



2019-2020

Engineering Related Course Offerings and Prerequisites

*Note: The quarters indicated are tentative, planned offerings for 2018-2019 only. Courses may be canceled, and/or times shifted, so offerings are not guaranteed.

4/30/2019

	Course	Title	Quarters Offered*				Prerequisite classes
			Su	F	W	Sp	
Biology	Biol& 160	General Cell Biology	d n	d n h	d n h	d n h	See General Prerequisite
	Biol& 221	Evolution, Ecology & Biodiversity		d	d	d	Biol& 160 and Chem& 161 (Chem&161 may be taken concurrently)
	Biol& 222	Cellular & Molecular Biology		d	d	d	Biol& 221* and Chem& 161 (*BioE students may request entry without Biol&221)
	Biol& 223	Biology of Organisms		d	d	d	Biol& 222 and Chem& 162
	Chem& 140	General Chem Prep w/ Lab	d n	d n	d	d	Math& 140 (minimum grade of C; may be taken concurrently) or Math 147 (minimum grade of C; may be taken concurrently)
	Chem& 161	General Chemistry 1		d n	d n	d	Chem& 140 (minimum grade of C) or Chem& 121 (minimum grade of C) or one year of high school chemistry; and either Math& 141 (minimum grade of C; may be taken concurrently) or Math 147 (minimum grade of C; may be taken concurrently)
	Chem& 162	General Chemistry 2	d		d n	d n	Chem& 161 (minimum grade of C)
	Chem& 163	General Chemistry 3	d n	d		d n	Chem& 162 (minimum grade of C)
	Chem& 261	Organic Chemistry 1		d			Chem& 163 (minimum grade of C)
	Chem& 262	Organic Chemistry 2			d		Chem& 261 (minimum grade of C)
	Chem& 263	Organic Chemistry 3				d	Chem& 262 (minimum grade of C)
Engineering & Computer Science	CS 120	Computer Science Principles		d	d	d	See General Prerequisite
	CS 142	Java Programming 1	d	d	d n	d	Math& 141 or equivalent assessment
	CS 143	Java Programming 2		d	d	d n	CS 142 (minimum grade of C)
	Engr& 104	Intro to Engr and Design		d	d n	d	See General Prerequisite
	Engr& 114	Engr Graphics/SolidWorks	h ^d	h ^d	h ^d	h ^d h ⁿ	See General Prerequisite
	Engr 170	Intro to Materials Science			d		Math& 141 and Chem& 162 (may be taken concurrently)
	Engr& 204	Electric Circuits				d	Phys& 222 and Math 238 (Math 238 may be taken concurrently)
	Engr& 214	Statics		d		d	Phys& 221 and Math& 153
	Engr& 215	Dynamics		d	d		Engr& 214 and Math& 153
	Engr& 224	Thermodynamics				d	Phys& 221, Math& 152 and Chem& 161
	Engr& 225	Mechanics of Materials			d	d	Math& 153 (may be taken concurrently) and Engr& 214
Engr 240	Applied Numerical Methods			d		Math& 153. Math 220 recommended. (Note: May be changed to Math 220 required.)	
English, Math & Physics	Engl& 101	English Composition 1	d n o	d n o	d n o	d n o	English Prerequisite (below)
	Engl& 235	Technical Writing	d o	d o	d o	d o	Engl& 101 (minimum grade of C)
	Math& 151	Calculus 1	d	d n	d	d	Math& 142 (minimum grade of C); English Prerequisite (below). See Placement note.
	Math& 152	Calculus 2	d	d	d n	d	Math& 151 (minimum grade of C); English Prerequisite (below).
	Math& 153	Calculus 3	d	d	d	d n	Math& 152 (minimum grade of C); English Prerequisite (below).
	Math 220	Linear Algebra	d	d	d	n	Math& 153 (minimum grade of C); English Prerequisite (below).
	Math 238	Elements of Differential Equations	d	n	d	d	Math& 153 (minimum grade of C); English Prerequisite (below).
	Math& 254	Calculus 4	d	d	n	d	Math& 153 (minimum grade of C); English Prerequisite (below).
	Phys& 221	Engr Physics - Mechanics		d	n	d	Math& 151 (minimum grade of C)
	Phys& 222	Engr Physics - Elect & Magn		d	d	n	Math& 152 and Phys& 221 (minimum grade of C for both)
	Phys& 223	Engr Physics - Waves, Optics		n	d	d	Phys& 221 (minimum grade of C)

d = Day section. n= Night section. o = Online section. h^d = Hybrid Online day section. hⁿ = Hybrid Online night section.

Prerequisites and Notes	General Prerequisite	ENGL/ 95 (minimum grade of C); Math 90 OR 93 (minimum of C) or equivalent assessment
	English Prerequisite	ENGL/ 95 (minimum grade of C); or assessment at or above college level reading and writing.
	Math Placement note	Math assessment determines placement. From lowest placement, the path to calculus is Math 75, 85, 90, 96/140, Math& 141, and 142. Minimum math grades of C required in each class to advance. Minimum grade of B to go from 90 to 96/140 without also needing 95. Visit the Math Advising Resource Center (MARC) for more information.
	Chem& 140 Note	Students who never took a year of high school chemistry (or it was not recent) should take Chem& 140. See Mark Allen (mallen@tacomacc.edu) if you have questions concerning this requirement.
	Chem& 161 Note	Students having recently completed a year of high school chemistry or Chem& 140 may enroll in Chem& 161. If enrolling based on high school chemistry, request a Milestone code from Mark Allen (mallen@tacomacc.edu) before registration. Demonstration of