COMPUTER SCIENCE MINOR
(WEINBERG COLLEGE)

The program offers a minor in computer science for students who wish to develop a strong competence in computer science while majoring in another area.

Course | Title
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MATH 220-1 & MATH 220-2 | Single-Variable Differential Calculus and Single-Variable Integral Calculus
or MATH 218-1 & MATH 218-2 & MATH 218-3 | Single-Variable Calculus with Precalculus and Single-Variable Calculus with Precalculus and Single-Variable Calculus with Precalculus
MATH 230-1 | Multivariable Differential Calculus
or MATH 228-1 | Multivariable Differential Calculus for Engineering
MATH 240-0 | Linear Algebra

Minor Requirements (9 units)

6 core courses

COMP SCI 101-0 | Computer Science: Concepts, Philosophy, and Connections

Or an additional course from the breadth course lists.

COMP SCI 111-0 | Fundamentals of Computer Programming
COMP SCI 211-0 | Fundamentals of Computer Programming II
COMP SCI 212-0 | Mathematical Foundations of Comp Science
COMP SCI 213-0 | Introduction to Computer Systems
COMP SCI 214-0 | Data Structures & Algorithms

3 breadth courses in 3 separate breadth areas (see below)

1 Students without programming experience may want to first take COMP SCI 110-0 Introduction to Computer Programming, ideally in the Python programming language.

Breadth Courses

Majors must take one course from each area. Minors must take one course from each of any three areas.

Theory

Course | Title
---|---
COMP SCI 335-0 | Introduction to the Theory of Computation
COMP SCI 336-0 | Design & Analysis of Algorithms

Systems

Course | Title
---|---
COMP SCI 322-0 | Compiler Construction
COMP SCI 339-0 | Introduction to Database Systems
COMP SCI 340-0 | Introduction to Networking
COMP SCI 343-0 | Operating Systems
COMP SCI 345-0 | Distributed Systems
COMP SCI 350-0 | Introduction to Computer Security
COMP SCI 354-0 | Network Penetration & Security
COMP SCI 440-0 | Advanced Networking
COMP SCI 441-0 | Resource Virtualization
COMP SCI 443-0 | Advanced Operating Systems
COMP SCI 446-0 | Kernel and Other Low-level Software Development
COMP SCI 450-0 | Internet Security
COMP ENG 303-0 | Advanced Digital Design
COMP ENG 346-0 | Microprocessor System Design

Artificial Intelligence

Course | Title
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COMP SCI 325-1 | Artificial Intelligence Programming
COMP SCI 337-0 | Natural Language Processing
COMP SCI 344-0 | Design of Computer Problem Solvers
COMP SCI 348-0 | Introduction to Artificial Intelligence
COMP SCI 349-0 | Machine Learning
COMP SCI 371-0 | Knowledge Representation and Reasoning
COMP SCI 372-0 | Designing & Constructing Models with Multi-Agent Language

Interfaces

Course | Title
---|---
COMP SCI 313-0 | Tangible Interaction Design and Learning
COMP SCI 315-0 | Design, Technology, and Research
COMP SCI 330-0 | Human Computer Interaction
COMP SCI 331-0 | Introduction to Computational Photography
COMP SCI 351-1 | Introduction to Computer Graphics
COMP SCI 352-0 | Machine Perception of Music & Audio
COMP SCI 370-0 | Computer Game Design
COMP SCI 376-0 | Computer Game Design and Development
COMP SCI 377-0 | Game Design Studio
ELEC ENG 332-0 | Introduction to Computer Vision

Software Development and Programming Languages

Course | Title
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COMP SCI 321-0 | Programming Languages
COMP SCI 338-0 | Practicum in Intelligent Information Systems
COMP SCI 377-0 | Game Design Studio
COMP SCI 393-0 | Software Construction
COMP SCI 394-0 | Agile Software Development
COMP SCI 473-1 | NUvention: Web - Part 1
COMP SCI 473-2 | NUvention: Web - Part 2

Students should begin the minor before the end of the first quarter of their junior year.