

ENGINEERING (831)

Purpose: Opportunities for engineering graduates should increase as the world continues to become more technologically oriented. Preparation for the engineering profession is based on a rigorous program of study, especially in mathematics and science.

This degree is designed for persons who plan to transfer into a four-year college or university Bachelor of Science degree program in one of the many engineering fields. The curriculum includes a basic core of courses in mathematics, science, engineering, and general studies, which provide the student with the fundamentals needed for transfer into a baccalaureate engineering program.

Thomas Nelson Community College offers options to complete the first two years of study in a broad range of engineering disciplines. Based on elective selections, a student may specialize in Mechanical, Electrical, Computer, Civil, or Chemical Engineering.

Developmental Studies: To ensure a reasonable chance of success in pursuing this program of study, some students may be required to enroll in specified developmental courses in mathematics, written English and/or reading based on performance on placement tests and assessment of prior education. It is important that these developmental courses be completed as quickly as possible so that students will be appropriately prepared to pursue this program of study. For additional information, see Developmental Studies.

For more information, contact the **Mathematics, Engineering, and Technologies Division** in room 321 Hastings Hall, 757/825-2898, or at www.tncc.edu.

GENERAL EDUCATION COURSES

<i>Course #</i>	<i>Course Title</i>	<i>Credits</i>
ENG 111	College Composition I	3
ENG 112	College Composition II or	
ENG 115	Technical Writing	3
---	Humanities Electives ¹	6
---	Social Science Electives ²	6
MTH 173-174	Calculus with Analytic Geometry I and II	4-4
PHY 241-242	University Physics I and II	4-4
HLT/PED	Health or Physical Education Elective	1
SDV 100	College Success Skills	1
Total General Education Course Credits		36

MAJOR AND OTHER COURSES

<i>Course #</i>	<i>Course Title</i>	<i>Credits</i>
CHM 111	College Chemistry I	4
CHM 112	College Chemistry II or	
MTH 285	Linear Algebra	3/4
---	Engineering Electives ³	9
EGR 110	Engineering Graphics or	
CSC 202	Computer Science II	3
EGR 120	Introduction to Engineering ⁴	2
EGR 126	Computer Programming for Engineers or	
CSC 201	Computer Science I	3
EGR 140	Engineering Mechanics-Statics	3
MTH 277	Vector Calculus	4
MTH 291	Differential Equations	3
Total Major and Other Course Credits		34/35
Total Minimum Credits		70/71

¹Two semesters of humanities electives may be selected from the areas of ART, ENG, HUM, MUS, PHI, REL, and foreign languages. See the Program Information section for a list of approved electives. Humanities electives should be selected in conjunction with an advisor after the student has examined the requirements at the transfer institution.

²Two semesters of social science electives may be selected from the areas of ECO, GEO, HIS, PLS, PSY, SOC. See the Program Information section for a list of approved electives. Social Science electives should be selected in conjunction with an advisor after the student has examined the requirements at the transfer institution.

³Recommended Engineering electives: Mechanical or Civil Engineering: EGR 245, EGR 246, and EGR 250 or 260. Electrical or Computer Engineering: EGR 260, EGR 261, EGR 277, EGR 278; Chemical Engineering 246, Advanced Chemistry/Biology (see advisor), Environmental Engineering: EGR 245, EGR 246, and BIO 101. Note: Students will not receive EGR elective credit for both EGR 250 and EGR 260. For Computer Engineering: CSC 201, CSC 202 should be taken;

⁴EGR 120 meets CSC 201 prerequisite.

SUGGESTED COURSE SEQUENCE FOR FULL-TIME STUDY

<i>Fall</i>	<i>Spring</i>	<i>Summer</i>	<i>Fall</i>	<i>Spring</i>
CHM 111	CHM 112 or	HUM elective	EGR elective	EGR elective
EGR 110	MTH 285	Social Science I	HLT/PED	EGR elective
EGR 120	EGR 126 or		HUM elective	MTH 277
ENG 111	CSC 201		MTH 291	ENG 112 or 115
MTH 173	EGR 140		PHY 242	Social Science II
SDV 100	MTH 174			
	PHY 241			

POSSIBLE CAREER OPPORTUNITIES

Aerospace engineer	Civil engineer	Industrial engineer
Chemical engineer	Electrical engineer	Mechanical engineer