

PART-TIME, ONLINE GRADUATE PROGRAMS (ENGINEERING FOR PROFESSIONALS)

Dear Students,

The most successful engineers are those who never stand still when it comes to their education and their careers. Rather, it is those engineers who are committed to remaining at the forefront of their professions, who strive continuously to be well versed in the latest technologies, and who have the ability to continuously learn how their fields are evolving and which skills and knowledge are necessary to stay ahead of the curve who will achieve success.

At the Whiting School of Engineering, our Engineering for Professionals programs provide these motivated working engineers—in our region and around the world—with the tools and experiences necessary to enhance their education in ways that will have a direct positive impact on their professional lives.

We provide our engineering students with academic offerings of the highest quality, with all the value and prestige of a Johns Hopkins education. The breadth of our degree and certificate programs, the real-world experience of our faculty, and our state-of-the-art instructional methods enable us to provide students with unparalleled opportunities. At Engineering for Professionals, you will learn from experienced working professionals and outstanding academic faculty. These instructors speak directly to the applications of the course work you will study and continually improve and update content to encompass the very latest in both the theoretical understanding and applications in their areas of expertise.

In addition to the tremendous academic opportunities you will be afforded by enrolling in a Johns Hopkins Engineering for Professionals program, as a student here, you also will become part of a remarkable community. As a student and, later, as an alumnus, you will be a member of the uniquely successful Johns Hopkins family, connected forever to the traditions and achievements of one of the world's most esteemed academic research institutions.

Congratulations on choosing Johns Hopkins.

Sincerely,

Ed Schlesinger
Benjamin T. Rome Dean
Whiting School of Engineering

Information in this catalogue is current as of publication in July 2023. For all updates, please visit ep.jhu.edu (<https://ep.jhu.edu>).

The university reserves the freedom to change without notice any programs, requirements, or regulations published in this catalogue. This catalogue is not to be regarded as a contract. Multiple means of communication may be used by the university for announcing changes of this nature, including, but not exclusive to, e-mail and/or paper notice. Students are responsible for providing current e-mail and mailing address information to the university administrative offices.

Graduate Programs

Graduate students in the Johns Hopkins Engineering for Professionals (JHEP) program constitute one of the nation's largest student bodies in part-time engineering education at the master's-degree level. JHEP courses are continually updated for relevance, addressing industry trends and the latest advances in engineering and applied science fields. Most courses are offered online to afford working professionals the opportunity to advance their education at their convenience. Select courses are also offered on-site in the late afternoon or evening Monday through Thursday. Students receive individual attention from their advisors and instructors and benefit from small classes and well-equipped laboratory, computing, and classroom facilities.

The university is accredited by:

the Middle States Commission on Higher Education
3624 Market Street
Philadelphia, PA
19104-2680
215-662-5606

The Master of Science in Engineering in Systems Engineering program is accredited by the Engineering Accreditation Commission (EAC) of ABET, <http://www.abet.org>. Applicants need to hold a degree by a program accredited by the EAC of ABET in order to be admitted to the Master of Science in Engineering degree program. Students admitted without a Bachelor of Science degree from an EAC of ABET-accredited program or who did not complete the prerequisites that meet all of the EAC of ABET-accreditation requirements for attainment of student outcomes and for sufficient math, science, and engineering design at the Bachelor of Science level will receive a regionally accredited Master of Science degree.

The Master of Science in Occupational and Environmental Hygiene Program is accredited by the Applied and Natural Science Accreditation Commission (ANSAC) of ABET, <http://www.abet.org> under the General and Industrial Hygiene Program Criteria.

Degrees and Certificates

The Johns Hopkins University offers a variety of degrees and certificates to students in the Whiting School of Engineering. Requirements for each discipline are detailed in the individual program listings in this catalogue.

Master of Science

Programs are offered in Applied Biomedical Engineering, Applied and Computational Mathematics, Applied Physics, Artificial Intelligence, Computer Science, Cybersecurity, Data Science, Electrical and Computer Engineering, Environmental Engineering and Science, Environmental Planning and Management, Financial Mathematics, Healthcare Systems Engineering, Information Systems Engineering, Mechanical Engineering, Materials Science and Engineering, Occupational and Environmental Hygiene, Robotics and Autonomous Systems, Space Systems Engineering and Systems Engineering.

Master's

Programs are offered in Chemical and Biomolecular Engineering, Civil Engineering, Engineering Management, and Environmental Engineering.

Master of Science in Engineering

One program is offered in Systems Engineering.

Joint Degree

A joint degree in Bioinformatics is offered by Johns Hopkins Engineering for Professionals and the Zanvyl Krieger School of Arts and Sciences Advanced Academic Programs. The administration is handled by the Zanvyl Krieger School of Arts and Sciences, and applications for admission to the Master of Science in Bioinformatics must be submitted directly to the Zanvyl Krieger School of Arts and Sciences at bioinformatics.jhu.edu.

