

CASE SCHOOL OF ENGINEERING

More Information: <https://case.edu/engineering>

Engineering seeks to create new processes, products, methods, materials, or systems that impact and are beneficial to our society. To enable its graduates to lead the advancement of technology, the Case School of Engineering offers fourteen degree programs at the undergraduate level (twelve engineering degrees, plus the BS in computer science and the BS in data science and analytics). At the post-graduate level, the School of Engineering offers Master of Science programs and the Doctor of Philosophy for advanced, research-based study in engineering. The Case School of Engineering offers two specialized degrees at the master's level: a Master of Engineering specifically for practicing engineers, and an integrated Master of Engineering and Management jointly administered with the Weatherhead School of Management. The Case School of Engineering also offers two dual degrees at the graduate level jointly administered with the School of Medicine: a Doctor of Medicine/Master of Science and a Doctor of Medicine/Doctor of Philosophy. The faculty and students participate in a variety of research activities offered through the departments and the interdisciplinary research centers of the university.

At the core of its vision, the Case School of Engineering seeks to set the standards for excellence, innovation, and distinction in engineering education and research prominence.

Statement of Educational Philosophy

The Case School of Engineering prepares and challenges its students to take positions of leadership in the professions of engineering and computer science. Recognizing the increasing role of technology in virtually every facet of our society, it is vital that engineering students have access to progressive and cutting-edge programs stressing five areas of excellence:

- Mastery of fundamentals
- Creativity
- Societal awareness
- Leadership skills
- Professionalism

Emphasizing these core values helps ensure that tomorrow's graduates are valued and contributing members of our global society and that they will carry out the tradition of engineering leadership established by our alumni.

The undergraduate program aims to create life-long learners by emphasizing engineering fundamentals based on mathematics, physical, and natural sciences. Curricular programs are infused with engineering innovation, professionalism (including engineering ethics and the role of engineering in society), professional communications, and multi-disciplinary experiences to encourage and develop leadership skills. To encourage societal awareness, students are exposed to and have the opportunity for in-depth study in the humanities, social sciences, and business aspects of engineering. Undergraduate students are encouraged to develop as professionals. Opportunities include the Cooperative Education Program, on-campus research activities, and participation in the student chapters of professional societies. Graduates

are prepared to enter the workforce and be strong contributors as practicing engineers or continue for advanced study in engineering.

At the graduate level, the Case School of Engineering combines advanced classroom study with a rigorous independent research experience leading to significant results appropriate for publication in archival journals and/or presentation at leading technical conferences. Scientific integrity, engineering ethics, and communication skills are emphasized throughout the program.

Brief History

The Case School of Engineering was established on July 1, 1992, by an action of the Board of Trustees of Case Western Reserve University as a professional school dedicated to serving society and meeting the needs of industry, government and academia through programs of teaching and research.

The Case School of Engineering continues the tradition of rigorous programs based on fundamental principles of mathematics, science and engineering that have been the hallmark of its two predecessors, the Case School of Applied Science (1880) and the Case Institute of Technology (1947). The formation of the Case School of Engineering is a re-commitment to the obligations of the gift of Leonard Case, Jr., to serve the citizens of Northern Ohio. The Case School of Engineering has been a leader in many educational programs, being the first engineering school to offer undergraduate programs in computer engineering, biomedical engineering, polymer engineering, and systems and control engineering.

Statistics

Enrollment Statistics by Degree Program (Fall 2017 - Fall 2021)

Data reflects sophomore, junior and senior declared Majors.

CSE Degree Program	Fall 2017	Fall 2018	Fall 2019	Fall 2020	Fall 2021
Aerospace Engineering	114	111	93	104	117
Biomedical Engineering	331	336	338	318	304
Chemical Engineering	170	169	149	151	138
Civil Engineering	60	61	66	55	62
Computer Engineering	44	26	30	37	35
Computer Science (BA and BS)	331	374	378	388	391
Data Science and Analytics		2	15	25	37
Electrical Engineering	153	141	155	135	111
Engineering Physics	26	20	19	12	16
General Engineering	0	0	1	0	3

Materials Science and Engr	49	38	41	31	34
Mechanical Engineering	303	303	285	286	270
Polymer Science and Engr	55	41	40	34	22
Systems and Control Engr	20	17	17	16	14

Graduation Statistics by Degree Program (AY 2017-18 - AY 2021-22)

CSE Degree Program	2017-18	2018-19	2019-20	2020-21	2021-22
Aerospace Engineering	34	43	18	29	46
Biomedical Engineering	117	79	82	100	86
Chemical Engineering	59	61	46	52	46
Civil Engineering	24	19	26	23	22
Computer Engineering	22	11	11	19	11
BA in Computer Science	26	25	42	46	40
BS in Computer Science	54	90	85	89	94
Data Science and Analytics			1	5	14
Electrical Engineering	57	54	52	58	51
Engineering Physics	9	8	8	5	6
General Engineering	1	1	1	1	0
Materials Science and Engr	16	14	15	10	19
Mechanical Engineering	102	115	91	99	108
Polymer Science and Engr	22	12	20	17	8
Systems and Control Engr	5	4	6	6	4