CS-0303: Unconventional Computing

COURSE INFORMATION

Instructor Info:	**Lee Spector** lasCCS@hampshire.edu Office Extension: x5352 Office Hours: Regular office hours: Tuesdays 10:30–11:30, Wednesdays 1:00–2:30, and Thursdays 2:00–3:30. Other times can be set up by arrangement (in person or via email). Sign up for regular office hours, advising day meetings, and occasionally other signup times on Moodle here.
Term:	2013F
Meeting Info:	**Tuesday** 12:30 PM – 01:50 PM Adele Simmons Hall (ASH) 222 **Thursday** 12:30 PM – 01:50 PM Adele Simmons Hall (ASH) 222
Description:	Computation can be performed not only by silicon chips and electricity but also by many other things including tinker toys, billiard balls, water pipes, lights and mirrors, vats of chemicals, DNA, bacteria, and quantum mechanical systems. Furthermore, in some models of computation billions of events may take place simultaneously, with or without synchronization and with or without explicit programming. Some of these unconventional models of computing appear to provide advantages over current technology and may serve as the basis for more powerful computers in the future. In this course we will survey a wide range of unconventional computing concepts, we will consider their implications for the future of computing technology, and we will reconsider conventional computing concepts in this broader context. Prerequisite: At least two courses in computer science
Course Objectives:	◦ To understand be able to navigate current research literature. ◦ To engage in scientific/technological inquiry. ◦ To work collaboratively with classmates.
Evaluation Criteria:	Students will be evaluated on the basis of: ◦ Attendance. ◦ Participation in class activities and discussions. ◦ A portfolio of published abstracts. ◦ A portfolio of discussion points. ◦ A final project. ◦ A self-evaluation.
Additional Info:	**Course Structure and Schedule**

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CS-0303-1_2013F
Participants
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General
Tuesday, 3 September (12:30PM – 01:50PM)
Thursday, 5 September (12:30PM – 01:50PM)
Tuesday, 10 September (12:30PM – 01:50PM)
Thursday, 12 September (12:30PM – 01:50PM)
Tuesday, 17 September (12:30PM – 01:50PM)
Thursday, 19 September (12:30PM – 01:50PM)
Tuesday, 24 September (12:30PM – 01:50PM)
Thursday, 26 September (12:30PM – 01:50PM)
Tuesday, 1 October (12:30PM – 01:50PM)
Thursday, 3 October (12:30PM – 01:50PM)
Tuesday, 8 October (12:30PM –

This course will be structured as a sequence of alternating abstract and article sessions, with abstract sessions generally occurring on Thursdays and article sessions generally occurring on Tuesdays.

Each student is expected to post to the class website before each class, and to be prepared to discuss the post in class.

For each abstract session each student is expected to post the abstract of an article that we might discuss at the following article session. In our abstract session we will read all posted abstracts aloud, discuss them, and decide, collectively, which article to read in full for the following article session.

For each article session each student is expected to post a few discussion points related to the article that we have chosen to read. In our article session we will share and discuss these discussion points.

Discussions of ideas for final projects will be integrated into abstract and article discussions, although we may also dedicate a few entire class sessions to project discussions. Toward the end of the semester we may dedicate some class sessions to final project work. Some class sessions may also be dedicated to tutorial presentations by the professor.

Work time expectations

In this course, students are expected to spend six to eight hours a week of preparation and work outside of class time. This time includes searching the literature of the field, reading articles, preparing for class discussions, posting to the class website, and working on the final project.

How to get an evaluation for this course

1. Explore the literature on unconventional computing regularly, and post an abstract for a suggested reading to the class website **before** each abstract session.
2. Read all of the assigned articles, and post relevant discussion points to the class website **before** each article session.
3. Attend every class and participate in most discussions.
4. Complete a final project (details to be discussed in class) and submit it by the deadline.
5. Write a self-evaluation.

