

Computer and Information Sciences

Major - Computer Science Software Engineering

Catalog Year 2026-2027 and Later

Required Computer Science Courses

34 Units

		Units
_____	CIS 377 Intro to Cybersecurity	3
_____	COSC 236 Intro to Computer Science I	4
_____	COSC 237 Intro to Computer Science II	4
_____	COSC 290 Principles of Computer Organization	4
_____	COSC 336 Data Structures & Algorithm Analysis	4
_____	COSC 350 Data Communications & Networking	3
_____	COSC 412 Software Engineering	3
_____	COSC 439 Operating Systems	3
_____	COSC 455 Programing Languages	3
_____	COSC 457 Database Management Systems	3

Required Science Courses (Core 7 and 8)

8 Units

Select 2 lab science courses from the following:	Units
_____ ASTR 261 Intro to Astrophysics	4
_____ BIOL 200 + L Intro to Cell Biology	4
_____ BIOL 206 + L Intro to Ecology/Evolution	4
_____ CHEM 131 + L General Chemistry	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 Courses:	Units
_____ COSC 432 Requirements Analysis & Modeling	3
_____ COSC 436 Object-Oriented Design/Programming	3
_____ COSC 442 Software Assurance & Testing	3
_____ COSC 490 Software Project Practicum	3
Select 2 from the following:	Units
_____ COSC 397 Internship in COSC	3
_____ COSC 435 Mobile App Development	3
_____ COSC 467 Machine Learning and Data Mining	3
_____ COSC 484 Web-Based Programming	3

Required Core Courses

9 Units

	Units
_____ COMM 131 Public Speaking (Core 5)	3
_____ ENGL 317 Writing for Business & Industry (Core 9)	3
_____ COSC 418 Ethical & Societal Concerns CS (Core 14)	3

Required Mathematics Courses

15-16 Units

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

Elective Math Courses

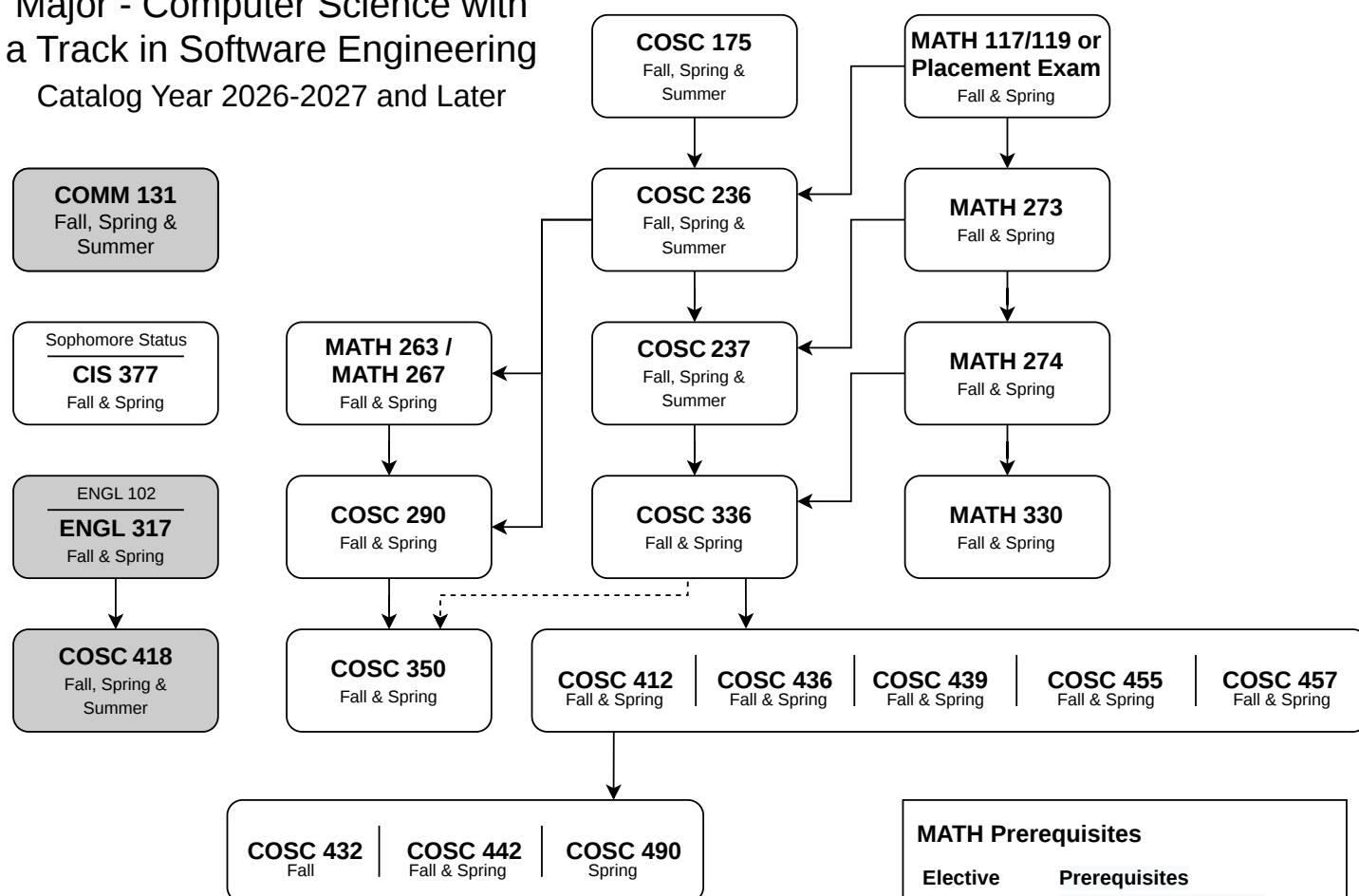
3-4 Units

Select one math course from the following:	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

Total Units: 87-89

Major - Computer Science with a Track in Software Engineering

Catalog Year 2026-2027 and Later



MATH Prerequisites

Elective	Prerequisites
MATH 263	MATH 119, COSC 236
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 330
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

Software Engineering Elective Prerequisites and Offering

Elective	Prerequisites	Offered
COSC 397	COSC 336, 2.75 GPA, instructor consent	Fall, Spring & Summer
COSC 435	COSC 336	Fall & Spring
COSC 467	COSC 336	Fall & Spring
COSC 484	COSC 336	Fall

Sophomore Status

CIS 377

Course/Status listed above
is also a prerequisite.

Prerequisite

Co-Requisite

**All course prerequisites are strictly enforced.*

Find more advising resources at:

<https://www.towson.edu/fcsm/departments/computerinfosci/resources/advising.html>

View Third Attempt / Prerequisite Policy at:

<https://www.towson.edu/fcsm/departments/computerinfosci/resources/>

Visit the CIS Advising Hub in YR 207

Or Email: cisadvising@towson.edu