Graduate Certificate/Post-Master's Certificate

These certificates are awarded upon completion of a select number of courses of graduate study within some of the master's degree discipline areas.

Non-Degree-Seeking/Special Students

Students who wish to enroll in courses but are not interested in pursuing a degree or certificate may enroll as Special Students.

Online Learning

Johns Hopkins Engineering for Professionals has offered online courses since 2001, consistently delivering a unique educational experience that is both academically rigorous and highly practical. Johns Hopkins Engineering for Professionals' online programs complement the busy schedules of today's practicing engineers and scientists by allowing students to pursue studies face-to-face, online, or via a combination of both formats. Courses are consistently being developed for online delivery. The following programs can be completed fully online:

- Applied Biomedical Engineering
- Applied and Computational Mathematics
- Applied Physics
- Artificial Intelligence
- Civil Engineering
- Computer Science
- Cybersecurity
- Data Science
- Electrical and Computer Engineering
- Engineering Management
- Environmental Engineering
- Environmental Engineering and Science
- Environmental Planning and Management
- Financial Mathematics
- Healthcare Systems Engineering
- Information Systems Engineering
- Materials Science and Engineering
- Mechanical Engineering
- Robotics and Autonomous Systems
- Space Systems Engineering
- Systems Engineering

Our custom-built online programs and courses are designed using state-of-art technology and learning tools that create an interactive and engaging online learning experience. Delivered asynchronously, our online courses also include live synchronous time with the course instructor(s) and fellow students. Prospective and current students should consult online learning (<https://ep.jhu.edu/programs-and-courses/program->

[pathways/online/](#)) for the current online course offerings, course schedules, and procedures for online programs.

Online Course Registration

Online course registration adheres to the same schedule followed by on-site courses. Enrollment is granted on a first-come, first-served basis, and new and returning online students are strongly encouraged to register early. The deadline for adding online courses is two weeks after the first day of classes each term. See the Academic Calendar (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/academic-policies/academic-calendar/>) for exact dates for each term.

Virtual Live Format

This format is a synchronous online course delivery method. In some cases, all students meet with the instructor fully online (8VL). In other cases, class sessions are held on-site in a classroom, and students have the option to either attend in-person or remote into the classroom via a web-conferencing tool enabling two-way communication and live video feed (3VL).

Online Student Support Services

Johns Hopkins Engineering for Professionals makes every effort to provide online students access to a full range of services and resources comparable to those available to students taking on-site courses. Online students can register, pay their tuition, receive academic advising, purchase course textbooks, access Johns Hopkins University library holdings, view transcripts, and access grades and various other academic services all online. Once admitted, students gain access to the Johns Hopkins portal site, myJH (<https://my.jh.edu/portal/web/jhupub/>), which provides quick access to many of these services.

Engineering Administration Whiting School of Engineering

T. E. Schlesinger

Benjamin T. Rome Dean

Sridevi Sarma

Vice Dean, Graduate Education

Harry K. Charles Jr.

Associate Dean, Non-Residential Graduate Education

Johns Hopkins Engineering for Professionals

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Associate Vice Dean, Professional Education and Lifelong Learning

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Assistant Dean, Student Affairs

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Assistant Dean, Media and Technology

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Director, Marketing and Recruitment

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Abby Lattes
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Allison Leventhal
Director, Office of Engineering Student Support and Advocacy

Olysha Magruder
Director, Learning Design and Faculty Development

Kelly Orr
Director, Technology

Doug Schiller
Director, Enrollment Management

Heather Stewart
Director, Academic Affairs

Applied Physics Laboratory Education Center

Harry K. Charles Jr.
Education Center Group Supervisor and Program Manager

Christine M. Morris
Partnership Manager

Tracy K. Gauthier
Education Center Operations Coordinator

Graduate Program Chairs

Hedy V. Alavi
Program Chair, Environmental Engineering
Program Chair, Environmental Engineering and Science
Program Chair, Environmental Planning and Management

David Audley
Program Chair, Financial Mathematics

Michael Betenbaugh

Program Chair, Chemical and Biomolecular Engineering

Patrick Binning
Program Chair, Space Systems Engineering

Harry K. Charles Jr.
Program Chair, Applied Physics

Ashutosh Dutta
Program Chair, Electrical and Computer Engineering

Jaafar El-Awady
Program Chair, Mechanical Engineering

Timothy Galpin

Program Chair, Engineering Management

Eileen Haase
Program Chair, Applied Biomedical Engineering

Kirsten Koehler

Program Chair, Occupational and Environmental Hygiene

Andrew Merkle
Program Chair, Systems Engineering

Bart Paulhamus
Program Chair, Artificial Intelligence

Alan Ravitz
Program Chair, Healthcare Systems Engineering

Benjamin Rodriguez
Program Co-Chair, Data Science

Rachel Sangree
Program Chair, Civil Engineering

David Silberberg
Program Chair, Information Systems Engineering
Program Chair, Robotics and Autonomous Systems

