Course Syllabus
COMP 524 – Programming Language Concepts
Spring 2015

Classroom:	SN011
Meeting Times:	Monday, Wednesday, and Friday, 10:10 – 11:00 AM
Course Webpage:	http://www.cs.unc.edu/~bn/comp524-sp15/
Sakai Site:	https://sakai.unc.edu/portal/site/524
Instructor:	Ben Newton
Email:	bn@cs.unc.edu
Office:	SN148
Office Hours:	Wednesdays 2-4 PM and by appointment

Course Objectives:
- Understand the concepts and abstractions used by high-level programming languages
- Understand how these concepts are implemented in specific languages
- Be exposed to diverse programming languages and paradigms
- Distinguish between the "essence" and the "arbitrary" of programming languages

The topics covered in this course include: name binding, scope, control flow, data types, type systems, object orientation, scripting languages, functional languages, and possibly runtime systems, polymorphism and concurrency.

By the end of this course, students will understand key issues related to programming language design, such as the paradigm (procedural, functional, etc.), and implementation (interpreter, compiler, virtual machine, etc.). To facilitate learning these fundamental concepts, students will gain first-hand experience through written assignments and programming assignments in different programming languages.

Prerequisites and Target Audience: COMP 410 (Data Structures) is a strict prerequisite for this course. Additionally, students may benefit from having previously taken COMP 410 (Computer Organization) and COMP 455 (Models of Languages and Computation). These courses are not required and we will cover any relevant background material.

The CS Department offers three courses related to programming languages: COMP 524 (this course), COMP 520 (Compilers), and COMP 523 (Software Engineering). Students with a strong interest in programming language implementation should consider enrolling in COMP 520 (Compilers) instead of, or in addition to, this course. Students predominantly interested in applying programming languages should contemplate choosing COMP 523 (Software Engineering) as an alternative.

Textbook and Resources: Programming Language Pragmatics, third edition, Michael L. Scott, 2009. Morgan Kaufmann Publishers, ISBN 978-0-12-374514-9.   The book is available as an online resource from the library.

Supplemental reading material may also be posted on the course website or Sakai. Additionally, students are encouraged to use Piazza as an online discussion board. To sign up, visit http://piazza.com/unc/spring2015/comp524.

You are required to have a laptop capable of running VirtualBox. VirtualBox is an open source product for running and managing virtual machines. VirtualBox runs on Windows, Linux, Macintosh, and Solaris hosts. You will be required to bring your laptop to class on certain days for hands-on exercises.

Grading: The final course grade will be computed as follows:

Assignments   40%
Quizzes   15%
Midterm   20%
Final Exam   25%
Participation ±5%

The lowest two quiz scores, and the single lowest homework score will be dropped. Some assignments will be more thoroughly graded than others. Additionally, positive class participation (in the classroom, as well as on Piazza) is encouraged, and may result in an increased grade, while disruptive behavior, such as violating the classroom policies, or being frequently absent, may be penalized.

Homework Policy: All assignments are due at the time specified on the assignment or on Sakai. No late work will be accepted without the prior permission of the instructor. Unless otherwise specified, all assignments must be your own work. However, students are allowed and encouraged to have high-level discussions about the assignments with one another. In fact, Piazza is designed expressly for this purpose!

Classroom Policy: Proper classroom etiquette is expected in class. This includes:
- Not making a habit of arriving late, leaving in the midst of class, or skipping class,
- Not talking (unless called upon), not sleeping, not eating, etc.,
- Not using potentially distracting devices during lectures (phones, laptops, tablets, etc.).
As noted in the grading policy, your final grade may be reduced if you violate these policies.

Honor Code Policy: Plagiarism and any other form of cheating will be reported to the Student Attorney General. Please familiarize yourself with the department's guide "Honor Code Observation in Computer Science Courses." Specific guidelines will be given with each assignment, i.e., whether or not collaboration is allowed.