College of Engineering

Keya Sadeghipour, Ph.D., Dean
Engineering Building, Room 331
1947 N. 12th Street
Philadelphia, PA 19122
215-204-7800
http://engineering.temple.edu/

Accreditation


ABET is a non-profit and non-governmental accrediting agency for academic programs in the disciplines of applied science, computing, engineering, and engineering technology. ABET is a recognized accreditor in the United States by the Council for Higher Education Accreditation.

Being introduced in the Fall of 2013, the Bioengineering program will seek accreditation as soon as it is possible.

Mission

The mission of the College of Engineering (COE) is to provide students with a high-quality, innovative, and globally-competitive learning experience in engineering, engineering technology, and the applied sciences. Engineering graduates are to be educated professionals with the technical, problem-solving, and communication skills required to succeed in the workplace and society.

The college is mindful of its obligation to be an environment for the creation of knowledge, and it encourages basic and cross-disciplinary applied research by faculty and students. We place great value on scholarship, practice, and service aimed at improving the quality of life and the economic viability of our society. This value system is reflected in how we assess faculty for promotion and tenure and how we grade student work.

We strive to pursue these objectives in a learning environment that celebrates ethnic and gender diversity, respects experience, and encourages problem solving through teamwork.

The college offers undergraduate curricula in engineering and engineering technology. Our engineering programs, leading to the Bachelor of Science in Engineering degree, prepare students for positions in engineering that require a broad preparation in mathematics and the engineering sciences at the entry level. They are recommended for those who expect to become registered professional engineers, pursue an advanced degree, or become involved in conceptual design, planning, research, and development in industry. The programs in engineering technology, which lead to the Bachelor of Science in Engineering Technology degree, educate students for careers as engineering technologists. They participate as members of the engineering team, translating concepts into functioning systems and supervising subsequent implementation by technicians and craftsmen.

Graduates of the COE find employment in manufacturing, construction management, sales engineering, inspection and quality control, production engineering and management, research and development, purchasing, technical field services, application engineering, engineering design, computer systems and software manufacturing, and research or production involving computers. Following on-the-job experience, they can qualify for positions of a supervisory and managerial nature. Others may qualify as registered professional engineers.

Day and evening courses are offered at the Main Campus (http://bulletin.temple.edu/archives/2014-2015/undergraduate/campuses/main-campus) and at the Ambler Campus (http://bulletin.temple.edu/archives/2014-2015/undergraduate/campuses/ambler-campus) . All programs can be completed at the Main Campus.

Admission

Admission to the university does not guarantee admission to particular programs in the College of Engineering. Because programs in the college have varying admissions requirements, students should contact the Office of Undergraduate Studies, Room 349, for further information (215-204-2998).

Honors Program

For current information on the College Honors Program, contact Dr. Vallorie Peridier, Coordinator, by phone (215-204-7143) or e-mail (vallorie.peridier@temple.edu ).

Cooperative Education & Internship

Full-time matriculated College of Engineering students who have a GPA of 2.5 or greater and who have completed at least 30 semester hours (at least 12 at Temple) toward the baccalaureate degree may apply for paid cooperative work experience (full-time) during spring or fall semesters. Students work at least 35 hours per week and are considered full-time students at Temple University. It can take additional time to complete the degree when participating in this program, but at least one semester of relevant work experience is gained. College of Engineering students may register and receive
technical elective credits for their work experience with the Co-op courses (ENGR 2181, ENGR 3181). These programs are managed by the Director of Recruiting and Co-op Programs in the College of Engineering, Room 349, phone: 215-204-2998.

Students may also receive relevant work experience through internships, which are normally available during the summer terms. Because internships are offered over the summer, they allow students to finish in the traditional four years and still gain some on-the-job experience.

Honor Societies, Awards, & Student Associations

Professional Societies & Organizations

The following professional societies and organizations are located within the College of Engineering:

- American Concrete Institute (ACI)
- American Society of Civil Engineering (ASCE)
- American Society of Heating, Refrigeration, and Air Conditioning Engineering (ASHRAE)
- American Society of Mechanical Engineers (ASME)
- Biomedical Engineering Society (BMES)
- Construction Management Student Organization (CMSO)
- Engineers Without Borders (EWB)
- Institute of Electrical & Electronics Engineers (IEEE)
- Minority Engineering Students Association (MESA)
- National Society of Black Engineers (NSBE)
- National Society of Hispanic Engineers (SHPE)
- National Society of Professional Engineers (NSPE)
- Society of Automotive Engineers (SAE)
- Society of Manufacturing Engineers (SME)
- Society of Women Engineers (SWE)
- Temple University Amateur Radio Club (TUARC)
- ETA KAPPA NU (Electrical Engineering Honor Society)
- PI TAU SIGMA (Mechanical Engineering Honor Society)

Program Information

Engineering

The programs in Civil Engineering, Electrical Engineering and Mechanical Engineering are accredited by the Engineering Accreditation Commission (EAC) of ABET, http://www.abet.org.

