CSE Track Requirements

IMPORTANT NOTE

The CSE and MATH tracks are being eliminated.

All students who entered the university in fall 2013 or later must elect the CS track.

(Eventually, there will not be "tracks" - just technical elective requirements for all CS majors.)

Bachelor of Science Coursework - CSE Track (for students entering the university prior to fall 2013)

<table>
<thead>
<tr>
<th>Hours</th>
<th>Courses</th>
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<tbody>
<tr>
<td>3</td>
<td>CS 421 Programming Languages and Compilers</td>
</tr>
<tr>
<td>3</td>
<td>CS 473 Fundamental Algorithms</td>
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<tr>
<td>3</td>
<td>Math 441 Differential Equations</td>
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<tr>
<td>3</td>
<td>CS 357 Numerical Methods I</td>
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<tr>
<td>3</td>
<td>CS 457 Numerical Methods II or CS 450 Numerical Analysis</td>
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<td>9</td>
<td>Scientific Concentration (See list below)</td>
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<td>3-6</td>
<td>One of the following thesis/project options:</td>
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<td></td>
<td>• CS 499 Senior Thesis</td>
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<td></td>
<td>• CS 492 Senior Project I, and either CS 493 Senior Project II, ACP, or CS 494 Senior Project II</td>
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<tr>
<td></td>
<td>• CS 427 Software Engineering I, and either CS 428 Software Engineering II or CS 429 Software Engineering II, ACP</td>
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</tbody>
</table>

(Note: CS 429 is identical to CS 428 with an additional writing component. Likewise, CS 493 is identical to CS 494 with an additional writing component.)

Total Hours: 27-30

Scientific Concentrations

Some concentrations have prerequisites that are not listed here. When choosing a concentration, students should check each course in the concentration for prerequisites and plan ahead.

Aerospace Engineering:
AE 202 and TAM 212, plus either AE 311 and 312, or AE 352 and 353

Applied Mathematics:
Any three of MATH 442, 446, 481, 488, or 489
Astronomy:
ASTR 210 plus any two of ASTR 350, 404, 405, 406, or 414

Atmospheric Sciences:
ATMS 300 plus any two of ATMS 401, 402, 403, or 410

Biology:
IB 150 and MCB 150 plus either IB 204 or MCB 250

Biomedical Instrumentation:
ECE 210, 414, and 415

Biomolecular Engineering:
Any three of CHBE 471, 472, 473, 474

Chemical Engineering:
CHBE 221, 321, and 421

Chemistry:
CHEM 104/105, 222 and 223, and 232

Control:
GE 320 plus any two of GE 420, GE 424, or ECE 486

Electrical Engineering:
ECE 329 plus any two of ECE 440, 441, 442, 450, or 452

Engineering Mechanics:
TAM 210 or 211, TAM 212, and any one of TAM 251, 335, or 470

Environmental Engineering:
CEE 330 plus any two of CEE 434, 437, 442, 443, or 444

Genetics:
ANSC 340, 441, and 446 or 447; or MCB 250, 418, and 421

Geology:
GEOL 107, 108, and any one of GEOL 401, 411, 432, 440, or 452

Manufacturing Engineering:
MFG 310 plus any two of MFG 420, 430, or 450

Materials Science:
MSE 280 plus any two of MSE 304, 401, 402, 420, or 450

Mechanical Engineering:
Any three of ME 300, 310, 320, 330, 340, 370, or 371

Modeling and Simulation:
Any three of ANSC 448, ECE 475, GEOG 468, MSE 482, or MSE 485

Neuroscience:
MCB 414 or PSYC 404 plus any two of MCB 412, 415, 416, 417, 419, PSYC 414, 415

Nuclear Engineering:
NPRE 247 plus any two of NPRE 402, 412, or 455

Operations Research:
IE 310 and any two of IE 410/CS 481, IE 411, IE 412, IE 413/CS 482

Optimization:
Any three of ECE 490, IE 411, MATH 482, or MATH 484

Physics:
PHYS 325 plus any two of PHYS 326, 402, 427, 435, 436, 460, or 485

Plasma Engineering:
ECE 329 or PHYS 435 plus NPRE 421 and 429

Psychology:
Any three of PSYC 210, 224, 248, 321, 358, 414

Radiological Engineering:
NPRE 446 plus any two of NPRE 435, 441, or 447

Robotics:
GE 320, 421, and 422
Signal and Image Processing:
ECE 210 plus any two of ECE 280, 410, 418, or 480

Statistics:
STAT 410 plus any two of STAT 420, 424, 425, 426, 428, or 429

Structural Engineering:
CEE 360 plus any two of CEE 470, 471, or 472