



Item: AS: A-2b

COMMITTEE ON ACADEMIC AND STUDENT AFFAIRS

Tuesday, February 1, 2022

**SUBJECT: REQUEST FOR APPROVAL OF FOR –CREDIT SELF-SUPPORTING PROGRAM
- CIP 52.1201 & 11.0101**

PROPOSED COMMITTEE ACTION

Request for approval of the following For-Credit Self-Supporting Program:

- Master of Science with Major in Information Technology Management (MISTM) (specialized track: Professional) (52.1201 College of Business & 11.0101 College of Engineering and Computer Science)

BACKGROUND INFORMATION

The Department of Electrical Engineering and Computer Science (EECS) in the College of Engineering and Computer Science (COECS) and the College of Business at FAU are proposing a Professional Master of Science in Information Technology Management (MISTM). The program will be offered online and/or face-to-face to accommodate working professionals. The curriculum for the existing degree programs offered jointly by the colleges consists of 30-33 credits.

College of Business Concentrations:

MSITM Business Analytics - 33 Credits

MSITM Information Technology Management - (33 credits)

College of Engineering and Computer Science Concentrations:

MSITM Advanced Information Technology - 30 Credits
MSITM Computer Science Data Analytics - 30 Credits

The program and its concentrations will provide graduates with skills and hands-on experiences that meet the market demand locally, in South Florida, as well as nationally and internationally. The demand for university graduates with skills in information technology and business remains strong. The inter-disciplinary nature of the program and more recent trends suggest a larger, global market with many opportunities for career growth and development for MSITM graduates.

IMPLEMENTATION PLAN/DATE

Effective Fall 2022, pending approval by the Florida Atlantic University Board of Trustees.

FISCAL IMPLICATIONS

This is a self-supporting version of an existing E&G degree and will not impact any existing E&G programs.

Supporting Documentation: Proposal for For-Credit Self-Supporting Program

Presented by: Dr. Bret Danilowicz, Vice President for Academic Affairs & Provost

Phone: 561-297-6350

FW: Self Supporting Programs

Tamara Dinev <tdinev@fau.edu>

Wed 9/22/2021 5:53 PM

To: Chiang-Sheng Huang <dhuang@fau.edu>

Here it is

Best Regards:

Tamara

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Tamara Dinev, Ph.D., Department Chair and Professor

Dean's Distinguished Research Fellow

Department of Information Technology and Operations Management, FL 219

College of Business, Florida Atlantic University

Boca Raton, Florida 33431

tel. (561) 297-3181, email: tdinev@fau.edu

Google Scholar: <https://scholar.google.com/citations?user=YH8QZ-YAAAAJ&hl=en>

From: Mihaela Cardei <mcardei@fau.edu>

Sent: Wednesday, September 22, 2021 5:51 PM

To: Tamara Dinev <tdinev@fau.edu>; Hanqi Zhuang <zhuang@fau.edu>

Subject: Re: Self Supporting Programs

Dear Dr. Dinev,

I support the two self-supporting proposals. They have been approved recently in our College at the department and college level.

Best regards,

Mihaela

From: Tamara Dinev <tdinev@fau.edu>

Sent: Wednesday, September 22, 2021 5:38 PM

To: Hanqi Zhuang <zhuang@fau.edu>

Cc: Mihaela Cardei <mcardei@fau.edu>

Subject: FW: Self Supporting Programs

Dear Dr. Hanqi, Dr. Cardei:

I am requesting you endorsement of our joint self-supporting programs, attached, so they can pass the college of business approval. Thank you!

Best Regards:

Tamara

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Tamara Dinev, Ph.D., Department Chair and Professor

Dean's Distinguished Research Fellow

Department of Information Technology and Operations Management, FL 219

College of Business, Florida Atlantic University

Boca Raton, Florida 33431

tel. (561) 297-3181, email: tdinev@fau.edu

Google Scholar: <https://scholar.google.com/citations?user=YH8QZ-YAAAAJ&hl=en>

FLORIDA ATLANTIC UNIVERSITY

Proposal for For-Credit Self-Supporting Program

This form must be completed and submitted to Continuing Education/Office of the Provost. New degrees, or an existing degree with a different curriculum tied to Self-Supporting delivery, must be approved through the normal faculty governance process.