All engineering programs lead to a Bachelor of Science degree in the following fields of study:

- Bioengineering (B.S. BioE.)
- Civil Engineering (B.S.C.E.)
- Electrical Engineering (B.S.E.E.)
- Engineering (B.S.E.)
- Mechanical Engineering (B.S.M.E.)

These degree programs also offer concentrations in the following areas:

- Environmental Engineering in B.S.C.E.
- Computer Engineering in B.S.E.E.
- Bioelectrical in B.S.E.E.
- Bioengineering in B.S.M.E.
- Energy Systems in B.S.M.E.

The new program in Bioengineering will seek accreditation as soon as it is possible. Likewise the new program in Engineering will seek accreditation.

Engineering Technology

Engineering Technology programs are accredited by the Engineering Technology Accreditation Commission (ETAC) of ABET, http://www.abet.org.

These programs lead to a Bachelor of Science in Engineering Technology (B.S.E.T.) degree.
Two Engineering Technology programs are offered in the following areas:

- Construction Management Technology
- Engineering Technology

**Student Contact Information**

Office of Undergraduate Studies (Room 349)
College of Engineering
1947 N. 12th Street
Philadelphia, PA 19122
215-204-7800

**Academic Policies & Regulations**

Please see the full listing of university-wide Academic Policies ([link](http://bulletin.temple.edu/archives/2014-2015/undergraduate/academic-policies)). The university policies and regulations generally apply to all undergraduate students and provide a framework within which schools and colleges may specify further conditions or variations appropriate to students in their courses or programs. Students are responsible for complying with all university-wide academic policies that apply to their individual academic status.

**Dean's List**

Each fall and spring semester, those undergraduates who have met the credit hour and academic criteria for their school or college are placed on the Dean's List. See the Dean's List ([link](http://bulletin.temple.edu/archives/2014-2015/undergraduate/academic-policies/deans-list)) policy for specific GPA and credit-hour requirements.

**College Graduation Requirements**

**Anticipation of Graduation**

All College of Engineering (COE) students who intend to graduate in May, August, or January must have a graduation review at the completion of 90 credits. At the beginning of the final semester, the student must complete a graduation application. To earn the baccalaureate degree in any curriculum of the COE, a student must submit a graduation plan (check sheet), consisting of all required courses in the chosen curriculum, which has been approved by the student’s faculty advisor, chairperson, and dean of the college. Required courses are indicated in curriculum checklists available from the student’s respective department of instruction.

**College Requirements for all Majors**

**Engineering Program**

- 32 minimum credits in Math and Science
- 15 minimum credits in Humanities and Social Science
- 60-70 credits in major (varies with major), minimum 2.0 GPA in the major
- 124 minimum credits total

**Engineering Technology (CMT & ET) programs**

- 24 minimum credits in Math and Science
- 15 minimum credits in Humanities and Social Science
- 50-60 credits in major (varies with major), minimum 2.0 GPA in the major
- 124 minimum credits total

**Notes:**

1. The total number of credit hours at graduation may be greater for some students based on initial placement exams, transfer evaluations, individual curricular choices, and academic progress.
2. Students must fulfill the necessary prerequisites for any given course or course sequence. See the Prerequisite and Co-requisite Policy ([link](http://bulletin.temple.edu/archives/2014-2015/undergraduate/academic-policies/prerequisites-corequisites)) in the university-wide Academic Policies section in this Bulletin.
3. The engineering programs are structured to prepare students for the professional practice of engineering and/or graduate study. The curricula emphasize a rigorous treatment of the mathematical and scientific approaches to the solution of engineering problems.
4. The final two years of study stress the synthesis of unique solutions rooted in the fundamental principles mastered during the first two years. These final years culminate in a design project.
Program Performance
A minimum cumulative GPA of 2.0 is required for graduation. Students majoring in engineering must attain a minimum GPA of 2.0 in their major courses in order to graduate. Students majoring in engineering technology and construction management technology must have a minimum GPA of 2.0 in their major courses.

Independent Research
Independent student work on a laboratory investigation or design project must be approved by the chairperson of the respective department and the assigned faculty supervisor. Work is graded on research methodology, research results, and a report. Only seniors with a minimum GPA of 3.0 may apply for independent research. Approved projects must be completed in one academic year.

