# Computational Science and Engr (CSE)

CSE Class Schedule (https://courses.illinois.edu/schedule/DEFAULT/DEFAULT/CSE)

## Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSE 401</td>
<td>Numerical Analysis</td>
<td>3 or 4 Hours</td>
<td>(<a href="https://courses.illinois.edu/schedule/terms/CSE/401">https://courses.illinois.edu/schedule/terms/CSE/401</a>) Same as CS 450, ECE 491 and MATH 450. See CS 450.</td>
</tr>
<tr>
<td>CSE 402</td>
<td>Parallel Programming: Sci &amp; Engr</td>
<td>3 or 4 Hours</td>
<td>(<a href="https://courses.illinois.edu/schedule/terms/CSE/402">https://courses.illinois.edu/schedule/terms/CSE/402</a>) Same as CS 420 and ECE 492. See CS 420.</td>
</tr>
<tr>
<td>CSE 408</td>
<td>Applied Parallel Programming</td>
<td>4 Hours</td>
<td>(<a href="https://courses.illinois.edu/schedule/terms/CSE/408">https://courses.illinois.edu/schedule/terms/CSE/408</a>) Same as CS 483 and ECE 408. See ECE 408.</td>
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<tr>
<td>CSE 412</td>
<td>Numerical Thermo-Fluid Mechs</td>
<td>2 to 4 Hours</td>
<td>(<a href="https://courses.illinois.edu/schedule/terms/CSE/412">https://courses.illinois.edu/schedule/terms/CSE/412</a>) Same as ME 412. See ME 412.</td>
</tr>
<tr>
<td>CSE 414</td>
<td>Algorithms</td>
<td>4 Hours</td>
<td>(<a href="https://courses.illinois.edu/schedule/terms/CSE/414">https://courses.illinois.edu/schedule/terms/CSE/414</a>) Same as CS 473 and MATH 473. See CS 473.</td>
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<tr>
<td>CSE 422</td>
<td>Computer System Organization</td>
<td>3 or 4 Hours</td>
<td>(<a href="https://courses.illinois.edu/schedule/terms/CSE/422">https://courses.illinois.edu/schedule/terms/CSE/422</a>) Same as CS 433. See CS 433.</td>
</tr>
<tr>
<td>CSE 423</td>
<td>Operating Systems Design</td>
<td>3 or 4 Hours</td>
<td>(<a href="https://courses.illinois.edu/schedule/terms/CSE/423">https://courses.illinois.edu/schedule/terms/CSE/423</a>) Same as CS 423. See CS 423.</td>
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<tr>
<td>CSE 426</td>
<td>Software Engineering I</td>
<td>3 or 4 Hours</td>
<td>(<a href="https://courses.illinois.edu/schedule/terms/CSE/426">https://courses.illinois.edu/schedule/terms/CSE/426</a>) Same as CS 427. See CS 427.</td>
</tr>
<tr>
<td>CSE 427</td>
<td>Interactive Computer Graphics</td>
<td>3 or 4 Hours</td>
<td>(<a href="https://courses.illinois.edu/schedule/terms/CSE/427">https://courses.illinois.edu/schedule/terms/CSE/427</a>) Same as CS 418. See CS 418.</td>
</tr>
<tr>
<td>CSE 428</td>
<td>Statistical Computing</td>
<td>3 or 4 Hours</td>
<td>(<a href="https://courses.illinois.edu/schedule/terms/CSE/428">https://courses.illinois.edu/schedule/terms/CSE/428</a>) Same as STAT 428. See STAT 428.</td>
</tr>
<tr>
<td>CSE 429</td>
<td>Software Engineering II</td>
<td>3 or 4 Hours</td>
<td>(<a href="https://courses.illinois.edu/schedule/terms/CSE/429">https://courses.illinois.edu/schedule/terms/CSE/429</a>) Same as CS 428. See CS 428.</td>
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<tr>
<td>CSE 440</td>
<td>Statistical Data Management</td>
<td>3 or 4 Hours</td>
<td>(<a href="https://courses.illinois.edu/schedule/terms/CSE/440">https://courses.illinois.edu/schedule/terms/CSE/440</a>) Same as STAT 440. See STAT 440.</td>
</tr>
<tr>
<td>CSE 441</td>
<td>Introduction to Optimization</td>
<td>3 or 4 Hours</td>
<td>(<a href="https://courses.illinois.edu/schedule/terms/CSE/441">https://courses.illinois.edu/schedule/terms/CSE/441</a>) Same as ECE 490. See ECE 490.</td>
</tr>
<tr>
<td>CSE 448</td>
<td>Advanced Data Analysis</td>
<td>4 Hours</td>
<td>(<a href="https://courses.illinois.edu/schedule/terms/CSE/448">https://courses.illinois.edu/schedule/terms/CSE/448</a>) Same as STAT 448. See STAT 448.</td>
</tr>
<tr>
<td>CSE 450</td>
<td>Computational Mechanics</td>
<td>3 or 4 Hours</td>
<td>(<a href="https://courses.illinois.edu/schedule/terms/CSE/450">https://courses.illinois.edu/schedule/terms/CSE/450</a>) Same as TAM 470. See TAM 470.</td>
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</tbody>
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CSE 451 Finite Element Analysis  credit: 3 or 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/451) Same as AE 420 and ME 471. See ME 471.

