CS33101 Section 600 Structure of Programming Languages

Spring 2011

Department of Computer Science Kent State University at Stark

TR: 3:30pm-4:45pm – Room MH #304

Prerequisite: minimum C (2.0) grade in CS 33001.

Credits: 3

Instructor: Dr. Angela Guercio	Home Page: <u>http://www.personal.kent.edu/~aguercio</u>
Office Phone : (330) 244-3424	E-Mail: aguercio@kent.edu
(KSU ext. 53424)	
Office location : MH 424	Office hours: TR - 10:00am – 10:55am, TR 1:55-
	3:25pm; other times by appointment.

Text:

Concepts of Programming Languages, 9/E, R.W. Sebesta, Addison-Wesley, 2010, ISBN13: 978-0-13-607347-5.

Class Webpage:

http://www.personal.kent.edu/~aguercio/Spring11/CS33101_Sp11.html

• all important class information will be posted on the class webpage - readings, assignments, notes, deadlines, cancellations, etc. *Check it regularly!*

Last day to drop:

Sunday, January 23 (without W grade); Sunday, March 20 (with W grade).

Exams

Exam 1: Thur, Feb 10 Exam 2: Thur, March 17 Final Exam: 3:30pm-5:30pm, Thur, May 5

Catalog course description: Introduction to syntax, semantics, behavior and implementation issues in imperative, functional, logic and object-oriented languages; type theory, concurrency, data dependency, nondeterminism and Internet languages.

Course Objectives: The objective of this course is to prepare you to better write compilers and to increase your programming design abilities. While new languages are

always introduced, the basic principles and the design philosophy behind programming languages do not change. The course introduces the basic principles and behavior of different classes of programming languages. The course covers a variety of generalpurpose and special purpose programming languages. No specific programming language will be used, but examples will be written by using the syntax of a known programming language of a specific class to which the examples apply.

Expected outcomes: Students completing this course will

- acquire the appropriate terminology related to the syntax and the semantics of programming languages;
- increase the capacity of using different constructs in writing programs;
- be able to describe the syntax and the semantics of programming languages in a formal manner;
- be able to analyze a programming language with respect to its capabilities and limitations for the solution of a particular class of problems;
- be able to approach the task of learning a new programming language in an effective manner;
- be able to specify and identify desirable characteristics in a language.

Grading

Attendance and Participation	5%
Assignments (3 - 5)	35%
Midterm Exams (2)	40%
Final Exam	20%

I reserve the right to change the weighting and number of assignments and to use Pop Quizzes. If Pop Quizzes are issued they will count for an additional 10% of the grade.

The following grading scale will be used to calculate final grades:

Total percentage earned	Grade	Total percentage earned	Grade
89 - 100%	А	70 - 74.9%	B-
85 - 88.9%	A-	60 - 70%	С
80 - 84.9%	B+	50.1 - 59.9%	D
75 - 79.9%	В	50% and below	F

Course policy

(1) <u>Class participation and preparation</u>

• Class participation and regular attendance are expected. If a student misses a class, the student is responsible for bringing herself/himself up-to-date on class material and assignments. If you miss more than 4 classes without a documented reason or without making prior arrangements with me, your final grade will be dropped one grade (A to B, B+ to C+ and so on).

• All students are expected to read the assigned chapters prior to coming to class.

(2) <u>Exams</u>

- Exams will be based on the combination of: material covered in lectures, the assigned reading from the textbooks and material covered in the notes.
- All exams are closed books and closed notes.

(3) <u>Homework assignments</u>

- All homework assignments are due at the beginning of class on the specified date. An assignment turned in one day late will get a 5% penalty; two days late will get a 10% penalty, etc. Assignments turned in after the beginning of class on the due date will be counted as one day late and will receive a 5% penalty.
- All assignments must be individually and independently completed. Should two or more students turn in substantially the same solution or program, in the judgment of the instructor, the solution will be considered a group effort. All involved in group effort homework will receive a zero grade for that assignment. (See more details on cheating and plagiarism in the **Academic Honesty Policy** section below).
- <u>No late assignment will be accepted after the assignment has been graded and returned.</u>
- A printed copy of each homework assignment must be turned (NO HAND WRITTEN COPY ACCEPTED). If you must miss a class when the assignment is due, you may e-mail a copy of the assignment in order not to have a late grade, but your assignment will only be graded when you have turned in an identical, printed copy.
- You may discuss the interpretation of the assignment with your classmates; however you may not discuss possible solutions.

(4) <u>Make-up exams</u>

- Make-up exams will only be given in case of serious need and only when the instructor is notified <u>prior</u> to the exam time. If this is not done, the grade is automatically 0 for that exam.
- Written verification for the student's inability to take an exam will be required.