Independent Study
A student is permitted to take no more than two independent study courses. Permission is granted only if a student needs the course to complete his/her studies. They can be taken only in the junior and senior years. The content of the independent study work must cover the material in one of the courses listed in the curriculum. Students must complete an independent study form in their department prior to registration for the independent study.

Transfer Credit
Transfer credit to the COE can be granted only from an accredited institution of higher learning. Co-op education, credit for life experience, and advanced placement credits are not transferable from other institutions. Transfer credits are not granted after a student has matriculated into a degree program. In only exceptional circumstances may students take courses at other institutions and have transfer credits awarded. The dean must approve permission for such arrangements in advance. Senior Design Projects or Capstone courses are not transferable to the college.

Non-Traditional Credits
A maximum of 12 semester hours of credit will be allowed by the COE in cooperative education, relevant work experience, approved ROTC courses, and Advanced Placement or CLEP examinations. No other non-traditional credit will be granted.

Credit for Life Experience
Degree seeking students may be granted academic credits for work experience if it is judged to be an adequate substitute for all or part of particular courses required of the student. Experience must be related to a specific course in the curriculum offered by the college. Work experience must be acquired before entering Temple University. Credit will only be granted after completion of 30 semester hours of coursework. Application forms are available in the Office of Undergraduate Studies (Engineering Building, Room 349).

Academic Advising
Shawn Fagan
Director
Engineering Building, Room 350
215-204-8825
sfagan@temple.edu

Advising Centers for the Major in the College of Engineering
Civil and Environmental Engineering Department
Engineering Building, Room 513
215-204-7814
ceed@temple.edu

Electrical and Computer Engineering Department
Engineering Building, Room 711
215-204-7597
eegrad@temple.edu

Mechanical Engineering Department
Engineering Building, Room 610
215-204-7808
vross@temple.edu

Bioengineering Department
Engineering Building, Room 813
215-204-3038
ruth.ochia@temple.edu
All students in the College of Engineering (COE) are assigned an academic or faculty advisor when they initially enroll. The student's academic advisor will confirm that the courses selected yield credits toward a degree and that the requirements of Temple University, COE, and the academic department are being met. Reference should be made to this Bulletin and to DARS in planning programs.

Academic advisors attempt to avoid errors when advising students about their program requirements, but schools and colleges cannot assume liability for errors in advising. Therefore, students must assume primary responsibility for knowing the requirements for their degrees and for acquiring current information about their academic status.

**Faculty**

Bechara E. Abboud, Associate Professor, Department of Civil and Environmental Engineering, College of Engineering; Ph.D., Drexel University.

Berk Ayranci, Instructor (Teaching/Instructional), Department of Civil and Environmental Engineering, College of Engineering; M.S.M.E., Temple University.

Li Bai, Associate Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., Drexel University.

George Baran, Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., University of Michigan.

Leonard K. Bernstein, Instructor (Teaching/Instructional), Department of Civil and Environmental Engineering, College of Engineering; M.S., University of Pennsylvania.

Saroj K. Biswas, Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., University of Ottawa.

Robert M. Brooks, Associate Professor, Department of Civil and Environmental Engineering, College of Engineering; Ph.D., Indian Institute of Technology.

Shih-Jiun Chen, Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., Drexel University.

Harsh Deep Chopra, Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., University of Maryland College Park.

Joseph Thomas Coe Jr., Assistant Professor, Department of Civil and Environmental Engineering, College of Engineering; Ph.D., University of California Los Angeles.

Richard S. Cohen, Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., Princeton University.

Edna Cukierman, Associate Professor, Department of Bioengineering, College of Engineering; Ph.D.

Kurosh Darvish, Associate Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., University of Virginia.

Zdenka J. Delalic, Associate Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., University of Pennsylvania.

Dmitriy A. Dikin, Associate Professor (Research), Department of Mechanical Engineering, College of Engineering; Ph.D., National Academy of Sciences of Ukraine, Institute for Low Temperature Physics and Engineering.

Oleksandr Diloyan, Assistant Professor (Teaching/Instructional), Department of Mechanical Engineering, College of Engineering; Ph.D., Donets National Technical University.

Fatehy El-Turky, Associate Professor (Teaching/Instructional), Department of Electrical and Computer Engineering, College of Engineering; Ph.D., University of Waterloo.

Omar Z. Fisher, Assistant Professor, Department of Bioengineering, College of Engineering; Ph.D., University of Texas at Austin.

