FLORIDA ATLANTIC UNIVERISTY

New Combined Degree Program Request

UUPC Approval 12-6-21

UGPC Approval _____

UFS Approval _____

Banner Posted _____

Catalog _____

New Combined Degree Program Request

BS DSA (DSE) to MS DSA (DSE) or MS ITM (AIT or CS DA) or MS AI

Proposed Program: _____ CIP: _____ Effective Date (Term/Year): Summer 2022 _____/_____ *(e.g. Fall/2020)*

Proposed Combined Program Information	Undergraduate	Graduate
Degree Level (e.g. B.A., B.S., M.A., M.S., etc.)	BS	MS
Program Name (e.g. Physics, Engineering, etc.)	Data Science and Analytics (Data Science and Engineering concentration)	MS Data Science and Analytics (DSE concentration) or MS Information Tech. and Management (AIT or CS DA concentrations) or MS Artificial Intelligence
College	Engineering and Comp. Sci.	Engineering and Computer Science
Department	Electrical Eng. and Comp. Sci.	Electrical Eng. and Comp. Sci.
Program Description (provide a brief description of the program, including thesis or non-thesis option)	This is a combined program with BS Data Science and Analytics (Data Science and Engineering concentration) to MS in Data Science and Analytics (Data Science and Engineering concentration) or MS Information Technology and Management (Advanced Information Technology or CS Data Analytics concentrations) or MS in Artificial Intelligence. Up to 9 graduate credits can be double-counted in the bachelor and master's degrees. This program does not increase the number of credits in the undergraduate degree.	

Curriculum Requirements

GPA Requirements: Departments must establish a minimum undergraduate GPA for students to be admitted to a combined program. *Note: Please attach explanation.*

The minimum undergraduate GPA is 3.25.

List courses to be shared: Up to twelve (12) credit hours of graduate courses (5000 level or above course work) may be shared between the graduate and undergraduate degree for a combined program. *Note: Please attach explanation:*

- *Academic justification for shared credits and catalog language*
- *List the undergraduate course that will be replaced by graduate courses.*

	Name	Signature	Email	Date
Faculty Submitting Request	Dr. Hanqi Zhuang		zhuang@fau.edu	

Approved by	***Date***
Department Chair: _____	10/26/2021
College Dean: _____	11/07/2021
College Curriculum Chair: _____	11/08/2021
UUPC Chair: _____	12-6-21
Undergraduate Studies Dean: Edward Pratt *(Note: Forward approved form to UGPC@fau.edu)*	12-6-21
UGPC Chair: _____	
UGC Chair: _____	
Graduate College Dean: _____	
UFS President: _____	
Provost: _____	

Email this form and syllabus to mjenning@fau.edu seven business days before the UUPC meeting.

B.S. in Data Science and Analytics (Data Science and Engineering concentration) to M.S. in Data Science and Analytics (Data Science and Engineering concentration) or M.S. in Information Technology and Management (Advanced Information Technology or CS Data Analytics concentrations) or M.S. in Artificial Intelligence Degree Program

The department of Electrical Engineering and Computer Science offers a combined B.S. in Data Science and Analytics (Data Science and Engineering concentration) to M.S. in Data Science and Analytics (Data Science and Engineering concentration) or M.S. in Information Technology and Management (Advanced Information Technology or CS Data Analytics concentrations) or M.S. in Artificial Intelligence Degree Program.

Students may count up to 9 credits of approved graduate coursework (5000 level or higher) toward both their bachelor's and master's degrees, see Table1. These graduate courses will replace the general elective courses in the bachelor's program. The proposed program does not increase the number of credits in the undergraduate degree.

All the combined programs total a minimum of 150 credits:

1. The student has met the minimum 120 credits for the bachelor's degree; and
2. The student has taken a minimum of 30 credits in 5000 level or higher courses for the master's program.

Table 1. Graduate Courses to be counted toward both the bachelor's and master's degree. Additional courses may be used with prior approval of the graduate advisor.

