



Computer and Information Sciences

Major - Computer Science with a Track in Computer Security

Catalog Year 2017 - 2018 and 2018 - 2019

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 Structuers & 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 Computer Security Track Courses

18 Units

		Units	
_____	COSC 310	Advanced Programming	3
_____	COSC 440	Operating Systems Security	3
_____	COSC 450	Network Security	3
_____	COSC 458	Application Software Security	3
_____	COSC 481	Case Studies	3
_____	COSC 485	Reverse Eng/Malware Analysis	3

Required Math Courses

18 Units

			Units
_____	MATH 263	Discrete Math	3
_____	MATH 273	Calculus I	4
_____	MATH 274	Calculus II	4
_____	MATH 314	Cryptography	3
_____	MATH 330	Intro to Statistical Methods	4

Elective Math/Science Courses

4 Units

Select a minimum of 4 units in Math and/or Science courses from the following (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 315	Applied Combinatorics	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
_____	MATH 467	Algebraic Structures	4
_____	BIOL 205	General Botany	3
_____	BIOL 207	General Zoology	4
_____	BIOL 309	Genetics	4
_____	CHEM 210	Analytical Chemistry	4
_____	CHEM 323	Inorganic Chemistry	5
_____	CHEM 331	Organic Chemistry I	4
_____	PHYS 243	General Physics III	5
_____	PHYS 251	Honors General Physics I	4
_____	PHYS 252	Honors General Physics II	4
_____	PHYS 335	Basic Electronics	4
_____	PHYS 337	Digital Electronics	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):

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

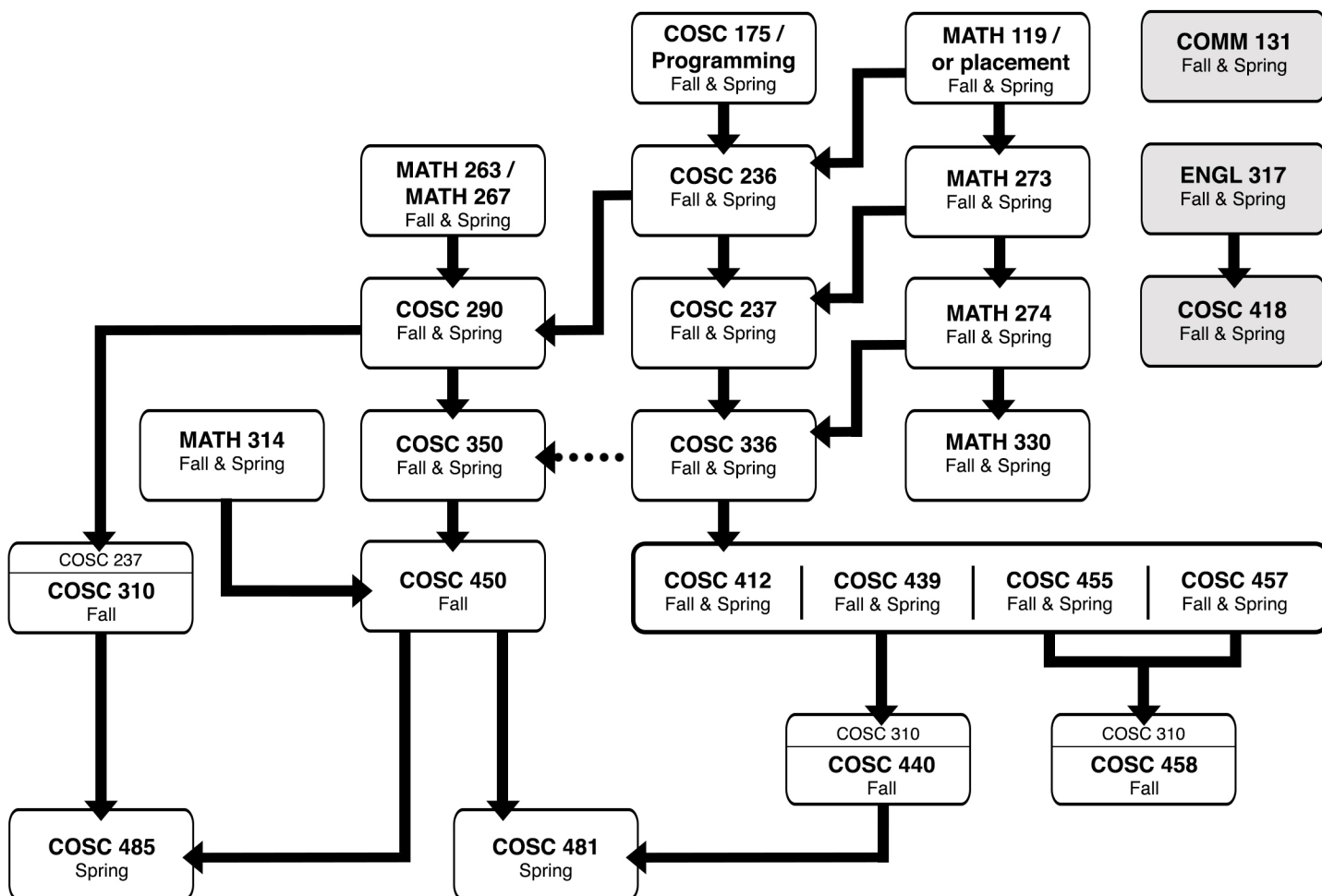
www.towson.edu/cis
www.towson.edu/cyber

Total Units: 88

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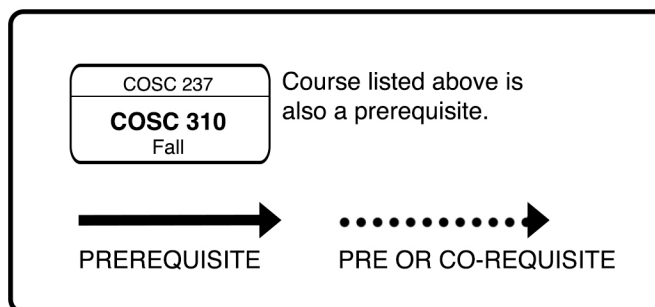
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CORE COURSES



MATH PREREQUISITES

COURSE	PREREQUISITE
MATH 263	MATH 119 or 4 years HS
MATH 265	MATH 211 OR 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 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
MATH 467	MATH 369



Find more advising resources on:

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