FLORIDA ATLANTIC UNIVERSITY

New Combined Degree Program Request

UGPC/UGC Approval _____

UUPC Approval _____

UFS Approval _____

Banner Posted _____

Catalog _____

New Combined Degree Program Request

Proposed Program: BS/BA to MS CIP: _____ Effective Date (Term/Year): Summer / 2026 *(e.g. Fall/2020)*

Proposed Combined Program Information	Undergraduate	Graduate
Degree Level (e.g. B.A., B.S., M.A., M.S., etc.)	BSCE BACS BACS	MSEE or MSCS MSDA MS AI
Program Name (e.g. Physics, Engineering, etc.)	Engineering	Engineering
College	Engineering and Computer Science	Engineering and Computer Science
Department	EECS	EECS
Program Description (provide a brief description of the program, including thesis or non-thesis option)	Students in the BSCE Program can join the MSEE or MSCE program. Students in the BACS Program can join the MSDSA or MSAI program. While in the respective MS program, students will satisfy all the corresponding degree requirements, including the Thesis/Non-Thesis options..	

Curriculum Requirements

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

Minimum GPA: 3.25
No GRE required

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	Valentine Aalo	Valentine Aalo	aalo@fau.edu	1/28/26

Approved by

	Date
Department Chair: Hai Kalva	1.28.2026
College Dean: Raquel Assis	2/10/2026
College Curriculum Chairs (GR and UG): A.R. Nayak, Galan Liu	02/10/2026
UGPC Chair: Aldo Sementelli (Feb 23, 2026 21:48:10 EST)	02/23/2026
UGC Chair: Aldo Sementelli (Feb 23, 2026 21:48:10 EST)	02/23/2026
Graduate College Dean:	02/24/2026
UUPC Chair:	
Undergraduate Studies Dean:	
UFS President:	
Provost:	

Email this form and the new program's catalog entry to ugpc@fau.edu (copy mjenning@fau.edu) six business days before the UGPC/UGC meeting.

New combined degree programs must be approved by the Provost's Office before being submitted to the committees for review/approval. Send program form and catalog entry to Debra Szabo (dszabo@fau.edu). Once approved, submit approval email along with this form and catalog entry as noted above.

For questions, contact the Graduate College at ugpc@fau.edu.

DEPARTMENT JOINT BS/MS DEGREE PROGRAM

BENEFITS OF THE PROGRAM

- Students can earn their master's degree in one year after receiving their bachelor's degree.
- Students can take up to 12 credits of graduate coursework in their senior year for both the bachelor's and master's degrees.
- The GRE is not required for this program.

JOINT BS/MS PROGRAMS

The EECS department offers the following Joint BS/MS programs:

- BA in Computer Science to MS in Information Technology and Management (Advanced Information Technology and CS Data Analytics concentrations) or MS in Data Science and Analytics or MS in Artificial Intelligence.
- BS in Computer Science to MS in Computer Science or MS in Artificial Intelligence or MS in Biomedical Engineering or MS in Information Technology and Management (Advanced Information Technology and CS Data Analytics concentrations).
- BS in Computer Engineering to MS in Computer Engineering or MS in Artificial Intelligence or MS in Biomedical Engineering or MS in Computer Science or MS in Electrical Engineering or MS in Information Technology and Management (Advanced Information Technology and CS Data Analytics concentrations).
- BS in Data Science and Analytics (Data Science and Engineering concentration) to MS in Data Science and Analytics (Data Science and Engineering concentration) or MS in Information Technology and Management (Advanced Information Technology and CS Data Analytics concentrations) or MS in Artificial Intelligence.
- BS in Electrical Engineering to MS Electrical Engineering or MS in Computer Engineering or MS in Biomedical Engineering or MS in Artificial Intelligence or MS in Information Technology and Management (Advanced Information Technology and CS Data Analytics concentrations).

