and Associates Tampa, Florida 1997-2002  
 Network Engineer/Internet Application Developer, BellSouth Corporation BSIWS, Tampa, FL 1997-1999  
 Hardware/Software Design Engineer, Siemens Telecom Lake Mary, FL 1987-1989

**USF Courses Developed and/or Taught**

ISM3011-Information Systems in Organizations  
 ISM3115-Business Informatics  
 ISM3232-Business Application Development  
 ISM4153-Enterprise Resource Planning Systems  
 ISM6021-Management Information Systems  
 ISM6156-ERP & BPM  
 ISM6316-Project Management  
 ISM6405-Informatics and Business Intelligence  
 ISM6930-Special Topics in MIS

QMB4250-Business Analytics

QMB4700-Business Decision Modeling

QMB6358-Data Analytics for Business

Developed several courses and labs in IT and Cybersecurity as a result of Florida Center for Cybersecurity grant.

## RECENT PUBLICATIONS

1. Farokhnia Hamedani, Moez; Esmaeili, Mostafa; Sun, Yao; Javidi, Giti; Sheybani, Ehsan, "Paving the way for COVID survivors' psychosocial rehabilitation: Mining topics, sentiments, and their trajectories over time from Reddit", *Health Informatics Journal (R&R)*, November 2022.
2. Farshad Faramarzi, Taher Niknam, Motahareh Pourbehzadi, Giti Javidi, Ehsan Sheybani, "Novel Approach for Improved Power System Resilience Against Intentional Attacks" Accepted for publication in *IEEE Access*, November 2022.
3. Sun, Y., Farokhnia Hamedani, M., Javidi, G., Sheybani, E., & Hao, F. "Examining COVID-19 vaccine attitude using SEM-Artificial Neural Networks approach: a case from Reddit community", *Health Promotion International*, Volume 37, Issue 6, December 2022, daac157, <https://doi.org/10.1093/heapro/daac157>
4. Jokar-Dehoie, M., Zare, M., Aghaei, J., Niknam, T., Pourbehzadi, M., Javidi, G., Sheybani, E. "Game Theory-Based Bidding Strategy in the Three-Level Optimal Operation of an Aggregated Microgrid in an Oligopoly Market", in *IEEE Access*, vol. 10, pp. 104719-104736, 2022, doi: 10.1109/ACCESS.2022.3208965.
5. Masoud Shokri, Miad Sarvarizadeh-Kouhpaye, Taher Niknam, Motahareh Pourbehzadi, Giti Javidi, Ehsan O. Sheybani, "Optimal Planning and Operation of Smart City Using an Improved Grey Wolf Algorithm", *IEEE T-ITS*, Submitted August 2022, R&R December 2022.
6. Harshit Srivastava, Ehsan Sheybani, Ravi Sankar, "Social Network Anomaly Detection for Optimized Decision Development", *International Journal of Interdisciplinary Telecommunications and Networking (IJITN)*, 14(1), 1-8. <http://doi.org/10.4018/IJITN.309697>.
7. M. Pourbehzadi, E. Sheybani, *et al.*, "Short-Term Scheduling of a Renewable-Based Microgrid: Stochastic/Economic Battery Modeling," in *IEEE Access*, vol. 9, pp. 90084-90101, 2021, doi: 10.1109/ACCESS.2021.3091177.
8. S. Moghanian, F. B. Saravi, G. Javidi and E. O. Sheybani, "GOAMLP: Network Intrusion Detection with Multilayer Perceptron and Grasshopper Optimization Algorithm," in *IEEE Access*, vol. 8, pp. 215202-215213, 2020, doi: 10.1109/ACCESS.2020.3040740.

## Recent Full-Article Peer-Reviewed Conference Proceedings and Keynote Speeches

1. Pourbehzadi, M., Javidi, G., Sheybani, E., Howell, E. "Implementing AI in Forecasting Cybersecurity Threats", *Inform Conference on Security*, Arlington, VA, August 28-30, 2022.
2. Sheybani, E. & Javidi, G. "Wavelet-based Architecture for Data Confidentiality, Integrity, and Availability", *Inform Conference on Security*, Arlington, VA, August 28-30, 2022.
3. Harshit Srivastava, Ehsan Sheybani, Ravi Sankar, "Social Network Anomaly Detection for Optimized Decision Development", *Proceedings of the 20<sup>th</sup> IEEE Wireless Telecommunications Symposium*, April 6-8, 2022, Pomona, CA (held virtually due to COVID-19).
4. Sheybani, E., Javidi, G.; "Adaptive Wavelet Filter Banks for Optimization", *INFORMS Computing Society (ICS) 2022 Conference*, January 23-24, 2022, Tampa, Florida.
5. Pourbehzadi, M., Johnson, K., Javidi, G., Sheybani, E.; "Optimization of Artificial Intelligence and Machine Learning Algorithms to Eradicate Bias in Treatment of Substance Use Disorder", *INFORMS Computing Society (ICS) 2022 Conference*, January 23-24, 2022, Tampa, Florida.
6. Farokhnia, M., Esmaili, M., Sun, Y., Javidi, G., Sheybani, E.; "Cyberbully in The Era of Vaccination: A Text Mining Approach", *INFORMS Computing Society (ICS) 2022 Conference*, January 23-24, 2022, Tampa, Florida.
7. Farokhnia, M., Javidi, G., Sheybani, E.; "An Interactive Gaming Approach for Training Word-Embeddings", *The 31st WORKSHOP ON INFORMATION TECHNOLOGIES AND SYSTEMS (WITS) 2021*, December 15-17, 2021, Austin, Texas.
8. Lengacher, C. A., Joshi, A., Gordillo-Casero, L., Chauca, K., Syed, J., Rodriguez, C.S., Laguna, J., Ali, S.,

- Akandh, S. I., Akandh, S., Elsadi, F., Martinez, D., Sheybani, E. (2021). Development of a virtual advanced stage cancer education program (vASCE) for caregivers of advanced stage cancer patients. Presented at the American Psychosocial Oncology Society (APOS) 18th Virtual Annual Conference, March, 2021.
9. Lengacher, C. A., Joshi, A., Gordillo-Casero, L., Chauca, K., Rodriguez, C., Syed, J., Sheybani, E., Laguna, J., Abdel Hader, L., Zeper, D., Hagen, L., Ali, S., Akandh, S.I., Akandh, S., Elsadi, F., Martinez, D. (2021). Prototype evaluation of a virtual mindfulness-based stress reduction program for caregivers of advanced stage cancer survivors (vMBSR(C)). Presented at the American Psychosocial Oncology Society (APOS) 18th Virtual Annual Conference, March, 2021.
  10. Seyed Alireza Khoshnevis, Sai Bharadwaj Appakaya, Ehsan Sheybani, Ravi Sankar, "Compression of Gait IMU signals Using Sensor Fusion and Compressive Sensing", Proceedings of the 19<sup>th</sup> IEEE Wireless Telecommunications Symposium, April 22-24, 2020, Washington, DC (held virtually due to COVID-19).
  11. Sai Bharadwaj Appakaya, Seyed Alireza Khoshnevis, Ravi Sankar, Ehsan Sheybani, "A novel pitch cycle detection algorithm for tele monitoring applications", Proceedings of the 19<sup>th</sup> IEEE Wireless Telecommunications Symposium, April 22-24, 2020, Washington, DC (held virtually due to COVID-19).

### Recent Funded Proposals and Projects

1. Ehsan Sheybani, Salvatore Morgera "Development of Disinfection and Filtration System for a Disease-Detecting Electronic Nose", Submitted to the USF Sarasota Manatee Campus Interdisciplinary Research Grant 2022, \$20,000, 6/1/22 to 5/31/23, Project Was Funded.
2. Giti Javidi, Ehsan Sheybani, Ravi Sankar, Nasir Ghani "Adoption of Blockchain Technology for Seamless Medical Health Records Management", Submitted to the USF Sarasota Manatee Campus Interdisciplinary Research Grant 2022, \$20,000, 6/1/22 to 5/31/23, Project Was Funded.
3. Ying Zhong, Ehsan Sheybani, "CD-Robot: Corona Discharge Enabled Smart Robots for Automatic and Non-Contact Disinfection", Submitted to the USF Sarasota Manatee Campus Interdisciplinary Research Grant 2021, \$20,000, 6/1/21 to 5/31/22, Project Was Funded.
4. Yao Sun, Giti Javidi, Ehsan Sheybani, "Leveraging collective intelligence for psychosocial rehabilitation of COVID-19 positive persons and combating vaccine hesitancy", Submitted to the USF Sarasota Manatee Campus Interdisciplinary Research Grant 2021, \$20,000, 6/1/21 to 5/31/22, Project Was Funded.
5. Ehsan Sheybani, Giti Javidi, Shivendu Shivendu, "Constructing Organizational Information Security Index Incorporating Wisdom of Insiders", Submitted to the USF Sarasota Manatee Campus Trail-Blazer Scholarship 2021, \$10,000, 6/1/21 to 5/31/22, Project Was Funded. (Recipient: Ankita Sharma)
6. Giti Javidi, Ehsan Sheybani, "Privacy and Trust: An investigation of the impact of chatbot attributes on user's information sharing behavior", Submitted to the USF Sarasota Manatee Campus Trail-Blazer Scholarship 2021, \$25,000, 6/1/21 to 5/31/22, Project Was Funded. (Recipient: Moez Farokhnia)
7. Ehsan O. Sheybani, Giti Javidi, "Modeling of Blockchain, Internet of Things (IoT), and 5th Generation Wireless Technologies for Tele-Health/Medicine Development", Submitted to USFSM FRAG Funding Competition, April 2020, \$10,000, 6/1/20 to 12/31/20, Project Was Funded.
8. Giti Javidi, Ehsan O. Sheybani, "Modeling of Autism Symptoms Using Brain Waves, Speech Signal, and Clinical Evaluations", Submitted to USFSM FRAG Funding Competition, April 2020, \$10,000, 6/1/20 to 12/31/20, Project Was Funded.

### CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

- Chair, Vice Chair, Secretary, and Member – IEEE Sub-Committees on Ethics in Engineering Education
- Member - INFORMS
- Member – American Society for Engineering Education
- NCWIT Pacesetters, Honorary Membership, 2018-2020
- National Center for Women in Information Technology (NCWIT) Academic Alliance, 2007-present
- Fellow Member – IEEE WTS
- Senior Member – IEEE Communications Society

- Senior Member – IEEE Geosciences and Remote Sensing Society
- Senior Member – IEEE Engineering in Medicine and Biology Society
- Senior Member – IEEE Signal Processing Society
- Senior Member – IEEE Education Society
- Senior Member – IEEE Transportation Electrification Community
- Licensed Member – National Rocketry Association
- Licensed Member – Tripoli Rocketry Association

### **SERVICE ACTIVITIES**

Co-Founder and Co-Director, USF Research Innovation Makerspace (USF RIM) Lab – (Robotics, Virtual/Augmented Reality, Prototyping, UAV, Video Game Design, Networking, and Scientific/Cloud Computing Education Lab).

Chair and Organizer, Drone Technologies, Education, Training, Research and Applications (Drone TETRA 2020) Conference, Feb. 21, 2020, USFSM.

Co-Founder and Co-Director, USF Artificial Intelligence Makerspace (USF AIM) Lab – (Artificial Intelligence, Machine Learning, Signal Processing, Simulation/Modeling, Data Analytics Lab).

Co-Founder and Co-Director, USF Information Assurance and Cybersecurity Management (USF IACM) Lab – (Cybersecurity anomaly/threat/attack detection, prediction, and prevention).

Co-Founder and Co-Director, USF Speech Lab – (in collaboration with West Florida Easterseals).

Co-Founder and Co-Director, CSITHub.org

Associate Editor, IGI, IJITN.

Reviewer, Elsevier, JNCA.

Member, supervisory committee and co-advisor for three (3) M.S. and four (4) Ph.D. candidates in the USF College of Engineering and USF Muma College of Business.

Chair Elect and Member, USF Research Council

Chair and Member, USFSM Research Advisory Board

Member, USFSM Faculty Senate

Member, USFSM Representative, several Consolidation Taskforce Committees.

Established USFSM Alliance Membership at NCWIT - <https://www.ncwit.org/alliances/members/45/u?page=8>

Presenter and Board of Directors Member, Suncoast Technology Forum (STF), January 17, 2017-Present

Judge, STEMSmart Summit at Suncoast Technical College, January 17, 2017

Team mentor, Educational Foundation Hackathon, October 21-23, 2016

Assisting IT-Business partnership meeting, November 30, 2016

ISDS Committee Member to Establish Management Science (MS) Program in COB

COB IT Faculty Hiring Committee

IT ABET Committee

COB AACSB Committee

COB By-Laws Committee

COB P/T Committee

Chair COB ISDS Faculty Hiring Committee

Graduate Program Committee

IT Governance Committee

IT and COB IAB Committees

TPC/Track/Session Chair, IEEE/ACM/WTS 2001-Present

Chair and Co-Chair IEEE WTS 2013, 2019, and 2020

Senior Member, IEEE and Technical Societies (ComSoc, GRSS, EMB, SP, Ed, etc.)

## ROUZBEH BEHNIA

Assistant Professor  
 School of Information Systems & Management  
 University of South Florida  
 Email: behnia@usf.com  
 Webpage: <https://rbehnia.github.io>

### RESEARCH INTERESTS

Cybersecurity in IoT, Secure and Trustworthy AI, Blockchains and Applied Cryptography

### EDUCATION

**University of South Florida**, Tampa, Florida, United States (2019 – 2021)

PhD, (transferred from OSU), Computer Science

- Advisor: Attila Altay Yavuz
- GPA: 4/4

**Oregon State University**, Corvallis, Oregon, United States (2016 – 2018)

PhD, Computer Science

- Advisor: Attila Altay Yavuz
- GPA: 3.87/4

**Multimedia University**, Melaka, Malaysia (2010 – 2013)

Master of Science

- Thesis: *Design and Analysis of Certificate-Free Undeniable Signature Schemes*
- Advisor: Swee Huay Heng

**Multimedia University**, Melaka, Malaysia (2006– 2009)

Bachelor of Information Technology (Honours) (Security Technology)

- GPA: 3.7/4 - First Class Student

### PROFESSIONAL EXPERIENCES

**Assistant Professor**, School of Information Systems & Management, University of South Florida (08/2021 – Present)

**Research Intern**, VISA Research, Palo Alto, CA, United States (05/2019 – 08/2019)

- Mentor: Yilei Chen and Daniel Masny
- Topic: Efficient Authentication in the Post-Quantum Era

**Lecturer**, Multimedia University, Melaka, Malaysia (12/2013 – 07/2016)

**Assistant Lecturer**, Multimedia University, Melaka, Malaysia (1/2013 – 12/2013)

### PUBLICATIONS

#### Selected Journals (J)

- J1. **Rouzbeh Behnia**, Muslum Ozgur Ozmen, and Attila A Yavuz (2018). *Lattice-Based Public Key Searchable Encryption from Experimental Perspectives*. IEEE Transactions on Dependable and Secure Computing, 17(6), 1269-1282. IEEE
- J2. **Rouzbeh Behnia**, Swee-Huay Heng, and Che-Sheng Gan (2015). *An Efficient Certificateless Undeniable Signature Scheme*. International Journal of Computer Mathematics, 92(7), (pp.1313-1328).
- J3. Chin, Ji-Jian, **Rouzbeh Behnia**, Swee-Huay Heng, and Raphael C-W. Phan (2015). *Cryptanalysis of a Certificateless Identification Scheme*. Security and Communication Networks (SCN) 8(2), (pp. 122-125).

#### Selected Conferences (C)

- C1. **Rouzbeh Behnia**, Mohamamdreza Ebrahimi, Jason Pacheco, Balaji Padmanabhan (2022). *EW-Tune: A Framework*

*for Privately Fine-Tuning Large Language Models with Differential Privacy*. Accepted in IEEE ICDM workshop on Machine Learning for Cybersecurity (MLC).

- C2. **Rouzbeh Behnia**, Eamonn W. Postlethwaite, Muslum Ozgur Ozmen and Attila A. Yavuz (2021). *Lattice-based Proof-of-Work for Post-Quantum Blockchains*. In Data Privacy Management, Cryptocurrencies and Blockchain Technology (pp. 310-318). Springer, Cham
- C3. **Rouzbeh Behnia** and Attila Altay Yavuz (2021). *Towards Practical Post-quantum Signatures for Resource-Limited Internet of Things*. In *Annual Computer Security Applications Conference (ACSAC)*. (pp. 119-30). ACM.
- C4. **Rouzbeh Behnia**, Yilei Chen, and Daniel Masny (2021). On Removing Rejection Conditions in Practical Lattice-Based Signatures. In *International Conference on Post-Quantum Cryptography (PQCrypto)*. (pp. 380-398). Springer.
- C5. Ankush Singla, **Rouzbeh Behnia**, Syed Rafiul Hussain, Attila A. Yavuz and Elisa Bertino (2020). *Look Before You Leap: Secure Connection Bootstrapping for 5G Networks to Defend Against Fake Base-Stations*. Accepted at 16th ACM ASIA Conference on Computer and Communications Security ( ACM ASIACCS 2021). ACM.
- C6. **Rouzbeh Behnia**, Attila A. Yavuz, Muslum Ozgur Ozmen and John Tsz Hon Yuen (2020). *Compatible Certificateless and Identity-Based Cryptosystems for Heterogeneous IoT*. Accepted at 23rd Information Security Conference (ISC). Springer.
- C7. Thang Hoang, **Rouzbeh Behnia**, Yeongjin Jang, Attila A. Yavuz (2020). *MOSE: Practical Multi-User Oblivious Storage via Secure Enclaves*. In the 10th ACM Conference on Data and Application Security and Privacy (CODASPY) (pp. 17-28). ACM.
- C8. Muslum Ozgur Ozmen, Attila A Yavuz, and **Rouzbeh Behnia** (2019). *Energy-Aware Digital Signatures for Embedded Medical Devices*. In the 17th IEEE Conference on Communications and Network Security (CNS) (pp. 55-63). IEEE.