James C. Spall
Program Chair, Applied and Computational Mathematics
Program Co-Chair, Data Science

James Spicer
Program Chair, Materials Science and Engineering

Lanier Watkins
Program Chair, Computer Science
Program Chair, Cybersecurity

Master's Programs

- Applied and Computational Mathematics, Master of Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/applied-computational-mathematics/applied-computational-mathematics-master-science/>)
- Applied Biomedical Engineering, Master of Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/applied-biomedical-engineering/applied-biomedical-engineering-master-science/>)
- Applied Physics, Master of Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/applied-physics/applied-physics-master-science/>)
- Artificial Intelligence, Master of Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/artificial-intelligence/master-of-science/>)
- Chemical and Biomolecular Engineering, Master of Chemical and Biomolecular Engineering (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/chemical-biomolecular-engineering/chemical-biomolecular-engineering-master/>)
- Civil Engineering, Master of Civil Engineering (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/civil-engineering/civil-engineering-master-civil-engineering/>)

- Computer Science, Master of Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/computer-science/computer-science-master/>)
- Cybersecurity, Master of Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/cybersecurity/cybersecurity-master-science/>)
- Data Science, Master of Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/data-science/data-science-master/>)
- Electrical and Computer Engineering, Master of Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/electrical-computer-engineering/electrical-computer-engineering-master-science/>)
- Engineering Management, Master of Engineering Management (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/engineering-management/engineering-management-master/>)
- Environmental Engineering and Science, Master of Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/environmental-engineering-science-master/>)
- Environmental Engineering, Master of Environmental Engineering (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/environmental-engineering-master/>)
- Environmental Planning and Management, Master of Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/environmental-planning-management-master-science/>)
- Financial Mathematics, Master of Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/financial-mathematics/financial-mathematics-master-science/>)
- Healthcare Systems Engineering, Master of Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/healthcare-systems-engineering/healthcare-systems-engineering-master-science/>)
- Information Systems Engineering, Master of Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/information-systems-engineering/information-systems-engineering-master-science/>)
- Materials Science and Engineering, Master of Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/materials-science-engineering/materials-science-engineering-master-science/>)
- Mechanical Engineering, Master of Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/mechanical-engineering/mechanical-engineering-master-science/>)
- Occupational and Environmental Hygiene, Master of Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/occupational-environmental-hygiene/occupational-environmental-hygiene-master-science/>)
- Robotics and Autonomous Systems, Master of Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/robotics-autonomous-systems/robotics-autonomous-systems-master-science/>)
- Space Systems Engineering, Master of Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/space-systems-engineering/space-systems-engineering-master-science/>)
- Systems Engineering, Master of Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/systems-engineering/systems-engineering-master-science/>)
- Systems Engineering, Master of Science in Engineering (ABET-accredited) (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/systems-engineering/systems-engineering-master-science-engineering/>)

Graduate Certificates

- Applied Biomedical Engineering, Graduate Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/applied-biomedical-engineering/applied-biomedical-engineering-graduate-certificate/>)
- Artificial Intelligence, Graduate Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/artificial-intelligence/graduate-certificate/>)
- Civil Engineering, Graduate Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/civil-engineering/civil-engineering-graduate-certificate/>)
- Climate Change, Energy, and Environmental Sustainability, Graduate Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/climate-change-energy-environmental-sustainability-graduate-certificate/>)
- Computer Science, Graduate Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/computer-science/computer-science-graduate-certificate/>)
- Cybersecurity, Graduate Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/cybersecurity/cybersecurity-graduate-certificate/>)
- Data Science, Graduate Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/data-science/data-science-graduate-certificate/>)
- Electrical and Computer Engineering, Graduate Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/electrical-computer-engineering/electrical-computer-engineering-graduate-certificate/>)
- Engineering Management, Graduate Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/engineering-management/engineering-management-graduate-certificate/>)
- Environmental Engineering and Science, Graduate Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/environmental-engineering-science-graduate-certificate/>)
- Environmental Engineering, Graduate Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/environmental-engineering-graduate-certificate/>)
- Environmental Planning and Management, Graduate Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/environmental-planning-management-graduate-certificate/>)
- Financial Risk Management, Graduate Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/financial-mathematics/financial-risk-management-graduate-certificate/>)
- Information Systems Engineering, Graduate Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/information-systems-engineering/information-systems-engineering-graduate-certificate/>)