College or Academic Unit: College of Business and College of Engineering and Computer Science (COECS)

Department/School of Academic Unit: Information Technology and Operations Management (ITOM) / Department of Electrical Engineering and Computer Science (EECS)

Name of Degree: Master of Science in Information Technology Management (MSITM)

Specialized track (if applicable): Professional

CIP Code: 52.1201 College of Business & 11.0101 College of Engineering

Proposed Implementation Date: Fall 2022

1. Describe the operation and delivery format of the program. Include information of the uniqueness of the program, the target audience, and enrollment projections. Please provide information on data for enrollment projection.

The Master of Science in Information Technology Management (MISTM) program will be offered online and/or face-to-face to accommodate working professionals. The curriculum for the existing degree programs offered jointly by the colleges consists of 30-33 credits. See appendix A for courses.

College of Business Concentrations:

MSITM Business Analytics - 33 Credits

MSITM Information Technology Management - (33 credits)

College of Engineering and Computer Science Concentrations:

MSITM Advanced Information Technology - 30 Credits

MSITM Computer Science Data Analytics - 30 Credits

The program and its concentrations will provide graduates with skills and hands-on experiences that meet the market demand locally, in South Florida, as well as nationally and internationally.

Enrollment Projections for MSITM degree across all concentrations:

Year	Head Count	Credit Hours	FTE*
2022	30	990	30.9
2023	50	1650	56.25
2024	50	1650	51.56
2025	50	1650	51.56
2026	50	1650	51.56

Term Full-Time Equivalent enrollment (FTE) is based on FAU definition which divides credit hours by 32: [https://www.fau.edu/iea/pdf/sasva/Data Dictionary 10-29-2019.pdf](https://www.fau.edu/iea/pdf/sasva/Data_Dictionary_10-29-2019.pdf)

2. State the tuition for the program and explain the process used to determine the proposed self-supporting tuition rate. Include information on similar programs being offered elsewhere and their self-supporting tuition rates. Attach market analysis for proposed program, include assessment of need and projected workforce demand.

The tuition for the proposed Master of Science in Information Technology Management (MISTM) is the same for in-state and out-of-state students. This cost is based on competitive offerings across peer institutions and current SUS and FAU policies. The proposed cost per credit hour is \$900 per credit; thus students will complete 30/33 credit hours for \$27,000/\$29,700. See appendix B for budget.

Current tuition for comparable professional programs, include

Institution Name	Public/Private	Degree	Credits / Length	Tuition Residents / Non-Residents
University of South Florida (USF)	Public	Executive Master of Science in Business Analytics and Information Systems	33 credits / 15 months	\$29,700/\$29,700
University of Florida	Public	Master of Science in Information Systems and Operations Management	36/40 credits / 18 to 24 months	\$19,100/\$21,253 / \$45,195/\$50,216
University of Miami (UM)	Private	MS in Business Analytics	32 credits / 12 months	\$74,124/\$74,124
University of Miami (UM)	Private	MS in Management of Technology	36 Credits / 15 months	\$79,668/\$79,668
Nova Southeastern University (NSU)	Public	M.S. in Information Systems / MS in Information Technology	30 credits / 12 months	\$27,150/\$27,150

3. Provide a listing of the curriculum for the present E&G program and the curriculum for the proposed self-supporting program. Is the curriculum for both programs the same?

