

Required Computer Science Courses

31 Units

		Units
_____	COSC 236 Intro to Computer Science I	4
_____	COSC 237 Intro to Computer Science II	4
_____	COSC 290 Principles of Comp Architecture	4
_____	COSC 336 Data Structures & Algorithm Analysis	4
_____	COSC 350 Data Communication and Networking	3
_____	COSC 412 Software Engineering	3
_____	COSC 439 Operating Systems	3
_____	COSC 455 Programming Languages	3
_____	COSC 457 Database Management Systems	3

Required Math Courses

15-16 Units

		Units
_____	MATH 263 Discrete Math OR	3
_____	MATH 267 Introduction to Abstract Math	4
_____	MATH 273 Calculus I	4
_____	MATH 274 Calculus II	4
_____	MATH 330 Intro to Statistical Methods	4

Required Core Courses

9 Units

		Units
_____	COMM 131 Speech Communication (Core 5)	3
_____	ENGL 317 Writing for Business (Core 9)	3
_____	COSC 418 Ethical Concerns (Core 14)	3

Required Science Courses

8 Units

Select two lab science courses from the following (the courses do not need to form a sequence):

		Units
_____	ASTR 161 Sky and Solar System	4
_____	ASTR 181 Stars, Galaxies, Universe	4
_____	BIOL 200 + L Intro to Cell Biology and Genetics	4
_____	BIOL 202 Intro to Ecology and Evolution	4
_____	CHEM 131 + L General Chemistry I	4
_____	CHEM 132 + L General Chemistry II	4
_____	GEOL 121 Physical Geology	4
_____	PHYS 241 General Physics I	4
_____	PHYS 242 General Physics II	4

Required Software Engineering Courses

18 Units

Required SWEN Courses

		Units
_____	COSC 432 Req. Analysis and Modeling	3
_____	COSC 436 Obj-Oriented Design/Prog.	3
_____	COSC 442 Software Assurance/Testing	3
_____	COSC 490 Software Project Practicum	3

Select two from the following:

		Units
_____	COSC 310 Advanced Programming	3
_____	COSC 435 Mobile App Development	3
_____	COSC 458 App Software Security	3
_____	COSC 484 Web-Based Programming	3

Elective Math/Science Courses

7-9 Units

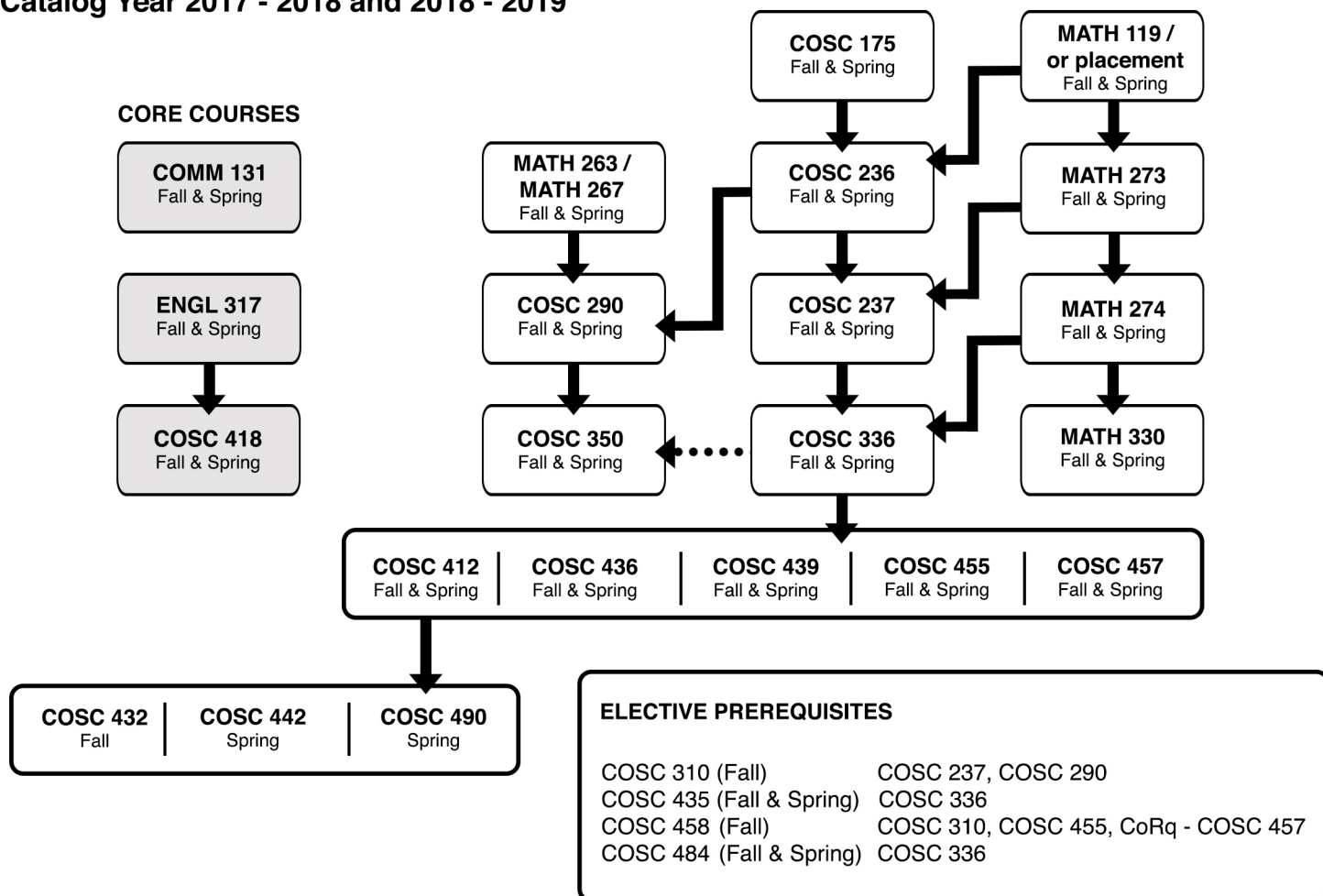
Select two math courses or one math and one science course. (Science courses that have not already been taken in required list may also be used):