- Quantitative Portfolio Management, Graduate Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/financial-mathematics/quantitative-portfolio-management-graduate-certificate/>)
- Securitization, Graduate Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/financial-mathematics/securitization-graduate-certificate/>)
- Systems Engineering, Graduate Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/systems-engineering/systems-engineering-graduate-certificate/>)

New Graduate Certificates admitting students for Fall 2023

*Applied and Computational Mathematics, Graduate Certificate

Post-Master's Certificates

- Applied and Computational Mathematics, Post-Master's Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/applied-computational-mathematics/applied-computational-mathematics-post-masters-certificate/>)
- Applied Biomedical Engineering, Post-Master's Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/applied-biomedical-engineering/applied-biomedical-engineering-post-masters-certificate/>)
- Applied Physics, Post-Master's Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/applied-physics/applied-physics-post-masters-certificate/>)
- Computer Science, Post-Master's Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/computer-science/computer-science-post-masters-certificate/>)
- Cybersecurity, Post-Master's Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/cybersecurity/cybersecurity-post-masters-certificate/>)
- Data Science, Post-Master's Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/data-science/data-science-post-masters-certificate/>)
- Electrical and Computer Engineering, Post-Master's Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/electrical-computer-engineering/electrical-computer-engineering-post-masters-certificate/>)
- Environmental Engineering and Science, Post-Master's Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/environmental-engineering-science-post-masters-certificate/>)
- Environmental Engineering, Post-Master's Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/environmental-engineering-post-masters-certificate/>)
- Environmental Planning and Management, Post-Master's Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/environmental-planning-management-post-masters-certificate/>)
- Systems Engineering, Post-Master's Certificate (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/systems-engineering/systems-engineering-post-masters-certificate/>)

Departments

- Applied and Computational Mathematics (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/applied-computational-mathematics/>)
- Applied Biomedical Engineering (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/applied-biomedical-engineering/>)
- Applied Physics (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/applied-physics/>)
- Artificial Intelligence (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/artificial-intelligence/>)
- Chemical and Biomolecular Engineering (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/chemical-biomolecular-engineering/>)
- Civil Engineering (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/civil-engineering/>)
- Computer Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/computer-science/>)
- Cybersecurity (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/cybersecurity/>)
- Data Science (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/data-science/>)
- Electrical and Computer Engineering (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/electrical-computer-engineering/>)
- Engineering Management (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/engineering-management/>)
- Environmental Engineering, Science, and Management Programs (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/>)
- Financial Mathematics (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/financial-mathematics/>)
- Healthcare Systems Engineering (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/healthcare-systems-engineering/>)
- Information Systems Engineering (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/information-systems-engineering/>)
- Materials Science and Engineering (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/materials-science-engineering/>)
- Mechanical Engineering (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/mechanical-engineering/>)
- Occupational and Environmental Hygiene (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/occupational-environmental-hygiene/>)
- Robotics and Autonomous Systems (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/robotics-autonomous-systems/>)
- Space Systems Engineering (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/space-systems-engineering/>)
- Systems Engineering (<https://e-catalogue.jhu.edu/engineering/engineering-professionals/systems-engineering/>)

Contact Information

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 410-516-2300
ep.jhu.edu (<https://ep.jhu.edu/>)
jhep@jhu.edu

Information	Phone
General Information and Requests	
Admissions/Registration	410-516-2300
Locations	
Applied Physics Laboratory	240-228-6510
Homewood Campus	410-516-8000
Student Services	
Disability Services	410-516-2328
Financial Aid (146 Garland Hall)	410-516-8028
International Office	667-208-7001
Johns Hopkins Student Assistance Program	443-287-7000
Student Accounts	+1 877-419-5131
Transcripts (75 Garland Hall)	410-516-8080
University Registrar (75 Garland Hall)	410-516-8080
Veterans Certification (75 Garland Hall)	410-516-6635
Online Information	
Application	https://ep.jhu.edu/admissions-aid/apply (https://ep.jhu.edu/admissions-aid/apply/)
Catalog	https://ep.jhu.edu/student-services/academic-services/academic-catalogs (https://ep.jhu.edu/student-services/academic-services/academic-catalogs/)
Course Schedule	https://apps.ep.jhu.edu/schedule/search (https://apps.ep.jhu.edu/schedule/search/)
Graduation Information	https://ep.jhu.edu/student-services/other-services/graduation-information (https://ep.jhu.edu/student-services/other-services/graduation-information/)
Johns Hopkins Engineering for Professionals Forms	https://ep.jhu.edu/student-services/academic-services/student-forms (https://ep.jhu.edu/student-services/academic-services/student-forms/)
Textbooks	
All Locations	https://ep.jhu.edu/student-services/academic-services/ordering-textbooks (https://ep.jhu.edu/student-services/academic-services/ordering-textbooks/)