M.S. in Data Science and Analytics (DSE)		
Introduction to Data Science	CAP 5768	3
Data Mining and Machine Learning	CAP 6673	3
Information Retrieval	CAP 6776	3
M.S. in Information Technology and Management (AIT or CS DA)		
Software Engineering	CEN 5035	3
Theory and Implementation of Database Systems	COP 6371	3
Introduction to Data Science	CAP 5768	3
M.S. in Artificial Intelligence		
Computational Foundations of Artificial Intelligence	CAP 5625	3
Data Mining and Machine Learning	CAP 6673	3
Introduction to Data Science	CAP 5768	3

This combined program provides an attractive way for students to continue their graduate work. Students complete the undergraduate program first. The combined program can be completed in approximately five years.

Admission Requirements
The GRE requirement is waived for this combined program. To be eligible for the combined program, the bachelor's students should:

1. Have a cumulative FAU GPA of 3.25 or better at the end of their junior year. Note that the cumulative FAU GPA of at least 3.25 must be maintained until the completion of the bachelor's degree.

2. Formally apply to the combined program, completing the admissions process at least one semester prior to the beginning of the M.S. portion of their program.

Students in the combined program must maintain continuous enrollment to remain in good standing.

Degree Requirements
To be eligible for the combined bachelor to master program, students must fulfill the following requirements:

1. Completion of the requirements for the combined B.S. in Data Science and Analytics (Data Science and Engineering concentration) program, and other requirements stipulated by the University and College
2. Completion of all requirements for the M.S. in Data Science and Analytics (Data Science and Engineering concentration) or M.S. in Information Technology and Management (Advanced Information Technology or CS Data Analytics concentrations) or M.S. in Artificial Intelligence program, on either the thesis or non-thesis option.

Sample four-year program of study, BS Data Science and Analytics (Data Science and Engineering concentration)

120 credits

Graduate Course 1, Graduate Course 2, and Graduate Course 3 are listed in Table 1, based on the master program.

Year One (32 cr)
FALL (16 credits)
ENC 1101* College Writing 1 (3)
MAC 2311 Calculus with Analytic Geometry 1 (4)
ANT 2410 Culture and Society (3)
EVR 2017 Environment and Society (3)
PSY 1012 Introduction to Psychology (3)

SPRING (16 credits)
ENC 1102* College Writing 2 (3)
MAD 2104 Discrete Mathematics (3)
COP 2220 Introduction to Programming in C (3)
GLY 2010C Physical Geology (4 cr. incl. Lab)
EVR 1001 Environmental Science and Sustainability (3)

Year Two (30 cr)
FALL (15 credits)
STA 2023 Introductory Statistics (3)
WOH 2012 & D* History of Civilization 1 (3)
MAP 2190 Mathematics of Data Science (3)
COP 3014 Foundations of Computer Science (3)
ARH 2000 Art Appreciation (3)

SPRING (15 credits)
PHI 2010 & D* Introduction to Philosophy (3)
CAP 2751 Tools for Data Science (3)
CAP 2750 Experimental Design and Data Analysis (3)
CCJ 3071 Artificial Intelligence for Social Good (3)
COP 3530 Data Structures and Algorithm Analysis (3)

Year Three (30 cr)
FALL (15 credits)
QMB 3302 Data Management and Analysis with Excel (3)
CAP 4773 Introduction to Data Science and Analytics (3)
CAP 4770 Introduction to Data Mining and Machine Learning (3)
COP 4045 Python Programming (3)
Free elective - Graduate Course 1 (3)

SPRING (15 credits)
CAP 4613 Introduction to Deep Learning (3)
COP 3540 Introduction to Database Structures (3)
CAP 4630 Introduction to Artificial Intelligence (3)

Free elective – Graduate Course 2 (3)
Free elective – Graduate Course 3 (3)

Year Four (28 cr)
FALL (14 credits)
ISC 4312 Data Science Capstone (2)
Free elective (3)
Free elective (3)
Free elective (3)
Free elective (3)

SPRING (14 credits)
ISC 4312 Data Science Capstone (2)
Free elective (3)
Free elective (3)
Free elective (3)
Free elective (3)

* WAC course