(5) Professor class cancellation

• If the professor is sick and needs to cancel a class, the class cancellation will be posted on the course web page as early as possible. A group class email will be sent and the class cancellation will be posted on the campus monitor.

Course Withdrawal

If you are considering withdrawing from this course, please inform your instructor and consult with a staff member in the Student Services Office, 134 Main Hall. Withdrawal from a course can affect financial aid, student status, or progress within your major. For withdrawal deadlines, please refer to http://www.registrars.kent.edu/home/TermUpdate/sche_adj.htm.

Academic Honesty Policy

When assignments must be individually and independently done, if some students turn in substantially the same solution or program of another student, in my judgment, the solution will be considered a group effort. All involved in the group effort homework will receive a zero grade for that assignment. Policy on academic involving programming be found dishonesty can at http://www.personal.kent.edu/~aguercio/AcademicDishonestyPolicy.pdf. Use of the intellectual property of others without attributing it to them is considered a serious academic offense. Cheating or plagiarism will result in a failing grade for the work or for the entire course. Repeat offenses result in dismissal from the University. University guidelines require that all infractions be reported to the Student Conduct Officer on our campus.

Students with Disabilities

Kent State University recognizes its responsibility for creating an institution atmosphere in which students with disabilities can succeed. In accordance with University Policy Subpart E...104.44, if you have a documented disability, you may request accommodations to obtain equal access in this class. Please contact the disability coordinator on campus, Sue Savickas in Student Accessibility Services, located in the Student Success Center, lower level of the Campus Center, phone (330) 244-5047, or <u>ssavicka@kent.edu</u>. After your eligibility for accommodations is determined, you will be given a letter which, when presented to instructors, will help us know best how to assist you.

Classes Canceled – Campus Closings

Announcements of class cancellations and/or campus closings will be made on the campus home page. In the case of an emergency, weather-related or otherwise, please check the web page at stark.kent.edu for information on the buildings and times of the closing. While information may be broadcast by radio and television, this should be confirmed by the web page, which is the official announcement of the campus and which will be the information used to determine issues related to student attendance, rescheduling of tests, and other concerns.

Conduct

Students and faculty behavior at the Stark Campus is governed by the guidelines set forth in *The Digest of Rules and Regulations*. That document can be found in the University telephone directory and can be downloaded at http://www.kent.edu/studentlife/resources/upload/Digest-of-Rules-and-Regulations.doc.

Emergency

In case of an emergency please contact the security on campus. **Security phone on campus**: #53123 **Security cell phone** (330) 705-0430 or, of course, 911. I recommend that you program into your cell phone the previous numbers.

Tentative Outline of the Course

Week 1	Introduction- Language Evaluation - Sebesta Chapter 1
Week 2	Language Paradigms-Syntax and Semantics - Languages of the week - <i>Sebesta Chapter</i> 2 and 3
Week 3	Language Paradigms-Syntax and Semantics -
	Languages of the week - Sebesta Chapter 2 and 3
Week 4	Interpreter vs. Compiler - Lexical and Syntax Analysis
	Languages of the week - Sebesta Chapter 2 and 4
Week 5	Review
	Mid Term 1 (<i>Covers Ch 1 – 4</i>)
Week 6	Names, Bindings, Type checking and Scopes – Intro to Data types - Sebesta Chapter 5 and 6
Week 7	Data Types – Intro to Expressions and Assignment Statements - Sebesta Chapter 6 and 7
Week 8	Expressions and Assignment Statements -Statement-Level control structures - Sebesta Chapter7 and 8
Week 9	Subprograms - Sebesta Chapter 9
Week 10	Review
	Mid Term 2 (<i>Covers Ch 4 – 9</i>)
	Spring Break
Week 11	Implementing Subprograms – Intro to ADT - Sebesta Chapter 10 and 11
Week 12	ADT and Object-oriented Programming - Sebesta Chapter 11 and 12
Week 13	Functional programming languages - Sebesta Chapter 15 and other readings
Week 14	Logic Programming Languages - Sebesta Chapter 16 and other readings
Week 15	Concurrency - Sebesta Chapter 13
Week 16	Final Exam (Covers Ch 10-16)

This is a tentative course outline and is subject to change.

Important Dates to Remember

- Last day to drop the class is Jan 23 (without W grade) or Mar 20 (with W grade)
- Exam 1 is Thursday, Feb. 10
- Exam 2 is Thursday, March 17
- Final Exam is Thursday, May 5 (3:30 pm 5:30pm)

Spring Recess: March 21 – March 27, 2011 Classes End: April 30, 2011