#### Patents (P)

- P1. **Rouzbeh Behnia**, and Attila A. Yavuz (2022), *Lightweight Post-Quantum Authentication*, Publication date: 12/1/2022, Application number: 17739036
- P2. Daniel Masny, Yilei Chen and **Rouzbeh Behnia** (2022), *Lattice -Based Signatures with Uniform Secrets*, Publication date: 11/3/2022, Application number: 17760745
- P3. Muslum O. Ozmen, **Rouzbeh Behnia** and Attila A. Yavuz, *Algebraic proof-of-work algorithm for blockchains*, Publication date: 10/7/2021, Application number: 17224374
- P4. **Rouzbeh Behnia**, Muslum Ozmen and Attila A. Yavuz, *Efficient Identity-based and Certificateless Cryptosystems*, Publication date: 06/02/2020, Application number: 16442467
- P5. Attila A. Yavuz, Muslum O. Ozmen and **Rouzbeh Behnia**, *Energy-Aware Digital Signatures*, Publication date: 01/28/2020, Application number: 16273828

#### FUNDED RESEARCH

**Sponsor:** Ministry of Higher Education (MOHE), Malaysia

- Role: Principle Investigator (PI)
- Title: Design and Analysis of Privacy Providing Optimistic Fair Exchange Protocols
- Amount: RM75,700
- Duration: 2015-2016

**Sponsor:** Multimedia University (Internal Grant)

- Role: PI
- Title: Study on Certificate-Fee Undeniable Signatures with Additional Features
- Amount: RM9,200
- Duration: 2014-2015

**Sponsor:** Multimedia University (Internal Grant)

- Role: Co-PI
- Title: Design and Analysis of Hybrid Public Key Infrastructures
- Amount: RM9,000
- Duration: 2014-2015

**Sponsor:** Ministry of Higher Education (MOHE), Malaysia

- Role: Co-PI
- Title: Analysis of Certificate-Free Privacy Preserving Signature Scheme
- Amount: RM72,500
- Duration: 2013-2015

## PROFESSIONAL SERVICES

### Journal Reviewer

- INFORMS Journal on Computing (2022)
- IEEE Transactions on Dependable and Secure Computing ([IEEE TDSC](#)) (2017\*,2018, 2019,2020,2021, 2022)
- IEEE Internet of Things Journal ([IEEE IoT](#)) (2018,2020,2021, 2022)
- IEEE Transactions on Internet Technology ([ACM TOIT](#)) (2020\*)
- IEEE Communications Surveys and Tutorials (2020\*)
- IEEE Transactions on Information Forensics and Security ([IEEE TIFS](#)) (2019)
- Journal of Ambient Intelligence and Humanized Computing (2018)

*\*External reviewer*

### Conference PC/Reviewer

- PC: IEEE MASS 2022, IEEE ICDM MLC workshop 2022
- Reviewer: WiSec (2020), PoPETS (2020,2021), ACSAC (2017, 2018, 2019,2020, 2021), IFIP DBSec (2018, 2019,2020), ASIACRYPT(2019,2020), WISA (2020), IEEE GlobeCom (2019), IEEE CNS (2019), WWW (2019), Milcom (2019)

# Dr. Clinton Daniel, DBA

---

4202 E. Fowler Ave, University of South Florida, Tampa, FL 33620 | 813-974-6765 | cedanie2@usf.edu

## Education

### **DBA | DECEMBER 2018 | UNIVERSITY OF SOUTH FLORIDA**

- Major: Doctor of Business Administration
- Dissertation: *"TubeTopic: A System to Capture Latent Topics from User-Generated Video Content in Online Social Networks"*
- Committee: Co-Major Professor – Allen R. Hevner Ph.D, Co-Major Professor – Donald Berndt, Ph.D, Matthew Mullarkey, Ph.D, Ron DeSerranno, DBA

### **MS MIS | AUGUST 2006 | UNIVERSITY OF SOUTH FLORIDA**

- Major: Management Information Systems

### **BS CIS | SEPTEMBER 2001 | SAINT LEO UNIVERSITY**

- Major: Computer Information Systems

### **AA | MAY 1999 | PASCO-HERNANDO COMMUNITY COLLEGE**

- Major: Liberal Arts

### **AS | JULY 1997 | SOUTHWESTERN OKLAHOMA STATE UNIVERSITY**

- Major: Physical Therapist Assistant

## Teaching and Practical Experience

### **UNIVERSITY OF SOUTH FLORIDA: 7/2010 - PRESENT**

- Department: USF Muma College of Business, ISDS Department
- Positions: Adjunct Instructor, Visiting Instructor, Instructor 1
- Responsibilities: Academic Director of Undergraduate Business Analytics & Information Systems (BA&IS) program; teaching Undergraduate BA&IS, Graduate BA&IS, Graduate Cybersecurity, and Doctoral DBA level courses; teaching special topic boot camps in domains such as Big Data, Business Intelligence, Programming, and Cyber Security; supervising student practice center projects sponsored by local business; undergraduate and graduate level curriculum development.
- Course teaching experience: Global Information Systems (ISM 4382), Information Systems in Organizations (ISM 3011), Managing Information Resources (ISM 4300), Business Data Communications (ISM 4220), Business Intelligence (ISM 4402), ISM Internship (ISM 4940), Information Systems for Healthcare Analytics (ISM 4930), Systems Analysis and Design (ISM 3113), Health Information Management Systems (ISM 4930), Business Application Development (ISM 3232), Distributed Information Systems (ISM 6225), Data Visualization for Storytelling (ISM 6419), Case Method Publications – DBA Program (GEB6930), Information Security & Risk Management (ISM 6328), Practicum: Information Assurance – MS in Cybersecurity (ISM 6940)
- Program Concentration Director: Masters in Cybersecurity Information Assurance concentration

### **US DEPARTMENT OF VETERANS AFFAIRS: 7/2002 – 2/2015**

- Department: Office of Information Technology
- Positions: IT Specialist, Software Developer, Systems Administrator, Network Administrator, IT Manager, Data Warehouse Manager
- Responsibilities: IT support; Hardware support; Software support; full Systems Development Life Cycle support; managed Hospital Electronic Healthcare Record System; managed Hospital LAN and WAN; Supervised software development team; managed and developed National Business Intelligence infrastructure.
- Technology experience:
  - Databases: Microsoft SQL Server, Oracle RDBMS, MySQL
  - Operating Systems: Linux, Windows, Unix, Vista
  - Programming: PHP, Perl, Python, Java, C#, C, C++, JavaScript, HTML 5, .NET, PowerShell
  - Networking: Cisco Systems, migration of legacy LAT to TCP/IP, Switching, Routing, Cabling
  - Security: Hardware Firewall, Software Firewall, Proxy development, Forensics, Log Analytics
  - Business Intelligence: SSRS, SSIS, SSAS, SQL, PowerBI, Tableau, SharePoint, R

### **SUNCOAST TECHNOLOGY CONSULTING, LLP: 1/2011 - PRESENT**

- Owner and consultant providing services for a variety of different Information Technology domain projects to include: Data Warehouse design, development, and implementation; SharePoint system design; Business Intelligence solutions; Cloud services.

### **PASCO-HERNANDO COMMUNITY COLLEGE: 7/2006 – 7/2010**

- Department: Information Technology
- Position: Adjunct Instructor
- Responsibilities: Teaching Associate degree level Information Technology courses.
- Course teaching experience: Microcomputer Applications, JavaScript Programming, Advanced Database Design.

### **Academic Service**

- 2020 – 2021: Currently advising Hillsborough County Public Schools and co-creating the Florida “Digital Information Technology” (DIT) course, State of Florida Course #8207310. Includes funded efforts by Cyber Florida to modernize the curriculum within CANVAS. This course will be deployed to over 10,000 High School students in Hillsborough County, Florida in the Fall of 2021.
- 2020 – 2021: Current member of the Applied Cybersecurity and Web Design Advisory/Program Review Committee for Lake County, Florida. Advising the Board on the modernization of course content and certification direction.
- 2020 – Present: Program Concentration Director: Masters in Cybersecurity Information Assurance concentration
- 2017 – Present: Academic Director of Undergraduate Business Analytics & Information Systems (BA&IS) program
- 2020 – Presenter of the “Enterprise Risk Management & Cybersecurity” module in the Post-Crisis Leadership training sponsored by the USF Muma College of Business (<https://www.dcevirtual.com/Muma/agenda> ). Discussed relevant cybersecurity topics in a Post COVID-19 world to over 8,000 Business Leaders across the globe.

## Research and Grants

- C. Daniel, J. Gogan, “*Teaching IS Cases Online? Set a Rhythm*”, Twenty-ninth European Conference on Information Systems, ECIS 2021, Marrakesh, Morocco, Submission under review.
- C. Daniel, T. Gill, A. Hevner, M. Mullarkey, “*A Deep Neural Network Approach to Tracing Paths in Cybersecurity Investigations*”, 20<sup>th</sup> IEEE International Conference on Data Mining (ICDM), 1<sup>st</sup> ICDM Workshop on Deep Learning for Cyber Threat Intelligence (DL-CTI), 2020, Full paper accepted, Proceedings published in IEEE Computer Society Press.
- J. Wallace, C. Daniel, “*Staff.AI: Pricing for Disruptive Technology*”, Case Research Journal, accepted for publication in Special Issue on Health Care, Expected publication in first quarter 2021.
- C. Daniel, M. Mullarkey, A. Hevner, “*Cyber Analysis Process (CAP) Assistant*”, Workshop on Information Technology and Systems, WITS 2019, Demo Presentation, Munich Germany, 2019.
- C. Daniel, M. Mullarkey, A. Hevner, “*Designing a Cybersecurity Analysis Process: An Action Design Research Study*”, 14th International Conference on Design Science Research in Information Systems and Technology, DESRIST 2019: Late Breaking Work – Extended Abstract
- C. Daniel, D. Berndt, “*Topic-based Intervention on Social Media Network Search*”, Workshop on Information Technologies and Systems, Santa Clara, 2018.
- C. Daniel, M. Mullarkey, AR Hevner, “*Capturing User Generated Video Content in Online Social Networks*”, International Conference on Design Science Research in Information Systems and Technology, 2018, pp. 333-347, Springer.
- C. Daniel, K. Dutta, “*Automated Generation of Latent Topics on Emerging Technologies from YouTube Video Content*”, Proceedings of the 51st Hawaii International Conference on System Sciences, 2018, pp. 1762-1770, URI: <http://hdl.handle.net/10125/50109>, ISBN: 978-0-9981331-1-9 2.
- C. Daniel, “*Thematic Exploration of YouTube Data: A Methodology for Discovering Latent Topics*”, Seventh International Engaged Management Scholarship Conference, Muma Business Review, 1(12), 141-155, 2017.
- 2017: TechHire Grant, Supported by US Department of Labor and Career Source. I developed the instructional content for this grant. As part of a White House initiative to meet employers needs for technology skilled workers, the University of South Florida’s Muma College of Business participated in this \$3.8 million Department of Labor grant to train young adults within the Tampa Bay area to fill technology roles in the information systems sector.
- C. Daniel, J. Gogan, “*Fintech: Choosing a Cloud Service Provider*”, North American Case Research Association (NACRA), Harvard Business Publishing, April, 2017, Product# NA0473-PDFENG, Web link: <https://cb.hbsp.harvard.edu/cbmp/product/NA0473-PDF-ENG>
- Student Case Competition Winner in the Baylor – North American Case Research Association (NACRA) competition, C. Daniel, J. Gogan, “*Fintech: Delivering Analytical Data to Customers using Cloud Services*”, October 2016, Volume 30, Number 1, Las Vegas, Nevada, 2017, pp. 47.
- Co-Author in paper submitted to Workshop on Information Technology and Systems (WITS) in Dublin, Ireland, December 15-16, 2016. T. Papp, C. Daniel, M. Mullarkey, A. Hevner, “*CrashApp – Designing a Mobile Application with Multiple Stakeholder Goals*”.
- 2008-2010 Co-Investigator: “*Treatment of Post-concussion Symptoms – A Three Center Pilot Study*” (\$10,000 Division 40 of APA – 3% effort). My participation included the development of the Web Application used in the study. Development included PHP, Apache, and Linux environment that runs on a portable CD.

## Books Published

- M. Agrawal, C. Daniel, *"Business Data Communications & IT Infrastructures, 3<sup>rd</sup> Edition"*, Prospect Press, 2021. Publisher web link: <https://www.prospectpressvt.com/textbooks/Agrawal-Data-Comm-3-0>

## Notable Awards and Accomplishments

- 2020: University of South Florida Muma College of Business "Outstanding Teaching Award" for Academic 2018/2019 Year.
- 2020: **Case Research Journal Best Selling Cases, #2** - C. Daniel, J. Gogan, *"Fintech: Choosing a Cloud Service Provider"*, North American Case Research Association (NACRA), Harvard Business Publishing, April, 2017, Product# NA0473-PDFENG, Web link: <https://cb.hbsp.harvard.edu/cbmp/product/NA0473-PDF-ENG>
- 2019: **Case Research Journal Best Selling Cases, #1, 5055 copies sold**, C. Daniel, J. Gogan, *"Fintech: Choosing a Cloud Service Provider"*, North American Case Research Association (NACRA), Harvard Business Publishing, April, 2017, Product# NA0473-PDFENG, Web link: <https://cb.hbsp.harvard.edu/cbmp/product/NA0473-PDF-ENG>
- 2018: **Case Research Journal Best Selling Cases, #3, 2376 copies sold**, C. Daniel, J. Gogan, *"Fintech: Choosing a Cloud Service Provider"*, North American Case Research Association (NACRA), Harvard Business Publishing, April, 2017, Product# NA0473-PDFENG, Web link: <https://cb.hbsp.harvard.edu/cbmp/product/NA0473-PDF-ENG>
- 2018 - Present: Appointed as the Director of the Business Technology Labs in the ISDS department of the USF Muma College of Business. As Director, it is my responsibility to ensure the continued success of the department's outreach to local companies for the development of hands-on business technology lab environments for students. This success started with the Reliaquest Labs at the USF Muma College of Business.
- 2018 – Present: Co-Creator and USF Lead in Design and Facilitation of Reliaquest Labs program. This is a unique Academic/Practitioner 6-week training program designed to train a modern Cybersecurity Operations Center workforce:
  - <http://wusfnews.wusf.usf.edu/post/usf-teams-reliaquest-1m-cybersecurity-labs>
  - <http://news.usf.edu/article/templates/?a=8607&z=220>
  - <https://www.reliaquest.com/in-the-news/reliaquest-commits-1-million-to-prepare-students-for-careers-in-cybersecurity-at-usf/>

Bhuvan UNHELKAR, PHD, FACS  
 Sarasota, FL, USA  
 941-404-4406 (cell), 941-359-4654 (office)  
[bunhelkar@usf.edu](mailto:bunhelkar@usf.edu)

**PROFILE SUMMARY**

*Ph.D. Supervisions (8); Ph.D. External Examinations (10); Books (25; Scholarly=20, Textbooks=5); Journal Papers (42); Patents (2); Journal Editor (3); Executive Reports (16); Executive Updates (16); Book Chapters (42); Workshops & Tutorials (20); Conference Papers & Presentations (94); Other Publications, Interviews and Presentations (22). Citations Dec, 2022 (1,593 - with h-index of 19, and i10-index of 35)*

**EDUCATION**

Ph.D., Computing Sciences, University of Technology, Sydney (UTS) 1997  
 Thesis titled “*Effect of Granularity of OO Design in Modelling an Enterprise and its application to Financial Risk Management*”; Supervised by Professor Brian Henderson-Sellers. Action research based study of impact of size of classes on reuse and quality (Object-oriented design and methods).

Master of Science in Information Science, UTS, Sydney 1992  
 Final project in Object-Orientation (Four-subject equivalent); Implementation at Public Works Department and at Dow Jones Markets in Sydney, Australia.

Masters Diploma in Business Administration, IMDR, Pune, India 1986  
 Equivalent to an MBA.  
 Specialization in Marketing.

Bachelor of Engineering in Electronics, MS University of Baroda, India 1982  
 Five-year full-time study; all academic achievements have been with Distinction.

