Computer Science

CS 579  Computational Complexity  credit: 4 hours.
Turing machines; determinism and non-determinism; time and space hierarchy theorems; speed-up and tape compression; Blum axioms; structure of complexity classes NP, P, NL, L, and PSPACE; complete problems; randomness and complexity classes RP, RL, and BPP; alternation, polynomial-time hierarchy; circuit complexity, parallel complexity, NC, and RNC; relativized computational complexity; time-space trade-offs. Same as ECE 579. Prerequisite: CS 473 or CS 475.

<table>
<thead>
<tr>
<th>CRN</th>
<th>Type</th>
<th>Section</th>
<th>Time</th>
<th>Days</th>
<th>Location</th>
<th>Instructor</th>
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<tbody>
<tr>
<td>41446</td>
<td>Lecture-Discussion</td>
<td>F</td>
<td>03:30 PM - 04:45 PM</td>
<td>TR</td>
<td>1109 - Siebel Center for Comp Sci</td>
<td>Forbes, M</td>
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Restricted to Graduate - Urbana-Champaign.