

Choosing a Major

A Guide for Transfer Students



Bioengineering

Bioengineering or biomedical engineering involves combining knowledge from the biology, medical, and engineering fields to improve healthcare systems and the quality of life.

Helpful Links:

- ⇒ <http://navigate.aimbe.org/>
- ⇒ <http://www.bmes.org/content.asp?contentid=140>
- ⇒ <https://www.youtube.com/watch?v=KQm-gfobUm8>

Chemical Engineering

Chemical engineering uses principles from chemistry, biology, physics, and math to solve problems involving the production or use of chemicals, fuel, drugs, and other products.

Helpful Links:

- ⇒ <https://www.aiche.org/community/students/career-resources-k-12-students-parents/what-do-chemical-engineers-do>
- ⇒ <https://collegegrad.com/careers/chemical-engineers>
- ⇒ <https://www.youtube.com/watch?v=i9HeSS7xuas>

Civil Engineering

Civil engineering focuses on designing, building, and maintain aspects of infrastructure such as roads, bridges, and energy and water systems.

Helpful Links:

- ⇒ https://www.asce.org/about_civil_engineering/
- ⇒ <https://collegegrad.com/careers/civil-engineers>
- ⇒ <https://www.youtube.com/watch?v=cJaRjI7K-Lw>

Environmental Engineering

Environmental engineering combines the ideas of engineering, biology, and chemistry to solve environmental problems such as waste disposal and pollution.

Helpful Links:

- ⇒ <https://www.allaboutcareers.com/careers/career-path/environmental-engineering>
- ⇒ <https://www.onlineengineeringprograms.com/faq/what-does-environmental-engineer-do>
- ⇒ <https://www.youtube.com/watch?v=WyZw4ni1DE0>

Computer Engineering

Computer engineering combines information from computer science and electrical engineering to design and create effective computer networks and systems.

Helpful Links:

- ⇒ <https://www.learnhowtobecome.org/computer-engineer/>
- ⇒ <https://www.worldwidelearn.com/online-education-guide/engineering/computer-engineering-major.htm>
- ⇒ https://www.youtube.com/watch?v=eGX_42qSofc

Electrical Engineering

Electrical engineers design and develop electronic equipment and electronic systems ; they can be responsible for supervising the manufacturing and implementation of such components.

Helpful Links:

- ⇒ <http://www.owlguru.com/career/electrical-engineers/job-description/>
- ⇒ <https://www.livescience.com/47571-electrical-engineering.html>
- ⇒ <https://www.youtube.com/watch?v=6cEkZ-0uFPw>

Industrial Engineering

Industrial engineering focus on eliminating wastefulness in processes by creating systems that integrate workers, machines, and other information efficiently.

Helpful Links:

- ⇒ <https://collegegrad.com/careers/industrial-engineers>
- ⇒ <http://www.iise.org/details.aspx?id=716>
- ⇒ <https://www.youtube.com/watch?v=3K3-stVK0IM>

Mechanical Engineering

Mechanical engineers design and develop mechanical equipment while also overseeing the installation of this equipment and other devices.

Helpful Links:

- ⇒ <http://www.owlguru.com/career/mechanical-engineers/job-description/>
- ⇒ <https://www.bls.gov/ooh/architecture-and-engineering/mobile/mechanical-engineers.htm>
- ⇒ <https://www.youtube.com/watch?v=gHSZ1S9996U>

Materials Science & Engineering

Materials engineers use their knowledge of material properties and structures to design new materials or identify new uses for current materials.

Helpful Links:

- ⇒ <https://www.worldwidelearn.com/online-education-guide/engineering/materials-science-engineering-major.htm>
- ⇒ <https://study.com/articles/Materials-Engineer-Job-Description-Duties-and-Requirements.html>
- ⇒ <https://www.youtube.com/watch?v=RAOHLGa4psk>

Engineering Science

Engineering Science is an interdisciplinary field combining the knowledge of engineering, mathematics, and science to solve problems and implement solutions.

Helpful Links:

- ⇒ <http://www.engineering.pitt.edu/Departments/MEMS/Content/Undergraduate/Engineering-Science/Engineering-Science-Background-information/>
- ⇒ <https://www.collegexpress.com/interests/science-and-engineering/articles/studying-sciences/chemical-engineering/>

Additional Helpful Links

- ⇒ For more information about Pitt's departments, faculty, research areas, and course requirements, visit <http://www.engineering.pitt.edu/>
- ⇒ For more information about the different engineering disciplines search this site: <http://www.discovere.org/discover-engineering/engineering-careers>
- ⇒ Search this site for any engineering discipline to understand job outlook and salary for that discipline: <https://www.bls.gov/ooh/>



Questions about the transfer process?

Contact

Chris Kirchhof, Coordinator for Transfer Services

First-Year Programming Office, Swanson School of Engineering

chk63@pitt.edu 412-624-9825