**CERTIFICATIONS**

Scaled Agile Framework for the Enterprise (SAFe)	2019-
Professional Scrum Master (PSM-I)	2019-
Certified Business Analysis Professional CBAP®	2013-
Certificate in Software Quality Assurance, ACS Australia	1993-
Certificate IV in Training & Assessment (extended to Training & Education)	2010-
Quality Matters, Alternate Canvas Certification for Online Courses	2016
Human Research IRB member (CITI) certification	2017

***Bhuvan UNHELKAR, PhD, FACS***

## EMPLOYMENT

**Professor, Muma College of Business** (Tenured), Aug 2015 –Present  
(Earlier, Associate Professor of IT Aug 2015 to July, 2018; Lead Faculty)  
University of South Florida (Sarasota Manatee campus), Florida, USA

- Earlier:
- Responsible for IT courses and programs (Undergraduate level; Online teaching)
- Revamped entire BSIT program to Bachelor of Science in Cybersecurity and Information Technology (BSCySIT)
- Introduced Big data concentration in BSIT and BSAS programs (Courses: Big Data Architecture with Hadoop; NoSQL Databases)
- Current:
- Research focus: Digital Leadership, Big Data strategies, Cloud & IoT; Agile processes; Green ICT
- Design and Delivery: Agile Project Management, Business Analysis, Advance System Analysis and Design courses.
- Excellence in Teaching in both ONLINE and FACE to FACE format
- Service: Academic Programs Committee (APC), Faculty Professional Development Committee (FPDC), Calendar Committee, Chair of Recruitment committees (Assistant/Associate Professors, Instructors – 2016, 2017) in IT and IS&D
- Community engagement for the College of Business with Project Management Institute, SunCoast Technology Forum; active engagement with local businesses (AllpointPOS, Riskwatch)
- Lead ABET Accreditation Activities for Undergraduate IT program
- Rotary International (Past President Sarasota Sunrise, Florida, USA; Area Governor for area 8; & Past President St. Ives, Sydney, Australia)

**Adjunct; Visiting Fellow** Feb 2008 – Jul 2015  
University of Western Sydney (UWS); (Now Western Sydney University)  
Amity University, India.

**Principal Consultant** Feb 2008 – Jul 2015  
MethodScience

*The following positions were held from 2008 – 2015*

**Adjunct; Visiting Faculty** Feb 2008 – June 2015  
University of Technology, Sydney (Masters in IT, MBA)

- Created and delivered 'Global Information System' course unit with particular industrial focus on innovation and strategic use of ICT
- Participated in promoting UTS in Australia, India and China
- Taught Object-Oriented Modeling; Object Oriented Process – two separate core courses;
- Designed, developed and delivered Advanced Software Modeling; and Agile Method Engineering
- Supervised Masters Projects (ITRM, ITRP)

**Bhuvan UNHELKAR, PhD, FACS**

- Presented “Agile Project Management” seminars to Architecture and Design (Masters) students – part of curriculum.

**Visiting Faculty**

2014 - 2015

Great Lakes Institute of Management, Chennai, India (MBA): 2-3 weeks at a time, concentrated delivery

- Designed, developed and delivered Big Data Management and Business Intelligence; Management Information Systems (MIS)
- Presented to and Mentored Executive MBA students in Big Data strategies

**National Director**

2011 – 2012

Australian Institute of Business Analysis (AIBA) Competency Standards

- Developed the contents of the AIBA standards for Business Analysis
- Developed a framework to assess Business Analysis skills and provide upskilling pathways
- Provided significant consulting and training in Business Analysis to various corporate clients and the IT industry

**External Examiner**

Australian Computer Society

- Dip. In IT program (Object Oriented Software Development; Computer Organization; Computer Communications)
- Mentor and Tutor for Computer Professional Education Program (CPeP) – a Workplace based Master’s program; Taught and assessed New Technology Alignment (NTA) and Business Analysis (BAS)

**Senior Lecturer (Tenured)**

**Oct 2001 – Jan 2008**

University of Western Sydney (now Western Sydney University)

- Head of Program (Bachelor of Computing) with significant Academic Team Leadership including development of new courses, updating existing programs and managing ACS accreditations.
- Research (PhD supervision) and Scholarly publications (11 books completed during this period) in areas of Quality assurance, Software Engineering & Processes, Collaborative Business, Mobile Technologies and Architecture, Supply Chain Systems, innovation and application of strategies to entrepreneurship and Green IT (environment)
- Excellence in Teaching in Systems and Software Engineering (with focus on Object-Oriented), Business Processes (Strategic use of Reengineering); Global Information Systems (Enterprise management and Integration); IT Project Management (Integration, Strategies)
- Service –coordinating ACS accreditation of the Undergraduate Program in IT; Rotary;

**Visiting Faculty**

Aug 1998 – Nov 1998

**Bhuvan UNHELKAR, PhD, FACS**

University of New South Wales

- Designed, developed and delivered 'Object Oriented Information Systems' course
- Provided expertise and advise on software processes and methodologies

**Visiting Faculty**

Aug 1997 – Nov 1997

University of Technology, Sydney

- Designed, developed and delivered 'Object Oriented Software Engineering' course
- Focus on reuse and quality through OO modeling and associated use of processes

**Director – Internet and Component Technologies**

Sept 1999 – Oct 2001

Myriad Solutions (Australia)

- Expanded the ICT offerings of the company – OO, UML, Business Analysis, Quality
- Clients: Qantas, Aon Risk Insurance, Suncorp Metway, TLRG

**Principal Consultant**

Aug 1998 – Aug 1999

CASE digital Inc. (San Francisco, USA.).

- Consulting and training practical use of systems approach; use of processes in systems development

**Senior Consultant**

Apr 1998 – Aug 1998

Object-Oriented Pty Ltd, North Sydney

- Provided consulting and training to Clients Westpac, ANZ and others
- Participated in business development activities

**Senior Product Development Manager**

Oct 1992 – Apr 1998

Dow Jones Markets (Sydney, Australia).

- Practical hands-on management experience in producing business value by leading a team of developers
- Products developed: Portfolio & Risk Management system; Currency Options System; Participation in strategic direction of the company
- Won Computerworld award for best use of an OO process across the organization

**Consultant**

Aug 1990 – Aug 1992

Public Works Department of NSW

- Tender Verification & Quality Assurance activities
- Developed Test plan and executed Testing for the Prophecy Accounting System Project

**Contractor**

Aug 1989 – Jul 1990

ANZ Bank (via RHO Systems)

- Testing and Quality assurance of ANZ bank's system conversion from Honeywell to IBM

**Analyst**

Jan 1989 – Jul 1989

Westpac Bank, CS90 project

**Bhuvan UNHELKAR, PhD, FACS**

- Testing and Quality assurance of CS90 in-house developed banking system

**Analyst - EDP Auditor**

Jul 1986 – Dec 1988

Advance Bank (Global Financial Systems)

- COBOL Programming for Demand Deposit Accounting (DDA) and related systems

**Programmer – Analyst**

Jul 1982 – Jul 1986

Tata Engg. And Locomotive Company (TELCO – now Tata Motors), Pune, India.

- Analysis and Coding in COBOL for Payroll MIS; Auto inventory management system

**Alan Raymond Hevner**

Distinguished University Professor  
Citigroup/Hidden River Chair of Distributed Technology  
School of Information Systems and Management  
Muma College of Business  
University of South Florida  
4202 East Fowler Avenue, CIS1040  
Tampa, FL 33620-7800  
Email: ahevner@usf.edu

**A. Professional Preparation**

Purdue University	Mathematics (Honors)	B.S. 1973
Purdue University	Computer Science	M.S. 1976, Ph.D. 1979

**B. Appointments**

August 1994 - Present: Distinguished University Professor of Information Systems and Decision Sciences, Muma College of Business, University of South Florida.

August 1981 - July 1994: Professor of Information Systems (1993 - 1994), College of Business and Management, University of Maryland at College Park. Associate Professor (1986 - 1993). Assistant Professor (1981 - 1986).

September 1979 – June 1981: Assistant Professor, Dept. of Computer Science, University of Minnesota.

September 1973 – September 1975: U.S. Army, Commissioned Officer in Air Defense Artillery Branch

**C. Honors**

- IEEE Fellow, 2020. Citation: For Contributions to Design Science and Software Engineering.
- Sigma Xi: Inducted as a Member, 2020.
- Distinguished Science Alumni, Computer Science Department, College of Science, Purdue University, 2018.
- Distinguished University Professor, University of South Florida. The highest USF honor recognizing pioneering, seminal, and distinctive contributions in teaching, research, scholarship, creative activity, and professional service. 2017.
- Parnas Fellow at Lero, the Irish Software Research Centre, University of Limerick, 2017-2018.
- Association for Information Systems (AIS) Fellow, 2015.
- Schoeller Senior Fellow, Dr. Theo and Friedl Schoeller Research Center for Business and Society, Friedrich Alexander Universitat Erlangen-Nurnberg, Germany, 2014-2017.
- American Association for the Advancement of Science (AAAS) Fellow, 2011. Citation: Dr. Alan R. Hevner is elected as an AAAS Fellow for his distinguished research contributions to the field of computer sciences, particularly in the areas of design science research, Cleanroom software engineering, and distributed database systems.

**D. Teaching**

I have taught courses on the following topics at Purdue University, New York University, the University of Minnesota, the University of Maryland, and the University of South Florida:

- Introduction to Business Information Systems (Honors and Regular Sections)
- Introduction to Computer Science
- Computer Programming with Languages C, C++, Pascal, FORTRAN, PL/I, COBOL, and Ada

- Assembly Language Programming
- Data Structures and Advanced Data Structures
- File Organizations
- Database Systems and Database Systems Design
- Distributed Data Processing and Distributed Database Systems
- Telecommunications
- Security and Control of Information Systems
- Information Systems Analysis and Design
- Software Engineering
- Software Architecture
- Software Testing
- Seminars on Database Systems Research
- Seminars on Advanced Topics on Information Systems Development
- Seminars on Foundations of Management Information Systems Research
- Seminars on Computational Methods in Information Systems Research
- Seminars on Design Science Research in Information Systems

## E. Scholarly Impact

Scholarly impact metrics using Google Scholar as a data source: (Retrieved December 2022)

- Citations = 32,627
- h-index = 47
- i10-index = 109

## F. Selected Recent Publications

1. K.D. Boutin, C. Davis, A. Hevner, P.M. Leger, and E. Labonte-LeMoyné, “Don’t Overthink It: The Paradoxical Nature of Expertise in the Detection of Errors in Conceptual Business Process Models,” *Frontiers in Neuroscience*, November 2022. DOI: [10.3389/fnins.2022.982764](https://doi.org/10.3389/fnins.2022.982764)
2. A. Dreschler and A. Hevner, “Knowledge Paths in Design Science Research,” *Foundations and Trends in Information Systems*, (6:3), pp. 1-73, November 2022. DOI: [10.1561/29000000028](https://doi.org/10.1561/29000000028)
3. A. Hevner and V. Storey, “Research Challenges for the Design of Human-Artificial Intelligence Systems (HAIS),” *ACM Transactions on Management Information Systems*, August 2022. DOI: [10.1145/3549547](https://doi.org/10.1145/3549547)
4. J. Wallace, M. Mullarkey, and A. Hevner, “Patient Health Locus of Control: The Design of Information Systems for Patient-Provider Interactions,” *European Journal on Information Systems*, June 2022. DOI: [10.1080/0960085X.2022.2088416](https://doi.org/10.1080/0960085X.2022.2088416)
5. A. Hevner and S. Gregor, “Envisioning Entrepreneurship and Digital Innovation through a Design Science Research Lens: A Matrix Approach,” *Information & Management*, (59:3), April 2022. DOI: [10.1016/j.im.2020.103350](https://doi.org/10.1016/j.im.2020.103350)
6. J. Sjostrom, P. Agerfalk, and A. Hevner, “A Design Theory of Scrutiny for Enforcing Privacy in Sensitive Online Systems,” *Journal of Association for Information Systems*, 23(1), pp. 237-263, 2022. <https://aisel.aisnet.org/jais/vol23/iss1/5>
7. M. Tremblay and A. Hevner, “Missing Data in OLAP Cubes: Challenges and Strategies,” *Journal of Database Management*, 32(3), July-September 2021, 28 pages. DOI: [10.4018/JDM.2021070101](https://doi.org/10.4018/JDM.2021070101)
8. M. Adam, S. Gregor, A. Hevner, and S. Morana, “Design Science Research Modes in Human-Computer Interaction Projects,” *AIS Transactions on Human-Computer Interaction*, 13(1), 2021, pp. 1-11. DOI: [10.17705/1thci.00139](https://doi.org/10.17705/1thci.00139)
9. A. Hevner and O. Malgonde, “Innovation on Digital Platforms: Impacts of Control Portfolios on Novelty,” *International Journal on Computers and Their Applications*, (28:1), March 2021, pp. 34-

44.  
<http://isca-hq.org/Documents/Journal/Archive/2021volume2801/2021volume280103.pdf>
10. A. Hevner, "The Duality of Science: Knowledge in Information Systems Research," *Journal of Information Technology*, (36:1), March 2021, pp. 72-76. DOI: [10.1177/0268396220945714](https://doi.org/10.1177/0268396220945714)
  11. A. Barfar, B. Padmanabhan, and A. Hevner, "Peak Cubes in Service Operations: Bringing Multidimensionality into Peak-End Effects," *Decision Support Systems*, 140, 2021. DOI: [10.1016/j.dss.2020.113442](https://doi.org/10.1016/j.dss.2020.113442)
  12. J. vom Brocke, R. Winter, A. Hevner, and A. Maedche, "Special Issue Editorial – Accumulation and Evolution of Design Knowledge in Design Science Research: A Journey Through Time and Space," *Journal of the Association for Information Systems*, (21:3), Article 9, 2020. Available at: <https://aisel.aisnet.org/jais/vol21/iss3/9>
  13. J. vom Brocke, A. Hevner, P.M. Léger, P. Walla, and R. Riedl, "Advancing a NeuroIS Research Agenda with Four Areas of Societal Contributions," *European Journal of Information Systems*, (29:1), 2020, pp. 9-24, DOI: [10.1080/0960085X.2019.1A08218](https://doi.org/10.1080/0960085X.2019.1A08218)
  14. A. Hevner and O. Malgonde, "Effectual Application Development on Digital Platforms," *Electronic Markets*, 29(3), September 2019, pp. 407-421. DOI: [10.1007/s12525-019-00334-1](https://doi.org/10.1007/s12525-019-00334-1)
  15. H. Nuseibeh, A. Hevner, and R.W. Collins, "What can be Controlled: Actionable ICT4D in the Case of Palestine," *Information Technology for Development*, 25(3), 2019, pp. 390-423. DOI: [10.1080/02681102.2017.1357526](https://doi.org/10.1080/02681102.2017.1357526)
  16. A. Hevner, J. vom Brocke, and A. Maedche, "Roles of Digital Innovation in Design Science Research," Editorial, *Business and Information Systems and Engineering*, 61(1), February 2019, pp. 1-6, DOI: [10.1007/s12599-018-0571-z](https://doi.org/10.1007/s12599-018-0571-z)
  17. M. Mullarkey and A. Hevner, "An Elaborated Action Design Research Process Model," *European Journal of Information Systems* 28(1), pp. 6-20, 2019. DOI: [10.1080/0960085X.2018.1451811](https://doi.org/10.1080/0960085X.2018.1451811)
  18. R. Linger and A. Hevner, "Flow Semantics for Intellectual Control in IoT Systems," *Journal of Decision Systems*, 27:2, 2018, pp. 63-77, DOI: [10.1080/12460125.2018.1529973](https://doi.org/10.1080/12460125.2018.1529973)
  19. R. Baskerville, A. Baiyere, S. Gregor, A. Hevner, and M. Rossi "Design Science Research Contributions: Finding a Balance between Artifact and Theory," *Journal of the Association for Information Systems* (19:5), Article 3, 2018. Available at: <http://aisel.aisnet.org/jais/vol19/iss5/3>
  20. A. Barfar, B. Padmanabhan, and A. Hevner, "Applying Behavioral Economics in Predictive Analytics for B2B Churn: Findings from Service Quality Data," *Decision Support Systems*, Vol. 101, 2017, pp. 115-127. DOI: [10.1016/j.dss.2017.06.006](https://doi.org/10.1016/j.dss.2017.06.006)

## G. Selected Research Activities

- *Design Science Research in Information Systems*: Dr. Hevner has been instrumental in defining the role of design science research (DSR) in the Information Systems field. His co-authored 2004 essay in MISQ has over 18,000 citations and a 2010 co-authored book on DSR is used internationally in graduate education. Dr. Hevner is in great demand internationally as a guest speaker on this topic.
- *Innovation and Design Research*: With research colleagues in Ireland, Australia, Germany, and the US, Dr. Hevner has proposed a new innovation model that leverages DSR concepts and principles. The goal of this research is to engage academic, industry, and government stakeholders in a common understanding of innovation concepts and impacts. External funding for this research has been received from the Schoeller Research Center at the Friedrich Alexander Universität Erlangen-Nürnberg, Germany.
- *Smart Cities and Internet of Things*: Internet of Things (IoT) systems for Smart Cities will be comprised of massive numbers of hardware, software, and network components, all sensing, computing, communicating, and controlling in dynamic architectures and state spaces of

extraordinary complexity. The goal of this research is to develop engineering principles and practices for maintaining intellectual control in Smart City IoT systems. Dr. Hevner collaborated with faculty at Lero – the Irish software research centre as a Parnas Fellow.