COMPUTER ENGINEERING TO ELECTRICAL ENGINEERING

BACHELOR OF SCIENCE (B.S.) IN COMPUTER ENGINEERING TO MASTER OF SCIENCE (M.S.) IN ELECTRICAL ENGINEERING COMBINED PROGRAM

(Minimum of 150 credits required)

This combined degree program allows Bachelor of Science (B.S.) students in Computer Engineering with a cumulative GPA of at least 3.25 at the end of their junior year the opportunity to jointly complete their Bachelor of Science (B.S.) in Computer Engineering and a Master of Science (M.S.) in Electrical Engineering degree within approximately five years. After application and admittance to the graduate program at the beginning of their senior year, up to 12 credits of approved graduate-level courses (5000-level or higher) may be taken and counted toward both the B.S. and M.S. degrees, if the following criteria are met:

1. The student has met the minimum of 120 credits for the B.S. degree, and
2. The student has taken a minimum of 30 credits (5000-level or higher) for the M.S. in Electrical Engineering.

The combined degree program is 150 credits, with 120 for the undergraduate degree and 30 for the master's degree. Students complete the undergraduate degree first and take up to 12 credits of graduate coursework in their senior year, which will be used to satisfy both degrees. Students must retain a cumulative GPA of 3.25 by the time of graduation.

Prerequisite coursework for the M.S. in Electrical Engineering includes electronics laboratory and signal and digital filter design, all of which are fulfilled through the required coursework in the B.S. in Computer Engineering. Therefore, all remaining requirements for the M.S. in Electrical Engineering consist of graduate-level courses.

Credits counted toward bachelor's and master's Degrees

To fulfill these requirements within the combined program, students may substitute the following B.S. in Computer Engineering technical elective and research courses with the following M.S. in Electrical Engineering core courses:

Undergraduate Course Requirements	Graduate Course Requirements
Prerequisite courses (12 credits) EEL 3118L Electronics Laboratory 1 EEL 3502 Signals & Digital Filter Design CDA 4638 Introduction to Embedded System Design EEE 4541 Stochastic Processes and Random Signal	CGS 5937 Graduate Seminar 1 (0 credit) Complete one graduate level Math course with prefix: MAA, MAD, MAS. MAT, MHF, MGT, or STA. Any of the following courses may satisfy the math requirement: EEL 5502 Digital Processing of Signals EEL 5613 Modern Control EEL 6532/COT 6426 Information Theory (See MSEE Worksheet for a longer list) Non-thesis option: Complete 18 credit hours (six courses) of core courses with EEL or EEE prefixes from the EEC department. Thesis option: Complete 12 credit hours (4 courses) of core courses with EEL or EEE prefixes from the EEC department and 6 credits of thesis: EEL 6971 Master's thesis Electrical Engineering A minimum of 15 credit hours must be taken at the 6000 level from the EECS department. A maximum of 3 credit hours of Directed Independent Study (DIS) can be taken (faculty approval required).

Other graduate-level courses within the M.S. in Electrical Engineering program may also be considered but must be approved by the student's academic advisor.

Substitution of selected 5000- or 6000-level M.S. in Electrical Engineering courses for B.S. in Computer Engineering (CE) electives will not compromise degree integrity. These graduate courses exceed the rigor and outcomes of the undergraduate electives they replace and do not alter ABET/core CE requirements. Students still complete 120 B.S. credits and 30 M.S. credits within the approved combined plan. Thus, the substitutions maintain the standards of both degrees while strengthening interdisciplinary preparation.

COMPUTER ENGINEERING TO COMPUTER SCIENCE

BACHELOR OF SCIENCE (B.S.) IN COMPUTER ENGINEERING TO MASTER OF SCIENCE (M.S.) IN COMPUTER SCIENCE COMBINED PROGRAM

(Minimum of 150 credits required)

This combined degree program allows Bachelor of Science (B.S.) students in Computer Engineering with a cumulative GPA of at least 3.25 at the end of their junior year the opportunity to jointly complete their Bachelor of Science (B.S.) in Computer Engineering and a Master of Science (M.S.) in Computer Science degree within approximately five years. After application and admittance to the graduate program at the beginning of their senior year, up to 12 credits of approved graduate-level courses (5000-level or higher) may be taken and counted toward both the B.S. and M.S. degrees, if the following criteria are met:

1. The student has met the minimum of 120 credits for the B.S. degree, and
2. The student has taken a minimum of 30 credits (5000-level or higher) for the M.S. in Computer Science.

