



# Bioengineering

## ASSOCIATE OF SCIENCE DEGREE

**Faculty Advisors:** Jared Abwawo, Mark Allen

TCC's Associate of Science in Bioengineering and Chemical Engineering Degree is a state recognized Major Related Program (MRP) designed to provide a pathway for students who plan to transfer to a Bachelor of Science degree program in Bioengineering or Chemical Engineering. Students planning to transfer in Biomass Resource Science and Engineering should also follow this pathway. After completing the degree courses, the student must apply to graduate with the AS MRP degree. Upon completion of this degree, students will be able to transfer to most four-year colleges and universities as juniors. Entry into many engineering programs is competitive. Completion of this degree does not guarantee admission into a specific engineering program. Courses in this pathway are relevant for multiple majors, so a course may apply to one particular major, but not another. Students should work with advisors at TCC and their university advisors to make sure that all entry requirements are met. Students should check with their transfer institution for admission requirements, including overall minimum GPA, a higher GPA in a selected subset of course, or a specific minimum grade in one or more courses such as math or English. Admission deadlines for transfer institutions vary and students are required to meet the transfer admission deadline of their intended transfer institution. Students are encouraged to enroll in math and science sequence courses at a single institution and, if possible, not break up sequenced courses between institutions.

**Preparation:** While in high school, students should pursue all of the available courses in mathematics, chemistry, biology, computer programming and physics.

**Academic Plan:** Students should meet with an engineering advisor as soon as they are admitted. Many courses have prerequisites, are offered only once or twice a year and are sequential. Careful selection of classes each quarter is necessary to complete the program without delay. The following schedule is intended as a sample academic plan for a student who placed into MATH 95 and ENGL 95. It is not the only method or even the preferred method to complete the degree. Each student will have an individualized academic plan based on preparation level, start quarter, full time versus part time status, major and intended university for transfer. Check current year's planned course offerings.

### SAMPLE SPECIALIZATION DEGREE MAP – Bioengineering

#### Pre-engineering Year

Fall	Winter	Spring	Summer
MATH 95	MATH 96/140	MATH& 141	MATH& 142
HD 101 for STEM	ENGL& 101	CHEM& 140	
ENGL 95	ENGR& 104	BIOL& 160	

#### First Year

Fall	Winter	Spring	Summer
MATH& 151	MATH& 152	MATH& 153	ART 105
CHEM& 161	CHEM& 162	PHYS& 221	HIST& 128
BIOL& 221	BIOL& 222	CHEM& 163	

#### Second Year

Fall	Winter	Spring	Summer
MATH& 254	MATH 238		
PHYS& 222	PHYS& 223		
CHEM& 261	ENGR 240		

*This degree requires 98 credit hours. Students may need to take additional prerequisite courses. See catalog for prerequisite information. The Humanities and Social Science courses must total 15 credits taken from the distribution course lists including at least one course from the multicultural list. Engr& 104 and Econ& 202 are required Social Science courses. While more than one class may be acceptable for the Associate of Science degree, four-year institutions may require a specific class for a specific engineering major. Admission to some university programs will require more the minimum courses. Financial aid recipients can receive aid for up to 125% of the required college level credits to complete the program. This includes college level pre-requisites. Detailed information is available from the Financial Aid Office.*