

CAREER STUDIES CERTIFICATE (221-831-01)

# Engineering

**Purpose:** Engineers are the planners and designers of the technological systems that are the backbone of our modern society. They apply principles of science and mathematics to meet the needs or solve the problems of humankind. These problems typically are multifaceted and involve the interplay of technological, economic, environmental, sociological, and political components.

**Occupational Objectives:** The Career Studies Certificate in Engineering is designed for persons want to explore engineering as a potential major. This program allows students to experience the exciting opportunities in engineering and prepare themselves for an associate of science degree in engineering, which is transferable to a four-year college or university to complete a baccalaureate degree.

**Admission Requirements:** Applicants must meet the general requirements for admission to the college. Students who do not place into MTH 166 on the placement test will be required to take developmental courses. Students who place into MTH 166 who have completed Pre-calculus and Trigonometry in high school with a grade of "A" within the past three years have the option to complete a challenge exam to determine their readiness for MTH 175. A passing score on the challenge exam or successful completion of MTH 166 is required before a student can enroll in MTH 175.

**Program Requirements:** If a student is interested in completing the entire first year of the Engineering transfer degree, please refer to the Engineering Associate of Science degree for the additional courses to compliment those listed in this career studies (i.e. ENG 111, etc.). Applicants must also meet the ability to benefit requirements.

**CURRICULUM AND OTHER REQUIREMENTS**

**GENERAL EDUCATION CORE COURSES** **CREDITS**

MTH 175*	..... Calculus of One Variable I .....	3
MTH 176*	..... Calculus of One Variable II .....	3
MTH 177*	..... Introductory Linear Algebra .....	2
MTH 178*	..... Topics in Analytic Geometry .....	2

**ENGINEERING COURSES**

EGR 120*	..... Introduction to Engineering .....	2
EGR 124**	..... Introduction to Engineering and Engineering Methods .....	3
EGR 126**	..... Computer Programming for Engineers [C++] .....	3
EGR 140*	..... Engineering Mechanics–Statics .....	3
EGR 198	..... Seminar & Project in Robotics.....	1
EGR 206**	..... Engineering Economy .....	3
EGR 216	..... Computer Methods in Engin & Tech.....	3
SDV 101	..... Orientation to Engineering.....	1

**Total Minimum Credits for Degree ..... 29**

*\* This course has a prerequisite. Prerequisites for all courses are listed in the course description section at the back of the catalog.*

*\*\*This course has a co-requisite. Co-requisites for all courses are listed in the course description section at the back of the catalog.*

**SUGGESTED SCHEDULE**

<b>FIRST YEAR</b>	<b>FALL</b>	<b>SPRING</b>
	EGR 198	EGR 124
	EGR 216	MTH 175
		MTH 177
		SDV 101
<b>SECOND YEAR</b>	<b>FALL</b>	<b>SPRING</b>
	EGR 120	EGR 126
	MTH 176	EGR 140
	MTH 178	EGR 206