The combined degree program is 150 credits, with 120 for the undergraduate degree and 30 for the master's degree. Students complete the undergraduate degree first and take up to 12 credits of graduate coursework in their senior year, which will be used to satisfy both degrees. Students must retain a cumulative GPA of 3.25 by the time of graduation.

Prerequisite coursework for the M.S. in Computer Science includes the expectation to have taken Calculus 2 and a statistics course, to be proficient in programming, and to be knowledgeable in the topics of data structures, algorithm design and analysis, operating systems, and computer architecture, all of which are fulfilled through the required coursework in the B.S. in Computer Engineering. Therefore, all remaining requirements for the M.S. in Computer Science consist of graduate-level courses.

Credits counted toward bachelor's and master's Degrees

To fulfill these requirements within the combined program, students may substitute the following B.S. in Computer Engineering technical elective and research courses with the following M.S. Computer Science core courses:

Undergraduate Course Requirements	Graduate Course Requirements
Prerequisite courses (12 credits) COP 3035 Introduction to Programing in Python COP 3530C Data Structures & Alg. Analysis COP 4610 Computer Operating Systems CDA 4102 Computer Architecture	CGS 5937 Graduate Seminar 1 (0 credit) Complete two core courses (6 credits): CEN 5035 Software Engineering COT 6405 Analysis of Algorithms Non-thesis option: Choose 8 graduate courses (24 credits) offered by the EECS department. Thesis option: Choose 6 graduate courses (18 credits) offered by the EECS department and 6 credit hours of thesis: ECM 6971 Master's Thesis Computer Engineering A minimum of 15 credit hours must be taken at the 6000 level from the EECS department. A maximum of 3 credit hours of Directed Independent Study (DIS) can be taken (faculty approval required).

Other graduate-level courses within the M.S. in Computer Science may also be considered but must be approved by the student's academic advisor.

Substitution of selected 5000- or 6000-level M.S. in Computer Science courses for B.S. in Computer Engineering (CE) electives will not compromise degree integrity. These graduate courses exceed the rigor and outcomes of the undergraduate electives they replace and do not alter ABET/core CE requirements. Students still complete 120 B.S. credits and 30 M.S. credits within the approved combined plan. Thus, the substitutions maintain the standards of both degrees while strengthening interdisciplinary preparation.

COMPUTER SCIENCE TO DATA SCIENCE AND ANALYTICS

BACHELOR OF ARTS (B.A.) IN COMPUTER SCIENCE TO MASTER OF SCIENCE (M.S.) IN DATA SCIENCE AND ANALYTICS COMBINED PROGRAM

(Minimum of 150 credits required)

This combined degree program allows Bachelor of Arts (B.A.) students in Computer Science with a cumulative GPA of at least 3.25 at the end of their junior year, the opportunity to jointly complete their Bachelor of Arts (B.A.) in Computer Science and a Master of Science (M.S.) in Data Science and Analytics degree within approximately five years. After application and admittance to the graduate program at the beginning of their senior year, up to 12 credits of approved graduate-level courses (5000-level or higher) may be taken and counted toward both the B.A. and M.S. degrees, if the following criteria are met:

1. The student has met the minimum of 120 credits for the B.A. degree, and
2. The student has taken a minimum of 30 credits (5000-level or higher) for the M.S. in Data Science and Analytics.

The combined degree program is 150 credits, with 120 for the undergraduate degree and 30 for the master's degree. Students complete the undergraduate degree first and take up to 12 credits of graduate coursework in their senior year, which will be used to satisfy both degrees. Students must retain a cumulative GPA of 3.25 by the time of graduation.

Prerequisite coursework for the M.S. in Data Science and Analytics includes the expectations to have completed a college-level programming course, a calculus course (MAC 2233 Methods of Calculus or equivalent), and a course in statistics, all of which are fulfilled through the required coursework in the B.A. in Computer Science. Therefore, all remaining requirements for the M.S. in Data Science and Analytics consist of graduate-level courses.

