# CS Track Requirements

## Bachelor of Science Coursework - CS Track (for students who entered the university prior to fall 2013)

<table>
<thead>
<tr>
<th>Hours</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>CS 357 Numerical Methods I</td>
</tr>
<tr>
<td>3</td>
<td>CS 421 Programming Languages and Compilers</td>
</tr>
<tr>
<td>3</td>
<td>CS 473 Fundamental Algorithms</td>
</tr>
</tbody>
</table>

*NOTE: CS 374 (previously CS 498 section 374 or BL1) is replacing the CS 373 + CS 473 sequence. Students who took CS 373 will take the old CS 473 to complete the requirements in this box. Students who take CS 374 may meet the requirement in this box either by taking the revised version of CS 473 (currently offered as CS 498: Theory II), or by taking any other CS 400-level elective.*

12 Technical electives: Four additional 400-level courses chosen from the following:
- any CS courses numbered 410-489 or 498, ECE 425, ECE 462, ECE 470, MATH 413, or CI 435

3-6 One of the following thesis/project options:
- CS 499 Senior Thesis
- CS 492 Senior Project I, and either CS 493 Senior Project II, ACP, or CS 494 Senior Project II
- CS 427 Software Engineering I, and either CS 428 Software Engineering II or CS 429 Software Engineering II, ACP

*(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: 24-27**

## Bachelor of Science Coursework - CS Track (for students who entered the university fall 2013 or beyond)

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<td>4</td>
<td>CS 374 (previously offered as a CS 498 special topics) replaces CS 373 and CS 473.</td>
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</table>
Technical electives: At least six additional 400-level CS courses comprising at least 18 hours (excluding CS 491, but up to two courses and six hours may be CS 499). (*One "CS-like" course in another department (e.g., ECE) may also be counted as a CS 400-level course with permission of the academic office.)

- One of the six CS courses must satisfy the team project requirement. Currently this requirement is satisfied by any of the following courses: CS 427, CS 428, CS 429, CS 445, CS 465, CS 467, CS 493, CS 494, CS 498 sections: cloud computing. Additional courses will be added soon.

- Three of the CS courses must be chosen from a single focus area, from among the areas below:
  - **Software Foundations** 422, 426, 427, 428/429, 476, 477, 492/3/4, 498 (testing), 498 (logic), 522, 524, 526, 527, 528, 576, 598 (verification), 598 (languages)
  - **Algorithms and Models of Computation**: 413, 473, 475, 476, 477, 481, 482, 571, 572, 573, 574, 575, 576, 579, 583, 584, 598 (crypto)
  - **Intelligence and Big Data**: 410, 411, 412, 414, 440, 443, 445 (was 498 computational photography), 446, 447, 466, 467, 510, 511, 512, 543, 544, 546, 548, 566, 576, 598 (machine learning & signal proc.)
  - **Human and Social Impact**: 416 (med.informatics), 460, 461, 463, 465, 467, 468, 498 (Prof. Fu), 498 (technology & advertising), 498 (Art and Science of Web Prog - Prof. Kumar) 563, 565, 598 (Prof. Kuirlik)
  - **Media**: 414, 418, 419, 445, 456, 467, 498 (virtual reality), 519, 565, 598 (machine learning & signal proc.)
  - **Scientific, Parallel, and High Performance Computing**: 419, 450, 457, 466, 482, 483, 484, 498 (performance/optimization), 519, 554, 555, 556, 558
  - **Distributed Systems, Networking, and Security**: 423, 424, 425, 431, 436, 438, 439, 460, 461, 463, 483, 484, 523, 524, 525, 538, 563
  - **Machines**: 423, 424, 426, 431, 433, 484, 498 (performance/optimization), 523, 526, 533, 536, 541, 584, 598 (parallel)

Advanced Electives: at least two courses comprising at least six hours of 400-level coursework in any area offered at UIUC (including independent study**). These might be CS courses, but need not be. It is expected that students will select these additional advanced courses in a way that best augments their program of study. You are encouraged to consult with your faculty mentor. (**CS 397 may also be used to count towards these two additional advanced courses.)

Total Hours: **29** (this reflects the total of 34, minus three hours because CS 374 will replace 373 for all tracks, minus an additional two hours from the fact that CS 231 and CS 232, both three hours, have been replaced with CS 233, which is four hours.)