

HYPERSONICS (Z165)

Graduate Certificate Program
College: Engineering

ABSTRACT

The Graduate Certificate in Engineering program is designed to assist engineers and technical professionals in the development of their careers and to provide the expertise needed in the rapidly changing business, government, and industrial environments.

The Hypersonics program will provide participants with a deep understanding of the key principles relevant to the flight of high-speed vehicles and projectiles in the atmosphere. Students will be introduced to crucial concepts in areas such as hypersonic aerodynamics, high-speed airbreathing propulsion, high-temperature structures and materials, and high-speed guidance, navigation & control. More specialized courses will also be offered in important areas such as high-temperature gas dynamics, transition, turbulence, experimental and computational methods, and vehicle design. The certificate will prepare students for a career in hypersonics-related fields in both the commercial and defense sectors.

FINANCIAL ASSISTANCE

Students in this program pay a special tuition rate, which does not differ between residents and non-residents of Maryland. This rate is not fully covered by graduate assistantships, fellowships or the tuition assistance. Additional graduate student fees are charged. **Tuition and fees are subject to change.**

This program does not provide departmental assistantships or fellowships. Loans, work-study and need-based grants for citizens and permanent residents with demonstrated financial need may submit a Free Application for Federal Student Aid (FAFSA) by appropriate FAFSA deadlines.

CONTACT

Visit the MAGE Website for Additional Information: www.mage.umd.edu (<https://mage.umd.edu/>)

Maryland Applied Graduate Engineering

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Courses: ENAE (<https://academiccatalog.umd.edu/graduate/courses/enae/>) ENPM (<https://umd-curr.courseleaf.com/graduate/courses/enpm/>)

ADMISSIONS

GENERAL REQUIREMENTS

- Statement of Purpose (<https://advancedengineering.umd.edu/application-process/>)
- Transcript(s)

- TOEFL/IELTS/PTE (international graduate students (<https://gradschool.umd.edu/admissions/english-language-proficiency-requirements/>))

PROGRAM-SPECIFIC REQUIREMENTS

- Graduate Record Examination (GRE) (optional)
- CV/Resume (optional)
- Letter of Recommendation (optional)

***Visa Eligibility:** This program is not eligible for I-20 or DS-2019 issuance by the University of Maryland.

APPLICATION DEADLINES

Type of Applicant	Fall Deadline	Spring Deadline	Summer Deadline
Domestic Applicants			
US Citizens and Permanent Residents	July 31, 2027	December 15, 2026	May 15, 2027
International Applicants			
F (student) or J (exchange visitor) visas; A,E,G,H,I and L visas and immigrants	July 31, 2027	December 15, 2026	May 15, 2027

RESOURCES AND LINKS:

Other Deadlines: mage.umd.edu/admissions (<https://mage.umd.edu/admissions/>)

Program Website: mage.umd.edu (<https://mage.umd.edu/>)

Application Process: gradschool.umd.edu/admissions (<https://gradschool.umd.edu/admissions/>)

REQUIREMENTS

- Hypersonics, Post-Baccalaureate Certificate (P.B.C.) (<https://academiccatalog.umd.edu/graduate/programs/hypersonics-z165/hypersonics-pbc/>)

FACILITIES AND SPECIAL RESOURCES

This program is currently offered 100% online. The Clark School of Engineering's Distance Education Technology and Services (DETS) office administers a live interactive distance education system and webcast course capture for students to take courses as they are happening, in some instances, or at a time convenient for their schedule each week. In addition to lecture dissemination, DETS provides state-of-the-art chat, bulletin board, video chat, group presentation, and discussion technologies that give our distance students the same, if not more access to faculty and their fellow students.