

Computer Science and Computer Engineering Upper Level Technical Electives for Computer Science Majors

The courses selected must be approved by a Department Curriculum Advisor before a student begins taking the first elective course. Up to two CS 340 (1 cr. hr.) programming language workshops may be used to complete the requirement when 3 credit hour courses are selected. Refer to the Tentative Projected Schedule for the proposed schedule.

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| CEG | 402 | (4) | Computer Networks |
| CEG | 403 | (4) | Personal Area Networks |
| CEG | 404 | (4) | Wireless Sensor Networks |
| CEG | 416 | (4) | Matrix Computations |
| CEG | 419 | (4) | Introduction to Fuzzy Logic Control |
| CEG | 420 | (4) | Computer Architecture |
| CEG | 421 | (4) | Microcomputer Design Projects |
| CEG | 425 | (4) | VHISC Hardware Description Language (VHDL) |
| CEG | 428 | (4) | Linear Optical Systems for Computer Engineers |
| CEG | 429 | (4) | Internet Security |
| CEG | 434 | (4) | Concurrent Software Design |
| CEG | 435 | (4) | Distributed Computing and Systems |
| CEG | 436 | (4) | Mobile Computing |
| CEG | 453 | (4) | Embedded Systems |
| CEG | 454 | (4) | VLSI Design |
| CEG | 456 | (4) | Introduction to Robotics |
| CEG | 458 | (4) | Digital Integrated Circuit Design w/PLDs & FPGAs |
| CEG | 459 | (4) | Integrated Circuit Design Synthesis w/VHDL |
| CEG | 461 | (4) | Object-Oriented Programming & Design |
| CEG | 463 | (4) | Personal Software Development Process |
| CEG | 465 | (4) | Interactive Systems Modeling, Analysis, & Design |
| CEG | 468 | (4) | Managing the Software Development Process |
| CEG | 476 | (4) | Computer Graphics I |
| CEG | 477 | (4) | Computer Graphics II |
| CEG | 479 | (4) | Computer Animation |
| CS | 407 | (3) | Optimization Techniques |
| CS | 409 | (4) | Principles of Artificial Intelligence |
| CS | 410 | (4) | Theoretical Foundations of Computing |
| CS | 419 | (3) | Cryptography and Data Security |
| CS | 458 | (3) | Applied Graph Theory |
| CS | 470 | (4) | Systems Simulation |
| CS | 471 | (4) | Algorithms for Bioinformatics |
| CS | 482 | (4) | Scanning, Parsing, and Semantic Analysis |

Special Topics Offerings:

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|-----|-----|-----|---------------------------------------|
| CEG | 498 | (8) | Design Experience |
| CEG | 499 | (4) | Selected Topics, usually section 10 * |
| CS | 499 | (4) | Selected Topics, usually section 10 * |

*requires advisor approval

Lower Level Technical Electives for Computer Science Majors:

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|---------|---------------------------|--------|---|
| CS 214 | Visual Basic Programming | CS 302 | SQL/Oracle Databases |
| CEG 210 | PC Networking I | | (note: required for BA program) |
| CEG 211 | PC Networking II | CS 350 | Techniques & Tools of Comp. |
| CEG 355 | Information Tech. Systems | CS 316 | Numerical Methods I |
| CEG 260 | Digital Circuits | CS 317 | Numerical Methods II |
| CEG 360 | Digital System Design | | (note: required for Computational Science option) |