

Course Tracks for **Computer Science (CSCI)**

The Computer Science (CSCI) program prepares students to work in the areas of software design, development, application, and maintenance. CSCI 102 is the introductory course for this program and the appropriate course for students with limited or no prior computer programming experience. Students who earn a 4 or 5 on the AP Computer Science A exam, or pass the CSCI 102 Challenge Exam, are able to begin in the next level of courses.

Computer Science — Begin with CSCI 103

FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
FALL	SPRING	FALL	SPRING	FALL	SPRING	FALL	SPRING
WRIT 150 4	GESM (GE B)# 4	EE 109L CSCI 102 4	CSCI 310 or 353 or 356 or 360 4	GE A* 4	CSCI 310 or 353 or 356 or 360 4	WRIT 340 WRIT 150 4	GE D or E* 4
MATH 125 (GE F)* 4	MATH 129 or MATH 126* MATH 125 4	CSCI 270 CSCI 104L, CSCI 170 4	MATH 229 or MATH 226 MATH 129 or 126 4	MATH 225 or MATH 235 MATH 126 or 129 4	TECHNICAL ELECTIVE II 4	TECHNICAL ELECTIVE III 4	CSCI 350 CSCI 201, CSCI 356 4
CSCI 103L CSCI 102 4	CSCI 104 CSCI 103L, CSCI 170 4	CSCI 201L CSCI 104L 4	TECHNICAL ELECTIVE I 4	CSCI 310 or 353 or 356 or 360 4	EE 364 MATH 225 or 245 or MATH 407 MATH 226 4	CSCI 310 or 353 or 356 or 360 4	CSCI 401 CSCI 270, CSCI 310 or CSCI 404 CSCI 201, CSCI 270 4
CSCI 170 CSCI 102 4	GE C 4	GE C 4	BASIC SCIENCE (GE D OR E)* 4	BASIC SCIENCE II* 4	GE B 4	OPTIONAL ELECTIVE 6	ELECTIVE 6
ENGR 102 2	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2		

Computer Science — Begin with CSCI 102

FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
FALL	SPRING	FALL	SPRING	FALL	SPRING	FALL	SPRING
WRIT 150 4	CSCI 103L CSCI 102 4	EE 109L CSCI 102 4	CSCI 270 CSCI 104L, CSCI 170 4	GE A* 4	CSCI 310 or 353 or 356 or 360 4	WRIT 340 WRIT 150 4	GE D OR E* 4
MATH 125 (GE F)* 4	CSCI 170 CSCI 102 4	CSCI 104 CSCI 103L, CSCI 170 4	CSCI 201L CSCI 104L 4	TECHNICAL ELECTIVE I 4	CSCI 310 or 353 or 356 or 360 4	TECHNICAL ELECTIVE II 4	CSCI 350 CSCI 201, CSCI 356 4
CSCI 102 2	MATH 129 or MATH 126* MATH 125 4	MATH 229 or MATH 226 MATH 129 or 126 4	MATH 225 or MATH 235 MATH 126 or 129 4	CSCI 310 or 353 or 356 or 360 4	EE 364 MATH 225 OR 245 or MATH 407 MATH 226 4	CSCI 310 or 353 or 356 or 360 4	CSCI 401 CSCI 270, CSCI 310 or CSCI 404 CSCI 201, CSCI 270 4
GE C 4	GESM (GE B)# 4	GE C 4	BASIC SCIENCE (GE D OR E)* 4	BASIC SCIENCE II* 4	GE B 4	OPTIONAL ELECTIVE 6	TECHNICAL ELECTIVE III 4
ENGR 102 2	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2	OPTIONAL ELECTIVE 2		OPTIONAL ELECTIVE 2
OPTIONAL ELECTIVE 2							

Computer Science (CSCI) Please see previous page.

MATHEMATICS (16 UNITS)

MATH 125: Calculus I*

MATH 126 or 129: Calculus II*

MATH 226 or 229: Calculus III

MATH 225: Linear Algebra & Diff. Equations

or **MATH 235:** Linear Algebra & Applications

STATISTICS AND PROBABILITY (4 UNITS)

EE 364: Intro to Probability & Statistics

or **MATH 407:** Probability Theory

SCIENCE COURSES (8 UNITS)

BASIC SCIENCE I*

BASIC SCIENCE II*

GENERAL EDUCATION (32 UNITS)

GE A The Arts (1 Course)*

GE B Humanistic Inquiry (2 Courses)

GE C Social Analysis (2 Courses)

GE D Life Sciences (1 Course)*

GE E Physical Sciences (1 Course)*

GE F Quantitative Reasoning (1 Course)*

GE G,H Global Perspectives (2 Courses)*

GESM General Education Seminar (1 Course)

WRITING (8 UNITS)

WRIT 150: Writing and Critical Reasoning

WRIT 340: Advanced Writing

ENGINEERING (64 UNITS)

