



## ENERGY MANAGEMENT GRADUATE CERTIFICATE

The **ENERGY MANAGEMENT CERTIFICATE** is designed for careers related to commercial energy technologies. Areas of emphasis include energy conversion, modeling thermal equipment, system simulation, optimization, design, building envelopes, mechanical systems, industrial processes, air-handling design, temperature and humidity control, economic analysis, vapor compression, adsorption, steam-jet, thermoelectric, and modern energy management methods.

### Who Should Participate?

Working professionals, military members, students at other universities worldwide, and current on-campus students who leave the Gainesville area to complete an internship, externship, or co-op (single or multiple terms) can participate in MAE Certificate Programs through the MAE EDGE distance learning platform.

All courses are offered through the online UF EDGE (Electronic Delivery of Gator Engineering) platform, which makes continuing your education possible no matter where you live or work! There are no campus visits required to earn this UF MAE graduate level certification, and the certificate conferred is identical to that earned as an on-campus graduate student.

### What is the Admissions Process?

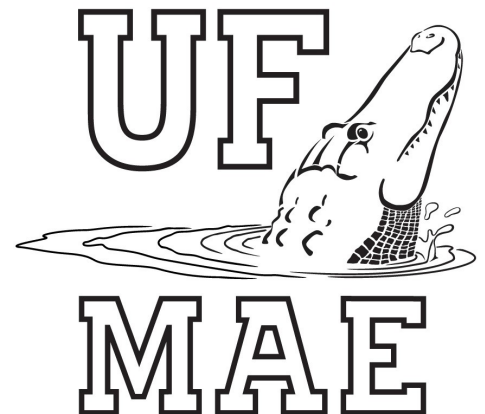
**Distance Learning Professionals:** Generally, for MAE certificate program admission, you need a bachelor's degree (BS) in engineering, science, technology, or a closely related discipline with a 3.0 undergraduate GPA, or you need a minimum of five years of professional employment experience in an engineering discipline (NOTE: a GRE exam score is not required for certificate program admission).

All applicants must apply online at the Office of Admissions: 1) complete the application <http://www.admissions.ufl.edu/apply/more#certificates>, 2) remit the \$30 application fee, 3) submit official transcripts from your prior BS degree institution, and 4) complete the residency information and verification process. Once your application has been reviewed by the Office of Admissions, your information will be referred to the MAE Student Services Office for an admission decision. *New students* should use the following link: <https://student.ufl.edu/cgi-bin/eaglec>.

**UF On-Campus Graduate Students:** Currently enrolled UF graduate students may apply for admission to any MAE EDGE graduate certificate program offered to our distance learning professionals. Generally, for admission eligibility, you need a 3.0 graduate GPA in an engineering, science, technology, or a closely related discipline.

All applicants must apply online at the Office of Admissions: 1) complete the application <http://www.admissions.ufl.edu/apply/more#certificates>, and 2) remit the \$30 application fee. Once your application has been reviewed by the Office of Admissions, your information will be referred to the MAE Student Services Office for an admission decision. *Currently enrolled UF students* should use your GatorLink username and password at the following link: <https://student.ufl.edu/cgi-bin/eaglec?page=ise-certmn>.

**NOTE to UF On-Campus Graduate Students:** Enrollment in certificate coursework may be on-campus or via the EDGE distance learning platform (for students participating in an internship, externship, or co-op.)



[www.mae.ufl.edu](http://www.mae.ufl.edu)

## Certificate Structure

The **ENERGY MANAGEMENT CERTIFICATE** consists of 3 total courses (9 credit hours). Lectures are available online in streaming and downloadable video, all semester, making it easy for students to review lectures before exams. Degree seeking and Certificate students view courses online, submit coursework online, and interact with professors using e-mail, telephone, and course websites via CANVAS. Students are never required to travel to campus, and course exams are proctored via internal employer supervisor, external testing agency, local 2-year or 4-year higher education institution, etc. For any questions about MAE Certificate Program or the UF EDGE distance learning platform, please contact the MAE Student Services Office: [grad@mae.ufl.edu](mailto:grad@mae.ufl.edu) or 352-392-0962.

## Curriculum Requirements—Students complete 3 of the following courses

### **EML5465—Energy Mgt. for Mechanical Engineers**

Energy use analysis in building envelopes, mechanical systems, and industrial processes. Energy conservation strategies and design techniques. Alternative energy applications.

### **EML5605 — Advanced Refrigeration**

Analysis and design considerations for vapor compression, absorption, steam-jet, thermoelectric, and air refrigeration systems.

### **EML5516 — Design of Thermal Systems**

Modeling of thermal equipment; system simulation; optimization, search methods, thermal system design and optimization using dynamic, geometric, and linear programming; simulation of large systems, vector and reduced gradient searches.

### **EML6451—Energy Conversion**

Converting available forms of energy into mechanical and electrical forms; energy conversion schemes, including conventional cycles in unusual environments. MHD, photovoltaics, thermionic and thermoelectric conversion and fuel cells.

### **EML6606 — Advanced Air Conditioning**

Air-conditioning system selection and system design; air-handling techniques including noise control, cleaning, and temperature and humidity control; modern technological development; load design; duct design; piping design; psychrometric analysis; air distribution system design; indoor air quality and thermal comfort considerations.

## Completion Requirements

MAE Graduate certificate participants must 1) achieve certificate admission, 2) earn a grade of B or better in each course used to fulfill certificate requirements, and 3) file an application for certificate by the deadline with the Office of the University Registrar at ONE.UF during the final term of enrollment in a certificate course (<https://one.ufl.edu/dashboard/>). To file an application, select Certificate/Degree Application under My Record on the left menu.

## Contact Information

For additional information, please contact the MAE Student Services Office:

[EDGEStudentServices@mae.ufl.edu](mailto:EDGEStudentServices@mae.ufl.edu)

For information on course content and professional development outcomes, please contact: S. A. Sherif, Professor, Department of Mechanical & Aerospace Engineering Email: [sasherif@ufl.edu](mailto:sasherif@ufl.edu).

