The overall goal of the graduate AMD Certificate is to educate post-baccalaureate students and working engineers in the fundamental principles and applications of additive manufacturing. The AMD Certificate provides an entry for industry practitioners and existing workforce to gain knowledge and skills for additive manufacturing. Many workers may already have a graduate-level degree yet seek opportunities for professional development and education, particularly in additive manufacturing and design. The 12-credit curriculum will expose students to the knowledge and skills necessary to work effectively across AMD domains.

Effective Semester: Fall 2018
Expiration Semester: Summer 2023

Admission Requirements
Applicants apply for admission to the program via the Graduate School application for admission (http://gradschool.psu.edu/prospective-students/how-to-apply). Requirements listed here are in addition to Graduate Council policies listed under GCAC-300 Admissions (http://gradschool.psu.edu/graduate-education-policies). International applicants may be required to satisfy an English proficiency requirement; see GCAC-305 Admission Requirements for International Students (http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-300/gcac-305-admission-requirements-international-students) for more information.

The admission requirements for the students enrolling in the online AMD Certificate will be based on a combination of academic records, GRE scores, resume and applicable work experience, personal statement of interests, and three letters of recommendation from a previous professor or supervisor who can attest to the applicant’s academic potential. GRE scores will be waived for applicants who have significant work experience (5 years) or completed an existing master’s degree. Applicants will be expected to have a Bachelor of Science or four-year Associate’s degree from an accredited institution in engineering, engineering technology, manufacturing, materials science, or related field. An undergraduate cumulative grade point average of 3.0 or better on a 4.0 scale in the final two years of undergraduate studies is required.

Certificate Requirements
Requirements listed here are in addition to requirements listed in Graduate Council policy GCAC-212 Postbaccalaureate Credit Certificate Programs (http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-200/gcac-212-postbaccalaureate-credit-certificate-programs).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>Required Courses Complete three of the following four non-laboratory courses, for a total of 12 credits:</td>
<td></td>
<td></td>
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<tr>
<td>EDSGN 562</td>
<td>Design for Additive Manufacturing</td>
<td>3</td>
</tr>
<tr>
<td>ESC 545</td>
<td>Scientific and Engineering Foundations of Additive Manufacturing</td>
<td>3</td>
</tr>
<tr>
<td>IE 527</td>
<td>Additive Manufacturing Processes</td>
<td>3</td>
</tr>
<tr>
<td>MATSE 567</td>
<td>Additive Manufacturing of Metallic Materials</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td></td>
<td>12</td>
</tr>
</tbody>
</table>

Courses
Graduate courses carry numbers from 500 to 699 and 800 to 899. Advanced undergraduate courses numbered between 400 and 499 may be used to meet some graduate degree requirements when taken by graduate students. Courses below the 400 level may not. A graduate student may register for or audit these courses in order to make up deficiencies or to fill in gaps in previous education but not to meet requirements for an advanced degree.

Contact

Graduate Program Head Timothy William Simpson
Director of Graduate Studies (DGS) or Professor-in-Charge (PIC) Timothy William Simpson
Program Contact Jaclyn Stimely
314A Leonhard Building
Penn State University
University Park PA 16802
juc52@psu.edu
(814) 863-8069

Program Website View (http://AMDprogram.psu.edu)

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Program Website View (http://www.worldcampus.psu.edu/degrees-and-certificates/penn-state-online-additive-manufacturing-and-design-masters-degree/overview)