

# Engineering

## Dual Degree Program

Students in this program study for three years at Covenant College before transferring to an approved engineering school. The dual degree program allows students to gain the benefits of the Christ-centered education offered by Covenant and the excellent scientific training available from a variety of universities and technical institutes. The program prepares students for study in the areas of mechanical, electrical, chemical, and industrial engineering, along with their associated sub-disciplines. Please note that architecture is not an area of engineering and as such is not part of the dual degree program. While we have a preferred relation with the Georgia Institute of Technology, recent participants in the program have also attended a number of other universities such as Clemson, the University of Kentucky, Tennessee Tech, and Auburn.

Because of the rigorous nature of this program, students should have a SAT score of at least 1100 (critical reading plus math only) and a minimum SAT math score of 600 or ACT math score of 25 prior to enrollment at Covenant. Students may request the approval of specific engineering schools by submitting a catalog to the Dual Degree Program Director at Covenant. The program director will identify requirements that must be transferred back to Covenant to complete a Bachelor of Arts in Natural Science: Engineering while completing a Bachelor of Science in a variety of disciplines of engineering or mathematics. Admittance to or completion of the pre-engineering program at Covenant College does not automatically guarantee admission to the approved engineering school. Each student must meet the transfer student admission requirements of the approved institution.

## Engineering Course Requirements

### Requirements for Major in Natural Science with Concentration in Pre-engineering Studies

The core and distribution requirements for a major in natural science, concentration in pre-engineering studies are outlined below. Exceptions can be made depending on the particular requirements of the school to which a transfer is planned for completion of the dual degree program. A GPA of 3.0 for all courses as well as math, science, and

engineering courses must be maintained to improve consideration of acceptance into engineering programs.

## Core Requirements

BIB 111. Old Testament Introduction .....	3
BIB 142. New Testament Introduction.....	3
BIB 277-278. Christian Doctrine I, II.....	6
COR 100. The Christian Mind .....	2
COR 225-226. Cultural Heritage of the West I, II.....	6
COR 325. Global Trends for the Twenty-First Century .....	3
COR 337. Intercultural Experience .....	1
COR 340. Christ and Culture Seminar .....	1
ENG 111. English Composition .....	3
PE 151. Concepts in Physical Education .....	2
PE 152. Personal Aerobics and General Fitness.....	1
See the Core and Distribution Requirements section for descriptions of requirements and lists of courses.	
Fine Arts Distribution Requirement .....	3
Foreign Language .....	8
Proficiency in one year of an elementary-level foreign language.	
History: U.S. History Elective; HIS 111 or 112 to fulfill a history component at GA Tech. ....	3
Humanities Distribution Requirement: For GA Tech, ENG 114. Introduction to Literature will satisfy the English Composition II requirement.....	3
Social Science Distribution Requirement: For GA Tech, ECO 201 or 202. Macro or Microeconomics is suggested.....	3
Core requirements .....	51

## Major and Supporting Course Requirements

CHE 121-122. General Chemistry.....	8
ENG 252. Speech 'S' .....	2
COS 131. Computing for Engineers.....	4
MAT 145-146. Calculus I, II.....	8
MAT 247. Calculus III. ....	4
MAT 258. Differential Equations.....	4
MAT 310. Linear Algebra.....	3
NSC 170. Introduction to Engineering .....	1
PHY 231-232. General Physics 'W'.....	8
PHY 233. Optics and Modern Physics .....	4
PHY 321. Statics or approved elective .....	3
PHY 322. Dynamics or approved elective .....	3
PHY 492. Senior Integration Paper .....	2
Total hours for the major .....	54
Total degree hours .....	105

The choice of Engineering Electives is dictated by the choice of engineering field the student goes into. The student is responsible for communicating their interests to their advisor so appropriate choices can be made. For example,

a Chemical Engineering major would chose Organic Chemistry I and II as their electives, while a Mechanical Engineering major would chose Statics and Dynamics

Students must complete at least 96 semester credits at Covenant College with a grade point average of 2.00 or higher.

Students attending institutions employing the quarter system should complete a minimum of 45 credit hours in their major science or engineering program with a minimum GPA of 3.0 on a 4-point scale.

Students attending institutions employing the semester system should complete a minimum of 30 credit hours in their major science or engineering program with a minimum GPA of 3.0 on a 4-point scale.