CSCI 102: Fundamentals of Computation

CSCI 103L: Introduction to Programming

CSCI 104L: Data Structures & Object Oriented Design

CSCI 170: Discrete Methods in Comp. Science

CSCI 201: Princ. of Software Development

CSCI 270: Intro. to Algorithms & Theory of Computing

CSCI 310: Intro. to Software Engineering

CSCI 350: Introduction to Operating Systems

CSCI 353: Introduction to Internetworking

CSCI 356: Introduction to Computer Systems

CSCI 360: Introduction to Artificial Intelligence

CSCI 401: Capstone: Design and Construction of Large Software Systems

or **CSCI 404:** Capstone: Creating Your High-Tech Startup

EE 109: Introduction to Embedded Systems

ENGR 102: Engineering Freshman Academy

TECHNICAL ELECTIVES (12 UNITS)

OTHER COURSES (4 UNITS)

REQUIRED ELECTIVES

SPECIAL NOTES

*Courses with the * symbol may be satisfied with AP, IB or A-Level exams. See page 18 for more information.*

GESM#: GESM can be taken from GE categories: A, B, C, or D. Courses listed in the guide are options for a four-year course plan. GE D may be satisfied with the Basic Science requirement.

GE: Engineering students are encouraged to satisfy GE G and GE H with a course that also satisfies a Core Literacy. GE H may be satisfied by AP/IB. Additionally, your GESM course should be taken in categories A, B, C, or D only. See page 17 for more information and consult your advisor for detailed assistance.

GRADE QUALIFIER: A grade of a C (2.0) or better is required for each of the core courses (CSCI 102, 103, 170, 104 & 201). Courses with a grade of C- or below must be repeated; courses may only be retaken once with department approval.

BASIC SCIENCE: PHYS 151L and 152L; CHEM 105aL and CHEM 105bL; or BISC 120L and 220L

TECHNICAL ELECTIVES: See approved elective list on computer science webpage.

Computer Science Games Please see next page.

MATHEMATICS (12 UNITS)

MATH 125: Calculus I*

MATH 126 or 129: Calculus II*

MATH 225: Linear Algebra & Diff. Equations

or **MATH 235:** Linear Algebra & Applications

or **EE 141L:** Applied Linear Algebra for Engineering

PHYSICS (4 UNITS)

PHYS 151L: Mechanics and Thermodynamics*

GENERAL EDUCATION (32 UNITS)

GE A The Arts (1 Course)*

GE B Humanistic Inquiry (2 Courses)

GE C Social Analysis (2 Courses)

GE D Life Sciences (1 Course)*

GE E Physical Sciences (1 Course)*

GE F Quantitative Reasoning (1 Course)*

GE G,H Global Perspectives (2 Courses)*

GESM General Education Seminar (1 Course)

WRITING (8 UNITS)

WRIT 150: Writing and Critical Reasoning

WRIT 340: Advanced Writing

COMPUTER SCIENCE (22 UNITS)

CSCI 102: Fundamentals of Computation

CSCI 103L: Introduction to Programming

CSCI 104L: Data Structures & Object Oriented Design

CSCI 170: Discrete Methods in Comp. Science

CSCI 201: Princ. of Software Development

CSCI 270: Intro. to Algorithms & Theory of Computing

CS CORE ELECTIVES (8 UNITS)

Choose at least 8 units of elective:

CSCI 350: Introduction to Operating Systems

CSCI 353: Introduction to Internetworking

CSCI 356: Intro. to Computer Systems

CSCI 360: Intro. to Artificial Intelligence

CSCI 420: Computer Graphics

GAMES DEVELOPMENT (16 UNITS)

ITP 380: Video Game Programming

CTIN 190: Intro to Interactive Entertainment

CTIN 488: Game Design Workshop

CTIN 489L: Intermediate Game Design Workshop

GAMES CORE ELECTIVES (6 UNITS)

Choose at least 6 units of elective from approved elective list: <https://www.cs.usc.edu/academic-programs/undergrad/computer-science-games/>

GAMES CAPSTONE (6 UNITS)

CSCI 491AL: Final Game Project

CSCI 491BL: Final Game Project

ENGINEERING (2 UNITS)

ENGR 102: Freshman Academy

SPECIAL NOTES

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GESM#: GESM can be taken from GE categories: A, B, C, or D. Courses listed in the guide are options for a four-year course plan. GE D may be satisfied with the Basic Science requirement.

GE: Engineering students are encouraged to satisfy GE G and GE H with a course that also satisfies a Core Literacy. GE H may be satisfied by AP/IB. Additionally, your GESM course should be taken in categories A, B, C, or D only. See page 17 for more information and consult your advisor for detailed assistance.

GRADE QUALIFIER: A grade of a C (2.0) or better is required for each of the core courses (CSCI 103, 170, 104 & 201). Courses with a grade of C- or below must be repeated; courses may only be retaken once with department approval.

FREE ELECTIVES (20 units): CSGA students should consider additional CS/games courses or a complimentary minor.