- *Business Intelligence and Data Analytics Research*: Dr. Hevner continues a major research project on business intelligence with USF research colleagues.
- *Neuroscience Research in Information Systems*: Dr. Hevner is investigating the application of neuroscience concepts and methods to the understanding of the cognitive bases for creative design.
- *Scrutiny in Secure Information Systems*: Working with research colleagues in Sweden, Dr. Hevner has proposed a multi-layer protocol to support the rigorous application of privacy rules and accountability rules in secure online applications. The study is grounded in the context of the design and development of an eHealth system for psychosocial care.
- *Cybersecurity Research*: I am working with several research colleagues in collaboration with ReliaQuest to build a cybersecurity process supported by machine learning tools. Several conference papers have been prepared and presented during the past year. This project will be a major initiative over the next year with a high profile local Tampa Bay company.
- *Program Manager, National Science Foundation*: IPA Assignment in Computer and Information Science and Engineering (CISE) Directorate, June 2006-June 2009. During my time at NSF I managed the Science of Design, Software for Real-World Systems, and the Creative IT programs. I also worked closely with STEM educational programs in CISE including the CPATH program. I funded a number of REU awards.

## H. Selected Service Activities

A highlight of professional service and community engagement during 2022 was my activities to organize and run the International Conference on Design Science Research and Information Technology (DESRIST 2022), the premier research event for the design community - <https://www.usf.edu/business/desrist/index.aspx> The conference was an amazing success with over 150 international attendees - <https://www.usf.edu/business/news/2022/06-08-desrist-conference-wrapup.aspx> The USF St. Petersburg campus provided a beautiful setting for the conference. The proceedings of the conference have been published - A. Drechsler, A. Gerber, and A. Hevner, Editors, *The Transdisciplinary Research of Design Science Research*, Proceedings of the 17<sup>th</sup> International Conference on Design Science Research in Information Systems and Technology (DESRIST 2022), St. Petersburg, Florida, Springer Lecture Notes in Computer Science Volume 13229, 2022.

## Vita for: Harvey Hyman, PhD

---

### Educational Degrees

- PhD**, 2012: University of South Florida, College of Business  
Information Systems/Decision Sciences
- MBA**, 2006: Charleston Southern University, School of Business (Honor Society)
- JD**, 1993: University of Miami, School of Law
- BBA**, 1989: Florida International University, College of Business (Finance Major)

### Professional Experience

- 2018 – 2019 **Queens College (CUNY)**  
Consulting Senior Architect for R & D.
- 2016 – 2017 **H. Lee Moffitt Cancer Center** (Business Center)  
Solutions Architect - *Senior Virtualization Infrastructure Engineer.*
- 2016 (1/16-11/16) **The Library of Congress, National Library Service**  
Information Technology Specialist (GS-13)
- 2016 – 2018 **Logentix, LLC.**  
Advisory Board Member (2016 – 2018 Term)
- 2014 – 2015 **Omniscient Analytics, Inc.**  
Academic Liaison and Technical Consultant to CEO  
Advisory Board Member (2014 – 2015 Term)
- 2010 – 2011 **Trillium, Inc.**  
Interim Director of Software Development
- 2010 – 2010 **Parses, Inc.**  
Interim COO and special advisor to CEO
- 1998 – 2003 **Office of the Public Defender, Tampa Florida**  
Senior Assistant Public Defender
- 1993 – 1998 **Office of the State Attorney, Miami, Florida**  
Assistant State Attorney

### Academic Appointments

- 2018 – Current **University of South Florida**  
Full Time Instructor, College of Business
- 2016 – 2019 **Saint Leo University**  
Adjunct Professor, College of Business
- 2013 – 2019 **Georgia Southern University**  
Visiting Professor of Information Technology
- 2013 – 2015 **Florida Polytechnic University**  
Assistant Professor: Data Analytics, Cloud Computing

### Business Development

- 2014 – Current **H<sub>2</sub> & WF<sub>3</sub>, Research, LLC.**  
IP holding company for licensed inventions from granted patents.
- 2013 – 2014 **Retrivika, LLC.**  
Commercial release of software applications developed.
- 2015 – 2016 **H<sub>2</sub>H Research Initiative, LLC.**  
Mission Statement: “To develop, encourage and support, new and original, independent scientific based research projects through industry sponsorship, mentoring programs, and funding opportunities.”

### Military Service

- 2017 – 2017, **United States Coast Guard, Department of Homeland Security**  
2011 – 2013, Maritime Boat Forces Operations, Senior Chief Petty Officer (E8)  
2003 – 2009 Deployments: Neptune Shield, OIF, NVEST, ShipRider, SummerStock

### Current Active Research Projects

- Hurricane Evacuee Demography Study for Pinellas County, IRB# Pro00042674
- Hurricane Evacuee Demography Study for Hillsborough County, IRB# Pro00042674
- Community Perception of Well Being Study, United Way of Charlotte County, IRB Pending

### Recent University Service/Volunteer Activities

- Thesis Chair 2019 – 2020
- Independent Study Fall 2019, Spring 2020

### PUBLICATIONS

#### Books

- The Science of Design: A Manifesto for Innovation and Technology, **H.S. Hyman, PhD**, ISBN: 978-0-9862194-3-6
- Applied Information Science Approaches for Technology and Business Processes, **H. S. Hyman, PhD**, ISBN 978-0-9905993-0-2.
- Systems Acquisition, Integration and Implementation for Engineers and IT Professionals, **H.S. Hyman, PhD**, ISBN 978-0-9891528-6-0;  
2<sup>nd</sup> Edition: ISBN: 978-0-9862194-4-3.

#### Book Chapter

- *A Comparison of Cyber-Crime Definitions in India and The United States*, Himanshu Maheshwari, **H.S. Hyman**, and Manish Agrawal, Chapter Three In: Cyber Security, Cyber Crime and Cyber Forensics: Applications and Perspectives, IGI Global Publications (2010).

#### Patents

- *Display Screen with Graphical User Interface for a Document Management System*, **Harvey Hyman** and Warren Fridy III, D772,898 (2016).
- *Display Screen with Graphical User Interface for a Docket Management System*, **Harvey Hyman** and Warren Fridy III, D788,115 (2017).

## Papers, Articles, Conferences, Working Groups

**2019**

- *Toward Developing a Cloud Computing Model Curriculum*, Derek Foster, Laurie White, Joshua Adams, D. Cenk Erdil, **Harvey Hyman**, Amadeo Jose Arguelles Cruz, Brian Hainey, Sajid Nazir, Manh Van Nguyen, Gareth Lewis, Majd Sakr, and Lee Stott, Proceedings of 24<sup>th</sup> Annual ACM Conference on Innovation and Technology in Computer Science Education (ITICSE, 2019).
- *A Primer on Navigating SSMS for Beginners*, Harvey Hyman, SQL Saturday Orlando (Sep, 2019).
- *Make Joins Fun Again*, Harvey Hyman, Tampa Bay SQL Server User Group (July, 2019).
- *SQL Server Fundamentals for Beginners*, SQL Saturday Tampa (February, 2019).

**2018**

- *Cloud Computing Maturity Model and A Road Map for Cloud Adoption*, **Harvey Hyman**, Presented at Cloud Advisory Council, PBGC, 2018.
- *Federal Devops Summit Report (white paper)*, Michelle Casagni, Melissa Heeren, Justin Brunelle, Rick Cagle, Diane Hanf, Tom Suder, Bob Dorch, **Harvey Hyman, PhD**, John Jediny, Eric Chen, Melissa (Lisa) Zellers, Tom Suder. MITRE-ATARC Collaboration Symposium, (Federal DevOps Summit, 2018).
- “*Vendor Market Place Dynamics*” Accounting Information Systems and Cloud Computing, Presented at JISC, 2018. <http://washburn.edu/jisc-2018/speaker-bio.html>.
- *Cloud Computing: Developing Contemporary Computer Science Curriculum for a Cloud-first Future*, Derek Foster, Laurie White, Joshua Adams, D. Cenk Erdil, **Harvey Hyman**, Stan Kurkovsky, Majd Sakr, and Lee Stott, Proceedings of 23<sup>rd</sup> Annual ACM Conference on Innovation and Technology in Computer Science Education (ITICSE, 2018).

**2017**

- *A Summary Landscape of eHealth Adoption Strategy*, Joshua Adams, Sang Jin Hong, **Harvey Hyman**, (ICSTEM, 2017).
- *Cloud Computing Maturity Model and A Road Map for Cloud Transition Planning*, **Harvey Hyman**, (Presented at MITRE), ATARC Working Group with ICE, 2017. Cite as: <https://www.atarc.org/working-groups/cloud/>
- *Cloud Computing in Health Care*, MITRE-ATARC White Paper, **Working Group**, Federal Cloud & Data Center Summit, 2017.

**2016**

- *How does exploration impact IR performance of large document collections?* **H. S. Hyman**, Rick Will, Terry Sincich, Warren Fridy III, International Journal of Information Science, Volume 6 Number 1, (2016).
- *Using Recall and Elimination Terms in Separate Runs for High Volume Document Sorting*, **H. S. Hyman**, Terry Sincich, Rick Will, Warren Fridy III, International Journal of Machine Learning and Computation, Volume 6, Number 2, (2016).
- *The Relationship Between User Preferences and IR Performance: Experimental Use of Behavioral Scales for Goal Alignment in IR Projects*, **H. S. Hyman**, Rick Will, Terry Sincich, International Journal of Research in Engineering and Technology, Volume 4, Number 2, (2016).

## 2015

- *A Process Model for Information Retrieval Context Learning and Knowledge Discovery*, **H. S. Hyman**, Terry Sincich, Rick Will, Manish Agrawal, Warren Fridy, Balaji Padmanabhan. *Artificial Intelligence and Law Journal*, Volume 23, Issue 2, pp. 103 - 132, (2015).
- *A Conceptual Framework for Assessing Community Capabilities to Address Resource-Need Alignment*, Logan Micher, **H. S. Hyman**, Christopher Woods. *The 19th World Multi-Conference on Systemics, Cybernetics and Informatics (WMSCI)*, (2015).

## 2014

- *A Framework for Identifying Performance Targets for Sustainable Nanomaterials*, Robert I. MacCuspie, **Harvey Hyman**, Sessa S. Srinivasan, Chris Yakymyshyn, Jaspreet Dhau, Christina Drake, *Journal of Sustainable Materials and Technologies* (December, 2014) Invited Article.
- *A Process Model for Goal-Based Information Retrieval*, **H. S. Hyman**, *Journal of Systemics, Cybernetics, and Informatics*, Volume 12, Number 7 (2014).
- *An eHealth Process Model of Visualization and Exploration to Support Improved Patient Discharge Record Understanding and Medical Knowledge Enhancement*, **H.S. Hyman** and Warren Fridy III, *Conference Labs of The Evaluation Forum eHealth Evaluation Lab (CLEF)*, (2014). Finalist for best paper.

## 2012

- *Using Exploration and Learning for Medical Records Search: An Experiment in Identifying Cohorts for Comparative Effectiveness Research*, **H.S. Hyman** and Warren Fridy III, *NIST Special Publication: Text Retrieval Conference (TREC) Proceedings* (2012).

## 2011

- *Non-Statistical Methods for Information Retrieval: Harnessing User Explanatory Knowledge*, **H.S. Hyman**, *Computational Law Workshop, International Conference on Artificial Intelligence and Law (ICAIL)* 2011.
- *Modeling Concept and Context to Improve Performance in eDiscovery*, **H.S. Hyman** and Warren Fridy III, *NIST Special Publication: Text Retrieval Conference (TREC) Proceedings* (2011).

## 2010

- *Using Bag of Words and Standard Deviations to Represent Expected Structures for Document Retrieval: A Way of Thinking That Leads to Method Choice*, **H.S. Hyman** and Warren Fridy III, *NIST Special Publication: Text Retrieval Conference (TREC) Proceedings* (2010).

**CURRICULUM VITAE****Dr. Giti Javidi****NAME/TITLE:** Giti Javidi | Professor | Muma College of Business**ADDRESS:** 8350 N. Tamiami Trail, SMC-C217

Sarasota, FL 34243

(941) 359-4257 | [javidi@usf.edu](mailto:javidi@usf.edu)**Education**University of South Florida, Instructional Technology (with a concentration on Computer Science),  
Ph.D., 2005

University of South Florida, Computer Science, M.S., 1996

University of Central Oklahoma, Computer Science, B.S., 1991

**Employment History**

Program Director, Information Assurance and Cybersecurity Management, Muma College of Business, University of South Florida (USF), Sarasota, FL	2020 – present
Professor, Cybersecurity, School of Information Systems and Management, Muma College of Business, USF, Sarasota, FL	2020 – present
Co-founder/Co-director, Applied Research Collaborative (ARC), USF, Sarasota, FL	2020 – present
Associate Professor, Information Technology and Cybersecurity, College of Business, USF, Sarasota, FL	2018 – 2020
Assistant Professor, Information Technology and Cybersecurity, College of Business, USF, Sarasota, FL	2016 – 2018
Professor, Computer Science, College of Engineering, Virginia State University (VSU), Petersburg, VA	2015 – 2016
Associate Professor, Computer Science, College of Engineering, VSU, Petersburg, VA	2010 – 2015
Assistant Professor, Computer Science, College of Engineering, VSU, Petersburg, VA	2004 – 2010
Visiting Professor, Computer Science, College of Engineering, University of Southern Mississippi, Hattiesburg, MS	2003 – 2004
Assistant Professor, Computer Science, College of Engineering, Morehead State University Morehead, KY	2002 – 2003
Part-time Faculty, Computer Science, Hillsborough Community College, Dale Mabry Campus, Tampa, FL	2000 – 2002
Instructional Designer, Center for Instructional Technology Integration (CITI), University of South Florida, Tampa, FL	1999 – 2002
Full-Time Faculty, Computer Science, Tampa Tech Institute, Tampa, FL,	1996 – 1999
Adjunct Instructor, Computer Science, University of South Florida, Tampa, Lakeland and St. Petersburg campuses, FL	1993 – 1996
IBM, Software Engineer, Tampa, FL	1992 – 1996

**Teaching Experience**

- Database Design/Administration
- Business Data Communication
- Python for Business Analytics)
- Java Programming

- Human Computing Interaction
- Ethics in Information Technology
- Architecture and Operation Systems
- Architecture and Operating Systems Lab
- IT Concepts and Networking
- IT Concepts and Networking Lab
- Senior Capstone

### Refereed Journal Publications (Last 5 years)

1. Faramarzi, F., Niknam, T., Pourbehzadi, M., Javidi, G. and Sheybani, E. "Novel Approach for Improved Power System Resilience Against Intentional Attacks," in *IEEE Access*, 2022, doi: 10.1109/ACCESS.2022.3223651.
2. Sun, Y., Farokhnia Hamedani, M., Javidi, G., Sheybani, E., & Hao, F. "Examining COVID-19 vaccine attitude using SEM-Artificial Neural Networks approach: a case from Reddit community", *Health Promotion International*, Volume 37, Issue 6, December 2022, daac157, <https://doi.org/10.1093/heapro/daac157>
3. Jokar-Dehoie, M., Zare, M., Aghaei, J., Niknam, T., Pourbehzadi, M., Javidi, G., Sheybani, E. "Game Theory-Based Bidding Strategy in the Three-Level Optimal Operation of an Aggregated Microgrid in an Oligopoly Market", in *IEEE Access*, vol. 10, pp. 104719-104736, 2022, doi: 10.1109/ACCESS.2022.3208965.
4. Pourbehzadi, M., Niknam, T., Aghaei, J., Kavousi-Fard, A. Dehghan, A., Javidi, G., & Sheybani, E. "Short-Term Scheduling of a Renewable-Based Microgrid: Stochastic/Economic Battery Modeling", *IEEE Access* 2021, pp. 90084-90101, Vol. 9, 2021.
5. Moghanian, S., Saravi, F. B., Javidi, G., and Sheybani, E. O. "GOAMLP: Network Intrusion Detection with Multilayer Perceptron and Grasshopper Optimization Algorithm," in *IEEE Access*, pp. 1-12, 2020, Print ISSN: 2169-3536, Online ISSN: 2169-3536, doi: 10.1109/ACCESS.2020.3040740.
6. Javidi, G. & Sheybani, E. "Artificial Intelligence at the Edge of Cloud for Smart IoT", *Technology Interface International Journal (TIIJ)*, Volume 19, Number 2, Fall/Winter 2019.
7. Javidi, G., Sheybani, E. "Transforming Cybersecurity Education through Consulting", *Journal of Systemics, Cybernetics and Informatics (JSCI)*, Vol. 17, No. 1, pp. 157-168, 2019.
8. Sheybani, E. & Javidi, G., "Design and Development of a GUI for RF Communication", *IJERI*, Volume 11, Number 1, Spring/Summer 2019, pp. 30-36.
9. Sheybani, E. & Javidi, G., "Seminars in Proactive Artificial Intelligence for Cybersecurity (SPAIC): Consulting and Research", *Journal of Systemics, Cybernetics and Informatics (JSCI)*, Vol. 17, No. 2, pp. 297-305, 2019.
10. Sheybani, E. & Javidi, G. "Digital Signal Processing for Analytics in Biostatistics and Biometric Applications", *Annals of Biostatistics & Biometric Applications (ABBA)*, 2-page summary of authors' previous work, Vol. 1, Issue 4, 2019.
11. Sheybani, E. & Javidi, G., "Design and Development of a GUI for RF Communications", *International Journal of Engineering Research and Innovation*, Vol. 11, No. 1, pp. 30-36, 2019.
12. Sheybani, E. & Javidi, G., "Cloud Computing and Internet of Things in Biomedicine", *Current Trends in Biomedical Engineering & Biosciences*, 11(3): CTBEB.MS.ID.555813 (2018).
13. Sheybani, E. & Javidi, G., "Data Visualization for Low-Frequency Inverse Synthetic Aperture Radar (ISAR)", *International Journal of Interdisciplinary Telecomm and Networking*, 2018.
14. Sheybani, E. & Javidi, G., "EcoSAR: Ecological Synthetic Aperture Radar Development", *International Journal of Interdisciplinary Telecommunications and Networking*, pp. 51-60, 2018.
15. Javidi, G., Sheybani, E. "GUI Design Considerations for Hyperspectral Microwave Atmospheric Sounder", *International Journal of Interdisciplinary Telecommunications and Networking*, pp. 40-50, 2018.