The curriculum is the same as the E&G Curriculum. Please see Appendix A for details

4. Discuss the impact of the program on existing FAU programs.

- a. **Explain how the unit will ensure that sufficient courses, paid through auxiliary funds are available to meet student demand and facilitate completion of each program submitted for consideration.**

The professional MSITM program will be managed in a cohort format, which will ensure that a sufficient number of courses are prescheduled and available to meet student demand and facilitate completion of each program. The schedules of the programs are pre-set. Historically, degree programs offered to working professionals by College of Business Executive Education and College of Engineering have provided a sufficient number of courses to meet student demand.

- b. **Will any similar E&G courses be eliminated or scaled back if this program is implemented.**

The current MSITM program is non-cohort and it will not be eliminated or scaled back. The programs will run side-by-side.

5. Will this program increase the state's fiscal liability or obligation? Will the self-supporting program cohort supplant or diminishing productivity of an existing E&G funded degree program in the same discipline?

This self-supporting program will not increase the state's fiscal liability or obligation. The Self-supporting program track cohort should not supplant or diminish the productivity an existing E&G funded degree program in the same discipline.

6. How will offering the proposed Self-Supporting program aligns with the mission of FAU (Race to Excellence 2015-2025). Outline how this program assists the University in achieving its performance metrics. Include information on assessment of need and projected workforce demand.

The professional MSITM program aligns with the University's mission of pursuing excellence in teaching and actively engaging with the community. The program will assist the university in increasing graduates in areas of strategic emphasis and expand graduate enrollment. Business Analytics is recognized as part of a key platform in FAU's strategic plan, so that this program is aligned with the University's strategic direction. The self-supporting tuition programs also contributes to the University's strategic goal of enriching the educational experience by strengthening and expanding graduate programs at FAU, as well as meeting professional and workforce needs.

The increasing importance of information technology, information security and business analytics is relevant to many, if not all industry sectors, including healthcare, hospitality, marketing, finance, and supply chain management. Industry trends show strong demand for highly skilled individuals able to manage a wide range of information systems and processes, as well as analyze, interpret, and make sound business decisions based on this data. The degree program will assist the university in achieving its performance metric by graduating more students in STEM disciplines.

Workforce Demand:

The demand for university graduates with skills in information technology and business remains strong. The inter-disciplinary nature of the program and more recent trends suggest a larger, global market with many opportunities for career growth and development for MSITM graduates. Several reputable sources predict substantial growth and compensation for employees with these skills. The MSITM program at FAU addresses this urgent need for university educated individuals.

- Projected national employment growth of 15% for “computer and information systems managers” to 2024 [Bureau of Labor Statistics](#)
- The “computer systems design and related services” industry is expected to grow 36% to 2024 [Bureau of Labor Statistics](#)
- In 2020, the median annual pay for “computer and information systems managers” was \$151,000 (\$72 per hour) [Bureau of Labor Statistics](#)
- In 2021, IT Managers were ranked #13 in the best paying jobs by [US News and World Report](#)
- In 2021, the average salary for an Information Technology (IT) Manager was \$88,768 by [Payscale.com](#)

The proposed MSITM degree is designed to allow working professionals in the region to continue working full-time while they pursue their degree. The MSITM would be of immediate interest to employees and management of FPL, NextEra, and JM Family Enterprises, who is in a partnership with the University to offer employees full tuition to attend courses online.

7. Identify any prerequisites or restrictions for acceptance into this program.

A Bachelor’s degree from a regionally accredited university is required for admission.

**8. How will the unit monitor the quality and success of the self-supporting program?
Provide specific metrics, evaluation methods, and frequency of evaluation.**

- Number of students enrolled: The number of students enrolled each year will vary. Enrollment is a function of market demand and economic conditions, as well as a prospective student's self-assessment of their time and availability to commit to a program.
- Number of students graduating: The program structure reinforces timely graduation rates. The number of students for each program during each calendar year will be evaluated.
- Student satisfaction: A satisfaction score will be reported for each course. The score will measure a composite of items including program content, pedagogical effectiveness of the professor, and administrative services provided to the student.

