CS Curricula at UCD

Dept. of Computer Science
University of California, Davis
http://www.cs.ucdavis.edu

Professor Norm Matloff
Chair of the Undergraduate Affairs Committee
matloff@cs.ucdavis.edu

Slides produced with \LaTeX{} and Prosper.
CS Majors at UCD

- Our dept. is in the College of Engineering.
CS Majors at UCD

- Our dept. is in the College of Engineering.
- We have two undergraduate majors, currently with about 300 students in each:
CS Majors at UCD

- Our dept. is in the College of Engineering.
- We have two undergraduate majors, currently with about 300 students in each:
  - Computer Science major (CS)
    — administered by CS Dept.
    — degree in Letters & Science
CS Majors at UCD

- Our dept. is in the College of Engineering.
- We have two undergraduate majors, currently with about 300 students in each:
  - Computer Science major (CS) — administered by CS Dept. — degree in Letters & Science
  - Computer Science and Engineering major (CSE) — administered by CS Dept. — degree in Engineering
Curricular Comparison

Number of courses required in each major:

<table>
<thead>
<tr>
<th>major</th>
<th>CLG</th>
<th>SW</th>
<th>AHN</th>
<th>THY</th>
<th>MS</th>
<th>ELTV</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS</td>
<td>L&amp;S</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>CSE</td>
<td>Eng.</td>
<td>6</td>
<td>8</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

CLG = college
SW = software
AHN = architecture, hardware, networks
THY = CS theory
MS = post-calculus math and statistics
ELTV = computer electives
Interesting Minors

Many CS majors have minors, e.g. in Math or Statistics. Here are two minors which are especially related to CS:

- Technology Management: undergraduate minor offered by the Graduate School of Management
- Bioinformatics (currently under development)
Speciality Courses

Partly as a result of research excellence, we have a lot of specialty courses most other schools don’t have at the undergraduate level, e.g.:

- a full-year sequence in networks
Speciality Courses

Partly as a result of research excellence, we have a lot of specialty courses most other schools don’t have at the undergraduate level, e.g.:

- a full-year sequence in networks
- a 2-quarter sequence in database
Speciality Courses

Partly as a result of research excellence, we have a lot of specialty courses most other schools don’t have at the undergraduate level, e.g.:

- a full-year sequence in networks
- a 2-quarter sequence in database
- a host of graphics courses
Speciality Courses

Partly as a result of research excellence, we have a lot of specialty courses most other schools don’t have at the undergraduate level, e.g.:

- a full-year sequence in networks
- a 2-quarter sequence in database
- a host of graphics courses
- a computer security course
Speciality Courses

Partly as a result of research excellence, we have a lot of specialty courses most other schools don’t have at the undergraduate level, e.g.:

- a full-year sequence in networks
- a 2-quarter sequence in database
- a host of graphics courses
- a computer security course
- 2 computational biology courses
Speciality Courses

Partly as a result of research excellence, we have a lot of specialty courses most other schools don’t have at the undergraduate level, e.g.:

- a full-year sequence in networks
- a 2-quarter sequence in database
- a host of graphics courses
- a computer security course
- 2 computational biology courses
- a discrete-event simulation course
Speciality Courses

Partly as a result of research excellence, we have a lot of specialty courses most other schools don’t have at the undergraduate level, e.g.:

- a full-year sequence in networks
- a 2-quarter sequence in database
- a host of graphics courses
- a computer security course
- 2 computational biology courses
- a discrete-event simulation course
- a scripting language course
Our Commitment to Students

• 3 CS faculty have won the campus Distinguished Teaching Award.
Our Commitment to Students

- 3 CS faculty have won the campus Distinguished Teaching Award.
- 2 CS faculty have won the campus Best Faculty Adviser Award.
Our Commitment to Students

• 3 CS faculty have won the campus Distinguished Teaching Award.
• 2 CS faculty have won the campus Best Faculty Adviser Award.
• Faculty very approachable.
Our Commitment to Students

- 3 CS faculty have won the campus Distinguished Teaching Award.
- 2 CS faculty have won the campus Best Faculty Adviser Award.
- Faculty very approachable.
- Faculty encourage undergraduates to participate in faculty research projects.
Co-ops/Internships

- “Co-op” generally means six months of full-time work—combine one summer with a one-quarter leave of absence from the university.

- “Internship” generally means continuing part-time work while in school. Typical timing: end of junior year, though many are at end of sophomore year.

- Problem: Fewer co-ops/internships available than in the past.
Co-ops/Internships

- “Co-op” generally means six months of full-time work—combine one summer with a one-quarter leave of absence from the university.
- “Internship” generally means continuing part-time work while in school.
Co-ops/Internships

- “Co-op” generally means six months of full-time work—combine one summer with a one-quarter leave of absence from the university.
- “Internship” generally means continuing part-time work while in school.
- Typical timing: end of junior year, though many are at end of sophomore year.
Co-ops/Internships

• “Co-op” generally means six months of full-time work—combine one summer with a one-quarter leave of absence from the university.
• “Internship” generally means continuing part-time work while in school.
• Typical timing: end of junior year, though many are at end of sophomore year.
• Problem: Fewer co-ops/internships available than in the past.
Integrated BS/MS Program

- Both majors (CS, CSE, CE) offer an integrated BS/MS option.
- Nominal five-year time for the integrated program, though could be longer.
How You Can Help

What can you do to help our undergraduate program?

- Offer more co-ops and internships!
How You Can Help

What can you do to help our undergraduate program?

- Offer more co-ops and internships!
- Fund undergraduate student research.
How You Can Help

What can you do to help our undergraduate program?

- Offer more co-ops and internships!
- Fund undergraduate student research.
- Encourage students (e.g. via talks in the CS Club) to go to grad school.
How You Can Help

What can you do to help our undergraduate program?

- Offer more co-ops and internships!
- Fund undergraduate student research.
- Encourage students (e.g. via talks in the CS Club) to go to grad school.
- Hire more grads into development positions, not nontechnical or semitechnical positions such as customer support. (“If I’m going to end up with an econ-type job, I might as well major in econ, not CS.”)