16. Javidi, G., Sheybani, E. E. “Empowering Teachers to Raise Career Awareness in Computing: Lessons Learned”, *Journal of Systemics, Cybernetics and Informatics (JSCI)*, Vol. 15, No. 3, pp. 10-15, 2017.
17. Javidi, G., Sheybani, E. “An Understanding of factors influencing retention of African-American undergraduate students in computer science”, *International Journal of Innovation in Education (IJIE)*, Vol. 4, No. 1, pp. 66-77, 2017.
18. Javidi, G., Sheybani, E., and Rajabion, L. “Fog Computing: A New Space between Data and the Cloud”, *Cutter Business Technology Journal*, December 2017.
19. Sheybani, E. & Javidi, G., “Advanced Image Processing for Analytics in Biomedicine and Bioscience”, *Current Trends in Biomedical Engineering & Bioscience*, Vol. 6, No. 4, pp.1-5, 2017.
20. Javidi, G., Sheybani, E. “Application of Signal Processing in GPS Signal Detection Using USRP”, *International Journal of Interdisciplinary Telecommunications and Networking*, pp. 16-242017.
21. Luttamaguzi, J, Eslami, A., Brooks, D., Sheybani, E., Javidi, G., Gabriel, P. “Using Simulations and Computational Analyses to Study a Frequency-Modulated Continuous-Wave Radar”, *International Journal of Interdisciplinary Telecommunications and Networking*, Vol. 9, Issue 1, pp. 38-51, January-March 2017.

### Funded Grants and Awards (Last 5 years)

- Adoption of Blockchain Technology for Seamless Medical Health Records Management (\$20,000), USF Internal Grant, USF Internal Research Grant, 2022-2023, Role: PI
- Leveraging collective intelligence for psychosocial rehabilitation of COVID-19 positive persons and combating vaccine hesitancy (\$20,000), USF Sarasota Manatee Campus Interdisciplinary Research Grant 2021-2022.
- Game On: Grooming Black Youth for Leadership Excellence Using Video Gaming (\$30,000), USF Blackness and Anti-Black Racism Research Grants, Proposal #100054. Role: Co-PI., 2020-2021
- Bending the Mental Distress Curve Among COVID-19 Responders: A Pilot Feasibility Study (\$24,190). USF COVID-19 Rapid Response Research Proposal #100268. Role: Co-PI., 2020-2021
- Mad Men: Using Cultural Competency to Reduce Racist Portrayals of Blacks in Advertising (\$15,000), USF Blackness and Anti-Black Racism Research Grants, Proposal #100038. Role: Co-PI. (PI: Kelly Cowart, Marketing). 2020-2021
- Modeling of Blockchain, Internet of Things (IoT), and 5th Generation Wireless Technologies for Tele-Health/Medicine Development”, USFSM FRAG Grant (\$10,000), Role: Co-PI, 4/2020-8/2021.
- Modelling of Autism Symptoms Using Brain Waves, Speech Signal, and Clinical Evaluations, USFSM FRAG Grant (\$10,000), Role: PI., 4/2020-8/2021.
- USFSM Applied Research Collaborative (ARC), Innovation Studio (\$34,000), 2019 – Equipment grant. Role: PI.
- Information Technology Grant, Surface Hub 2 for the Applied Research Collaborative (ARC); Innovation Studio, Funded by USFSM, \$10,000, 2019, Role: PI.
- Set Aside Fund, Renovation of the Applied Research Collaborative (ARC), Innovation Studio; Funded by USFSM, \$50,000, 2019. Role: PI.
- Grant Award, Funded by USF-Tampa, \$3,500, 2019, Role: PI.
- Creative Scholarship Award, Funded by USF-Tampa, \$10,000, 2019. Role: PI.
- Nexus Award, Funded by USF-Tampa Office of Provost, \$12,500, 2019. Role: PI.
- USF Women in Leadership and Philanthropy Research Grant, \$5000, 2018. Role: PI.
- K-12 Cybersecurity Education, Research, and Outreach, Pilot study, Funded by USFSM, \$8,000, 2018. Role: PI.
- Faculty Travel Award, Funded by USFSM Office of Research, \$1200, 2018
- AAAS Meeting, Summer 2019, Travel and lodging (by invitation)
- NSF Robert Noyce Summit, Summer 2019, Travel and lodging (by invitation)
- NSF Robert Noyce Summit, Summer 2018, Travel and lodging (by invitation)

- NSF, Cybersecurity Workshop at University of Houston, Summer 2018, \$2000
- Department of Homeland Security, Cybersecurity Workshop at Norfolk State University, Summer 2018, \$3000
- Raising Techie Girls, \$10,000, May 2018, Role: PI, Funding Agency: National Center for Women in Information Technology (NCWIT). Role: PI.
- Advancing Computing in Florida Schools, \$35,000, May 2017-May2018, received May, 15, 2017, Award Duration: 12 months. Role: PI, Funding Agency: Google Inc. Role: PI.

# He Zhang

*Assistant Professor, Department of Information Systems & Decision Sciences, Muma College of Business, University of South Florida*

Tampa, FL 33620-7800

Phone: +1 (813) 974-6930

Email: hezhang@usf.edu

## Research Interests

Healthcare Information Management, Data Mining, Production and Inventory Systems, Applied Optimization, Robust Optimization

## Education

PH.D in Industrial Engineering and Management Sciences, Northwestern University, Evanston, IL 33620, USA. 2014

M.S in Management Science and Engineering, Stanford University, Stanford, CA 94305, USA. 2008

M.S with Distinction in Control Science & Engineering, Tsinghua University, Beijing, P.R.China. 2005

B.ENG in Automation, Tsinghua University, Beijing, P.R.China. 2002

## Professional Positions

*August 2014 - Present:* Assistant Professor, Department of Information Systems and Decision Sciences, Muma College of Business, University of South Florida.

*August 2013 - July 2014:* Instructor, Department of Information Systems and Decision Sciences, Muma College of Business, University of South Florida.

## Publications and Working Papers

Gaurav Jetley and **He Zhang**. Collaboration in healthcare workflow: an econometric analysis with electronic medical records audits. Working paper.

**He Zhang**, Gaurav Jetley, Kshetrajna Raghavan, JP Philius, Robert Hauser, and Cyril Spiro. Collaborative intelligence in healthcare: Augmenting complex tasks with physician and algorithm fusion. Working paper.

Moez Farokhnia, **He Zhang**, Kaushal Chari, and Manish Agrawal. Allocation of security controls under uncertainty: A robust optimization approach. *INFORMS Journal on Computing*, 2020. Submitted.

- Onkar Malgonde, **He Zhang**, Balaji Padmanabhan, and Moez Limayem. Managing digital platforms with robust multisided recommender systems. *INFORMS Journal on Computing*, 2020. Submitted.
- Onkar Malgonde, **He Zhang**, Balaji Padmanabhan, and Moez Limayem. Taming complexity in search matching: Two-sided recommender systems on digital platforms. *MIS Quarterly*, 44(1a):48–84, 2020.
- Gaurav Jetley and **He Zhang**. Electronic health records in is research: Quality issues, essential thresholds and remedial actions. *Decision Support Systems*, 126:113137, 2019.
- Moez Farokhnia, **He Zhang**, and Balaji Padmanabhan. Mining reputation effects in citations of scientific publications. In *WITS*, 2018.
- He Zhang**, Manish Agrawal, and Kaushal Chari. Decision support for the optimal allocation of security controls. *Decision Support Systems*, 115:92–104, 2018.
- He Zhang**. A moment robust constrained multi-product newsvendor problem. *Working paper*, 2018.
- Sanjay Mehrotra and **He Zhang**. Models and algorithms for distributionally robust least squares problems. *Mathematical Programming*, 146(1-2):123–141, 2014.
- He Zhang**, Sanjay Mehrotra, David Liebovitz, Carl A. Gunter, and Bradley Malin. Mining deviations from patient care pathways via electronic medical record system audits. *ACM Transactions on Management Information Systems*, 4(4):Article 17, 2013.
- Sanjay Mehrotra and **He Zhang**. A two-stage moment robust optimization model and its solution using decomposition. *European Journal of Operational Research*, 2015. R&R.
- He Zhang** and W.K.V. Chan. Mathematical programming-based perturbation analysis for GI/G/1 queues. In *Proceedings of 2007 Winter Simulation Conference*, pages 553–559, 2007.
- He Zhang**, Xiu Li, and Wenhuan Liu. An AHP/DEA methodology for 3PL vendor selection in 4PL. In *Computer Supported Cooperative Work in Design (II)*, volume 3865 of *LNCS*, pages 646–655. Springer, 2006.
- He Zhang**, Xiu Li, and Wenhuan Liu. A method of network simplification in a 4PL system. In *Computer Supported Cooperative Work in Design (I)*, volume 3168 of *LNCS*, pages 279–288. Springer, 2005.
- He Zhang**, Xiu Li, Wenhuan Liu, Bing Li, and Zhihong Zhang. An application of the AHP in 3PL vendor selection of a 4PL system. In *Proceedings of 2004 IEEE International Conference on Systems, Man and Cybernetics*, pages 1255–1260, 2004.
- .

## Presentation

Winter Conference on Business Analytics (WCBA), March 2019, Multisided Recommendations: Nudging Agents on Multi-sided Platforms to Improve Platform Performance.

Winter Conference on Business Analytics (WCBA), March 2019, Cryptocurrency Market Price Signals for Signal-to-Noise Ratio on Twitter

Conference on Health IT and Analytics (CHITA), October 2018, Mining Patient Care Pathways via Electronic Medical Records Audit Logs.

AMIA 2018 Clinical Informatics Conference, May 2018, Detecting post-approval Adverse Drug Events within EHR Data: A case study correlating Lipophilic Beta-Blockers with the subsequent diagnosis of Parkinson's Disease.

INFORMS Annual Meeting in Nashville, TN, November 2016, Mining Process Patterns with Electronic Medical Record Audits.

INFORMS Annual Meeting in San Francisco, CA, November 2014, Mining Process Patterns from Noisy Audit Logs with Application to Electronic Medical Record Systems.

INFORMS Annual Meeting in Phoenix, AZ, October 2012, Empirical Study of Business Process Management and Applications in Healthcare Systems.

INFORMS Annual Meeting in Phoenix, AZ, October 2012, Models and Algorithms for Distributionally Robust Least Squares Problem.

INFORMS Annual Meeting in Charlotte, NC, November 2011, A Distributionally Robust Two-Stage Stochastic Programming Model and Its Tractability.

INFORMS Annual Meeting in Austin, TX, November 2010, Moment Robust Stochastic Optimization Models and Their Tractability.

12th International Conference on Stochastic Programming in Halifax, Nova Scotia, CAN, August 2010, A Moment Robust Stochastic Optimization Model.

## Grants and Sponsored Research

Kaligia, PI on \$16,000, ISDS Practice Center Project: Machine Learning for Glucose Prediction Using Raman Spectroscopy, Aug 2018 - Jan 2019

Kaligia, PI on \$12,651, ISDS Practice Center Project: Machine Learning for Glucose Prediction Using Raman Spectroscopy, Jan 2017 - Jan 2018

Healthaxis, PI on \$63,818, Detecting Medication Side Effects using Anomaly Patterns in Electronic Medical Records Data: Correlation of Parkinson's disease with the use of Lipophilic Beta-Blockers, May 2016 - July 2017

Our Florida Promise, Co-PI on \$75,000 "Reimbursement methodology for long term care in Florida", September 2015 - July 2016

## Teaching

ISM 3232 Business Application Development, University of South Florida,

QMB 3701 Computational Methods in Business, University of South Florida,

ISM 6930 Healthcare Management Science, University of South Florida,

ISM 3431 Operations & Supply Chain Processes, University of South Florida.  
ISM 6930 Healthcare Information Systems, University of South Florida.  
ISM 6930 Computational Methods in ISDS , University of South Florida.

## Professional Experience

Summer Internship, Feinberg School of Medicine, Northwestern University, 2012.  
Summer Internship, Feinberg School of Medicine, Northwestern University, 2011.  
Summer Internship, Feinberg School of Medicine, Northwestern University, 2010.

## Computer Skills

- Programming Language(s): C, C++.
- Optimization Packages: AMPL, CPLEX, SeDuMi.
- Statistics and Math Computing: Matlab, Mathematica, R, Minitab.

## Honors and Awards

Walter P. Murphy Fellowship, Northwestern University, 2008.  
Outstanding Master Graduate, Tsinghua University, 2005 (46/3350).  
Outstanding Thesis for Master's Degree, Tsinghua University (4%), 2005.  
Outstanding Student Tutor, Tsinghua University (5%), 2004.  
The third class scholarship for Social Activities, Tsinghua University (10%), 2001.  
The third class scholarship for Outstanding Academic Performance, Tsinghua University (20%), 2000.  
INTEL Information Science Scholarship, INTEL Co., Tsinghua University (5%), 2000.  
The second class scholarship for Outstanding Academic Performance, Tsinghua University (10%), 1999.  
Freshman first class scholarship, Tsinghua University (30/2600), 1998.

## Services

Associate Editor of ICIS 2019.

Reviewer of MISQ, INFORMS Journal of Computing, Production and Operations Management, Journal of Management Information Systems, Annuals of Operations Research, ACM Transactions on Management Information Systems, Journal of Urban Technology, AMIA Clinical Informatics Conference.



**Common Prerequisites Manual (CPM) Revision Request**

<b>Institution:</b>	University of South Florida
<b>Institution Liaison:</b>	Kyna Betancourt
<b>Date of Submission:</b>	March 8, 2023
<b>Program/Degree Type:</b>	B.S. Business Analytics and Information Systems
<b>Program CIP Code:</b>	52.1301
<b>Program Credit Hours:</b>	120

**If applicable, please complete the following if you are notifying us of a change to:**

<b>Program Credit Hours:</b>	Current Credit Hours: Click or tap here to enter text. New Credit Hours: Click or tap here to enter text. Effective Date: Click or tap here to enter text.
<b>Limited Access Program Status:</b>	<input type="checkbox"/> Change from open access to limited access <input type="checkbox"/> Change from limited access to open access Effective Date: Click or tap here to enter text.
<b>Program CIP Code:</b>	Current CIP code: Click or tap here to enter text. New CIP Code: Click or tap here to enter text. Effective Date: Click or tap here to enter text.
<b>Baccalaureate Program Status:</b>	<input type="checkbox"/> Notification of a Program Termination – Term/Year Program Should be Removed from the CPM: Click or tap here to enter text. <input checked="" type="checkbox"/> <b>Notification of New Program – Anticipated Program Implementation Date: Fall 2023</b> <input type="checkbox"/> Notification of Program Name Change – Revised Program Name: Click or tap here to enter text.
<b>GPA or Grade Minimum Requirements</b>	

**Proposed Revisions(s) to the CPM (check all that apply)**

<p><b>The CIP Code Is Currently in the CPM:</b></p> <input type="checkbox"/> 1. Make curriculum changes to an existing track at proposing institution <input type="checkbox"/> 2. Add program to a current track without curriculum changes <input type="checkbox"/> 3. Add program to a current track with curriculum changes
--

8/10/2022



<input type="checkbox"/> 4. Establish a new track without prerequisites <input type="checkbox"/> 5. Establish a new track with prerequisites 6. For numbers 1-5, please provide track information below: a. <input type="checkbox"/> Track 1 <input type="checkbox"/> Track 2 <input type="checkbox"/> Track 3 <input type="checkbox"/> Track 4 <input type="checkbox"/> Track 5 <input type="checkbox"/> Track 6 b. Track Name: <i>Click or tap here to enter text.</i> c. If this is a request to establish a new track, please provide justification as to why a new track is needed: <i>Click or tap here to enter text.</i>  <b>The CIP Code Is Not Currently in the CPM:</b> <input type="checkbox"/> 7. Add program to the CPM without prerequisites <input type="checkbox"/> 8. Add program to the CPM with prerequisites
<b>Proposed Curriculum Actions:</b> <input type="checkbox"/> Add course(s) and/or course alternative(s) <input type="checkbox"/> Eliminate course(s) and/or course alternative(s) (delete course from the CPM) <input type="checkbox"/> Exempt course(s) and/or course alternative(s) (request exception from course) <input type="checkbox"/> Carry over prerequisites from previous CIP without changes (CIP Code change) <input type="checkbox"/> Carry over prerequisites from previous CIP with changes (CIP Code change) <input type="checkbox"/> Other – please specify <i>Click or tap here to enter text.</i>

**Please include the following supporting documentation with this proposal:**

- The program page from the [Common Prerequisite Manual](#), if applicable.
- The program requirements for the baccalaureate degree program at your institution.