Department Chair/School Director

Date

Anita Pennathur

9/24/2021

College Curriculum Committee

Date

Dean College of Engineering and
Computer Science

Date

Ken Johnson

9/24/2021

Dean College of Business

Date

Executive Director COCE

Date

Senior Associate Provost

Date

University Curriculum Committee

Date

University Faculty Senate

Date

Chief Financial Officer

Date

Provost or Designee

Date

APPENDIX A

Curriculum is the same as the existing E&G curriculum:

Advanced Information Technology Concentration (30 credits)

Students are required to take the following three courses:	
Software Engineering	CEN 5035
Theory and Implementation of the Database Systems	COP 6731
Management of Information Systems and Technology	ISM 6026
In addition, students need to take five electives from the following Department of Electrical Engineering and Computer Science courses. Additional department courses may be used as electives with prior approval of the advisor:	
Computational Foundations of Artificial Intelligence	CAP 5625
Mobile Application Development	CAP 5675
Introduction to Data Science	CAP 5768
Social Network and Big Data Analytics	CAP 6315
Foundations of Vision	CAP 6411
Applied Machine Learning	CAP 6610
Natural Language Processing	CAP 6640
Data Mining and Machine Learning	CAP 6673
Information Retrieval	CAP 6776
Advanced Data Mining and Machine Learning	CAP 6778
Computational Advertising and Real-Time Data Analytics	CAP 6807

Advanced Internet Systems	CAP 6819
Cloud Computing	CEN 5086
Software Maintenance and Evolution	CEN 6027
Software Testing	CEN 6076
Software Architecture and Patterns	CEN 6085
Computer Performance Modeling	CEN 6405
Computer Data Security	CIS 6370
Sensor Networks and Smart Systems	CNT 5109
Mobile Computing	CNT 6517
Video Communication	CNT 6885
Topics in Computer Science	COT 5930
Topics in Computer Science	COT 6930
The last two electives must be chosen from the following ITOM courses:	
Mobile Apps for Business	ISM 6058
Data Mining and Predictive Analytics	ISM 6136
Information Technology Project and Change Management	ISM 6316
Management of Information Assurance and Security	ISM 6328
Enterprise Information Technology Service Management	ISM 6368
Advanced Business Analytics	ISM 6405
Business Innovation with Artificial Intelligence	ISM 6427C

Web-Based Business Development	ISM 6508
Information Technology Sourcing Management	ISM 6509
Social Media and Web Analytics	ISM 6555
Special Topics	ISM 6930
Data Management and Analysis with Excel	QMB 6303

Information Technology Management Concentration (33 credits)

Students are required to take the following seven courses offered by the College of Business:	
Management of Information Systems and Technology	ISM 6026
Information Technology Project and Change Management	ISM 6316
Management of Information Assurance and Security	ISM 6328
Enterprise Information Technology Service Management	ISM 6368
Web-Based Business Development	ISM 6508
Information Technology Sourcing Management	ISM 6509
Communication Strategies for Business Professionals and Core-Course Follow-Up	GEB 6215
Students must take one elective from the following ITOM courses:	
Mobile Apps for Business	ISM 6058
Data Mining and Predictive Analytics	ISM 6136

Enterprise Information Technology Service Management	ISM 6368
Advanced Business Analytics	ISM 6405
Business Innovation with Artificial Intelligence	ISM 6427C
Social Media and Web Analytics	ISM 6555
Special Topics	ISM 6930
Data Management and Analysis with Excel	QMB 6303
<p>In addition, students must take three electives from the following courses offered by the College of Engineering and Computer Science. Additional Department of Electrical Engineering and Computer Science courses may be used as electives with prior approval of the advisor:</p>	
Introduction to Neural Networks	CAP 5615
Computational Foundations of Artificial Intelligence	CAP 5625
Introduction to Data Science	CAP 5768
Social Network and Big Data Analytics	CAP 6315
Foundations of Vision	CAP 6411
Applied Machine Learning	CAP 6610
Natural Language Processing	CAP 6640
Data Mining and Machine Learning	CAP 6673
Information Retrieval	CAP 6776
Computational Advertising and Real-Time Data Analytics	CAP 6807
Software Engineering	CEN 5035

