

CIVIL ENGINEERING

Bachelor of Science in Civil Engineering (BSCE)



NATURE OF THE WORK

Civil engineers design and supervise the construction of roads, buildings, airports, tunnels, dams, bridges, and water supply and sewage systems. They must consider many factors in the design process from the construction costs and expected lifetime of a project to government regulations and potential environmental hazards such as earthquakes and hurricanes. Civil engineering, considered one of the oldest engineering disciplines, encompasses many specialties. The major ones are structural, water resources, construction, transportation, and geotechnical engineering. Many civil engineers hold supervisory or administrative positions, from supervisor of a construction site to city engineer. Others may work in design, construction, research, and teaching.

(compiled from U.S. Dept. of Labor Occupational Outlook Handbook 2010-2011)

USF DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING EXPERTISE

Structural Engineering	Water Resources
Engineering Mechanics	Transportation
Materials	Geotechnical
Environmental	Sustainability

The University of South Florida Bachelor of Science degree programs in Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Industrial Engineering and Mechanical Engineering are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology. The Bachelor of Science in Computer Science program at the University of South Florida is accredited by the Computing Accreditation Commission of the Accreditation Board for Engineering and Technology. ABET 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 telephone: (410) 347-7700.

> EDUCATION REQUIREMENTS > JOB OUTLOOK > SALARY

- A bachelor's degree in civil engineering is required for most entry-level jobs, but some research positions may require a graduate degree.
- Continuing education is critical for engineers in order to keep up with improvements in technology.
- Overall job opportunities for engineers are expected to be good.
- Average starting salary - \$48,178 *(NACE spring 2011)*

REAL WORLD OPPORTUNITIES

Co-ops and Internships – These programs offer students numerous opportunities to engage with the broader-based engineering, technology and science community.

Engineering EXPO – This student-run event exposes school children to science and engineering principles in a two-day, on campus event.

Research Experiences for Undergraduates – The program gives undergraduate students an opportunity to participate. Students work as Research Assistants with professors and graduate students on a variety of exciting and interdisciplinary research projects.

Scholarships – More than 100 scholarships are awarded to USF engineering students totaling more than \$150,000 to provide financial support and recognizing their exceptional efforts.

STUDENT ORGANIZATIONS

American Society of Civil Engineers
Institute of Transportation Engineers
USF Emerging Green Builders
American Water Works Association(AWWA)

Engineers Without Borders
Engineers for Sustainable World
Student Chapter of the Florida Engineering Society
National Society of Black Engineers
Society of Hispanic Engineers
Society of Women Engineers
Tau Beta Pi The Engineering Honor Society
Theta Tau



For more information
<http://outreachrequest.eng.usf.edu>
www.eng.usf.edu

UNIVERSITY OF SOUTH FLORIDA COLLEGE OF ENGINEERING

2011-12 CURRICULUM

BACHELOR OF SCIENCE IN CIVIL ENGINEERING 131 hours

Civil and Environmental Engineering Admissions Requirements

Students entering the Civil & Environmental Engineering department must have completed the equivalent USF Engineering Calculus sequence, one year equivalent USF General Physics and one semester equivalent USF General Chemistry with a minimum of 2.3 GPA; and must have an overall and USF GPA of 2.0 or better. Continuation in the Civil & Environmental Engineering program requires a minimum grade of "C-" as well as a 2.5 GPA (based on best attempt) over the following courses: EGN 3311 Statics, EGN 3331 Mechanics of Materials, EGN 3353 Basic Fluid Mechanics, EGN 3365 Materials Engineering I.

The schedule that follows indicates how a diligent student who can devote full time to coursework can satisfy requirements in four academic years. Students without a solid foundation or those who cannot devote full time to academics should plan a slower pace. The following sequence is intended to facilitate registration planning and is subject to change based upon course availability. The sequence may also vary based upon individual considerations. Registration assistance will be provided by academic advisors.

FALL SEMESTER - YEAR 1

ENC 1101 Composition I	3
MAC 2281 Engineering Calculus I	4
CHM 2045 General Chemistry I	3
CHM 2045L General Chemistry I Lab	1
EGN 3000 Foundations of Engineering	1
Social & Behavioral Science Elective	3

Total 15

SPRING SEMESTER - YEAR 1

ENC 1102 Composition II	3
MAC 2282 Engineering Calculus II	4
Approved Geology Elective	3
PHY 2048 General Physics I	3
PHY 2048L General Physics I Lab	1
EGS 1113 Introduction to Design Graphics	3

Total 17

FALL SEMESTER - YEAR 2

MAC 2283 Engineering Calculus III	4
PHY 2049 General Physics II	3
PHY 2049L General Physics II Lab	1
EGN 3311 Statics	3
EGN 4427 Numerical & Computer Tools I	3
Humanities Elective	3

Total 17

SPRING SEMESTER - YEAR 2

MAP 2302 Differential Equations or EGN 3433*	
Modeling and Analysis of Engineering Systems	3
EGN 3321 Dynamics	3
EGN 3353 Basic Fluid Mechanics	3
EGN 3331 Mechanics of Materials	3
EGN 3331L Mechanics of Materials Lab	1
CGN 4933 Numerical and Computer Tools II	3

Total 16

SUMMER SEMESTER

EGN 3615 Engineering Economics with Social & Global Perspectives	3
HCDGC Perspective Elective	3
ENC 3246 Communications for Engineering (6A WI)	3

Total 9

FALL SEMESTER - YEAR 3

ENV 4001 Environmental Systems Engineering	3
TTE 4004 Transportation Engineering I	3
EGN 3343 Thermodynamics	3
EGN 3443 Probability & Statistics for Engineers	3
EGN 3365 Materials I	3

Total 15

SPRING SEMESTER - YEAR 3

CES 3102 Structures I	3
CWR 4202 Hydraulics	3
ENV 4004L Environmental/Hydraulics Lab	1
EGN 3373 Introduction to Electrical Systems I	3
CE Concentration Elective	3
Humanities Elective	3

Total 16

FALL SEMESTER - YEAR 4

CEG 4011 Geotechnical Engineering I	3
CEG 4011L Geotechnical/Transportation Lab	1
CE Concentration Elective	3
CE Concentration Elective	3
Fine Arts Elective	3

Total 13

SPRING SEMESTER - YEAR 4

CE Concentration Elective	3
CE Concentration Elective	3
CE Capstone Design Requirement (CD)	3
CGN4122 Professional/Ethical Issues in Engineering	1
Social & Behavioral Science Elective	3

Total 13

C- is the minimum acceptable grade in each engineering course. A minimum GPA of 2.0 in the following categories must be maintained at all times: Overall, USF, Math/Science, Engineering Courses and Specialization Courses. A minimum GPA of 2.5 is required in the continuation courses.

Gordon Rule (6A) is fully met through the mathematics courses above, ENC1101, ENC1102, ENC 3246 and by selecting one technical or general education elective that is an approved 6A communication course or by completing an AA degree at a Florida Community College.

Exit Requirements: The Capstone Design Requirement (CD) and Writing Intensive (WI) exit requirements are met through ENC3246 and the Capstone Design Course.

Course sequence: Courses in bold are critical path courses. These courses should be taken in the recommended sequence as early as possible in preparation for your major. General education courses (humanities, social and behavioral science, fine arts and "HCDGC") may be taken in any order.