**progra**

**If this request is for any of the following, do not complete anything further:**

- Add program to a current track without curriculum changes
- Establish a new track without prerequisites
- Add program to the CPM without prerequisites

**If this request is for any of the following, please complete 1-8, where applicable:**

- Make curriculum changes to an existing track at proposing institution
- Carry over prerequisites from previous CIP with no changes
- Carry over prerequisites from previous CIP with changes
- Add program to a current track with curriculum changes
- Establish a new track with prerequisites
- Add program to the CPM with prerequisites

8/10/2022



1. For required prerequisite course(s) and/or course alternative(s), please list the following information for each course (add rows if necessary).

Course Prefix and Number	Course Title	Course Alternative	Justification for Course(s)	Credits
Click or tap here to enter text.				
Click or tap here to enter text.				
Click or tap here to enter text.				
Click or tap here to enter text.				
Click or tap here to enter text.				
Click or tap here to enter text.				
Click or tap here to enter text.				
<b>Total Credits</b>				

2. If the course(s) above includes a course(s) that is offered currently at three or fewer FCS or SUS institutions, please provide justification as to why the course is critical for a student's success in the baccalaureate degree program. Please visit the [Statewide Course Numbering System](#) to determine the number of institutions that offer the course(s) (add rows if necessary). Click here for [instructions](#) on how to navigate the SCNS.

Course(s) Offered at 3 or Less FCS/SUS Institutions	Number of FCS Institutions Currently Offering Course (out of 28)	Number of SUS Institutions Currently Offering Course (out of 12)	Justification for Course(s)
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.

8/10/2022



Click or tap here to enter text.			
Click or tap here to enter text.			

3. If the request includes courses that are offered only at your institution, explain what options are available to students at other institutions for completing the required courses (add rows if necessary).

<b>Course(s) Offered Only at Proposing Institution</b>	<b>Option(s) at Other Institutions</b>	<b>Explanation of Option(s)</b>
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.

4. If the request includes exemption from or elimination of a prerequisite course(s) and/or course alternative(s), please list the following information for each course that you would like to be exempt from or eliminate (add rows if necessary).

<b>Course Prefix and Number</b>	<b>Course Title</b>	<b>Justification for Course Elimination/Exemption</b>
Click or tap here to enter text.	Click or tap here to enter text.	<input type="checkbox"/> Exempt from Course <input type="checkbox"/> Elimination of Course Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.	<input type="checkbox"/> Exempt from Course <input type="checkbox"/> Elimination of Course Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.	<input type="checkbox"/> Exempt from Course <input type="checkbox"/> Elimination of Course Click or tap here to enter text.

5. Please provide the college level prerequisite(s) for the common prerequisite course(s) if applicable (add rows if necessary).

<b>Course Prefix</b>	<b>College Level Prerequisites</b>	<b>Credits</b>
----------------------	------------------------------------	----------------

8/10/2022



Click or tap here	Click or tap here to enter text.	
Click or tap here	Click or tap here to enter text.	
<b>Total Credits</b>		

6. Please provide the information requested below for the review of common prerequisite completion within 60 credit hours.

<b>Number of Credit Hours for AA degree</b>	<b>60</b>
Subtract the number of credit hours required for common prerequisites	-
Subtract the number of credit hours of college-level course prerequisites for common prerequisite courses (if known)	-
Add the number of credit hours for common prerequisites that are also general education core requirements	+
<b>Total Credits</b> remaining to complete the rest of the student's <a href="#">general education requirements</a>	=

7. If a student does not have enough room in the "Total Credits" above to complete the rest of the general education requirements, please provide justification for requiring more common prerequisite course credit hours than can be accommodated by the student in 60 credit hours.

Click or tap here to enter text.

8. Other.

Click or tap here to enter text.

<b>Program:</b>	Management Science	<b>CIP:</b>	52.1301
<hr/>		<hr/>	
<b>Offered At:</b>	FIU, UF	<b>Track:</b>	1
<hr/>		<b>Program Length:</b>	120 Cr. Hrs.
<hr/>		<hr/>	

---

**LOWER LEVEL COURSES**

---

	<b>Cr. Hrs.</b>
ACGX021	3
or- ACGX022	3
or- ACGX001	3
&- ACGX011	3
&- ACGX071	2-3
or- ACGX301	2-3
&- CGSX100 <sup>(1)</sup>	3-4
or- CGSX100C	3-4
or- CGSX570	3-4
or- CGSX060	3-4
or- CGSX531	3-4
or- CGSX000	3-4
&- ECOX013	3
&- ECOX023	3
&- STAX023	3-4
or- STAX122	3-4
or- QMBX100	3-4
&- MACX233	3-4

FOR ALL MAJORS: Students are strongly encouraged to select required lower division electives that will enhance their general education coursework and that will support their intended baccalaureate degree program. Students should consult with an academic advisor in their major degree area.

-----  
 (1) or demonstrated competency

## IV. Curriculum

- A. Describe all admission standards and all graduation requirements for the program. Hyperlinks to institutional websites may be used to supplement the information provided in this subsection; however, these links may not serve as a standalone response. For graduation requirements, please describe any additional requirements that do not appear in the program of study (e.g., milestones, academic engagement, publication requirements).**

Students interested in pursuing a B.S. degree in Business Analytics and Information Systems at USF, must complete the required prerequisites before entering the program, in addition to other related criteria listed below.

Completion of the following Common Prerequisites (or equivalents) with an overall 2.5 GPA:

- ACG X021 Financial Accounting
- ACG X071 Managerial Accounting
- CGS X100 Computers in Business
- ECO X013 Principles of Macroeconomics
- ECO X023 Principles of Microeconomics
- MAC X233 Elementary Calculus or MAC X230
- STA X023 Introductory Statistics or QMB X100 or STA X122

### University Admissions:

Students applying to the University of South Florida are expected to meet the University's admissions standards as follows:

#### First Time In College (FTIC) Requirements:

- A diploma from a public or accredited high school or the state-approved General Education Development (GED) diploma is required for freshman admission.
- For freshman applicants earning a high school diploma, the following college preparatory academic units (year-long courses or equivalents) normally offered in grades nine through twelve are required:
  - Four (4) units of English;
  - Four (4) units of Mathematics;
  - Three (3) units of Natural Sciences;
  - Three (3) units of Social Sciences;
  - Two (2) units of the same Foreign Language; and
  - Two (2) additional units of academic electives.

#### Transfer Requirements:

*Lower-Level (LL) Transfer = 12-29 hours of transferable credit including in-progress*

- Applicants are required to have successfully completed a minimum of 67 percent of all credit hours attempted at currently and previously enrolled institutions.
- Transfer post-secondary GPA  $\geq 2.5$
- High school GPA  $\geq 2.5$

- High school units:
  - Four (4) units of English;
  - Four (4) units of Mathematics;
  - Three (3) units of Natural Sciences;
  - Three (3) units of Social Sciences; and
  - Two (2) units of the same Foreign Language.
- Test score requirements:
  - SAT overall: 1100
  - SAT Reading  $\geq$  24, SAT Writing  $\geq$  25, SAT Math  $\geq$  24, OR
  - ACT overall: 22
  - ACT Reading  $\geq$  19, ACT English  $\geq$  17, ACT Math  $\geq$  19

*Mid-Level (ML) Transfer = 30-59 hours of transferable credit including in-progress:*

- Applicants are required to have successfully completed a minimum of 67 percent of all credit hours attempted at currently and previously enrolled institutions.
- Transfer GPA  $\geq$  2.5
- 2 years of foreign language in high school and/or 2 semesters at the collegiate level
- C or better in college-level English composition course
- C or better in college-level math course

*Upper-Level (UL) Transfer = 60+ hours of transferable credit including in-progress:*

- Applicants are required to have successfully completed a minimum of 67% of all credit hours attempted at currently and previously enrolled institutions.
- With an Associate of Arts (AA) from a Florida College System institution
  - Transfer GPA  $\geq$  2.0
- Without an Associate of Arts (AA) from a Florida College System institution
  - Transfer GPA  $\geq$  2.3

All applications must submit the following items, based on the admission type:

Item	FITC	LL Transfer	ML Transfer	UL Transfer
USF Application	√	√	√	√
Application Fee	√	√	√	√
Official High School Transcripts	√	√	√	
Official College Transcripts	√	√	√	√
Official SAT or ACT Scores	√	√		

**Graduation Requirements:**

Satisfactory completion of the following requirements:

1. General Education Program (36 credit hours), including State Core General Education Requirements;
2. State Computation (6 credit hours);
3. State Communication (6 credit hours, in addition to ENC 1101 and ENC 1102);

4. Minimum of 120 unduplicated credit hours;
5. A minimum adjusted grade point average (GPA) of 2.0 on all coursework taken at USF and an overall 2.0 GPA average on all college-level coursework;
6. Major and college requirements in a chosen degree program;
7. Nine credit hours of coursework taken during the summer term(s) (if entered USF with less than 60 credit hours);
8. Registration and successful completion at USF of at least thirty (30) of the last sixty (60) credit hours;
9. 42 credit hours of upper-level coursework;
10. Civics Literacy;
11. Career Readiness.

**C. If the proposed program is an AS-to-BS capstone, provide evidence that it adheres to the guidelines approved by the Articulation Coordinating Committee for such programs, as outlined in [State Board of Education Rule 6A-10.024](#). Additionally, please list the prerequisites, if any, and identify the specific AS degrees that may transfer into the proposed program.**

**Not applicable to this program because it is not an AS-to-BS Capstone.**

**D. Describe the curricular framework for the proposed program, including the following information where applicable:**

- **total numbers of semester credit hours for the degree**
- **number of credit hours for each course**
- **required courses, restricted electives, and unrestricted electives**
- **a sequenced course of study for all majors, concentrations, tracks, or areas of emphasis**

The B.S. Business Analytics and Information Systems degree requires 24 credit hours in the major and is a 120-credit hour degree program. Following is the curriculum/credit hours breakdown:

**General Education and Non-Business Electives** – 36 credit hours  
*Specific courses are chosen by students with assistance from MCOB advisors.*

**Common Prerequisites** (USF's courses are listed) – 21 credit hours:

- ACG 2021 Financial Accounting (3 credit hours)
- ACG 2071 Managerial Accounting (3 credit hours)
- CGS 2100 Computers in Business (3 credit hours)
- ECO 2013 Principles of Macroeconomics (3 credit hours)
- ECO 2023 Principles of Microeconomics (3 credit hours)
- MAC 2233 Business Calculus (3 credit hours)
- QMB 2100 Business and Economic Statistics I (3 credit hours)

**Business Foundation** – 30 credit hours:

- BUL 3320 Law and Business I (3 credit hours)
- FIN 3403 Principles of Finance (3 credit hours)
- GEB 3033 Business Workplace Skills and Best Practices (3 credit hours)
- GEB 4890 Strategic Management and Decision Making (3 credit hours)
- ISM 3011 Information Systems in Organizations (3 credit hours)
- QMB 3200 Business and Economic Statistics II (3 credit hours)
- MAN 3025 Principles of Management (3 credit hours)
- MAN 4504 Operations and Supply Chain Management (3 credit hours)
- MAR 3023 Basic Marketing (3 credit hours)
- RMI 3004 Principles of Risk Management (3 credit hours)

**Supporting** – 9 credit hours:

The following courses are supporting courses for this major. They are required for the major. The degree will not be awarded if these courses have not been taken by the end of the student's final semester.

- SPC 2608 Public Speaking (3 credit hours)  
or COM 3110 Communication for Business and the Professions (3 credit hours)
- ENC 3250 - Professional Writing (3 credit hours)  
or ENC 3310 Expository Writing (3 credit hours)
- Contemporary International Topics Course (3 credit hours)
  - FIN 3604 International Finance
  - GEB 3373 International Business
  - ISM 4041 Global Cyber Ethics
  - MAN 4600 International Management
  - MAN 4743 Response of Business to Environmental Problems
  - MAR 4156 International Marketing
  - SCM 3144 Global Sourcing
  - SCM 4120 Global Commerce

**BAIS Major Core** – 18 credit hours:

- ISM 3232 Business Application Development (3 credit hours)
- ISM 4212 Database Design and Administration (3 credit hours)
- ISM 3113 Systems Analysis and Design (3 credit hours)
- ISM 4300 Managing Information Resources (3 credit hours)
- ISM 4041 Global Cyber Ethics (3 credit hours)
- ISM 4402 Business Intelligence (3 credit hours)  
or ISM 4220 Business Data Communications (3 credit hours)

Students complete a General BAIS program of study (6 credit hours) or complete a Cybersecurity concentration (6 credit hours):

**Business Analytics and Information Systems Major General Electives** - 6 credit hours:

Select two courses from the following list of courses:

- ISM 4141 Java Programming (3 credit hours)
- ISM 4153 Enterprise Resource Planning Systems (3 credit hours)
- ISM 4234 Object-Oriented Design and Development (3 credit hours)
- ISM 4314 Project Management (3 credit hours)
- ISM 4323 Information Security and IT Risk Management (3 credit hours)
- ISM 4432 Software Testing (3 credit hours)
- ISM 4542 Statistical Programming for Business Analytics (3 credit hours)
- ISM 4930 Selected Topics in MIS (3 credit hours)
- ISM 4940 Business Analytics & Information Systems Internship (3 credit hours)
- ISM 4263 Cloud Solution Architectures (3 credit hours)
- ISM 4641 Python for Business Analytics (3 credit hours)
- MAN 4505 Healthcare Operations Management (3 credit hours)

*Note: If ISM 4220 or ISM 4402 is used to satisfy the major requirements, it may not be used to fulfill the general electives requirement.*

**Cybersecurity Concentration** - 6 Credit Hours:

Concentration Core:

- ISM 4323 - Information Security and IT Risk Management (3 credit hours)

Concentration Electives:

Select one course from the following list of courses.

- ISM 4220 Business Data Communications (3 credit hours)

- ISM 4402 Business Intelligence (3 credit hours)
- ISM 4432 Software Testing (3 credit hours)
- ISM 4940 Business Analytics & Information Systems Internship (3 credit hours)
- ISM 4321 Cybersecurity Threat Intelligence (3 credit hours)
- ISM 4570 Cybersecurity Governance and Planning (3 credit hours)
- ISM 4263 Cloud Solution Architectures (3 credit hours)
- ISM 4641 Python for Business Analytics (3 credit hours)

*Note: If ISM 4220 or ISM 4402 is used to satisfy the major requirements, it may not be used to fulfill the concentration requirements.*

**Supporting** – 9 credit hours:

The following courses are supporting courses for this major. They are required for the major. The degree will not be awarded if these courses have not been taken by the end of the student's final semester.

- SPC 2608 Public Speaking (3 credit hours)  
or COM 3110 Communication for Business and the Professions (3 credit hours)
- ENC 3250 - Professional Writing (3 credit hours)  
or ENC 3310 Expository Writing (3 credit hours)
- Contemporary International Topics Course (3 credit hours)
  - FIN 3604 International Finance
  - GEB 3373 International Business
  - ISM 4041 Global Cyber Ethics
  - ISM 4382 Global Information Systems
  - MAN 4600 International Management
  - MAN 4743 Response of Business to Environmental Problems
  - MAR 4156 International Marketing
  - SCM 3144 Global Sourcing
  - SCM 4120 Global Commerce

**BAIS Major Core** – 15 credit hours:

- ISM 3232 Business Application Development (3 credit hours)
- ISM 4212 Database Design and Administration (3 credit hours)
- ISM 3113 Systems Analysis and Design (3 credit hours)
- ISM 4300 Managing Information Resources (3 credit hours)
- ISM 4041 Global Cyber Ethics (3 credit hours)
- ISM 4402 Business Intelligence (3 credit hours)  
or ISM 4220 Business Data Communications (3 credit hours)

**Business Analytics and Information Systems Major General Electives - 6 credit hours:**

Students complete a General BAIS program of study(6 credit hours) or complete a Cybersecurity concentration (6credit hours).

