

# Engineering, M.S.

## ADDENDUM - 10/29/2024

The Master of Science in Engineering degree is a joint venture between the Electrical and Computer Engineering and Mechanical Engineering departments at UWF. Students in this program will be able to choose between one of three high demand areas of concentration and mix in a wide variety of elective courses to develop a program that best suits their needs. The program provides a thesis and a non-thesis (project) option.

Whether you are a professional wanting an MS degree for advancement or are preparing to move into a PhD program (our Robotics concentration would be a great way to prepare for the [PhD in Intelligent Systems and Robotics](#) at UWF), UWF has a lot to offer. Our highly trained faculty, state of the art labs and research, and high tech classrooms are just what you need.

## Admission Requirements

In addition to the University graduate admission requirements described in the [Admissions section](#) of the catalog, the department bases decisions for regular admission on a holistic review of credentials in which the following criteria are used to assess the potential success of each applicant:

- Bachelor's degree from an ABET-accredited program in electrical, computer, or mechanical engineering (or a closely related field)
- Undergraduate institutional GPA

Students who are admitted to the program but do not have a sufficient background for their chosen concentration area may be required to complete additional coursework. All other students can only be admitted by approval of the Graduate Committee. These students will likely have to complete additional coursework as recommended by the Graduate Committee.

Students with a lower Undergraduate GPA (below 3.0) have the option to take and submit scores for one of the following graduate exams to help strengthen their application:

- Graduate Record Examination (GRE)
- Miller Analogies Test (MAT)

All students in the MSE program must complete the following courses with a minimum grade of "C" or better. Note you must complete at least 15 credits of courses that are 6000 level or above (6 will be your thesis/project, 3 will be Principles of Engineering Analysis, and the other 6 must either be either in your area of concentration, your electives, or a combination of both).

EGN 6429	Principles of Engineering Analysis	3
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### Concentration: \*

Students must take a minimum of 3 courses from one of the following areas of concentration:	9
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#### Robotics and Systems:

EEL 5630	Digital Control Systems
EEL 5553	Digital Signal Processing
EEL 5520	Communications Networks
EEL 5654	Advanced Control Systems
EEL 5683	Introduction to Autonomous Systems
EEL 6692	Wearable Robotics

EML 6805	Foundations for Robotics
Smart Power Systems with Data Analytics:	
EEL 5245	Advanced Topics in Power Electronics
EEL 5267	Intelligent Systems Applications to Power Systems
EEL 5291	Smart Distribution Systems
EEL 5266	Power System Operation and Control
EEL 5277	Cyber Security of Industrial Control System
EEL 6042	Data Analytics and Applications to Engineering
EEL 6246	Power Electronics and Utility Applications
Materials and Manufacturing:	
EML 5546	Composite Materials
EML 5570	Principles of Fracture Mechanics
EML 6237	Advanced Solid Mechanics
EEL 6042	Data Analytics and Applications to Engineering
Electives: *	12
Students can choose any 12 credits of a combination of 5000 and 6000 technical electives from Electrical and Computer Engineering, Mechanical Engineering, and/or Intelligent Systems and Robotics. In addition, courses from other departments (examples include Computer Science, Math and Statistics, Biology, and even Business) may apply if preapproved by the Engineering department. A list of preapproved electives can be found on your audit, or see your advisor to discuss other options.	
Thesis or project:	6
Students must choose between completing a thesis or a project.	
Thesis Option	
EGL 6975	Thesis
Project Option:	
EGL 6960	Engineering Project
<b>Total Hours</b>	<b>30</b>

\* Note: At least 6 credits of your Electives and Concentration area combined must be in 6000 level or higher classes.