Credits counted toward bachelor's and master's Degrees

To fulfill these requirements within the combined program, students may substitute the following B.A. in Computer Engineering technical elective and research courses with the following M.S. Data Science and Analytics core courses:

Undergraduate Course Requirements	Graduate Course Requirements
Prerequisite courses (9 credits) MAC 2233 Method of Calculus or equivalent STA 2023 Introduction to Statistics COP 3035 Introduction to Programming in Python	CGS 5937 Graduate Seminar 1 (0 credit) Complete three core courses (9 credits) C AP 5768 Intro to Data Science C AP 5625 Computational Foundations of AI Choose one course with prefix CAI, CAP, STA, POS, COP, MAD, or PHY. Complete one concentration course (3 credits): CEN 5086 Cloud Computing Choose any one Database system course (3 credits) COP 6726 New Directions in Database Systems OR COP 6731 Theory and Implementation of Database Systems Choose two graduate courses (6 credits) with prefix "CAP" from the EECS department. Non-thesis option: Choose any three elective courses (9 credits) from the list below. Thesis option: Choose one elective course (3 credits) from the list below and 6 credit hours of thesis: COT 6970 Master's Thesis-Computer Science. **Elective Courses** **Business Analytics:** ISM 6136 Data Mining and Predictive Analytics ISM 6217 Database Management Systems ISM 6404 Introduction to Business Analytics and Big Data ISM 6405 Advanced Business Analytics ISM 6555 Social Media and Web Analytics QMB 6303 Data Management and Analysis with Excel QMB 6603 Data Analysis for Managers

	Database and Cloud Computing: CDA 6132 Multiprocessor Architecture CEN 5086 Cloud Computing COP 6726 New Directions in Database Systems COP 6731 Theory and Implementation of Database Systems ISM 6217 Database Management Systems **Data Mining and Machine Learning:** CAP 5615 Introduction to Neural Networks CAP 6315 Social Networks and Big Data Analytics CAP 6546 Data Mining for Bioinformatics CAP 6618 Machine Learning for Computer Vision CAP 6619 Deep Learning CAP 6629 Reinforcement Learning CAP 6635 Artificial Intelligence CAP 6673 Data Mining and Machine Learning CAP 6610 Applied Machine Learning CAP 6776 Information Retrieval CAP 6777 Web Mining CAP 6778 Advanced Data Mining and Machine Learning CAP 6780 Big Data Analytics with Hadoop CAP 6807 Computational Advertising and Real-Time Analytics CEN 6405 Computer Performance Modeling ISM 6136 Data Mining and Predictive Analytics **Data Security and Privacy:** CIS 6370 Computer Data Security CAI 6803 Data Analysis and Modeling for Cybersecurity ISM 6328 Management of Information Assurance and Security MAD 5474 Introduction to Cryptology and Information Security MAD 6478 Cryptanalysis PHY 6646 Quantum Mechanics 2 **Scientific Applications and Modeling:** GIS 6028C Photogrammetry & Aerial Photography Interpretation GIS 6032C LiDAR Remote Sensing and Applications GIS 6061C Web GIS GIS 6112C Geospatial Databases

	GIS 6127 Hyperspectral Remote Sensing GIS 6306 Spatial Data Analysis PHY 6938 Special Topics (Quantum Information Processing) PHZ 5156 Computational Physics PHZ 7609 Numerical Relativity **Social Data Science:** ANG 6090 Advanced Anthropological Research 1 ANG 6092 Advanced Anthropological Research 2 ANG 6486 Quantitative Reasoning in Anthropological Research CAP 6315 Social Networks and Big Data Analytics COM 6316 Quantitative Communications Research POS 6746 Quantitative Methods in Political Science POS 6736 Research Design in Political Science SYA 6305 Seminar in Advanced Research Methods **Statistics and Data Applications:** BSC 6459 Biomedical Data and Informatics STA 5195 Biostatistics STA 6106 Statistical Computing STA 6177 Survival Analysis STA 6197 Biostatistics – Longitudinal Data Analysis STA 6207 Applied Statistical Methods STA 6236 Regression Analysis STA 6326 Mathematical Statistics STA 6857 Applied Time Series Analysis MTA 6329 Applied Computational Topology A minimum of 15 credit hours must be taken at the 6000 level from the EECS department. A maximum of 3 credit hours of Directed Independent Study (DIS) can be taken (faculty approval required).

Other graduate-level courses within the M.S. in Data Science and Analytics may also be considered but must be approved by the student's academic advisor.

