CS 208, Fall 2014
Programming Languages
Syllabus

Instructor		Class		Grade Calculation	
Name	Minhaz Zibran	**Lecture**	MWF 10–11am, Dana 319	**Labs**	20%
Office	Dana 311A	**Lab**	Thur 1-3 pm, Brk 164	**Homework**	20%
Phone	577-1907	**Lab**	Thur 3-5 pm, Brk 164	**2 Midterm exams**	30%
E-mail	`mfz001@bucknell.edu`	**Office Hours**	TBA	**Final exam**	20%
				Research Paper	10%

Note: Failure in any component of the course will result in failing the course at instructor discretion.

Course Description

CSCI 208 is in the core curriculum for Computer Science at Bucknell. Its contents are essential to the background of a computer professional or academic. Programming languages allow communication with computers and they allow you to express algorithms and software. So far you have learned at least one language but a computer science professional will encounter a wide range of language families called paradigms. Since there are over 2,500 languages in current usage, we are going to study the underlying principles of programming language design.

In this course we'll study the following different paradigms: imperative, object-oriented, declarative, functional, logic and scripting. We will also cover special topics that are ubiquitous to most language families. These topics include: compilation, types, scope, bindings, memory layout and hazards, higher-order functions, polymorphism, regular expressions, grammars and lambda calculus. We will investigate how these aspects can lead to different design options in programming languages. The course consists of lectures, labs and a project where you will learn a new language focusing on the topics covered in the course.

When you complete this course you will be better prepared to learn the programming languages you will encounter in your future. You will also be able to choose the appropriate language for a particular task.

Course Outcomes

1. Students will be able to compare design choices encountered in a wide range of programming languages. (ABET i)

2. Students will be able to demonstrate programming language design concepts in a language they learn independently. (ABET i)

Course Materials

This course has a Moodle site at http://moodle.bucknell.edu/course/view.php?id=12859 where all the information about the course is posted. Please check it regularly (at least daily).

You should have a copy of the following text: *Programming Language Design Concepts* by David Watt.

Academic Conduct

Each assignment in this course has a specific collaboration policy. The policies are explained in the Collaborations Rules posted on the course website. The Computer Science Department also has an Academic Responsibility policy posted on the department website at `http://www.bucknell.edu/Documents/Engineering/ComputerScience/student-conduct-policy.pdf` under student information. Students are also expected to read and abide by the principles clearly explained in the Student Handbook at `http://www.bucknell.edu/x1324.xml`. Please read all policies carefully.

Reading

You should complete any reading assignments by the due date. Be prepared to discuss the reading material in class. Readings are listed on the schedule. As some topics may take a day more or less to cover, the reading dates may shift during the semester. Additional readings may be assigned during the semester as needed.

Assignment Hand-ins

All assignments must be **typed** and **submitted via SVN** unless otherwise specified on the assignment. You may have to produce drawing or figures for this course. Learn to use a drawing package. Convert your drawings to **pdf** before submitting them. You are responsible for verifying that you have correctly submitted assignments. You can see your submitted assignments on the SVN website (https://svn.eg.bucknell.edu/cs208/f14).

Labs (Collaborative Discussion)

Labs are due during the first 10 minutes of the next lab. Labs are graded from 0 to 10 and cannot be re-submitted. Attendance is required; If you miss a lab, you will receive a 0 for that lab. The last lab is due on the last lecture day of the course. No late work will be accepted. We will drop your lowest lab grade.

Homework (Individual Writeup)

Homework assignments will give you a chance to solve problems similar to those that will appear on the exams. Homework is due by midnight on the due date. No late work will be accepted. We will drop your lowest homework grade.

Research Paper (Individual Work)

There will be one research assigment where you learn a new language and describe it in the terms studied in this course. You will also write programs in this language. No late work will be accepted.

Exams (Individual Work)

There will be two midterm exams and a cumulative final exam. Midterm exam dates are shown on the course schedule. A midterm can be moved with the unanimous concent of the entire class and the professor if the decision is made more than two weeks before the exam.

Emergencies, Special Circumstances, etc

Emergencies happen (medical, family, or otherwise). If one occurs, please contact your Dean as soon as possible. I am very likely to give extensions or excused absenses if you contact me before things are due.

Sports trips are not an emergency. If you are going on one, you must follow school policy reguarding them. If necessary, I can often give you an assignment early or send an exam with you on the trip.

If you are having a tough semester and discover you have fallen behind, please see me sooner rather than later. While I won't just excuse you from assignments without a compelling reason, I'm very happy to work with you and provide extra assignments to let you catch up.

If you have been granted accomodations, it your responsibility to contact me in a timely manner to request them. A week before an exam would be considered timely. I am happy to work with you to provide extra time and quiet space, etc as needed.