

HYPERSONICS, POST-BACCALAUREATE CERTIFICATE (P.B.C.)

Non-thesis only: 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://mage.umd.edu/degree-planning-sheets> (<https://mage.umd.edu/degree-planning-sheets/>)

Course	Title	Credits
Hypersonics Core (choose at least one):		3
Note: Any taken over the 1 required count as Hypersonics Additional Core Courses		
ENAE472	Introduction to Hypersonics (Introduction to Hypersonics)	
ENAE682	Hypersonic Aerodynamics	
Hypersonics Additional Core (choose three):		9
ENAE686	(Experimental & Computational Methods in Hypersonics)	
ENAE687	(Introduction to Hydrodynamic Stability and High-Speed Boundary Layer Transition)	
ENAE665	Advanced Airbreathing Propulsion	
ENAE683	High Temperature Gas Dynamics	
ENAE791	Launch and Entry Vehicle Design	
ENAE676	Turbulence	
Total Credits		12