Cloud Computing	CEN 5086
Software Maintenance and Evolution	CEN 6027
Software Testing	CEN 6076
Software Architecture and Patterns	CEN 6085
Computer Data Security	CIS 6370
Sensor Networks and Smart Systems	CNT 5109
Mobile Computing	CNT 6517
Theory and Implementation of Database Systems	COP 6731
Topics in Computer Science	COT 5930, COT 6930

Computer Science Data Analytics **Concentration** (30 credits)

Students are required to take the following three courses offered by the Electrical Engineering and Computer Science (EECS) Department:	
Introduction to Data Science	CAP 5768
Software Engineering	CEN 5035
Theory and Implementation of the Database Systems	COP 6731
In addition, students must take four department electives, at least two of which are from the EECS Data Analytics group:	
EECS Data Analytics electives are listed below. Additional department courses may be used with prior approval of the advisor.	
Introduction to Neural Networks	CAP 5615
Social Network and Big Data Analytics	CAP 6315

Data Mining for Bioinformatics	CAP 6546
Applied Machine Learning	CAP 6610
Deep Learning	CAP 6619
Natural Language Processing	CAP 6640
Data Mining and Machine Learning	CAP 6673
Information Retrieval	CAP 6776
Web Mining	CAP 6777
Advanced Data Mining and Machine Learning	CAP 6778
Big Data Analytics with Hadoop	CAP 6780
Computational Advertising and Real-Time Data Analytics	CAP 6807
Computer Performance Modeling	CEN 6405
Other electives are listed below. Additional department courses may be used with prior approval of the advisor.	
Computational Foundations of Artificial Intelligence	CAP 5625
Cloud Computing	CEN 5086
Computer Data Security	CIS 6370
Sensor Networks and Smart Systems	CNT 5109
Mobile Application Development	COP 5675
Advanced Internet Systems	COP 6819
The last three electives must be chosen from the following ITOM courses:	
Data Mining and Predictive Analytics	ISM 6136

Database Management Systems	ISM 6217
Introduction to Business Analytics and Big Data	ISM 6404
Advanced Business Analytics	ISM 6405
Business Innovation with Artificial Intelligence	ISM 6427C
Social Media and Web Analytics	ISM 6555
Special Topics	ISM 6930
Data Management and Analysis with Excel	QMB 6303
Data Analysis for Managers	QMB 6603

Note: Students in this concentration meet the requirements for the Big Data Analytics certificate. Follow up with the advisor to apply for the certificate.

Business Analytics Concentration (33 credits)

Students are required to take the following seven courses offered by the College of Business:	
Management of Information Systems and Technology	ISM 6026
Data Mining and Predictive Analytics	ISM 6136
Introduction to Business Analytics and Big Data	ISM 6404
Advanced Business Analytics	ISM 6405
Business Innovation with Artificial Intelligence	ISM 6427C
Social Media and Web Analytics	ISM 6555
Communication Strategies for Business Professionals and Core-Course Follow-Up	GEB 6215
Students must take one elective from the following ITOM courses:	

Mobile Apps for Business	ISM 6058
Information Technology Project and Change Management	ISM 6316
Management of Information Assurance and Security	ISM 6328
Enterprise Information Technology Service Management	ISM 6368
Web-Based Business Development	ISM 6508
Information Technology Sourcing Management	ISM 6509
Special Topics	ISM 6930
Data Management and Analysis with Excel	QMB 6303
<p>In addition, students must take three electives from the following courses offered by the College of Engineering and Computer Science. Additional department courses may be used as electives with prior approval of the advisor.</p>	
Introduction to Neural Networks	CAP 5615
Computational Foundations of Artificial Intelligence	CAP 5625
Introduction to Data Science	CAP 5768
Social Network and Big Data Analytics	CAP 6315
Data Mining for Bioinformatics	CAP 6546
Applied Machine Learning	CAP 6610
Deep Learning	CAP 6619
Natural Language Processing	CAP 6640
Data Mining and Machine Learning	CAP 6673
Information Retrieval	CAP 6776
Web Mining	CAP 6777
Advanced Data Mining and Machine Learning	CAP 6778

