

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

Important 2020-2021 Dates

Summer 2020

- **First Day of Classes:** May 26th
- **Last Day of Classes:** August 18th
- **Graduation Application Date:** August 1st
- **Holidays:** July 4th
- **Registration Opens (10am):** March 26th
- **Final Day to Add:** 2nd class meeting

- **Final Day to Add for Online Courses:** June 2nd
- **Official Transcripts Submission Deadline:** June 8th
- **Withdraw/Audit Deadline:** Ninth Class Meeting
- **Tuition Payment Deadline:** June 10th

Fall 2020

- **First Day of Classes:** August 31st
- **Last Day of Classes:** December 15th
- **Graduation Application Date:** December 1st
- **Holidays:** September 7th, October 13th, November 23rd - 29th
- **Registration Opens (10am):** July 9th
- **Final Day to Add:** September 6th
- **Final Day to Add for Online Courses:** September 6th
- **Official Transcripts Submission Deadline:** September 13th
- **Withdraw/Audit Deadline:** November 6th
- **Tuition Payment Deadline:** September 16th

Spring 2021

- **First Day of Classes:** January 25th
- **Last Day of Classes:** May 11th
- **Graduation Application Date:** April 25th
- **Holidays:** March 15th - 21st
- **Registration Opens (10am):** October 29th, 2020
- **Final Day to Add:** January 31st
- **Final Day to Add for Online Courses:** January 31st
- **Official Transcripts Submission Deadline:** February 7th
- **Withdraw/Audit Deadline:** April 3rd
- **Tuition Payment Deadline:** February 10th

Graduation Dates

The Whiting School of Engineering Master's Diploma Ceremony is **Tuesday, May 25, 2021**.

The University-Wide Commencement Ceremony is **Thursday, May 27, 2021**.

Contact Information

Johns Hopkins Engineering for Professionals
3400 North Charles Street
Wyman Park Bldg, 3rd Floor West
Baltimore, MD 21218-2608
410-516-2300
ep.jhu.edu (<https://ep.jhu.edu/>)
jhjep@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
University System of Maryland at Southern Maryland (formerly SMHEC)	301-737-2500
Student Services	
Disability Services	410-516-2306
Financial Aid (146 Garland Hall)	410-516-8028

International Office	667-208-7001
Johns Hopkins Student Assistance Program	443-287-7000
Student Accounts (Johns Hopkins Engineering for Professionals)	410-516-8158
Student Accounts (Homewood)	410-516-8158
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://apps.ep.jhu.edu/apply (https://apps.ep.jhu.edu/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/)
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Information in this catalog is current as of publication in March 2020. For all updates, please visit ep.jhu.edu (<https://ep.jhu.edu/>).

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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

Dan Horn

Associate Dean

Paul Hockett

Assistant Dean, Learning Design and Innovation

Mary Kay LeMay

Assistant Dean, Marketing and Communications

Marielle Nuzback

Senior Director of Operations

Charise Bell

Director, Marketing and Recruitment

Nathan Graham

Director, Center for Digital and Media Initiatives

Tim Jarrett

Director, Software Engineering

Abby Lattes

Director, Communications

Doug Schiller

Director, Admissions and Student Services

Sandra Altman

Admissions Manager

Doug Bulkley

Registration Manager

Natalia Ishmeneva

Financial Manager

Heather Stewart

Academic Affairs Manager

Allison Leventhal

Project Manager/Student Disability Services Coordinator

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

Jaafar El-Awady

Program Chair, Mechanical Engineering

Timothy Galpin

Program Chair, Engineering Management

Eileen Haase

Program Chair, Applied Biomedical Engineering

Ashutosh Dutta

Program Chair, Electrical and Computer Engineering

Andrew Merkle

Program Chair, Systems Engineering

John Piorkowski

Program Chair, Artificial Intelligence

Program Co-Chair, Data Science

Program Chair, Information Systems Engineering

Alan Ravitz

Program Chair, Healthcare Systems Engineering

Rachel Sangree

Program Chair, Civil Engineering

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

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.

