POWER CONVERSION AND CONTROL, CAPSTONE CERTIFICATE

The Power Conversion and Control Capstone Certificate (https://epd.wisc.edu/online-degree/power-conversion-and-power-controls-certificate/?_ga=1.169457889.1391686154.1484336426/#/courseanddegreeplan) addresses the learning goals of practicing engineers by providing further study with senior, highly respected faculty in the UW-Madison College of Engineering. It provides engineers with an opportunity for gaining more specialized expertise, including more technical knowledge of power electronics, drives, and controls. The certificate also provides a “stepping stone” for students wishing to apply for admission the university’s online Master of Science: Electrical Engineering (Power Engineering) or Master of Science: Mechanical Engineering (Controls) degree programs.

The certificate was developed in response to needs identified by more than 80 corporate sponsors of the renowned Wisconsin Electric Machines and Power Electronics Consortium (WEMPEC) (http://www.wempec.wisc.edu).

The format of the Power Conversion and Controls Capstone Certificate is completely online to accommodate working professionals. The 9-credit capstone certificate was designed for completion in three consecutive terms of 3 credits per term. Or, students may complete it in two terms by taking two courses in a semester. (Basic courses in electro-mechanical energy conversion ECE 355 Electromechanical Energy Conversion) and electronic switching circuits or demonstrated knowledge in these areas are recommended as prerequisites.)

Further details, including current tuition and costs, is provided on the program’s website (https://epd.wisc.edu/online-degree/power-conversion-and-power-controls-certificate/?_ga=1.169457889.1391686154.1484336426/#/courseanddegreeplan) or by contacting the department:

DEPARTMENT OF ENGINEERING PROFESSIONAL DEVELOPMENT
432 North Lake Street, Room 8715
Madison, WI 53706
800-462-9876

APPLICATION STEPS

1. Email the Chair of the Admissions Committee (daryl.haessig@wisc.edu) in the department to state an intent to apply to the power conversation program. Indicate if you intend to apply to a degree program upon successful completion of the capstone certificate. Attach a current resume or CV to the Intent to Apply email. Current chair: daryl.haessig@wisc.edu

   Your resume/CV should include at least:

   • Educational history (including GPA, awards and honors received).
   • Professional work experience (including specific details on your engineering experience, technical training, and responsibilities).
   • Listing of professional association memberships, advanced training (such as a PE license) and other noteworthy, engineering-related details.

2. Submit an online application for admission (http://continuingstudies.wisc.edu/advising/apply.htm) as a University Special student, selecting UNCS Capstone Certificate and the program: Power Conversion and Control. This application is received and processed by ACSSS with final decision held for approval from the specific capstone certificate coordinator.

3. Following steps outlined by the program (https://epd.wisc.edu/online-degree/power-conversion-and-power-controls-certificate/?_ga=1.90871258.1391686154.1484336426/#/apply), request transcripts of all previous college work and two letters of recommendations are sent to the department as follows:

   College of Engineering Online Admissions Office
   Attention: Daryl Haessig
   432 North Lake Street, Room 8715
Madison, WI 53706

For pdf’s, use the following email address: daryl.haessig@wisc.edu

For the two (2) letters of recommendation, use the Download Recommendation Form. The recommenders should send the statement directly to the program coordinator. At least one letter should be from your current or previous direct supervisor. Academic references are acceptable for applicants who have been out of school less than five years.

4. Complete a phone interview.

The admissions committee chair will schedule a phone interview with candidates after all application materials are received. Once completed, the application will be presented to the Admissions Committee for evaluation at the next scheduled meeting.

5. Notification of admissions decision

Admission decisions are made on applications in the order received.

The committee will make one of the following decisions:

- Recommend admission
- Defer consideration until the regular consideration review meeting.
- Request additional information before evaluating further.
- Decline further consideration of your application.

ENROLLMENT

After a decision has been made, the admissions committee chair contacts applicants by email to inform of the decision and to schedule a time to discuss the decision and next steps.

Admitted students receive a formal letter of admission to UW–Madison from Adult Career and Special Student Services along with general enrollment information. Additional detail is provided on the ACSSS enrollment page (http://continuingstudies.wisc.edu/advising/enroll-special.htm).

REQUIREMENTS

- Must have a minimum GPA of 2.000

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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>E C E 355</td>
<td>Electromechanical Energy Conversion</td>
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<tr>
<td>E C E 411</td>
<td>Introduction to Electric Drive Systems</td>
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<tr>
<td>E C E 412</td>
<td>Power Electronic Circuits</td>
<td>3</td>
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<tr>
<td>M E 446</td>
<td>Automatic Controls</td>
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Total Credits 9

LEARNING OUTCOMES

Students will

- Apply concepts of the latest innovations in power electronics, electric machines, electric drives, and automatic controls
- Articulate the key performance objectives of a controlled electric drive system
- Analyze the performance metrics of an electric machine-driven or power-driven system
- Complete the preliminary designs of automatic controlled systems using power electronic circuits