Substitution of selected 5000- or 6000-level M.S. in Data Science and Analytics courses for B.A. in Computer Science (CS) electives will not compromise degree integrity. These graduate courses exceed the rigor and outcomes of the undergraduate electives they replace and do not alter ABET/core CS requirements. Students still complete 120 B.S. credits and 30 M.S. credits

within the approved combined plan. Thus, the substitutions maintain the standards of both degrees while strengthening interdisciplinary preparation.

COMPUTER SCIENCE TO ARTIFICIAL INTELLIGENCE

BACHELOR OF ARTS (B.A.) IN COMPUTER SCIENCE TO MASTER OF SCIENCE (M.S.) IN ARTIFICIAL INTELLIGENCE COMBINED PROGRAM

(Minimum of 150 credits required)

This combined degree program allows Bachelor of Arts (B.A.) students in Computer Science with a cumulative GPA of at least 3.25 at the end of their junior year, the opportunity to jointly complete their Bachelor of Arts (B.A.) in Computer Science and a Master of Science (M.S.) in Artificial Intelligence degree within approximately five years. After application and admittance to the graduate program at the beginning of their senior year, up to 12 credits of approved graduate-level courses (5000-level or higher) may be taken and counted toward both the B.A. and M.S. degrees, if the following criteria are met:

1. The student has met the minimum of 120 credits for the B.A. degree, and
2. The student has taken a minimum of 30 credits (5000-level or higher) for the M.S. in Artificial Intelligence.

The combined degree program is 150 credits, with 120 for the undergraduate degree and 30 for the master's degree. Students complete the undergraduate degree first and take up to 12 credits of graduate coursework in their senior year, which will be used to satisfy both degrees. Students must retain a cumulative GPA of 3.25 by the time of graduation.

Prerequisite coursework for the M.S. in Artificial Intelligence includes the expectations to have taken Calculus 1 or Methods of Calculus and a statistics course, to be proficient in programming, and to be knowledgeable in data structures and algorithm analysis, all of which are fulfilled through the required coursework in the B.A. in Computer Science. Therefore, all remaining

requirements for the M.S. in Artificial Intelligence consist of graduate-level courses.

Credits counted toward bachelor's and master's Degrees

To fulfill these requirements within the combined program, students may substitute the following B.A. in Computer Engineering technical elective and research courses with the following Artificial Intelligence core courses:

Undergraduate Course Requirements	Graduate Course Requirements
Prerequisite courses (12 credits) MAC 2233 Method of Calculus or equivalent STA 2023 Introduction to Statistics COP 3035 Introduction to Programming in Python COP 3410 Data Structures and Algorithm Analysis with Python	CGS 5937 Graduate Seminar 1 (0 credit) Complete four core courses (12 credits) from the list below: CAP 5625 Computational Foundations of Artificial Intelligence CAP 6635 Artificial Intelligence CAP 6619 Deep Learning CAP 6629 Reinforcement Learning Choose any one course (3 credits) from the list below: CAP 6415 Computer Vision OR CAP 6618 Machine Learning for Computer Vision OR CAP 6640 Natural Language Processing Non-thesis option: Choose any five graduate courses (15 credits) offered by EECS department and a minimum of 6 credits at the 6000-level. Thesis option: Choose any three graduate courses (9 credits) offered by EECS department and a minimum of 3 credits at the 6000-level, and 6 credit hours of thesis: CAP 6974 Master's Thesis Artificial Intelligence. A minimum of 15 credit hours must be taken at the 6000 level from the EECS department. A maximum of 3 credit hours of Directed Independent Study (DIS) can be taken (faculty approval required).

Other graduate-level courses within the M.S. in Artificial Intelligence may also be considered but must be approved by the student's academic advisor.

Substitution of selected 5000- or 6000-level M.S. in Artificial Intelligence courses for B.A. in Computer Science (CS) electives will not compromise degree integrity. These graduate courses exceed the rigor and outcomes of the undergraduate electives they replace and do not alter ABET/core CS requirements. Students still complete 120 B.S. credits and 30 M.S. credits within the approved combined plan. Thus, the substitutions maintain the standards of both degrees while strengthening interdisciplinary preparation.