FLORIDA ATLANTIC UNIVERISTY

New Combined Degree Program Request

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New Combined Degree Program Request

Proposed Program: BS in Mechanical Engineering/MS in Artificial Intelligence CIP: _____ Effective Date (Term/Year): Fall /2021 *(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.)	Mechanical Engineering	Artificial Intelligence
College	Engineering and Computer Science	Engineering and Computer Science
Department	Ocean and Mechanical Engineering	Computer and Electrical engineering and Computer Science
Program Description (provide a brief description of the program, including thesis or non-thesis option)	This is a combined program with B.S. in Mechanical Engineering to MS in Artificial Intelligence. Up to 9 graduate credits can be double-counted in the bachelor and MS degrees. This combined program requires 2 extra leveling courses for the MSAI. The 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.*

Cumulative GPA of at least 3.25 at the end of the junior year.

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	Hanqi Zhuang Digitally signed by Hanqi Zhuang Date: 2021.03.10 10:23:20 -05'00'	zhuang@fau.edu	

Approved by ***Date***

Department Chair: Hanqi Zhuang Digitally signed by Hanqi Zhuang Date: 2021.03.10 10:23:40 -05'00' Digitally signed by Manhar Dhanak DN: cn=Manhar Dhanak, o=Florida Atlantic University, ou=Ocean and Mechnical Engineering, email=dhanak@fau.edu, c=US Date: 2021.03.11 17:17:29 -05'00' _____

College Dean: Digitally signed by Mihaela Cardei DN: cn=Mihaela Cardei, o=Florida Atlantic University, ou, email=mcardei@fau.edu, c=US Date: 2021.03.11 08:00:48 -05'00' _____

College Curriculum Chair: Francisco Presuel-Moreno Digitally signed by Francisco Presuel-Moreno DN: cn=Francisco Presuel-Moreno, o=Florida Atlantic University, ou=Ocean and Mechanical Engineering, email=fpresuel@fau.edu, c=US Date: 2021.03.10 17:30:09 -05'00' _____

UUPC Chair: _____

Undergraduate Studies Dean: _____

(Note: Forward approved form to UGPC@fau.edu)

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 Mechanical Engineering to M.S. in Artificial Intelligence Degree Program

The College of Engineering and Computer Science (COECS) offer a combined Bachelor of Science in Mechanical Engineering to Master of Science in Artificial Intelligence degree program. The Bachelor of Science degree will be completed and received from the Ocean and Mechanical Engineering (OME) department. Students will do the Master of Science in Artificial Intelligence in the Department of Computer and Electrical Engineering and Computer Science (CEECS).

The bachelor's degree with major in Mechanical Engineering requires a minimum of 128 credits. This combined program requires 2 extra leveling courses for the MS in Artificial Intelligence: COP 2034 Introduction to Programming in Python and COP 3410 Data Structures and Algorithm Analysis with Python. Students must take the leveling courses at the beginning of the graduate program. The two leveling courses do not qualify for financial aid. The graduate degree requires a minimum of 30 credits at the graduate level. The proposed program does not increase the number of credits in the undergraduate degree.

Students may count up to 9 credits of approved graduate coursework (5000 level or higher) toward both their bachelor's and master's degrees. These graduate courses will replace the technical elective courses in the bachelor's program.

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. Students must also meet all the degree requirements of the graduate program they have chosen, including prerequisite courses.

Degree Requirements
To be eligible for the combined B.S. in Mechanical Engineering to M.S. in Artificial Intelligence, students must fulfill the following requirements:

1. Completion of the requirements for the B.S. in Mechanical Engineering program, and other requirements stipulated by the University and College
2. Completion of all requirements for the M.S. in Artificial Intelligence program, on either the thesis or non-thesis option.

Sample Four-Year Program of Study for Bachelor of Science in Mechanical Engineering

First Year, Fall (14 credits)		
College Writing 1*	ENC 1101	3
Calculus with Analytic Geometry 1	MAC 2311	4
General Chemistry 1	CHM 2045	3
General Chemistry 1 Lab	CHM 2045L	1
Fundamentals of Engineering	EGN 1002	3

First Year, Spring (14 credits)		
College Writing 2* or equivalent	ENC 1102	3
Calculus with Analytic Geometry 2	MAC 2312	4
General Physics for Engineers 1	PHY 2048	3
General Physics 1 Lab	PHY 2048L	1
Foundations of Society and Human Behavior**		3

Second Year, Fall (14 credits)		
Statics	EGN 3311	3
Calculus with Analytic Geometry 3	MAC 2313	4
Engineering Graphics	EGN 1111C	3
Physics for Engineers 2	PHY 2044	3
General Physics 2 Lab	PHY 2049L	1

Second Year, Spring (15 credits)		
Strength of Materials	EGN 3331	3
Engineering Thermodynamics	EGN 3343	3
Computer Applications in Engineering 1	EGN 2213	3
Engineering Mathematics 1	MAP 3305	3
Foundations of Global Citizenship**		3

Third Year, Fall (15 credits)		
Electro-Mechanical Devices	EGM 4045	3
Intermediate Strength of Materials	EGM 4523C	3
Fluid Mechanics	EML 3701	3
Computer Applications in Mechanical Engineering 2	EML 4534	3
Foundations of Society and Human Behavior**		3

Third Year, Spring (15 credits)		
Dynamics	EGN 3321	3
Heat Transfer	EML 4142	3
Experimental Methodology	EML 3523C	3
Probability and Statistics for Engineers	STA 4032	3

Foundations of Global Citizenship**		3

Third Year, Summer (12 credits)		
Applied Thermal Fluid Engineering	EML 4127	3
Machine Design	EML 4500	3
Engineering Materials 1	EGN 3365	3
Mechanical Engineering Laboratory	EML 4730L	3

Fourth Year, Fall (14 credits)		
Technical Elective		3
Finite Element Analysis for Engineering Design	EGM 4350	3
Fabrication of Mechanical Engineering Systems	EML 4263C	2
RI: Engineering Design	EML 4521C	3
Foundations of Humanities		3

Fourth Year, Spring (15 credits)		
Dynamic Systems	EGN 4432	3
Design Project	EML 4551	3
Technical Electives		6
Foundations of Humanities		3
Total		**128**