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 catalog.

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, Occupational and Environmental Hygiene, Space Systems Engineering and Systems Engineering.

Master's

Programs are offered in Chemical and Biomolecular Engineering, Civil Engineering, Engineering Management, Environmental Engineering, Materials Science and Engineering, and Mechanical 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 one of the master's degree discipline areas.

Non-Degree-Seeking 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
- 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://ep.jhu.edu/student-services/academic-services/academic-calendar/>) for exact dates for each term.

Virtual Live Format

This format is a combined in-person and online course-delivery method. In-person class sessions are held synchronously with a virtual live session, serving local students as well as those students who are unable to attend in person but prefer a synchronous "live" class. The virtual student participates via a web-conferencing tool enabling two-way communication and live video feed with the in-person class.

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.

Master's Programs

- Applied and Computational Mathematics, Master of Science (<http://e-catalog.jhu.edu/engineering/engineering-professionals/applied-computational-mathematics/applied-computational-mathematics-master-science/>)
- Applied Biomedical Engineering, Master of Science (<http://e-catalog.jhu.edu/engineering/engineering-professionals/applied-biomedical-engineering/applied-biomedical-engineering-master-science/>)
- Applied Physics, Master of Science (<http://e-catalog.jhu.edu/engineering/engineering-professionals/applied-physics/applied-physics-master-science/>)
- Artificial Intelligence, Master of Science (<http://e-catalog.jhu.edu/engineering/engineering-professionals/artificial-intelligence/master-of-science/>)
- Chemical and Biomolecular Engineering, Master of Chemical and Biomolecular Engineering (<http://e-catalog.jhu.edu/engineering/engineering-professionals/chemical-biomolecular-engineering/chemical-biomolecular-engineering-master/>)
- Civil Engineering, Master of Civil Engineering (<http://e-catalog.jhu.edu/engineering/engineering-professionals/civil-engineering/civil-engineering-master-civil-engineering/>)
- Computer Science, Master of Science (<http://e-catalog.jhu.edu/engineering/engineering-professionals/computer-science/computer-science-master/>)
- Cybersecurity, Master of Science (<http://e-catalog.jhu.edu/engineering/engineering-professionals/cybersecurity/cybersecurity-master-science/>)
- Data Science, Master of Science (<http://e-catalog.jhu.edu/engineering/engineering-professionals/data-science/data-science-master/>)
- Electrical and Computer Engineering, Master of Science (<http://e-catalog.jhu.edu/engineering/engineering-professionals/electrical-computer-engineering/electrical-computer-engineering-master-science/>)
- Engineering Management, Master of Engineering Management (<http://e-catalog.jhu.edu/engineering/engineering-professionals/engineering-management/engineering-management-master/>)
- Environmental Engineering and Science, Master of Science (<http://e-catalog.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/environmental-engineering-science-master/>)
- Environmental Engineering, Master of Environmental Engineering (<http://e-catalog.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/environmental-engineering-master/>)
- Environmental Planning and Management, Master of Science (<http://e-catalog.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/environmental-planning-management-master-science/>)
- Financial Mathematics, Master of Science (<http://e-catalog.jhu.edu/engineering/engineering-professionals/financial-mathematics/financial-mathematics-master-science/>)

