

Student Advising Services

109 Norton Hall, Phone: 716-645-6013

Email: sas-advisor@buffalo.edu , Web: <http://sas.buffalo.edu>

Alternatives to Engineering

Are you struggling through an Engineering major?

Is engineering not what you thought it would be, or is it just not right for you? If so, then it may be time for you to revise your academic plans. Perhaps you chose Engineering because you like problem solving, did well in high school math and science classes, or have a knack for creativity and innovation. But did you know that there are a number of other fields that will allow you to use and develop these same skills? Outlined here are some options within Engineering that you may not have considered, as well as a few alternative majors to investigate.

Should I Stay or Should I Go?

Choosing an Engineering major is essentially a career decision, many students who experience difficulty with Engineering may realize that they simply have not made an informed choice. You may think you have an idea of what an electrical engineer does, versus a mechanical engineer, or a civil engineer, but have you researched the specifics of these job descriptions? Consider speaking with practicing engineers in various fields, or even shadowing someone for a day. This will give you a good idea of the extent to which your interests and abilities apply to the field, and help you decide if you belong in Engineering.

What is Industrial Engineering?

A surprising number of Engineering students transfer into Industrial Engineering each year. For many, the draw of this major is its people-oriented approach to productivity and problem solving, as well as its ties to management. If you think this field may interest you, speak with faculty and students in the department.

Other Engineering Careers

Keep in mind that an engineering background is very useful in the business world, especially in engineering sales, technical writing, and consulting. And yes, you can still make that big engineering salary in those fields!

Alternative Majors: Sciences

Majoring in one of the Sciences is a logical option, due to easily transferable course requirements and similar interests. Whether you choose Biology, Chemistry, Biochemistry, Medicinal Chemistry, Geology, Physics, or Biophysics, a B.A. or B.S. degree can lead to a variety of careers, from ecology to patent law, teaching to public health, meteorology to genetic research. Refer to the **Undergraduate Catalog: Academic Programs** section: <http://undergrad-catalog.buffalo.edu/academicprograms/>

Undergraduate Catalog:

<http://undergrad-catalog.buffalo.edu/academicprograms/mth.shtml>

Mathematics

<http://www.math.buffalo.edu/>

244 Mathematics Building • (716).645.6284

A Mathematics degree has diverse applications in the social, managerial, and physical sciences, and can lead to a career in business and industry, government agencies, teaching, or research. The department offers both a B.A. and a B.S., as well as a variety of program tracks for students preparing for graduate study in either pure or applied mathematics.

Undergraduate Catalog:

<http://undergrad-catalog.buffalo.edu/academicprograms/coms.shtml>

Computer Science

<http://www.cse.buffalo.edu/>

201 Bell Hall • (716).645.3180

As an alternative to Computer Engineering, Computer Science is the systematic study of algorithmic methods of representing and transforming information including theory, design, application, and efficiency. In addition to algorithms and computation theory, this major focuses on software systems and engineering, artificial intelligence, graphics, networks, and databases. Both the B.A. and the B.S. programs are excellent preparation for graduate study or professional positions in the computing field.

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Architecture

Undergraduate Catalog:

<http://undergrad-catalog.buffalo.edu/academicprograms/arc.shtml>

<http://www.ap.buffalo.edu/architecture/>

112 Hayes Hall • (716).829.3485

Besides technical skills that relate to constructed and natural environments, architects must have knowledge of human behavior and needs. In this major, you will focus on architectural communications, model making and other visual skills, as well as issues and methods of design and construction. The B.S. in Architecture is useful as a foundation for the architectural field, preparation for a professional degree program, or for employment in related areas, such as urban planning, facilities management, real estate, or architectural preservation.

Environmental Design

Undergraduate Catalog:

<http://undergrad-catalog.buffalo.edu/academicprograms/env.shtml>

<http://www.ap.buffalo.edu/planning/>

116 Hayes Hall • (716).829. 2133

This flexible, pre-professional major will provide you with skills to understand, analyze and solve problems arising from the unprecedented changes that characterize today's urban and built environments. If you choose Environmental Design, you will find employment opportunities in fields such as urban/regional planning, architecture, landscape architecture, public administration, law, policy analysis, business, and real estate, to name a few.

Visual Studies

Undergraduate Catalog:

<http://undergrad-catalog.buffalo.edu/academicprograms/art.shtml>

<http://visualstudies.buffalo.edu/>

202 Center for the Arts • (716).645.6878

Yes, Art! If you like using your creativity and visual abilities, you may enjoy Computer Art (B.F.A.) or Communication Design (B.F.A. or B.A.). An increasing wide range of careers value imaging skills and creative problem solving, including commercial and freelance graphic design, web and CD-ROM design, and arts management.

Other Options: Undergraduate Catalog: <http://undergrad-catalog.buffalo.edu/index.shtml>

You may also want to consider the B.S. degree in Business Administration, perhaps with a concentration in Finance, Accounting, or Management Science and Systems. However, remember that Arts and Sciences majors such as Psychology, English, History, Sociology, Political Science or any other liberal arts field can be equally as attractive to potential employers as a degree in business.

Career Services

<http://www.ub-careers.buffalo.edu/>

259 Capen Hall • (716).645.2231

If it's time for a re-evaluation of your interests and goals or you need assistance with further understanding yourself, exploring options, or gaining guidance in the decision-making process then UB's Office of Career Services is an excellent resource that provides several key important services to students:

- Career Counseling
- Workshops/Seminars/Career Fairs
- Self-Assessment/Vocational Interest Inventories/**FOCUS** (<http://www.student-affairs.buffalo.edu/career/focus.php>). FOCUS is an Internet based career decision-making tool that allows you to get help selecting a major or career as well as investigate graduate schools.
- Career Library
- Meet a Mentor Program
- UBE 202, a 3-credit course aimed at assisting students with self-assessment, decision-making strategies, examining career choices, and much, much more.

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Enhance Your Opportunities

Regardless of the major you choose, remember that experiences outside of the classroom will help you develop marketable skills to increase your future employability anywhere:

Internships and volunteer work	http://www.ub-careers.buffalo.edu/student.php
Part-time or summer employment	http://www.student-affairs.buffalo.edu/career/stufind.php
Assisting a professor with research	http://curca.buffalo.edu/
Participation in student clubs and other organizations	http://www.getinvolved.buffalo.edu/
Computer skills	http://www.itworkshops.buffalo.edu/
Writing skills	http://tlc.buffalo.edu/lcwrite.htm
Public speaking on and off campus	http://ubclub.freetoasthost.ws/
Leadership development & Community involvement	http://www.student-affairs.buffalo.edu/leadership/

Resources

A Guide To Choosing A Major	http://advising.buffalo.edu/yourmajor/index.php
Career Services	www.ub-careers.buffalo.edu
College of Arts and Sciences (CAS)	http://casadvising.buffalo.edu/
Cora P. Maloney College	http://cpmc.buffalo.edu/
Counseling Services	http://ub-counseling.buffalo.edu/
School of Engineering & Applied Sciences	www.eng.buffalo.edu
Undergraduate Catalog A to Z	http://undergrad-catalog.buffalo.edu/atoz/index.shtml
Undergraduate Advising	http://advising.buffalo.edu

The Occupational Outlook Handbook

This is the quintessential career resource page. This Federal Government website includes statistics, descriptions, and trends for thousands of careers.

<http://www.bls.gov/oco/>