## ADVANCED MICROELECTRONICS FABRICATION GRADUATE ACADEMIC CERTIFICATE

All required coursework must be completed with a grade of B or better (O-10-b (https://catalog.uidaho.edu/general-requirements-academic-procedures/o-miscellaneous/)).

Code	Title	Hours
ECE 565	Introduction to Microelectronics Fabrication	3
Select one of the following:		3
ECE 562	Quantum Mechanics for Electrical Engineers	
PHYS 564	Solid State Physics	
Select two from the following: 1		6-7
CHE 455	Surfaces and Colloids	
CHEM 558	Electrochemistry	
ECE 518	Introduction to Electronic Packaging	
ECE 562	Quantum Mechanics for Electrical Engineers	
GEOL 549	Principles of Electron Microscopy	
MSE 423	Corrosion	
MSE 432	Fundamentals of Thin Film Fabrication	
ME 558	Finite Element Applications	
PHYS 411	Advanced Physics Lab	
PHYS 543	Optics	
PHYS 564	Solid State Physics	
STAT 419	Introduction to SAS/R Programming	
STAT 426	SAS Programming	
STAT 427	R Programming	
STAT 431	Statistical Analysis	

Total Hours 12-13

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Courses chosen must be different from the core courses. At least one course must be 500-level.

## Courses to total 12 credits for this certificate

- 1. An ability to identify, formulate, and solve advanced microelectronics fabrication problems by applying principles of engineering, science, and mathematics.
- 2. An ability to communicate effectively on topics related to advanced microelectronics fabrication concepts and technologies with a range of audience.
- 3. An ability to develop and conduct appropriate advanced microelectronic fabrication experimentation, analyze and interpret data, and use engineering judgment to draw conclusions about microelectronics fabrication.

Overall, these learning outcomes demonstrate that students who have completed a certificate in advanced microelectronics fabrication have acquired the knowledge, skills, and abilities necessary to succeed in various fields of the advanced microelectronics fabrication industry. The

students are well-prepared to pursue further education or employment in the advanced microelectronics fabrication field.