You should not expect to receive an evaluation unless you have met these expectations, or unless the ways in which you fall short are: 1) minor and/or unavoidable (e.g. because of illness), AND 2) well-explained both when the lapses occur and in your final self evaluation. If you are ever in doubt about your status in the class vis-a-vis evaluation then come talk to me.

Policies in Regards to Illness, Epidemic, or Pandemic

If you have a fever, please stay home, take good care of yourself, and contact me by email or phone. When you are able to work at home you should be able to participate in classes and to submit work electronically. If your illness makes it impossible for you to meet the course deadlines then contact me and we will negotiate an accommodation.

Plagiarism Policy

All Hampshire College students and faculty, whether at Hampshire or at other institutions, are bound by the ethics of academic integrity. The entire description and college policy can be found in Non Satis Non Scire at handbook.hampshire.edu under Academic

01:50PM)

Thursday, 10 October (12:30PM - 01:50PM)

Tuesday, 15 October (12:30PM - 01:50PM)

Thursday, 17 October (12:30PM - 01:50PM)

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Thursday, 31 October (12:30PM - 01:50PM)

Tuesday, 5 November (12:30PM - 01:50PM)

Thursday, 7 November (12:30PM - 01:50PM)

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Non Satis Non Scire at handbook.hampshire.edu under Academic Policies/Ethics of Scholarship. Plagiarism is the representation of someone else's work as one's own. Both deliberate and inadvertent misrepresentations of another's work as your own are considered plagiarism and are serious breaches of academic honesty and integrity. All sources used or consulted in the process of writing papers, examinations, preparing oral presentations, course assignments, artistic productions, and so on, must be cited. Sources include material from books, journals or any other printed source, the work of other students, faculty, or staff, information from the Internet, software programs and other electronic material, designs and ideas.

All cases of suspected plagiarism or academic dishonesty will be referred to the Dean of Advising who will review documentation and meet with student and faculty member. Individual faculty, in consultation with the Dean of Advising, will decide the most appropriate consequence in the context of the class. This can range from revising and resubmitting an assignment to failing the course. Beyond the consequence in the course, CASA considers first offenses as opportunities for education and official warning. Multiple or egregious offenses will have more serious consequences. Suspected instances of other breaches of the ethics of academic integrity, such as the falsification of data, will be treated with the same seriousness as plagiarism and will follow the same process.

Incompletes

Course incompletes are restricted and governed by College policy, and will be negotiated on an individual basis.

Abstracts
Discussion Points

Tuesday, 3 September (12:30PM - 01:50PM)

Thursday, 5 September (12:30PM - 01:50PM)

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Tuesday, 8 October (12:30PM - 01:50PM)

November (12:30PM - 01:50PM)

Tuesday, 3 December (12:30PM - 01:50PM)

Thursday, 5 December (12:30PM - 01:50PM)

Tuesday, 10 December (12:30PM - 01:50PM)

Thursday, 12 December (12:30PM - 01:50PM)

My courses

SETTINGS

Course administration
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Edit settings
Users
Filters
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Backup
Restore
Import
Reset
Question bank

Switch role to...

My profile settings

PEOPLE

Participants

QUICKMAIL

Compose New Email
Signatures
View Drafts
View History
Alternate Emails
Configuration

MY PRIVATE FILES

No files available

Manage my private files

ACTIVITIES

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Forums

LIBRARY INFORMATION

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CURRENT COURSES LIST

Current Courses

CS-0303: Unconventional Computing

CS-104T: Cognitive Science Fiction

Other Courses

Cognitive Science Fiction

Creative Programming Workshop

CS-0109: Programming Creativity

CS-0148: Other Minds

CS-0201: Research Experience in Artificial Intelligence

CS-0254: Genetic Programming

CS-0254: Genetic Programming

CS-0262: Research in Artificial Intelligence : Research in Artificial Intelligence

Lee Spector's Office Hours

Other Minds

Research in Artificial Intelligence

All courses ...

Moodle Docs for this page

You are logged in as Lee Spector (Logout)

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