CSC 7101: Programming Language Structures

Syllabus

Spring 2020

Course Summary

The course listing says:

Advanced study of data specification, storage management, and control in programming languages; includes coverage of formal specification languages; languages for concurrent processing; languages that support program verification techniques; and in-depth study of applicative languages.

In addition to these topics, we will cover logic programming and type systems.

Prerequisites

CSC 4101: Programming Languages.

Office Hours

Gerald Baumgartner: MW 9:30-11:00am, PFT 3272D, Tel: 578–2191, Email: gb

Other office hours by appointment (recommended).

Important Dates

- Tailgating: Jan 13
- Martin Luther King Day: Jan 20
- Mardi Gras: Feb 24
- Midterm: Wed, Mar 4
- Spring break: Mar 22–29
- Final: Thu, May 7, 12:30–2:30pm

Both exams are comprehensive.

Reading

There is no required textbook! There is no ideal single textbook out there in print. We will use material from several different books. The copies of the slides I’ll hand out should contain enough detail.
• Mailing list csc_7101 at eng.lsu.edu or Moodle email
• Course web page: http://www.csc.lsu.edu/~gb/csc7101/ and Moodle

**Homeworks**

There will be four or five homework assignments, which will be due at the beginning of class on the due date. A penalty of 20% will be assessed if a homework is submitted at the beginning of the next class period. Homeworks later than that will not be accepted.

**Projects**

There will be two programming assignments, which will be due at midnight (11:59pm) of the due date. A penalty of 10% will be assessed for each day the project is late up to a maximum of 30% after which the project will not be accepted.

**Grading**

- Homeworks: 20%
- Projects: 30%
- Midterm: 20%
- Final: 30%

**Topics**

This list of topics is an ordering of subjects that will be covered. The amount of time spent per topic will vary. We will only briefly discuss the last topic if there is time available.

1. Axiomatic Semantics
2. Attribute Grammars
3. Functional Programming
4. Logic Programming
5. Prolog Implementation
6. Type Systems
7. Operational and Denotational Semantics?

There is also some flexibility in shortening some of these topics and adding other advanced topics.
Course Policy

Grading
It is course policy that whoever graded something will be responsible for handling grading disputes. I will grade the midterm exam and the final exam. A grader may grade the homeworks and the projects. Grades become final one week after a homework or exam is handed back. This should leave ample time to resolve grading disputes.

Homework Standards
All written work submitted must carry the student’s name and must be reasonably neat and well organized. Any work that cannot be read easily will score zero points. A reasonable standard of English expression and grammar is also required. The same requirements apply to exams.

Programming Standards
The algorithm used must be essentially correct. Obviously, the program should (compile and) run. Because of the complexity of the programs, no credit may be given for a program that doesn’t run. If a program throws a run-time exception, only partial credit will be given.

Honesty
I will treat you as professionals, and you should plan on conducting yourself as such. This course presents many important concepts you will need throughout your career as a computing professional, so it is important that each student do all the assignments and projects and learn the material.

You are free to discuss homework assignments and projects with others. However, the solutions you submit are to be developed by yourself. Cheating is a very serious offense and will not be tolerated. Supplying others with material is also against this rule. The grader or I may use tools for detecting cheating on programming assignments. Reverse-engineering the reference implementation or supplying others with material is also against this rule. Similarly, making homework solutions or code available publicly on a web site, such as Github, is also considered a cheating offense. The policy is that the supplier and receiver of information will both be reported to the Dean of Students.

Covid-19 Updates

Homeworks and Projects
Project 1 has been extended until Tuesday, 31 March 2020, midnight, but with only two days for possible late submission. We will skip Homework 3, which also gives us a little more time for Project 2. I will make the planned Homework 3 available for you to practice for the final exam. There will only be one more graded homework.

Grading
The grading scale will remain the same. You will simply get full credit for Homework 3. We will still have a comprehensive final exam, but it might be in a different format than the midterm.
Behavioral Misconduct

Per section 5.1 of the Code of Student Conduct, the Code applies to conduct that occurs on the Campus, at LSU-sponsored activities, and/or when the Student or RSO is representing LSU. The University shall have discretion to extend jurisdiction over conduct that occurs off campus when the conduct adversely and significantly affects the learning environment or University community and would be in violation of the Code if the conduct had occurred on campus. This includes behavior that may occur in a remote learning environment, such as email, discussion forums, zoom webinars, or any other platform or solution used for a course. In determining whether or not to extend jurisdiction, the University may consider its ability to gather information. Potential violations of the Code can be reported through LSU Cares.