

THE UNIVERSITY OF SCRANTON
COLLEGE OF ARTS & SCIENCES
COMPUTER ENGINEERING

About the Program

Computer engineering connects electrical engineering and computer science. It integrates issues of hardware and software and focuses on research, design, development and testing of computer systems and applications. The liberal arts approach ensures that graduates are broadly educated and have strong communication and interpersonal skills.

Outcomes & Opportunities

- Nearly all upper-class students obtain paid engineering internships during the summer. Past internship sites include PPL, Cor Systems, Iridium Communications, VIIAD Systems and Continental Tide Defense Systems.
- The computer engineering field is broad and rapidly evolving. Our graduates are employed in various fields such as computational medicine, oceanic engineering, office automation, robotics, software engineering and computer systems design.
- You'll find graduates working in a wide range of companies and organizations including BAE Systems, Lockheed Martin, Infinera, PPL, Continental Tide Defense Systems, Computer Sciences Corporation (CSC) and Multivision, Inc.
- Many students choose to continue their studies and earn advanced degrees. Some of the graduate schools that have admitted recent graduates include Yale University, Drexel University, Lehigh University, Michigan State University Law School and SUNY Binghamton.

Scranton engineering students achieve top finishes in prestigious regional and national engineering competitions.



SUCCESS AHEAD



admissions.scranton.edu/compeng

COMPUTER ENGINEERING CURRICULUM

	Department & Number - Descriptive Title of Course	Fall Cr.	Spr. Cr.
FIRST YEAR			
GE EP - GE WRTG	ENGR 150 - (FYOC, FYDT) Foundations of Physics & Engineering – WRTG 107 - (FYW) Composition	3	3
COGNATE	CMPS 134 - Computer Science I/ CMPS 134L - Computer Science I Lab – CMPS 144 - Computer Science II/ CMPS 144L - Computer Science II Lab	4	4
COGNATE	MATH 109 - (Q) Pre-Calculus Mathematics ¹ or MATH 142 - (Q) Discrete Structures – MATH 114 - (Q) Calculus I	4	4
COGNATE	CHEM 112 (E) General & Analytical Chemistry	3	
COGNATE	PHYS 140/PHYS 140L - (E) Elements of Physics I	4	4
GE HUMN	HUMN ELECT - Humanities Elective	3	3
GE PHIL	PHIL 120 - Introduction to Philosophy	3	
GE FSEM	First Year Seminar ²		
		17	18

SECOND YEAR

MAJOR	E/CE 240 - Introduction to Computer Engineering/ EE 240L - Introduction to Computer Engineering Lab – EE 241/EE 241L - (EPW) Circuit Analysis	4	4
MAJOR	PHYS 141/PHYS 141L - (E) Elements of Physics II	4	
COGNATE	MATH 221 - Calculus II – MATH 222 - Calculus III	4	4
COGNATE	CMPS 240 - Data Structures & Algorithms	3	
MAJOR	CMPS 250 - Machine Organization & Assembly Language Programming		3
GE PHIL	PHIL 210 - Ethics		3
GE HUMN	HUMN ELECT – Humanities Elective		3
		15	17

THIRD YEAR

MAJOR	EE 343/EE 343L - Electronic Circuits I – EE 344/EE 344L - Electronic Circuits II	4	4
MAJOR	ENGR 350 - Applied & Engineering Mathematics	3	
MAJOR	EE 346 - Digital Signal Processing	3	
MAJOR	E/CE 340 - Digital Systems		3
MAJOR/COGNATE	Technical Elective ³ or MATH 142 - (Q) Discrete Structures		3-4
MAJOR	PHYS 270/PHYS 270L - (W,EPW: Lab only) Elements of Modern Physics	4	
GE S/BH	S/BH ELECT – Social/Behavioral Elective ³		3
GE T/RS	T/RS 121 - (P) Theology I: Introduction to the Bible – T/RS 122 - (P) Theology II: Introduction to Christian Theology	3	3
		17	16-17

	Department & Number - Descriptive Title of Course	Fall Cr.	Spr. Cr.
FOURTH YEAR			
MAJOR	EE 449/EE 449L - (EPW Lab only) Embedded Systems	3	
MAJOR	EE 450 - Control Systems – EE 454 - Robotics Design Project & Professional Practice	3	3
MAJOR	CMPS 374 - (W,EPW) Fundamentals of Software Engineering	3	3
MAJOR	CMPS 352 - Operating Systems ⁴ – CMPS 344 - Programming Languages	3	3
S/BH ELECT	S/BH ELECT - Social/Behavioral Elective ⁵	3	
GE PHIL or T/RS	PHIL ELECT - Philosophy Elective or T/RS ELECT - T/RS Elective		3
GE HUMN	HUMN ELECT – Humanities Elective		3
		15	15
		Total: 130-131 Credits	

Accredited by the Engineering Accreditation Commission of ABET, abet.org

111 Market Place, Suite 1050 • Baltimore, MD 21202-4012 • Tel: 410.347.7700

CONTACT INFORMATION

Andrew Berger, Ph.D., Chair, Department of Physics & Engineering

Tel: 570.941.4056 • Email: wandrew.berger@scranton.edu

1.888.SCRANTON or visit admissions.scranton.edu

¹Those students with a Math Placement PT score of 14 or higher will begin with MATH 142. Those students who do not begin with MATH 142 and who have Math Placement DAT score of 13 or higher will begin with MATH 109.

²The selection of a First Year Seminar is likely to fulfill requirements both for the First Year Seminar and a General Education Requirement. Thus, the First Year Seminar will not add to the total credits for the semester. Talk with your advisor if you have any questions.

³Technical elective in Engineering, Physics, and Mathematics, or Computer Science (suggested courses include: ENGR 252, EE 475, EE 451, PHYS 372, MATH 109 only if required by Math Placement Test Score, MATH 310, MATH 341, MATH 351, CMPS 350).

⁴Or technical elective in Engineering, Physics, Mathematics, or Computer Science (suggested courses include: ENGR 252, EE 475, EE 451, PHYS 372, MATH 310, MATH 341, MATH 351, CMPS 350).

⁵ECO 153 – ECO 154.