CSE 461 Computational Aerodynamics  credit: 3 or 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/461) Same as AE 410. See AE 410.

CSE 485 Atomic Scale Simulations  credit: 3 or 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/485) Same as MSE 485 and PHYS 466. See MSE 485.

CSE 505 Computational Bioengineering  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/505) Same as BIOE 505. See BIOE 505.

CSE 510 Numerical Methods for PDEs  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/510) Same as CS 555. See CS 555.

CSE 511 Iterative & Multigrid Methods  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/511) Same as CS 556. See CS 556.

CSE 512 Parallel Numerical Algorithms  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/512) Same as CS 558. See CS 558.

CSE 513 Topics in Numerical Analysis  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/513) Same as CS 558. See CS 558.

CSE 515 Algorithms  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/515) Same as CS 573. See CS 573.

CSE 517 Adv Finite Element Methods  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/517) Same as TAM 574. See TAM 574.

CSE 521 Computer Architecture  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/521) Same as ECE 511. See ECE 511.

CSE 522 Parallel Computer Architecture  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/522) Same as CS 533. See CS 533.

CSE 525 Computational Statistics  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/525) Same as STAT 525. See STAT 525.

CSE 527 Scientific Visualization  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/527) Same as CS 519. See CS 519.

CSE 529 Interact of Rad w/Matter II  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/529) Same as NPRE 529. See NPRE 529.

CSE 530 Computational Electromagnetics  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/530) Same as ECE 540. See ECE 540.

CSE 532 Numerical Circuit Analysis  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/532) Same as ECE 552. See ECE 552.

CSE 542 Statistical Learning  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/542) Same as ACSR 551 and STAT 542. See STAT 542.

Information listed in this catalog is current as of 06/2018
CSE 543  Topics in Image Processing  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/543)
Same as ECE 547. See ECE 547.

CSE 551  Finite Element Methods  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/551)
Same as CEE 570. See CEE 570.

CSE 552  Nonlinear Finite Elements  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/552)
Same as CEE 576. See CEE 576.

CSE 553  Computational Inelasticity  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/553)
Same as CEE 577. See CEE 577.

CSE 554  Computational Plates & Shells  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/554)
Same as CEE 571. See CEE 571.

CSE 560  Computational Fluid Mechanics  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/560)
Same as TAM 570. See TAM 570.

CSE 561  Computational Process Modeling  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/561)
Same as ME 554. See ME 554.

CSE 566  Numerical Fluid Dynamics  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/566)
Same as ATMS 502. See ATMS 502.

CSE 576  Computational Chemical Biology  credit: 4 Hours. (https://courses.illinois.edu/schedule/terms/CSE/576)
Same as BIOP 576 and CHEM 576. See CHEM 576.