COCHISE COLLEGE

DEGREE MAP

The following sequence is an example of how this degree can be completed in two years. This sequence is based on satisfaction of all Basic Skills requirements and prerequisites, and presumes a fall start date. An individual's program may vary depending on transfer institution, career objectives, or individual needs. See your counselor for other options and to monitor your progress.

Program Name: Engineering-Associate of Applied Science Degree

Location(s) Offered:

Sierra Vista Campus

Learning Outcomes: *Students who successfully complete this program will be able to do the following:*

1. Demonstrate the ability to apply mathematics and science in engineering applications.
2. Design a system, components, or process to meet given specifications and constraints, including economic, environmental, social, political, ethical, health and safety, manufacturing, and sustainability issues.
3. Demonstrate an understanding of professional and ethical responsibility.
4. Exhibit the ability to function on multidisciplinary teams.
5. Demonstrate a knowledge of the techniques, skills, and modern engineering tools necessary for engineering practice.

Course or program prerequisite(s) not included in the degree:

ENG 101 Composition requires appropriate English placement score (or see advisor).
MAT 187 Precalculus requires appropriate mathematics placement score (or see advisor).
PHY 230 Physics with Calculus I requires PHY 111 General Physics I or one year of high school physics.

The following prerequisites apply to the department approved electives:
CHM 151 General Chemistry I requires CHM 130 Fundamental Chemistry, CHM 138 Chemistry for Allied Health, or one year of high school chemistry; MAT 123 Developmental Mathematics Level III or higher; and RDG 122 Reading Critically or exemption.
CHM 152 General Chemistry II requires CHM 151 General Chemistry I.
CIS 221 Digital Logic requires CIS 116 Computer Essentials or CIS 120 Introduction to Information Systems, and CIS 129 Introduction to Programming Logic or CIS 130 Programming Logic; or permission of instructor.
EGR 213 Mechanics of Materials requires EGR 210 Statics.
EGR 214 Dynamics requires EGR 210 Statics.

Program Reviewed: ***Feb 22, 2016***

Key:
IW=Intensive Writing
F2F=Face-to-Face Instruction
ITV=Instructional Television
VC=Virtual Campus/Online

Requirements	*Course(s) Recommended*	*Delivery Method*	*Credits*
First Semester (Fall):			
General Education-Composition	ENG 101 Composition	F2F,VC	3
General Education-Liberal Arts		F2F,VC	3
General Education-Mathematics	MAT 187 Precalculus or higher	F2F,VC	5
General Education-Tech Lit substitute*	EGR 122 Programming for Engineering and Science	F2F	4
Second Semester (Spring):			
Core Curriculum	EGR 102 Principles of Engineering	F2F	3
Core Curriculum	MAT 220 Calculus I	F2F,VC	5
General Education-Composition	ENG 102 English Composition	F2F,VC	3
General Education-Liberal Arts	ECN 201 Macroeconomics or ECN 202 Microeconomics	F2F,ITV,VC	3
Department Approved Elective**		F2F,VC	3
Third Semester (Fall):			
Core Curriculum	MAT 231 Calculus II	F2F	4
Core Curriculum	PHY 230 Physics with Calculus I	F2F	4
Department Approved Elective**		F2F,VC	4
Department Approved Elective**		F2F,VC	3
Fourth Semester (Spring):			
Core Curriculum	MAT 241 Calculus III	F2F	4
Core Curriculum	MAT 262 Differential Equations	F2F	3
Core Curriculum	PHY 231 Physics with Calculus II	F2F	4
Department Approved Elective**		F2F	3
Department Approved Elective**		F2F	3

Total credits required: 64

Notes:

*EGR 122 Programming for Engineering and Science replaces the technology literacy requirement.
**Department approved electives include CHM 151 General Chemistry I, CHM 152 General Chemistry II, CIS 221 Digital Logic, EGR 202 Electrical Circuits (civil and electrical engineering emphasis), EGR 210 Statics (civil and mechanical engineering emphasis), EGR 213 Mechanics of Materials (civil engineering emphasis), EGR 214 Dynamics (civil and mechanical engineering emphasis), and MAT 252 Introduction to Linear Algebra.