



# ENGINEERING

Associate in Science (AS)

## Advising Sheet – Suggested Course Sequence

Student Name \_\_\_\_\_

Faculty Advisor \_\_\_\_\_

REQUIRED COURSES	CR	PRE-REQUISITE COURSES	APPROVED COURSE SUBSTITUTIONS	TERM THAT I PLAN TO TAKE OR $\checkmark$ TAKEN
SDV 101 Orientation to Engineering and Technologies	1		SDV 100	
ENG 111 College Composition I	3	See Placement Requirements		
Math Elective Courses	18-21	See Note 1		
EGR 120 Introduction to Engineering	2	MTH 163 (corequisite)		
EGR 126 Computer Programming for Engineers	3			
CHM 111 General Chemistry I	4	Math Modules 1-9		
ENG 112 College Composition II	3	ENG 111		
PHY 241 General University Physics I	4	MTH 173		
PHY 242 General University Physics II	4	PHY 241, MTH 174		
Engineering Elective Courses	15	See Note 2		
Social/Behavioral Science Electives	6	See Note 3		
Humanities Electives	6	See Note 4		
<b>Total Credits For Program</b>	<b>69-72</b>			

### NOTES:

- Math Course Electives:** EGR majors are required to take a minimum of 18 credits from the Mathematics Electives List, starting their first semester, with the highest-level class for which they are prepared. Please see below. Students are encouraged to take two math classes beyond MTH 174 Calculus II, in order to be on schedule after transfer to the university. MTH 277, MTH 279, and MTH 285 may be taken in any order.
- EGR Course Electives:** Students earn an AS in Engineering by taking EGR 120, EGR 126, plus 15 credits from the Engineering Electives List. Please see below. Specific sets of courses are designed to prepare students for specific majors at transfer universities. Please see your faculty advisor. The two-course series EGR 120-124 is required by some universities. EGR 248 may be taken out of numerical order with EGR 245 and EGR 246. EGR 270 may be taken out of numerical order with EGR 251/255 and EGR 261/263. EGR 251 and EGR 255 must be taken together. EGR 261 and EGR 263 must be taken together.
- Social/Behavioral Science Electives:** This requirement can be satisfied by courses with the following prefixes: ECO, GEO, PLS, HIS, PSY (except PSY 100), and SOC.
- Humanities Electives:** This requirement must be satisfied by completing one 3-credit conceptual humanities course that offers breadth of knowledge. Additional humanities electives may be conceptual or applied with a focus on skills, techniques and procedures. See website (<http://www.jtcc.edu/humanitiesselectives>) for a list of approved conceptual and applied humanities electives.

Math Electives List — Choose minimum 18 credits	CR	Prerequisite Courses	Corequisite Courses
MTH 163 Precalculus I	3	Math Modules 1-9	
MTH 164 Precalculus II	3	MTH 163	
MTH 166 Precalculus (equivalent to MTH 163 + MTH 164)	5	Math Modules 1-9	
MTH 173 Calculus I	5	MTH 164 or MTH 166	
MTH 174 Calculus II	5	MTH 173	
MTH 277 Vector Calculus	4	MTH 174	
MTH 279 Ordinary Differential Equations	4	MTH 174	
MTH 285 Linear Algebra	3	MTH 174	
EGR Electives List — Choose minimum 15 credits	CR	Prerequisite Courses	Corequisite Courses
General Engineering			
EGR 124 Introduction to Engineering Methods	3	EGR 120	
EGR 140 Engineering Mechanics – Statics	3	EGR 120	MTH 173
EGR 245 Engineering Mechanics-Dynamics	3	EGR 140, MTH 174, PHY 241	
EGR 246 Mechanics of Materials	3	EGR 140	MTH 174
EGR 248 Thermodynamics for Engineers	3		
Electrical and Computer Engineering			
EGR 270 Fundamentals of Computer Engineering	4	EGR 126 (or instructor permission)	
EGR 251 Basic Electric Circuits I	3	EGR 120, MTH 173, PHY 241	EGR 255
EGR 255 Electric Circuits Laboratory	1	EGR 120, MTH 173, PHY 241	EGR 251
EGR 261 Signals and Systems	3	EGR 251, MTH 279, EGR 126	EGR 263
EGR 263 Signals and Systems Laboratory	1	EGR 251, MTH 279, EGR 126	EGR 261
EGR Electives	3		
Biomedical, Biological Systems and Chemical Engineering			
CHM 112 General Chemistry II	4	CHM 111	
CHM 241 / CHM 245 Organic Chemistry & Lab I	5	CHM 112	
EGR Electives	6		