FLORIDA ATLANTIC UNIVERSITY

NEW/CHANGE PROGRAM REQUEST
Graduate Programs

UGPC Approval _____
UFS Approval _____
Banner _____
Catalog _____

Department Information Technology and Operations Management

College Business

Program Name

Graduate Certificate Big Data Analytics Certificate

☐ **New Program***

☑ **Change Program***

Effective Date
(TERM & YEAR)

Fall 2022

Please explain the requested change(s) and offer rationale below or on an attachment.

ITOM is proposing to offer the Graduate Certificate in Big Data Analytics Certificate online and/or face-to-face to accommodate working professionals currently enrolled in the Colleges Self-Supporting programs and as a stand-alone certificate tailored for working professionals and alumni with graduate degrees looking for specialized knowledge in Big Data Analytics.

Please see attached proposal.

*All new programs and changes to existing programs must be accompanied by a catalog entry showing the new or proposed changes.

Faculty Contact/Email/Phone

Dr. T. Dinev / tdinev@fau.edu / 7-3181

Consult and list departments that may be affected by the change(s) and attach documentation

Computer Science, support email attached

Approved by	***Date***
Department Chair	09/23/2021
College Curriculum Chair	09/24/21
College Dean Ken Johnson	09/21/21
UGPC Chair	
UGC Chair	
Graduate College Dean	
UFS President	
Provost	

Email this form and attachments to UGPC@fau.edu 10 days before the UGPC meeting.

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

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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
==========
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: Graduate Certificate Big Data Analytics Certificate

Specialized track (if applicable): Professional

CIP Code: N/A for certificate

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 Graduate Certificate in Big Data Analytics Certificate will be offered online and/or face-to-face to accommodate working professionals currently enrolled in the Colleges Self-Supporting programs and as a stand-alone certificate tailored for working professionals and alumni with graduate degrees that are looking for specialized knowledge in Big Data Analytics. The Graduate Certificate in Big Data Analytics Certificate consists of 12 credits offered jointly by the colleges. The 12-credit certificate allows graduate students to expand their knowledge and skills in the concepts, technologies, and tools of business intelligence, data analytics and business analytics and be recognized for their achievement.

The Graduate Certificate in Big Data Analytics Certificate will provide students with skills and hands-on experiences that meet the market demand locally, in South Florida, as well as nationally and internationally.

Enrollment Projections for Graduate Certificate in Big Data Analytics Certificate:

Year	Head Count	Credit Hours	FTE*
2022	20	240	7.5
2023	20	240	7.5
2024	30	360	11.25
2025	30	360	11.25
2026	30	360	11.25

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

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 Graduate Certificate in Big Data Analytics Certificate is the same for in-state and out-of-state students. This tuition will be at the same as FAU's current tuition for approved self-supporting programs in offered in the College of Business and the College of Engineering and Computer Science. This tuition is set at $800 per credit for online programs in both colleges and $900/965 per credit for on-campus courses in the College of Business.

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 and consist of 12 credits.

The certificate program has two tracks: Computer Science (CS) and Business (BU).

Tracks

CS Track: The Big Data Analytics certificate with a track in Computer Science will be granted to a student who completes three 3-credit courses from the CS Data Analytics course list and one 3-credit course from the ITOM Business Analytics course list.

BU Track: The Big Data Analytics certificate with a track in Business will be granted to a student who completes three 3-credit courses from the ITOM Business Analytics course list and one 3-credit course from the CS Data Analytics course list.

CS Data Analytic Courses **(Select three from this list and one from the list of ITOM courses.)**		
Introduction to Neural Networks	CAP 5615	3
Introduction to Data Science	CAP 5768	3
Social Networks and Big Data Analytics	CAP 6315	3
Data Mining for Bioinformatics	CAP 6546	3
Applied Machine Learning	CAP 6610	3
Deep Learning	CAP 6619	3
Data Mining and Machine Learning	CAP 6673	3
Information Retrieval	CAP 6776	3
Web Mining	CAP 6777	3
Advanced Data Mining and Machine Learning	CAP 6778	3
Big Data Analytics with Hadoop	CAP 6780	3
Computer Performance Modeling	CEN 6405	3
Deep Learning	CAP 6619	3
Computational Advertising and Real-Time Data Analytics	CAP 6807	3
ITOM Business Analytics Courses **(Select three from this list and one from the list of CS courses.)**		
Data Mining and Predictive Analytics	ISM 6136	3
Database Management Systems	ISM 6217	3
Introduction to Business Analytics and Big Data	ISM 6404	3
Advanced Business Analytics	ISM 6405	3
Business Innovation with Artificial Intelligence	ISM 6427C	3
Social Media and Web Analytics	ISM 6555	3
Data Management and Analysis with Excel	QMB 6303	3
Data Analysis for Managers	QMB 6603	3

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 Graduate Certificate in Big Data Analytics Certificate consists of courses that are already offered in FAU's approved self-supporting programs in the College of

Business and the College of Engineering and Computer Science. These programs are 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 students enrolling in the Graduate Certificate in Big Data Analytics Certificate 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 Graduate Certificate in Big Data Analytics Certificate will not be eliminated or scaled back. The program offerings 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 Graduate Certificate in Big Data Analytics Certificate 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. Big Data 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.

Workforce Demand:

The demand for university graduates level 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 students with skillsets in Big Data Analytics. The proposed Graduate Certificate in Big Data Analytics Certificate is designed to allow working professionals in the region to continue working full-time while they pursue their degree. The Graduate Certificate in Big Data Analytics Certificate is already popular among our corporate educational partner JM Family Enterprises. JM Family Enterprises has enrolled 48 students Graduate Certificate in Big Data Analytics Certificate since the inception of the corporate educational partnership, fall 2019.

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 Dean College of Business	9/24/2021 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