## Appendix I: Lightcast Data

**Summary of Nationwide, Florida, and Tampa Bay Regional  
Lightcast Data for Bachelor's in CIP Code 52.1301**

**Job Postings and Job Growth:**

Location	Total Job Postings for Selected Program
National	1,642,204
Florida	89,678
Tampa Bay Region	24,656

The number of jobs is expected to grow for all demographics over the next 10 years.

Location	Selected Occupations	Total Labor Market	Relative Growth
Nationwide	4.89 %	7.70 %	Average
Florida	17.69 %	10.00 %	High
Tampa Bay Region	17.13 %	10.00 %	Average

Overall, there is growth projected for all areas, however, Florida is showing high growth rates for CIP Code 52.1301, and 12.8% higher than the nation. Florida is .56% higher than regional growth, although percentages are similar.

**Salary Information:**

Location	Salary for Program	Average Living Wage
Nationwide	\$79K	\$34K
Florida	\$74K	\$35K
Tampa Bay Region	\$76K	\$34K

The average salary for this degree program in all three demographics is approximately 2.32 times higher than the average living wage for the areas.

**Top Job Titles and Industries:**

Across all demographics, the most common job postings were:

- Financial Analysts
- Business Analysts
- Operations Managers
- Program Managers
- Data Analysts

Top industries hiring include:

- Finance and Insurance
- Professional, Scientific, and Technical Services
- Manufacturing
- Information

Appendix I: Lightcast Data

**Top Employers:**

Nationwide:

Employer	Postings	Market Share (%)
Anthem Blue Cross	30,093	2.51%
Deloitte	20,011	1.67%
Amazon	13,376	1.11%
UnitedHealth Group	11,845	0.99%
Guidehouse	9,770	0.81%

Florida:

Employer	Postings	Market Share (%)
Anthem Blue Cross	2,906	4.42%
Citi	2,838	4.31%
Deloitte	1,754	2.67%
UnitedHealth Group	912	1.39%
USAA	751	1.14%

Tampa Bay Region:

Employer	Postings	Market Share (%)
Citi	2,381	12.97%
Anthem Blue Cross	926	5.04%
USAA	747	4.07%
Deloitte	376	2.05%
Raymond James Financial Incorporated	329	1.79%

Although specific percentages differed, top employers for all areas included:

- Citi
- Anthem Blue Cross
- USAA
- Deloitte
- UnitedHealth Group

A top employer in the Tampa Bay Area also includes Raymond James Financial Incorporated.

Appendix I: Lightcast Data

**Top Skills Requested:**

Most skills requested by job postings fall into the category of “Business Process and Analysis” with 33.21% of postings mentioning skills of this nature. “Project Management” skills and “Budget Management” skills were also commonly requested with 27.99% and 23.30% postings mentioning these skill groups respectively.

Top individually mentioned skills include the following:

- Project Management
- Budgeting
- SQL
- Data Analytics
- Scheduling
- Business Analytics.

Specific programming included:

- Microsoft Office experience
- SQL, Tableau (only 7.78%)
- Python (only 7.48%)
- Microsoft Excel specifically was mentioned in 28.71% of postings.

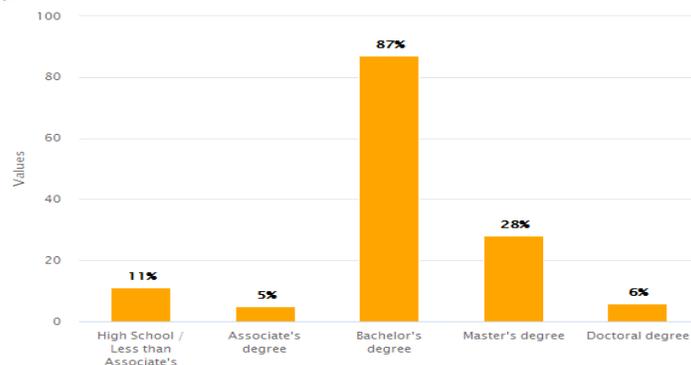
Less than 10% of postings mentioned significant certifications, salary premium, or competitive advantage skills.

**Degrees Conferred and Top Schools**

Location	Degrees Conferred
National	5,532
Florida	225
Tampa Bay Region	0

There were no degrees conferred at a regional level because no schools in the Tampa Bay area offer a degree program under this CIP Code. National and Florida degree conference both increased from 2016-2020 at 53% and 106% respectively. Public schools made up most degrees conferred for both the Nation and Florida at 65% and 88% respectively.

**Education Requested**



## Appendix I: Lightcast Data

Data regarding requested education level was similar across all demographics and the nationwide graph is provided. 87% of job postings requested a bachelor's degree (the level of the proposed USF program), and only 34% requested higher than a bachelor's degree. Only 16% of job postings could be done without higher education.

### **Top Schools Offering 52.1301:**

Only one Florida school was in the top ten schools for this CIP Code, and that was the University of Florida (2.68% of the market share). The top five schools for this program are Virginia Polytechnic Institute and State University, University of South Carolina – Columbia, New York University, Bridgewater State University, and Rutgers University – New Brunswick.

UF makes up 65.7 percent of the market share in Florida for this degree program, followed by Florida International University (18.67%) and Jacksonville University (12%).

Appendix J: Semester Plans

<b>Undergraduate Eight-Semester Plan</b>									
CIP Code: 52.1301									
CIP Title: Management Science									
Degree Level: B									
<b>Credential (Degree Type): B.S.</b>									
<b>USF Title (Major Name): Business Analytics and Information Systems</b>									

For any course and/or placeholder that must be taken in sequence and/or in the semester listed, please indicate such by inserting a (!) in the appropriate cell.

Fall 1									
!	Current Course Prefix and Number	Common Prerequisite	General Education Requirement	Supporting Course	Business Foundation Course	Major Core	Concentration Course	Unrestricted Elective	Total
!	ENC 1101		✓						3
!	MAC 2233	✓	✓						3
!	CGS 2100	✓	✓						3
	SPC 2608 or COM 3110			✓					3
	Non-Business Elective							✓	3
<b>Total Semester Credit Hours:</b>									<b>15</b>

Spring 1									
!	Current Course Prefix and Number	Common Prerequisite	General Education Requirement	Supporting Course	Business Foundation Course	Major Core	Concentration Course	Unrestricted Elective	Total
!	ENC 1102		✓						3
!	ECO 2013	✓	✓						3
	Natural Sciences		✓						3
	Humanities		✓						3
	MAN 3025				✓				3
Student Meets Civics Literacy Requirement and Passes Civics Literacy Exam									
<b>Total Semester Credit Hours:</b>									<b>15</b>

Summer 1									
!	Current Course Prefix and Number	Common Prerequisite	General Education Requirement	Supporting Course	Business Foundation Course	Major Core	Concentration Course	Unrestricted Elective	Total
<b>Total Semester Credit Hours:</b>									<b>0</b>

Appendix J: Semester Plans

Fall 2									
!	Current Course Prefix and Number	Common Prerequisite	General Education Requirement	Supporting Course	Business Foundation Course	Major Core	Concentration Course	Unrestricted Elective	Total
!	ACG 2021	✓							3
!	ECO 2023	✓	✓						3
	Non-Business Elective							✓	3
	Non-Business Elective							✓	3
	Non-Business Elective							✓	3
<b>Total Semester Credit Hours:</b>									<b>15</b>

Spring 2									
!	Current Course Prefix and Number	Common Prerequisite	General Education Requirement	Supporting Course	Business Foundation Course	Major Core	Concentration Course	Unrestricted Elective	Total
!	ACG 2071	✓							3
!	QMB 2100	✓	✓						3
!	ISM 3011				✓				3
	GEB 3033				✓				3
	Non-Business Elective							✓	3
<b>Total Semester Credit Hours:</b>									<b>15</b>

Summer 2									
!	Current Course Prefix and Number	Common Prerequisite	General Education Requirement	Supporting Course	Business Foundation Course	Major Core	Concentration Course	Unrestricted Elective	Total
!	ISM 3232					✓			3
	RMI 3011				✓				3
<b>Total Semester Credit Hours:</b>									<b>6</b>

Appendix J: Semester Plans

Fall 3									
!	Current Course Prefix and Number	Common Prerequisite	General Education Requirement	Supporting Course	Business Foundation Course	Major Core	Concentration Course	Unrestricted Elective	Total
!	ISM 3113					✓			3
!	Major Elective or Concentration Course						✓		3
	QMB 3200				✓				3
	MAR 3023				✓				3
	ENC 3250 or ENC 3310			✓					3
<b>Total Semester Credit Hours:</b>									<b>15</b>

Spring 3									
!	Current Course Prefix and Number	Common Prerequisite	General Education Requirement	Supporting Course	Business Foundation Course	Major Core	Concentration Course	Unrestricted Elective	Total
!	ISM 4212					✓			3
!	Major Elective or Concentration Course						✓		3
	FIN 3403				✓				3
	Non-Business Elective							✓	3
<b>Total Semester Credit Hours:</b>									<b>12</b>

Summer 3									
!	Current Course Prefix and Number	Common Prerequisite	General Education Requirement	Supporting Course	Business Foundation Course	Major Core	Concentration Course	Unrestricted Elective	Total
	MAN 4504				✓				3
<b>Total Semester Credit Hours:</b>									<b>3</b>

Appendix J: Semester Plans

Fall 4									
!	Current Course Prefix and Number	Common Prerequisite	General Education Requirement	Supporting Course	Business Foundation Course	Major Core	Concentration Course	Unrestricted Elective	Total
!	ISM 4220 or ISM 4402					✓			3
!	Major Elective or Concentration Course						✓		3
	Internship (High Impact Practice)		✓						3
	BUL 3320		✓		✓				3
<b>Total Semester Credit Hours:</b>									<b>12</b>

Spring 4									
!	Current Course Prefix and Number	Common Prerequisite	General Education Requirement	Supporting Course	Business Foundation Course	Major Core	Concentration Course	Unrestricted Elective	Total
!	ISM 4300					✓			3
!	GEB 4890		✓		✓				3
	Non-Business Elective							✓	3
	ISM 4041 (Contemporary International Topics Course)			✓					3
<b>Total Semester Credit Hours:</b>									<b>12</b>

<b>Total Program Hours:</b>									<b>120</b>
-----------------------------	--	--	--	--	--	--	--	--	------------

Appendix J: Semester Plans

<b>Undergraduate Four-Semester Plan</b>							
CIP Code: 52.1301							
CIP Title: Management Science							
Degree Level: Bachelor's							
<b>Credential (Degree Type): B.S.</b>							
<b>USF Title (Major Name): Business Analytics and Information Systems</b>							

For any course and/or placeholder that must be taken in sequence and/or in the semester listed, please indicate such by inserting a (!) in the appropriate cell.

Fall 1							
!	Current Course Prefix and Number	Supporting Course	Business Foundation Course	Major Core	Concentration Course	Unrestricted Elective	Total
!	ISM 3011		✓				3
!	ISM 3232			✓			3
	GEB 3033		✓				3
	MAR 3023		✓				3
	BUL 3320		✓				3
Student Meets Civics Literacy Requirement and Passes Civics Literacy Exam							
<b>Total Semester Credit Hours:</b>							15

Spring 1							
!	Current Course Prefix and Number	Supporting Course	Business Foundation Course	Major Core	Concentration Course	Unrestricted Elective	Total
!	ISM 3113			✓			3
!	Major Elective or Concentration Course				✓		3
	ENC 3250 or ENC 3310	✓					3
	QMB 3200		✓				3
	MAN 3025		✓				3
<b>Total Semester Credit Hours:</b>							15

Summer 1							
!	Current Course Prefix and Number	Supporting Course	Business Foundation Course	Major Core	Concentration Course	Unrestricted Elective	Total
!	ISM 4212			✓			3
	FIN 3403		✓				3
<b>Total Semester Credit Hours:</b>							6

Appendix J: Semester Plans

Fall 2							
!	Current Course Prefix and Number	Supporting Course	Business Foundation Course	Major Core	Concentration Course	Unrestricted Elective	Total
!	Major Elective or Concentration Course				✓		3
!	ISM 4220 or ISM 4402			✓			3
	MAN 4504		✓				3
	SPC 2608 or COM 3110	✓					3
<b>Total Semester Credit Hours:</b>							<b>12</b>

Spring 2							
!	Current Course Prefix and Number	Supporting Course	Business Foundation Course	Major Core	Concentration Course	Unrestricted Elective	Total
!	ISM 4300			✓			3
	Major Elective or Concentration Course				✓		3
	GEB 4890		✓				3
	ISM 4041 (Contemporary International Topics Course)	✓		✓			3
<b>Total Semester Credit Hours:</b>							<b>12</b>

<b>Total Program Hours:</b>							<b>60</b>
-----------------------------	--	--	--	--	--	--	-----------

## Appendix K - External Letters of Support

Tuesday, December 6, 2022 at 11:34:20 Eastern Standard Time

**Subject:** RE: [EXTERNAL] Intent to submit a full proposal to create a B.S. in Business Analytics and Information Systems, with a CIP Code change to 52.1301.

**Date:** Sunday, December 4, 2022 at 2:32:29 PM Eastern Standard Time

**From:** Glassman, Aaron M.

**To:** Gert-Jan de Vreede

**CC:** Kaushik Dutta, Alan Hevner, Jennifer Cainas, Merritt, Daisha M.

Good Sunday GJ,

This is wonderful news and surely is where the demand is heading. We are seeing similar trends here including strong calls from industry. Whether it's platform use (e.g., R, Python, Azure, AWS, SAS, etc.) or the need to "Design for Data" these are absolutely hot topics.

I would enjoy a call with you if you have the time because I am curious as to your thoughts on the blend of concepts needed for a BS in BA/IS. These types of 'action analytics' programs can sometimes lean towards data science, or decision making/decision support, or information systems, or social/marketing analytics, etc. It's a decent size list of possibilities with many different angles so I am curious as to how you turned the dials on your program from a positioning point of view. I would also be interested in talking about research and teaching collaborations since we are Florida neighbors!

I hope you had a wonderful weekend and I really appreciate the email!

Aaron

**Dr. Aaron M. Glassman**

Assistant Professor, College of Business  
Department Chair, Dept. of Technology Management  
Embry-Riddle Aeronautical University - Worldwide

Office: 757-637-0304

[glassf10@erau.edu](mailto:glassf10@erau.edu)

**From:** Gert-Jan de Vreede <gdevreede@usf.edu>

**Sent:** Tuesday, November 29, 2022 6:09 PM

**To:** Glassman, Aaron M. <glassf10@erau.edu>

**Cc:** Kaushik Dutta <duttak@usf.edu>; Alan Hevner <AHEVNER@usf.edu>; Jennifer Cainas <jmcainas@usf.edu>

**Subject:** [EXTERNAL] Intent to submit a full proposal to create a B.S. in Business Analytics and Information Systems, with a CIP Code change to 52.1301.

**CAUTION:** This email originated outside of Embry-Riddle Aeronautical University. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Dr. Glassman,

The School of Information Systems and Management at the University of South Florida would like to inform you that the Business Analytics and Information Systems faculty are submitting a full proposal to create a B.S. in Business Analytics and Information Systems, with a CIP Code change to 52.1301.

The Business Analytics and Information Systems program supports FL SUS 2025 System Strategic Plan with respect to its goals with Florida's highest economic workforce needs, and the university system's mission

around three key themes - Excellence, Productivity, and Strategic Priorities for a Knowledge Economy.

Please reach out to us with any questions or concerns you may have. We are always interested in opportunities for future collaboration between our institutions regarding instruction and research.

Kind regards,  
GJ

GJ de Vreede, PhD  
Interim Dean, Muma College of Business  
University of South Florida  
[gdevreede@usf.edu](mailto:gdevreede@usf.edu)

**[EXTERNAL EMAIL]** DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

**Tuesday, December 6, 2022 at 11:34:35 Eastern Standard Time**

---

**Subject:** Re: Intent to submit a full proposal to create a B.S. in Business Analytics and Information Systems, with a CIP Code change to 52.1301.  
**Date:** Wednesday, November 30, 2022 at 4:18:08 PM Eastern Standard Time  
**From:** Karlene Cousins  
**To:** Gert-Jan de Vreede  
**CC:** Kaushik Dutta, Alan Hevner, Jennifer Cainas, William Hardin  
**Attachments:** Outlook-Remote lea.png, Outlook-4zn5ulhb.png

Dear GJ,

Thank you for informing us about your intention to submit a full proposal to create the B.S. in Business Analytics and Information Systems, with a CIP Code of 52.1301. I have copied Dean William Hardin so that he is also aware.

Our department has a good history of collaboration with your faculty in the School of Information Systems and Management. Thanks for extending the invitation to collaborate further on instruction and research.

All the best with the proposal.

Karlene.