Big Data Analytics with Hadoop	CAP 6780
Computational Advertising and Real-Time Data Analytics	CAP 6807
Computer Performance Modeling	CEN 6405

APPENDIX B

BUDGET

MS in Information Technology Management - MSITM	Year 2022/2023	Year 2023/2024	Year 2024/2025	Year 2025/2026
Total Program Revenues	\$ 972,000	\$ 1,485,000	\$ 1,485,000	\$ 1,485,000
Total University Local Fees (\$68.11 per credit)	\$ 73,559	\$ 112,382	\$ 112,382	\$ 112,382
Total Total University Revenue Fee (5.5% in year 4)	\$ -	\$ -	\$ -	\$ 75,494
Total University Collected Revenues	\$ 73,559	\$ 112,382	\$ 112,382	\$ 187,876
Total Course Revenues College of Business	\$ 898,441	\$ 1,372,619	\$ 1,372,619	\$ 1,297,124
Total Direct Expenses	\$ (427,820)	\$ (596,656)	\$ (596,656)	\$ (596,656)
Indirect Administrative Expenses				
Dedicated Program Coordinator including S&B	\$ (73,700)	\$ (73,700)	\$ (73,700)	\$ (73,700)
Administration/Admission/IT/Fin Aid = 1 FTE at Coordinator Level	\$ (73,700)	\$ (73,700)	\$ (73,700)	\$ (73,700)
Total Indirect Administrative Expenses	\$ (147,400)	\$ (147,400)	\$ (147,400)	\$ (147,400)
Marketing Expenses				
Billboards per year	\$ (37,500)	\$ (18,750)	\$ (18,750)	\$ (18,750)
1 page in Catalog 2 x 350,000 - Design Print & Mail (Actual)	\$ (8,500)	\$ (8,500)	\$ (8,500)	\$ (8,500)
Digital Advertising (Search/Display/Social)	\$ (75,000)	\$ (75,000)	\$ (75,000)	\$ (75,000)
Total Marketing Expenses Before Indirect Expenditures & Overhead	\$ (121,000)	\$ (102,250)	\$ (102,250)	\$ (102,250)
Total Expenditures Before Indirect Expenditures & Overhead	\$ (696,220)	\$ (846,306)	\$ (846,306)	\$ (846,306)
Auxiliary Overhead Fee and Provost Fee from Expenditures	\$ (98,794)	\$ (120,091)	\$ (120,091)	\$ (120,091)
Result	\$ 103,428	\$ 406,222	\$ 406,222	\$ 330,728
We expect the College of Business to spend 80% of the yearly cash balance adding additional overhead revenues to the University.				
Budget Details:				
¹ Revenue and Local Fees:				
- Local fees per credit for athletics (\$19.27), financial aid (\$15.18), activity & service (\$12.32), health (\$9.42), capital improvement (\$6.76), technology (\$5.16)				
- Gross revenue fee at 0% for the first three years, then 5.5% fom year 4				
² Direct Expenses:				
- Faculty salary at \$12,000 per class plus FICA				
- Meals expense at \$20 per day per student				
- Books, materials, and software estimated at \$125.00 per credit				
- Parking at \$185.84 per year				
³ Indirect Expenses:				
- Coordinator salary estimated at \$55,000 per year				
- Marketing may flucutate accoridng to recruiting efforts				
⁴ Aux Overhead and Provost Fees:				
- Provost fee at 3% of expenditures				
- Auxiliary overhead fee at 11.19% of expenditures				