Yah-el Har-el, Assistant Professor (Research), Department of Bioengineering, College of Engineering; Ph.D., Johns Hopkins University.

John J. Helferty, Associate Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., Drexel University.

Robert Hughes, Assistant Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., McMaster University.

Parsaoran Hutapea, Associate Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., North Carolina State University.

Mohammad F. Kiani, Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., Louisiana Tech University.

Sanghun Kim, Assistant Professor (Teaching/Instructional), Department of Civil and Environmental Engineering, College of Engineering; Ph.D., Syracuse University.

Peter Leikes, Professor, Department of Bioengineering, College of Engineering; Ph.D., RWTH Aachen University.
Michel Lemay, Professor, Department of Bioengineering, College of Engineering; Ph.D., Case Western Reserve University.

Muruganandham Manickavachagam, Assistant Professor (Research), Department of Civil and Environmental Engineering, College of Engineering; Ph.D., Annamalai University.

William C. Miller, Associate Professor (Teaching/Instructional), Department of Civil and Environmental Engineering, College of Engineering; Ph.D., University of Pennsylvania.

Svetlana Neretina, Assistant Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., McMaster University.

Iyad Obeid, Associate Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., Duke University.

Ruth Ochia, Associate Professor (Teaching/Instructional), Department of Bioengineering, College of Engineering; Ph.D., University of Washington.

Vallorie J. Perdier, Associate Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., Lehigh University.

Joseph Picone, Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., Illinois Institute of Technology.

Shriram Pillapakkam, Associate Professor (Teaching/Instructional), Department of Mechanical Engineering, College of Engineering; Ph.D., New Jersey Institute of Technology.

Nancy Pleshko, Professor, Department of Bioengineering, College of Engineering; Ph.D., Rutgers University.

Songgang Qiu, Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., University of Minnesota.

David Reiser, Assistant Professor (Teaching/Instructional), Department of Mechanical Engineering, College of Engineering.

Fei Ren, Assistant Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., Michigan State University.

Gaetano Restivo, Assistant Professor (Teaching/Instructional), Department of Mechanical Engineering, College of Engineering; Ph.D., University of Palermo.

Steven M. Ridenour, Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., University of Miami.

Robert J. Ryan, Associate Professor (Teaching/Instructional), Department of Civil and Environmental Engineering, College of Engineering; Ph.D., Drexel University.

Keyanoush Sadeghipour, Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., University of Manchester Institute of Science and Technology.

Sergio E. Serrano, Professor, Department of Civil and Environmental Engineering, College of Engineering; Ph.D., University of Waterloo.

Dennis A. Silage, Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., University of Pennsylvania.

Andrew Spence, Associate Professor, Department of Civil and Environmental Engineering, College of Engineering; Ph.D., Cornell University.

Won Hyuk Suh, Assistant Professor, Department of Bioengineering, College of Engineering; Ph.D., University of Illinois at Urbana-Champaign.

Thomas E. Sullivan, Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., Pennsylvania State University.

Rominder Suri, Professor, Department of Civil and Environmental Engineering, College of Engineering; Ph.D., Michigan Technological University.

Rouzbeh Tehrani, Assistant Professor (Teaching/Instructional), Department of Civil and Environmental Engineering, College of Engineering; Ph.D., Temple University.

Philip D. Udo-Inyang, Associate Professor, Department of Civil and Environmental Engineering, College of Engineering; Ph.D., University of Missouri-Columbia.

Felix F. Udemyo, Assistant Professor (Teaching/Instructional), Department of Civil and Environmental Engineering, College of Engineering; Ph.D., Abubakar Tafawa Balewa University.

Dmitri Vainchtein, Assistant Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., University of Illinois at Urbana-Champaign.

Benoit Van Aken, Assistant Professor, Department of Civil and Environmental Engineering, College of Engineering; Ph.D., Catholic University of Louvain.

Evelyn Walters, Assistant Professor (Teaching/Instructional), Department of Civil and Environmental Engineering, College of Engineering; Ph.D., Technische Universitat Munchen.
Wenhai Wang, Assistant Professor (Research), Department of Mechanical Engineering, College of Engineering.

Chang-Hee Won, Associate Professor, Department of Electrical and Computer Engineering, College of Engineering; Ph.D., University of Notre Dame.

Jie Yin, Assistant Professor, Department of Mechanical Engineering, College of Engineering; Ph.D., Columbia University.

Hui Yu, Assistant Professor (Research), Department of Civil and Environmental Engineering, College of Engineering.

Huichun Judy Zhang, Assistant Professor, Department of Civil and Environmental Engineering, College of Engineering; Ph.D., Georgia Institute of Technology.