Karlene Cousins J.D./Ph.D.  
Chair & Professor  
[Information Systems & Business Analytics](#)  
Florida International University  
College of Business  
11200 S.W. 8th St., Room RB 250  
Miami, FL 33199

Direct: 305.348.2160  
Office: 305.348.2830  
Email: [kcousins@fiu.edu](mailto:kcousins@fiu.edu)  
[business.fiu.edu](http://business.fiu.edu)

**Visit Us Online!**



[MSIS](#) | [MSHIA](#) | [ATOM Think Tank](#)



---

**From:** Gert-Jan de Vreede <gdevreede@usf.edu>  
**Sent:** Tuesday, November 29, 2022 6:08 PM  
**To:** Karlene Cousins <kcousins@fiu.edu>  
**Cc:** Kaushik Dutta <duttak@usf.edu>; Alan Hevner <AHEVNER@usf.edu>; Jennifer Cainas <jmcainas@usf.edu>  
**Subject:** Intent to submit a full proposal to create a B.S. in Business Analytics and Information Systems, with a CIP Code change to 52.1301.

**Note: This message originated from outside the FIU Faculty/Staff email system.**

Dear Dr. Cousins,

The School of Information Systems and Management at the University of South Florida would like to inform you that the Business Analytics and Information Systems faculty are submitting a full proposal to create a B.S. in Business Analytics and Information Systems, with a CIP Code change to 52.1301.

The Business Analytics and Information Systems program supports FL SUS 2025 System Strategic Plan with respect to its goals with Florida's highest economic workforce needs, and the university system's mission around three key themes - Excellence, Productivity, and Strategic Priorities for a Knowledge Economy.

Please reach out to us with any questions or concerns you may have. We are always interested in opportunities for future collaboration between our institutions regarding instruction and research.

Kind regards,  
GJ

GJ de Vreede, PhD  
Interim Dean, Muma College of Business  
University of South Florida  
[gdevreede@usf.edu](mailto:gdevreede@usf.edu)

**[EXTERNAL EMAIL]** DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

**Agenda Item: IV.a**

**USF Board of Trustees**  
February 21, 2023

**Issue:** Accreditation Reaffirmation Timeline Update

---

**Proposed action:** Information Item

---

**Executive Summary:**

SACSCOC approved USF in late fall 2022 for a modified compliance certification report due to stable leadership, stable enrollment, and the absence of sanctions or monitoring in the past five years. In lieu of responding to 74 accreditation standards, USF will respond to 40.

Additionally, the USF accreditation reaffirmation leadership team attended a SACSCOC orientation in December in Atlanta and selected 2025 site visit dates.

This presentation will provide an updated timeline and the process for drafting the narrative to complete the Compliance Certification Report. The reaffirmation website and contact information will also be shared.

**Financial Impact:**

---

**Strategic Goal(s) Item Supports:**

**BOT Committee Review Date:**

**Supporting Documentation Online (please circle):**

**Yes**

**No**

**Prepared by:** Christopher Combie, Ph.D., University Accreditation Liaison Officer & Director,  
Office of Decision Support-Institutional Effectiveness

# Accreditation Reaffirmation Timeline Update

Academic and Campus Environment Committee  
February 21, 2023

**Christopher C. Combie, Ph.D.**  
University Accreditation Liaison Officer & Director,  
Office of Decision Support – Institutional Effectiveness



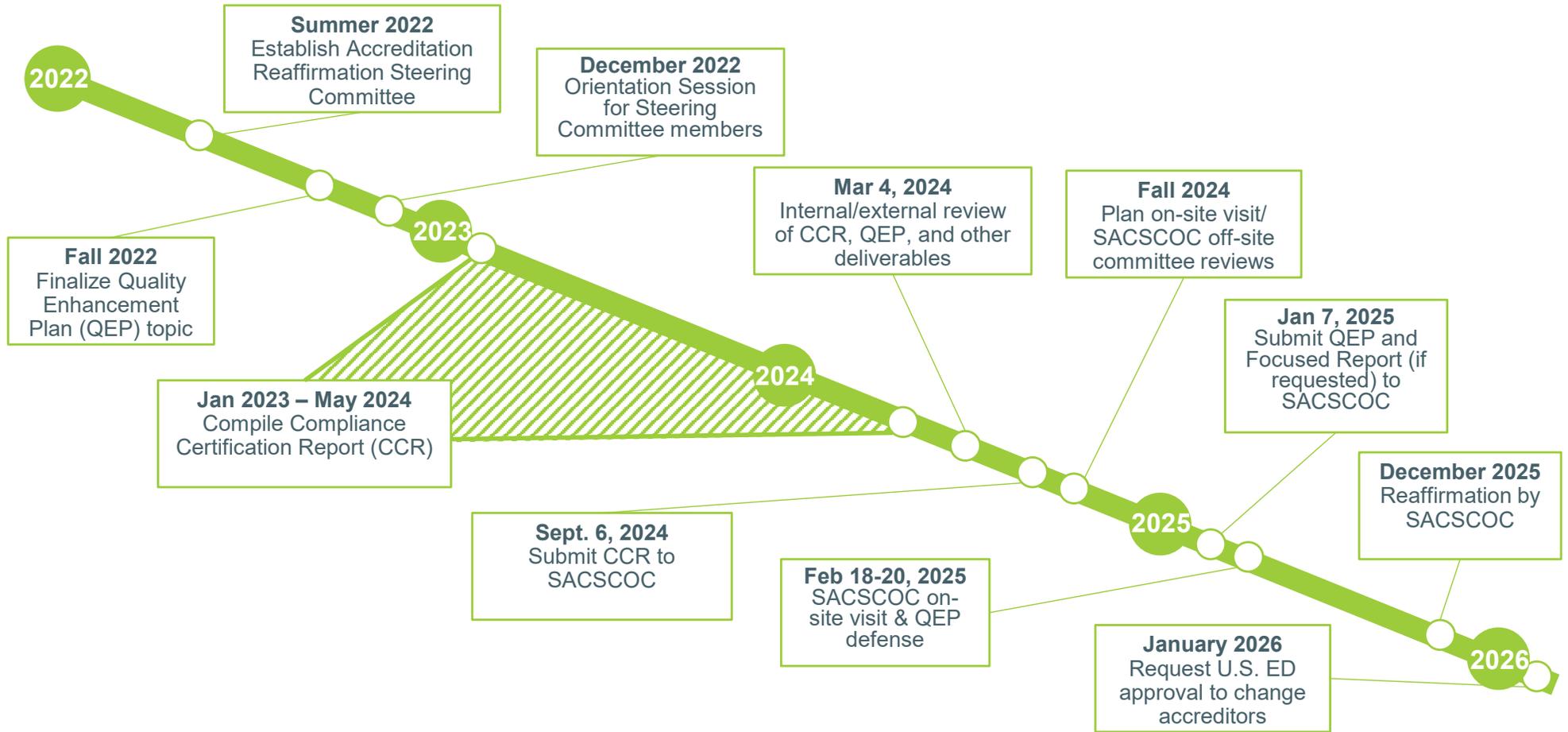
# Modified Compliance Certification Document

All SACSCOC member institutions that meet eligibility criteria are approved to engage in the Differentiated Review Process. Participants must complete a *modified* compliance certification report (CCR) consisting of 40 Core Requirements (CR) and Standards (S), as listed below:

Core Requirement (CR) or Standard (S)	CR/Standard #	CR/Standard Descriptor	Core Requirement (CR) or Standard (S)	CR/Standard #	CR/Standard Descriptor
CR	1.1*	Integrity	CR	9.1*	Program Content
CR	2.1	Institutional Mission	CR	9.2*	Program Length
CR	4.1	Governing Board Characteristics	CR	9.3*	General Education Requirements
S	4.2.d	Conflict of Interest	S	10.2*	Public Information
S	4.2.f	External Influence	S	10.5*	Admissions Policies and Practices
S	4.2.g	Board Self-Evaluation	S	10.6*	Distance and Correspondence Education
S	4.3	Multi-Level Governance [if applicable]	S	10.7*	Policies for Awarding Credit
CR	5.1	Chief Executive Officer	CR	11.1*	Library and Learning/Information Resources
S	5.2.a	CEO Control	CR	12.1*	Student Support Services
S	5.2.b	Control of Intercollegiate Athletics	S	12.4*	Student Complaints
S	5.2.c	Control of Fund-Raising Activities	S	12.6*	Student Debt
S	5.4*	Qualified Administrative/Academic Officers	CR	13.1*	Financial Resources
CR	6.1*	Full-Time Faculty	CR	13.2	Financial Documents
S	6.2.a	Faculty Qualifications	S	13.3	Financial Responsibility
S	6.2.b*	Program Faculty	S	13.6*	Federal and State Responsibilities
S	6.2.c *	Program Coordination	S	13.7*	Physical Resources
CR	7.1	Institutional Planning	S	14.1*	Publication of Accreditation Status
S	7.2	Quality Enhancement Plan (QEP)	S	14.3*	Comprehensive Institutional Reviews
CR	8.1*	Student Achievement	S	14.4*	Representation to Other Agencies
S	8.2.a*	Student Outcomes: Educational Programs	S	14.5	Policy Compliance

\*Denotes federal requirements that must be addressed.

# SACSCOC 2025 Reaffirmation Timeline



# Narrative Drafting Timeline – Spring 2023

	SACSCOC Principle - 2018	2018 Number	Responsible Party/ Reviewer	Writer(s)	Semester Deadline	Date Deadline
18	Institutional mission [CR]	2.1	Brett Kemker, Terry Chisolm	Christopher Combie	2023.Spring	24-Apr-23
	Conflict of interest	4.2d	Brett Kemker, Terry Chisolm	Christopher Combie	2023.Spring	24-Apr-23
	External influence	4.2f	Brett Kemker, Terry Chisolm	Christopher Combie	2023.Spring	24-Apr-23
	Board self-evaluation	4.2g	Brett Kemker, Terry Chisolm	Christopher Combie	2023.Spring	24-Apr-23
	Multi-level governance	4.3	Gerard Solis	Christopher Combie	2023.Spring	24-Apr-23
	Chief executive officer [CR]	5.1	Gerard Solis	Christopher Combie	2023.Spring	24-Apr-23
	CEO control	5.2a	Gerard Solis	Christopher Combie	2023.Spring	24-Apr-23
	Control of intercollegiate athletics	5.2b	Michael Kelly	Kristen Pierce	2023.Spring	24-Apr-23
	Qualified administrative/academic officers	5.4	Elizabeth Bell	Christopher Combie	2023.Spring	24-Apr-23
	Full-time faculty [CR]	6.1	Elizabeth Bell	Joseph Boyd	2023.Spring	24-Apr-23
	Program coordination	6.2c	Cynthia Brown Hernandez	Brandis Baines-Waiz	2023.Spring	24-Apr-23
	Student achievement [CR]	8.1	Cindy DeLuca	Allison Crume	2023.Spring	24-Apr-23
	Distance and correspondence education	10.6	Cindy DeLuca	Christine Brown	2023.Spring	24-Apr-23
	Publication of accreditation status	14.1	Gerard Solis	Christopher Combie	2023.Spring	24-Apr-23
	Representation to other agencies	14.4	Gerard Solis/Terry Chisolm	Christopher Combie	2023.Spring	24-Apr-23
	Control of fund-raising activities	5.2c	Jay Stroman	Pam Prado & Dan Caterinicchia	2023.Spring	28-Apr-23
	General education requirements [CR]	9.3	Allison Crume	Fai Howard, Kyna Betancourt	2023.Spring	28-Apr-23
	Library and learning/information resources [CR]	11.1	Todd Chavez	Todd Chavez	2023.Spring	31-May-23

# Narrative Drafting Timeline – Summer 2023

	SACSCOC Principle - 2018	2018 Number	Responsible Party/ Reviewer	Writer(s)	Semester Deadline	Date Deadline
10	Program length [CR]	9.2	Cynthia Brown Hernandez	Brandis Baines-Waiz	2023.Summer	3-Jun-23
	Policies for awarding credit	10.7	Cindy DeLuca & Allison Crume	Allison Crume	2023.Summer	3-Jun-23
	Comprehensive institutional reviews	14.3	Cindy DeLuca	Christine Brown	2023.Summer	3-Jun-23
	Faculty qualifications	6.2a	Elizabeth Bell	Joseph Boyd/Terry Chisolm	2023.Summer	15-Jun-23
	Program faculty	6.2b	Elizabeth Bell	Joseph Boyd/Terry Chisolm	2023.Summer	15-Jun-23
	Institutional Planning [CR]	7.1	Pritish Mukherjee/Christopher Combie	Terry Chisolm	2023.Summer	01-Aug-23
	Public information	10.2	Cynthia Brown Hernandez	Brandis Baines-Waiz	2023.Summer	01-Aug-23
	Admissions policies and practices	10.5	Glen Besterfield and Ruth Bahr	Glen Besterfield	2023.Summer	01-Aug-23
	Student support services [CR]	12.1	Cindy Deluca, Todd Chavez, Ruth Bahr, Kiki Caruson, Danielle McDonald	Danielle McDonald	2023.Summer	01-Aug-23
	Student complaints	12.4	Allison Crume, Ruth Bahr, & Danielle McDonald	Melissa Graham, Melissa Irvin	2023.Summer	01-Aug-23

# Narrative Drafting Timeline – Fall 2023

	SACSCOC Principle - 2018	2018 Number	Responsible Party/ Reviewer	Writer(s)	Semester Deadline	Date Deadline
6	Governing board characteristics [CR]	4.1	Brett Kemker, Terry Chisolm	Christopher Combie	2023.Fall	19-Dec-23
	Student outcomes: educational programs	8.2a	Ruth Bahr & Allison Crume	Rebecca Gibbons	2023.Fall	19-Dec-23
	Program content [CR]	9.1	Cynthia Brown Hernandez	Brandis Baines-Waiz	2023.Fall	19-Dec-23
	Student debt	12.6	Billie Jo Hamilton	Billie Jo Hamilton	2023.Fall	19-Dec-23
	Physical resources	13.7	Carole Post	Jen Fleischman	2023.Fall	19-Dec-23
	Policy compliance	14.5	Christopher Combie/Cynthia Brown Hernandez	Terry Chisolm	2023.Fall	19-Dec-23

# Narrative Drafting Timeline – Spring 2024

	SACSCOC Principle - 2018	2018 Number	Responsible Party/ Reviewer	Writer(s)	Semester Deadline	Date Deadline
4	Financial resources [CR]	13.1	Rich Sobieray	Jen Condon	2024.Spring	29-Mar-24
	Financial documents [CR]	13.2	Rich Sobieray	Jen Condon	2024.Spring	29-Mar-24
	Financial responsibility	13.3	Rich Sobieray	Jen Condon	2024.Spring	29-Mar-24
	Federal and state responsibilities	13.6	Billie Jo Hamilton Jennifer Condon	Billie Jo Hamilton Jennifer Condon	2024.Spring	29-Mar-24

# Narrative Drafting Timeline – Summer 2024

	SACSCOC Principle - 2018	2018 Number	Responsible Party/ Reviewer	Writer(s)	Semester Deadline	Date Deadline
1	Quality Enhancement Plan	7.2	Brett Kemker, Terry Chisolm, Christopher Combie	TBD	2024.Summer	01-Aug-24
39						

## Internal/External Review Protocol

- Internal review by:
  - Institutional Accreditation Liaison Officer (IALO)
  - Accreditation Steering Committee (ASC) Chair
  - Accreditation Steering Committee
  - Provost
- External review by SACSCOC Consultant/Expert
- Rewriting based on consultant's feedback
- Internal review by IALO/ASC
- Copy Editor review
- Reviews by BOT/President
- SACSCOC Submission

# Reaffirmation Website

USF Home / About USF / Reaffirmation

- OVERVIEW
- MISSION AND GOALS
- HISTORY AND TRADITIONS
- FACTS AND STATISTICS
- POINTS OF PRIDE
- ECONOMIC IMPACT
- STUDENT CONSUMER INFORMATION
- LEADERSHIP
- ACCREDITATION
  - Reaffirmation
- COMMUNITY RESOURCES
- WORK AT USF
- VISIT USF
- CONTACT USF

## REAFFIRMATION

### INTRODUCTION

University of South Florida's accreditation is reaffirmed every ten years by the **Southern Association of Colleges and Schools, Commission on Colleges (SACSCOC)**.

To be accredited and reaffirmed, the University must demonstrate compliance with the SACSCOC *Principles of Accreditation* and prepare three distinct sets of documents that are as follows:

1. A Compliance Certification Report (CCR) documenting USF's compliance with the *Principles of Accreditation*;
2. A brief overview/executive summary of the Quality Enhancement Plan (QEP), and
3. An Institutional Summary Form (ISF) and Substantive Change history.

Reaffirmation of accreditation by the Commission on Colleges involves extensive evaluation of compliance by off-site peer review, an onsite review, and review by the Commission's Board of Trustees.

For further information, please visit USF's institutional accreditation [website](#).

### TIMELINE

September 2022	Establish USF Accreditation Steering Committee
----------------	--

## Accreditation Contact:

- For all questions related to USF's 2025 Reaffirmation, please contact [accreditation@usf.edu](mailto:accreditation@usf.edu).