		Units
_____	MATH 265 Elementary Linear Algebra	4
_____	MATH 275 Calculus III	4
_____	MATH 314 Cryptography	3
_____	MATH 315 Applied Combinatorics	3
_____	MATH 369 Intro to Abstract Algebra	3
_____	MATH 374 Differential Equations	3
_____	MATH 377 Mathematical Models	3
_____	MATH 378 Scientific Modeling/Simulation	3
_____	MATH 435 Numerical Analysis I	3
_____	MATH 436 Numerical Analysis II	3
_____	MATH 437 Operations Research	3
_____	MATH 451 Graph Theory	3
_____	BIOL 205 General Botany	4
_____	BIOL 207 General Zoology	4
_____	BIOL 309 Genetics	4
_____	CHEM 210 Analytical Chemistry	5
_____	CHEM 323 Inorganic Chemistry	4
_____	CHEM 331 Organic Chemistry I	5
_____	PHYS 243 General Physics III	4
_____	PHYS 251 Honors General Physics I	4
_____	PHYS 252 Honors General Physics II	4
_____	PHYS 335 Basic Electronics	4
_____	PHYS 337 Digital Electronics	4

www.towson.edu/cis

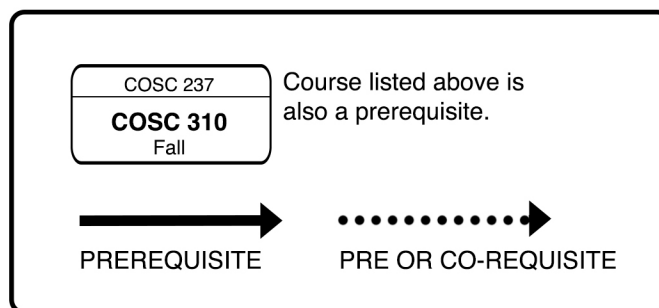
Major - Computer Science with a Track in Software Engineering

Catalog Year 2017 - 2018 and 2018 - 2019



MATH PREREQUISITES

COURSE	PREREQUISITE
MATH 263	MATH 119 or 4 Years HS
MATH 265	MATH 211 OR 273
MATH 267	MATH 273
MATH 273	MATH 119
MATH 274	MATH 273
MATH 275	MATH 274
MATH 314	COSC 236, MATH 265 or 267
MATH 315	MATH 263, 265 or 267
MATH 330	MATH 274
MATH 369	MATH 265, 267, 274
MATH 374	MATH 274
MATH 377	MATH 265, 274, COSC 236
MATH 378	MATH 274, COSC 236
MATH 435	MATH 265, 274, COSC 236
MATH 436	MATH 435
MATH 437	MATH 265, 331
MATH 451	MATH 263 OR 267



Find more advising resources on:

www.towson.edu/fcsm/departments/computerinfosci/resources/advising.html