Course Information

CSE 505 – Computing with Logic
Fall 2015
Stony Brook University
Instructor: Dr. Paul Fodor

http://www.cs.stonybrook.edu/~cse505
“The course explores logic-based computing and logic programming. It includes an introduction to programming in logic, covering basic techniques for solving problems in a logic programming system. Particular attention will be paid to user interface issues and how a logic system can provide a useful computing environment. The course covers implementation issues, emphasizing how a logic programming system generalizes both traditional programming language systems and traditional database systems.”

(https://www.cs.stonybrook.edu/students/Graduate-Studies/courses/CSE505)
General Information

• Meeting Information:
  • Lectures: TuTh 4:00PM - 5:20PM, Computer Science 2129.

• Course Web page:
  http://www.cs.stonybrook.edu/~cse505

• Blackboard will be used for assignments, grades and course material
Instructor Information

• Dr. Paul Fodor
  214 New Computer Science Building
• Office hours: Tuesdays 2:00PM-3:30PM & Thursdays 10:00AM-11:30AM
  • I am also available by appointment
• Email: pfodor (at) cs (dot) stonybrook (dot) edu
  • Please include “CSE 505” in the email subject and your name in your email correspondence
Course Outcomes

- Develop a fundamental understanding of logic as a programming language.
- Explore the computable fragments of first-order logic.
- Study the use of logic for specifying and programming complex systems.
What will you learn in CSE505?

- Logic Programming:
  - Programming in Prolog
  - Computational Basis
    - Resolution, Unication, Memoization
  - Extensions and Applications
    - Non-monotonic reasoning
    - Knowledge Representation
    - Probabilistic Logic Programming
    - Satisability (SAT) and descendants
    - Constraint Programming
    - Abduction and Inductive Logic Programming
Logic Programming

- A framework for unambiguously specifying knowledge and computation

http://xkcd.com/191/

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Course Organization

- Concepts, examples, program fragments discussed in class.
- Homework assignments, projects and quizzes -- 40%
- Midterm exams (2) -- 40% (20% each)
- Final exam -- 20%
  - Will cover reading, lectures and homeworks.
Examinations

- **Midterm 1:** Thursday 10/1, in classroom
- **Midterm 2:** Thursday 11/5, in classroom
- **Final Examination:** Monday, December 14, 2:15PM-4:15PM, in classroom (see the Stony Brook University Final Exam Schedule Calendar in [http://www.stonybrook.edu/registrar/finals.shtml](http://www.stonybrook.edu/registrar/finals.shtml))
Textbooks

- No required textbook.


- Foundations: Ulf Nilsson, Jan Maluszynski, Logic, Programming and Prolog, Wiley. Online (PDF); linked from Blackboard.

- Additional References:

All above books are available on 2-hour loan from the library.
Course Software and Facilities

- SWI-Prolog, XSB Prolog, Flora-2, clingo: freely available for Unix-based systems (Linux, Solaris, BSD, ...) and Windows.
- Work from home or use CS Graduate Lab.
- You can also use the SINC sites, but you have to download a binary version (already installed for Windows) of the software from Blackboard.
Course Support

- Course web pages are partly hosted by the Blackboard system.
- Course Material: handouts, homeworks, notes, etc will be available directly from the course web site.
- Course Announcements: available from the blackboard system.
  - Check these regularly!
- Course Discussion Board: Bulletin board available on the blackboard system.
  - Use this to discuss any course-related material: lectures, homework problems, exams, etc.
- All homework assignments will be submitted via the Blackboard system.
Questions

• How to contact course staff:
  • Post your question on the discussion board.
  • Come to my office during my office hours:
  • Send me email. (Post on discussion board unless the question is personal).
Assignments

- Homework assignments due on fixed dates and times.
  - no late submission is permitted
- All assignments should be submitted electronically
  - Blackboard and textbook Web site
Regrading of Homework/Exams

- Please meet with a TA or the instructor and arrange for regrading.
- You have one week from the day grades are posted or mailed or announced
- Late requests will not be entertained
Academic Integrity

- You can discuss general assignment concepts with other students: explaining how to use systems or tools and helping others with high-level design issues.

- You **MAY NOT share** assignments, source code or other answers by copying, retyping, looking at, or supplying a file.

- Assignments are subject to manual and automated similarity checking (We do check! and our tools for doing this are much better than cheaters think).

- If you cheat, you will be brought up on academic dishonesty charges - we follow the university policy:
  - [http://www.stonybrook.edu/uaa/academicjudiciary](http://www.stonybrook.edu/uaa/academicjudiciary)
Disability

• If you have a physical, psychological, medical or learning disability, contact the DSS office at Room 128 ECC. Phone 632-6748/TDD

• If you are planning to take an exam at DSS office, you need to tell me ahead of time for every exam.

• All documentation of disability is confidential.
Catastrophic events

• Major illness, death in family, …
• Formulate a plan (with your CEAS academic advisor) to get back on track
• Advice
  • Once you start running late, it’s really hard to catch up
Please

- Please be on time
- Please show respect for your classmates
- Please turn off (or use vibrate for) your cellphones

... 

- On-topic questions are welcome
Welcome and Enjoy!