FLORIDA ATLANTIC UNIVERSITY

New Combined Degree Program Request

UGPC/UGC Approval 11-03-25
UUPC Approval _____
UFS Approval _____
Banner Posted _____
Catalog _____

New Combined Degree Program Request

Proposed Program: B.S. in BME to M.S. in AI CIP: _____ Effective Date (Term/Year): Spring 2026 *(e.g. Fall/2020)*

Proposed Combined Program Information	Undergraduate	Graduate
Degree Level (e.g. B.A., B.S., M.A., M.S., etc.)	B.S.	M.S.
Program Name (e.g. Physics, Engineering, etc.)	Biomedical Engineering	Artificial Intelligence
College	Engineering and Computer Science	Engineering and Computer Science
Department	Biomedical Engineering	Electrical Engineering and Computer Science
Program Description (provide a brief description of the program, including thesis or non-thesis option)	This combined degree program allows students to complete both a B.S. in Biomedical Engineering and an M.S. in Artificial Intelligence within five years. The combined degree program is 150 credits, with 120 credits for the undergraduate degree and 30 credits for the graduate degree. After application and admittance to the M.S. graduate program at the beginning of the senior year, up to 12 credits of approved graduate-level courses may be taken and counted toward both the B.S. and M.S. programs. Students may select either the thesis or non-thesis option of the M.S. 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.*

Cumulative GPA of at least 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	Raquel Assis	Raquel Assis	rassis@fau.edu	8/29/25

Approved by / ***Date***

Department Chair: Jawad Mir — 8/29/2025
College Dean: Raquel Assis — 8/29/2025
College Curriculum Chairs (GR and UG): A.R. Hoyos, Galan Liu — 9/25/23, 9/25/25
UGPC Chair: _____
UGC Chair: _____
Graduate College Dean: _____
UUPC Chair: Korey Sorge — 11-03-25
Undergraduate Studies Dean: Dan Meeroff — 11-03-25
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.

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- *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	Raquel Assis	Raquel Assis	rassis@fau.edu	8/29/25

Approved by	*Date*
Department Chair: Javad Mohammadpour	8/29/2025
College Dean: Raquel Assis	8/29/2025 9/25/23
College Curriculum Chairs (GR and UG): A.R. Hoyos Galan Liu	8/29/2025 9/25/25
UGPC Chair: Mir Sementelli (Oct 31, 2025 08:29:33 EDT)	10/31/2025
UGC Chair: Mir Sementelli (Oct 31, 2025 08:29:33 EDT)	10/31/2025
Graduate College Dean: Robert W Stackman	10/31/2025
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.

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

BIOMEDICAL ENGINEERING TO ARTIFICIAL INTELLIGENCE BACHELOR OF SCIENCE (B.S.) IN BIOMEDICAL ENGINEERING TO MASTER OF SCIENCE (M.S.) IN ARTIFICIAL INTELLIGENCE COMBINED PROGRAM

(Minimum of 150 credits required)

This combined degree program allows Bachelor of Science (B.S.) students in Biomedical Engineering with a cumulative GPA of at least 3.25 at the end of their junior year the opportunity to jointly complete their B.S. 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.S. and M.S. degrees, as long as 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 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 FAU institutional GPA of 3.25 by the time of graduation with their bachelor's degree.

Prerequisite coursework for the M.S. in Artificial Intelligence includes undergraduate-level calculus, statistics, and programming, all of which are fulfilled through the required coursework in the B.S. in Biomedical Engineering. 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.S. in Biomedical Engineering technical elective and research courses with the following M.S. in Artificial Intelligence core courses:

Undergraduate Course Requirements	Graduate Course Requirements
Biorobotics Track	
Required: Free electives (9 credits) BME 4070C Methods in BME Research (3 credits)	Required: Core courses (12 credits) Choose up to four courses: CAP 5625 Computational Foundations of Artificial Intelligence (3 credits) CAP 6415 Computer Vision (3 credits) CAP 6635 Artificial Intelligence (3 credits) CAP 6618 Machine Learning for Computer Vision (3 credits) CAP 6619 Deep Learning (3 credits) CAP 6629 Reinforcement Learning (3 credits) CAP 6640 Natural Language Processing (3 credits) CAP 6315: Soc Netwks/Big Data Analytics
Biomaterials & Tissue Engineering Track	
Required: Free electives (12 credits) BME 4070C Methods in BME Research (3 credits) BME 4201 Orthopedic Biomechanics (3 credits)	Required: Core courses (12 credits) Choose up to four courses: CAP 5625 Computational Foundations of Artificial Intelligence (3 credits) CAP 6415 Computer Vision (3 credits) CAP 6635 Artificial Intelligence (3 credits) CAP 6618 Machine Learning for Computer Vision (3 credits) CAP 6619 Deep Learning (3 credits) CAP 6629 Reinforcement Learning (3 credits) CAP 6640 Natural Language Processing (3 credits) CAP 6315: Soc Netwks/Big Data Analytics
Biomedical Devices & Smart Health Track	
Required: Free electives (6 credits) BME 4070C Methods in BME Research (3 credits) BME 4100 Biomaterials (3 credits)	Required: Core courses (12 credits) Choose up to four courses: CAP 5625 Computational Foundations of Artificial Intelligence (3 credits) CAP 6415 Computer Vision (3 credits) CAP 6635 Artificial Intelligence (3 credits) CAP 6618 Machine Learning for Computer Vision (3 credits) CAP 6619 Deep Learning (3 credits) CAP 6629 Reinforcement Learning (3 credits) CAP 6640 Natural Language Processing (3 credits) CAP 6315: Soc Netwks/Big Data Analytics

Other graduate-level courses within the M.S. in Artificial Intelligence 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 Artificial Intelligence courses for B.S. in Biomedical Engineering (BME) 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 BME 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.

Outlook

RE: BS BME/MS AI

From Hari Kalva <hkalva@fau.edu>
Date Tue 9/23/2025 10:17 AM
To Javad Hashemi <jhashemi@fau.edu>; Fred Bloetscher <fbloetsc@fau.edu>
Cc Raquel Assis <rassis@fau.edu>; Myeongsub Kim <kimm@fau.edu>; Stella Batalama <sbatalama@fau.edu>; Hanqi Zhuang <zhuang@fau.edu>

Hi Javad, EECS supports the proposed BS BME/MS AI program.

Best,
Hari

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Hari Kalva, Ph.D., FNAI
Chair and Professor
Dept. of Electrical Engineering and Computer Science (eecs.fau.edu)
Director, Multimedia Systems Lab, (mlab.fau.edu)

Florida Atlantic University
Boca Raton, FL 33431

From: Javad Hashemi <jhashemi@fau.edu>
Sent: Tuesday, September 23, 2025 8:52 AM
To: Fred Bloetscher <fbloetsc@fau.edu>
Cc: Raquel Assis <rassis@fau.edu>; Myeongsub Kim <kimm@fau.edu>; Hari Kalva <hkalva@fau.edu>; Stella Batalama <sbatalama@fau.edu>; Hanqi Zhuang <zhuang@fau.edu>
Subject: BS BME/MS AI

Dear Fred, as discussed before, BS ME/MS AI, BS EE/MS AI, and even BS CE / MS AI were all developed with Hanqi's help. BS BME/MS AI is an extension of this initiative and has exactly the same requirements. I discussed this with both the Dean and Hari. Please approve the program so we can proceed.

Mike, please provide anything elas that Fred may need.

Thank you.
Javad
Javad Hashemi, PhD

Chair, Department of Biomedical Engineering

Associate Dean for Research

Administrator, Link Ocean Engineering and Instrumentation Program

College of Engineering and Computer Science

Florida Atlantic University