- Healthcare Systems Engineering, Master of Science (<http://e-catalog.jhu.edu/engineering/engineering-professionals/healthcare-systems-engineering/healthcare-systems-engineering-master-science/>)
- Information Systems Engineering, Master of Science (<http://e-catalog.jhu.edu/engineering/engineering-professionals/information-systems-engineering/information-systems-engineering-master-science/>)
- Materials Science and Engineering, Master of Materials Science and Engineering (<http://e-catalog.jhu.edu/engineering/engineering-professionals/materials-science-engineering/materials-science-engineering-master/>)
- Mechanical Engineering, Master of Mechanical Engineering (<http://e-catalog.jhu.edu/engineering/engineering-professionals/mechanical-engineering/mechanical-engineering-master/>)
- Occupational and Environmental Hygiene, Master of Science (<http://e-catalog.jhu.edu/engineering/engineering-professionals/occupational-environmental-hygiene/occupational-environmental-hygiene-master-science/>)
- Space Systems Engineering, Master of Science (<http://e-catalog.jhu.edu/engineering/engineering-professionals/space-systems-engineering/space-systems-engineering-master-science/>)
- Systems Engineering, Master of Science (<http://e-catalog.jhu.edu/engineering/engineering-professionals/systems-engineering/systems-engineering-master-science/>)
- Systems Engineering, Master of Science in Engineering (ABET-accredited) (<http://e-catalog.jhu.edu/engineering/engineering-professionals/systems-engineering/systems-engineering-master-science-engineering/>)
- Financial Risk Management, Graduate Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/financial-mathematics/financial-risk-management-graduate-certificate/>)
- Information Systems Engineering, Graduate Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/information-systems-engineering/information-systems-engineering-graduate-certificate/>)
- Quantitative Portfolio Management, Graduate Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/financial-mathematics/quantitative-portfolio-management-graduate-certificate/>)
- Securitization, Graduate Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/financial-mathematics/securitization-graduate-certificate/>)
- Systems Engineering, Graduate Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/systems-engineering/systems-engineering-graduate-certificate/>)
- Technical Management, Graduate Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/technical-management/technical-management-graduate-certificate/>)

Graduate Certificates

- Artificial Intelligence, Graduate Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/artificial-intelligence/graduate-certificate/>)
- Civil Engineering, Graduate Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/civil-engineering/civil-engineering-graduate-certificate/>)
- Climate Change, Energy, and Environmental Sustainability, Graduate Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/climate-change-energy-environmental-sustainability-graduate-certificate/>)
- Electrical and Computer Engineering, Graduate Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/electrical-computer-engineering/electrical-computer-engineering-graduate-certificate/>)
- Environmental Engineering and Science, Graduate Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/environmental-engineering-science-graduate-certificate/>)
- Environmental Engineering, Graduate Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/environmental-engineering-graduate-certificate/>)
- Environmental Planning and Management, Graduate Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/environmental-planning-management-graduate-certificate/>)
- Applied and Computational Mathematics, Post-Master's Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/applied-computational-mathematics/applied-computational-mathematics-post-masters-certificate/>)
- Applied Biomedical Engineering, Post-Master's Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/applied-biomedical-engineering/applied-biomedical-engineering-post-masters-certificate/>)
- Applied Physics, Post-Master's Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/applied-physics/applied-physics-post-masters-certificate/>)
- Computer Science, Post-Master's Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/computer-science/computer-science-post-masters-certificate/>)
- Cybersecurity, Post-Master's Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/cybersecurity/cybersecurity-post-masters-certificate/>)
- Data Science, Post-Master's Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/data-science/data-science-post-masters-certificate/>)
- Electrical and Computer Engineering, Post-Master's Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/electrical-computer-engineering/electrical-computer-engineering-post-masters-certificate/>)
- Environmental Engineering and Science, Post-Master's Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/environmental-engineering-science-post-masters-certificate/>)
- Environmental Engineering, Post-Master's Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/environmental-engineering-post-masters-certificate/>)
- Environmental Planning and Management, Post-Master's Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/environmental-engineering-science-management-programs/environmental-planning-management-post-masters-certificate/>)

Post-Master's Certificates

- Systems Engineering, Post-Master's Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/systems-engineering/systems-engineering-post-masters-certificate/>)
- Technical Management, Post-Master's Certificate (<http://e-catalog.jhu.edu/engineering/engineering-professionals/technical-management/technical-management-post-masters-certificate/>)
- Technical Management (<http://e-catalog.jhu.edu/engineering/engineering-professionals/technical-management/>)

Departments

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