

# ELECTRICAL AND COMPUTER ENGINEERING, POST-BACCALAUREATE CERTIFICATE (P.B.C.)

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## 12 credits required

All Graduate Certificate in Engineering Programs consist of 4 courses/12 credits. All students are expected to complete a preliminary course plan for their intended degree program. Degree planning worksheets can be found here: <https://advancedengineering.umd.edu/degree-planning-sheets> (<https://advancedengineering.umd.edu/degree-planning-sheets/>)

Students select either the Communication and Signal Processing sequence or the Computer Engineering sequence:

### Computer Engineering

Course	Title	Credits
Required courses:		
ENPM607	Computer System Design and Architecture	3
ENPM609	Microprocessor-Based Design	3
ENPM610	Digital VLSI Design	3
Select one of the following:		3
ENPM611	Software Engineering	
ENPM675	Operating System Design	
ENPM676	VLSI Testing and Design for Testability	
ENPM691	Hacking of C programs and Unix Binaries	
<b>Total Credits</b>		<b>12</b>

### Communication and Signal Processing

Course	Title	Credits
Required Courses:		
ENPM600	Probability and Stochastic Processes for Engineers	3
ENPM601	Analog and Digital Communication Systems	3
Select two of the following:		6
ENPM602	Data Networks	
ENPM603	Theory and Applications of Digital Signal Processing	
ENPM677	Wireless Sensor Networks	
ENPM616	Wireless Communications: Systems and Network Design Principles	
<b>Total Credits</b>		<b>12</b>