



Major - Computer & Mathematical Sciences
Computational Data Science Track

Computer and Information Sciences

Catalog Year 2024-2025 and Later

Required Computer Science Courses

40 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
_____	COSC 461 Artificial Intelligence	3
_____	COSC 467 Foundations of Data Mining	3

Elective Math Courses

6-8 units

Choose 2 of the following electives:

		Units
_____	MATH 372 Real Analysis I (Only if MATH 369 is taken)	4
_____	MATH 435 Numerical Analysis I	3
_____	MATH 437 Operations Research	3
_____	MATH 451 Graph Theory	3
_____	MATH 463 Linear Algebra	3
_____	MATH 477 Topology	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

Total Units: 92-94

Required Mathematics Courses

37 Units

		Units
_____	MATH 265 Elementary Linear Algebra	4
_____	MATH 267 Intro to Abstract Mathematics	4
_____	MATH 273 Calculus I	4
_____	MATH 274 Calculus II	4
_____	MATH 275 Calculus III	4
_____	MATH 331 Probability	4
_____	MATH 332 Mathematical Statistics	3
_____	MATH 369 Intro to Abstract Algebra OR	4
_____	MATH 372 Real Analysis I	4
_____	MATH 371 Intro to Machine Learning	3
_____	MATH 471 Seminar in Computational Data Science	3

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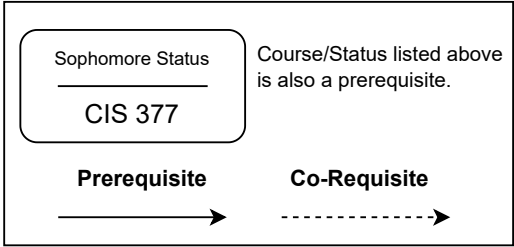
MATH Elective Prerequisites and Offering

Elective	Prerequisites	Offered
MATH 372	MATH 267 and MATH 275	Fall and Spring
MATH 435	MATH 265, MATH 274, and COSC 236	Fall
MATH 437	MATH 265 and MATH 331	Every Third Semester
MATH 451	MATH 263 or MATH 267	Every Third Semester
MATH 463	MATH 265 and MATH 267	Every Third Semester
MATH 477	MATH 267 and MATH 275	Every Third Semester

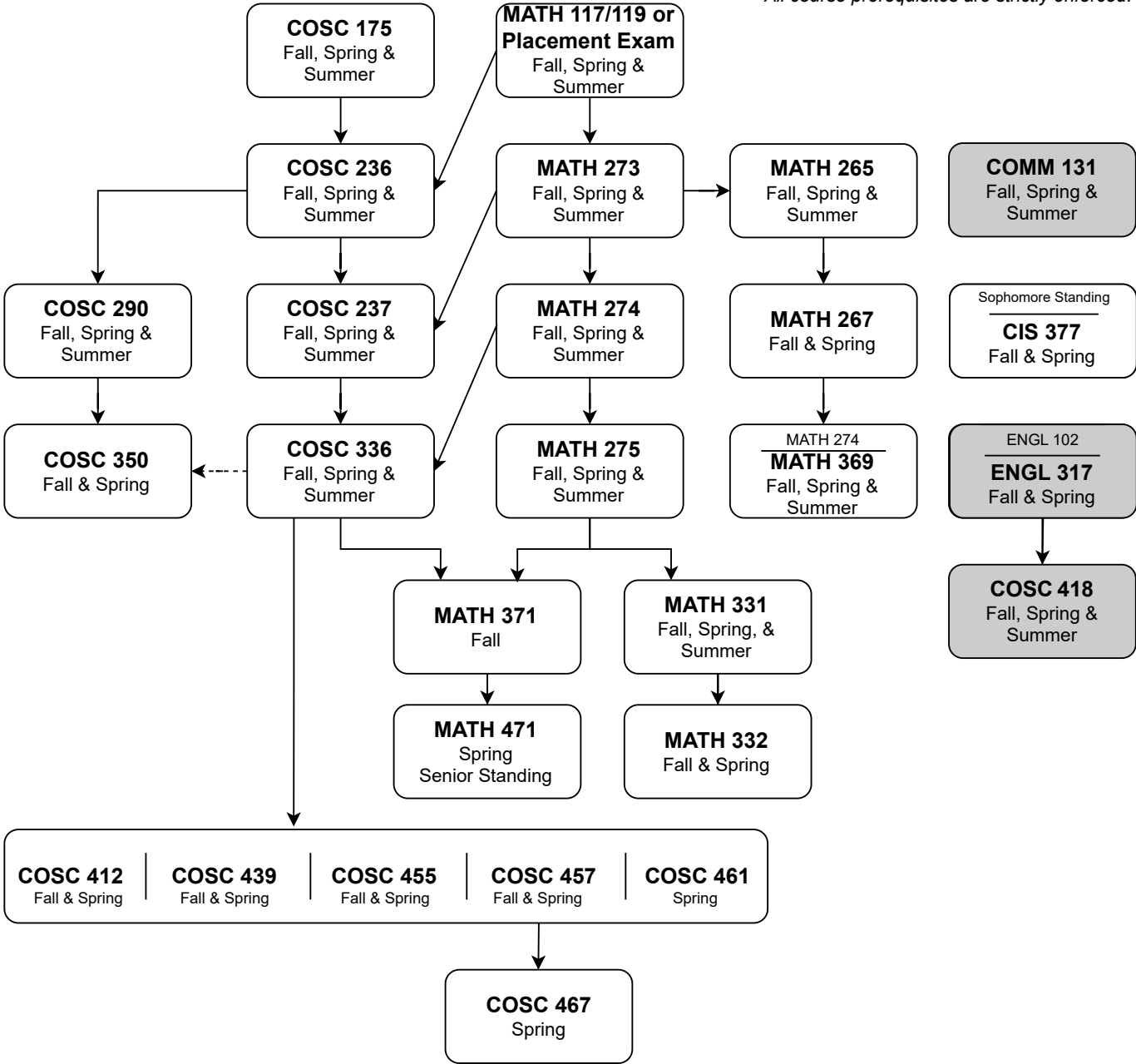
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*All course prerequisites are strictly enforced.



Find more advising resources at:
<https://www.towson.edu/fcsm/departments/computerinfosci/resources/advising.html>
<https://www.towson.edu/fcsm/departments/mathematics/resources/>

Visit the CIS Advising Hub in YR 207
 Or Email: cisadvising@towson.edu

