Computer Science Department
cs.salemstate.edu\dept

SYLLABUS **Fall 2011**

CSC 215 Survey of Computer Science II **4 credits**
Prerequisite(s): CSC 201J, and a grade of C+ or better in CSC 200A.

Instructor: Beifang Yi **Office**: MH 208D **Phone**: (978) 542-7426
email: byi@salemstate.edu **Hours**: W & F (11-1:15) **Web Site**: http://cs.salemstate.edu/~byi/
R (1:00-6:00, 9:20pm~10:00pm)

Section	Time	Room	Final Exam
S1	R 6:00pm – 9:20pm	MH 206	**December 22nd, Thursday, 6:00pm—9:00pm, MH 206**

Catalog description:
This course builds on CSC200A and provides an overview of selected Computer Science topics that are more technical and advanced than those discussed in the earlier course. Topics include a detailed discussion of the binary, octal, and hexadecimal numeration systems, the machine representation of data and instructions, the design of a typical computer chip, programming in a simplified machine language, and such application areas as robots and embedded systems (programming and construction), artificial intelligence, computability theory and Turing machines, and an introduction to networks, including the Internet model. Four lecture hours per week plus laboratory work outside of class.

Course Goals:
The aims of this course are to help the student to gain an appreciation for the breadth and variety within the computer science field and to be better prepared for the technical treatments presented in later courses. Upon completion of the course, a student should be able to do the following:

- CG1: to build an in-depth understanding for machine representation of data and instructions;
- CG2: to build detailed understanding of several major application areas of computer science;
- CG3: to provide a capability to solve problems in each topic area.

Course Objectives:
Upon successful completion of the course, a student will have:

- CO1: carry out the conversion of text and numeric data between a human readable form and binary form such as ASCII characters, decimal negative numbers to 2's complement binary numerals, and exponential numbers to binary floating point;
- CO2: write simple machine language programs for a simple computer chip and memory;
- CO3: construct simple sequential logic circuits;
- CO4: solve problems from selected areas in artificial intelligence;
- CO5: solve problems from selected areas of computational theory;
- CO6: solve problems involving embedded computer systems;
- CO7: solve problems involving networks of all types including the Internet;
- CO8: solve problems in distributed algorithms, graphics, and human/computer interface design;
- CO9: understand syntax diagrams for the specification of language elements;
- CO10: design simple web pages.

Course Topics:

The department-standard list of topics and a general course bibliography can be found on the Computer Science Department website (at http://cs.salemstate.edu/dept/index.php?page=184). Select CSC 215 to access a PDF document.

Text(s): (required) **Computer Science: An Overview**, 11th Edition, by J. Glenn Brookshear. Addison-Wesley., 2012. (ISBN-10: 0-13-256903-5; ISBN-13: 978-0-13-256903-3)

Additional references (optional)**:**

- *Concepts in Computing*, by Kenneth Hoganson. Jones and Bartlett Publishers. 2008
- *Invitation to Computer Science* (4th edition, 2007), by Schneider and Gersting. Thomson Course Technology.
- *Computer Science Illuminated* (3rd edition, 2006), by Dale and Lewis. Jones and Bartlett Publishers.
- *The Essence of Artificial Intelligence*, by Alison Cawsey. Prentice Hall. 1998
- *Computer Systems*, by J. Stanley Warford. Jones and Bartlett Publishers. 2006.
- *The Architecture of Computer Hardware and Systems Software: An Information Technology Approach*, 3rd Edition, by Irv Englander (2003), Wiley.
- (Handouts will be given in class).

Cell phones:

Turn the ringer off, or, better yet, *turn the phone off*.

Class Attendance:

Class attendance is highly recommended. You are responsible for all materials presented in class, quizzes, examinations, and other announcements. No excuses of any nature will be construed as relieving you from the responsibility for completion of the work assigned. Each student is responsible for completing all course requirements and for keeping up with all that goes on in the course (whether or not the student is present).

Scheduled Lab Attendance:

There will be one or two lab classes to be held in the Lab. Lab attendance is mandatory for every student. The other laboratory work is done on the student's own time, outside of scheduled lectures. The lab class activities and lab homework are part of the homework assignments.

Final Grade:

Final grade will be determined using the following grading weights:

homework assignments	50%
labs/presentations	20%
final examination	30%

Attendance is not used to calculate the final grade: however, note that you are at all times responsible for assignments and materials presented in class.

The following table shows how the course work is assessed against the course objectives:

	Homework Assignments	Labs/Presentations	Examinations
CO01	✓		✓
CO02	✓	✓	✓
CO03	✓	✓	✓
CO04	✓	✓	✓
CO05	✓	✓	✓

CO06	✓	✓	✓
CO07	✓	✓	✓
CO08	✓	✓	✓
CO09	✓	✓	✓
CO10		✓	

Submission Deadlines/Late Penalties:

There are specific due dates/times for any assignments and these assignments should be completed by the deadlines. A penalty of **5%** will be applied for late submission for each day (including weekends and holidays). All the assignments will be announced/given in class and through course website.

Exams/Quizzes:

There will be one final (comprehensive) exam (30% total). **Note:** Make-ups are given for missed quizzes or examinations only under exceptional and documented circumstances.

Missed Tests:

Missed tests will be made up *only under extreme conditions/emergency with the proper documentation*. Students who know in advance that they must be absent on an exam day for an excusable reason should notify the instructor prior to the exam day. Students who are absent on the day of the exam for an excusable reason should contact the instructor immediately following their absence. Makeup work will be permitted *only when* the instructor is presented with acceptable documentation for acceptable absences. It is your responsibility to notify your instructor of any excused absence as far in advance as possible.

Lab and Presentation Assignments:

There will be 2 or 3 lab and presentation assignments. Labs will be scheduled on specified topics and submission of the labs is in the format of lab reports. A presentation topic related to the course will be selected by both the student and the instructor for a short essay. The presentation will be based on the essay. Specifications on these assignments will be given in class. Note: these assignments constitute 20% of the final grade. There are no make-ups for missed presentation unless under extreme circumstances with advanced notification of the instructor and certain supporting documentation. The writing essay may be submitted anytime after the midterm examination but must be turned in before the final examination.

Homework Assignments:

There will be a series of assignments from the textbooks and other sources. Reading assignments will be a part of the homework assignments. All assignments are due *at the beginning* of class on the dates to be set by the instructor. A **5%** penalty will be imposed for each day (including weekends and holidays) an assignment submission is late.

One assignment with the lowest grade will be dropped from the final grading.

Please note that these assignments constitute 50% of the final grade and that in addition to these homework assignments there will be Lab and Presentation assignments which make up 20% of the final grade.

Study Groups:

While I strongly encourage study groups, I require that each student hand in his/her answers in her/his own words - if two answers are exactly same or highly similar to each other, neither will receive credit.

Academic Integrity:

Academic Integrity Policy and Regulations can be found in the University Catalog and on the University's website (http://catalog.salemstate.edu/content.php?catoid=13&navoid=1295#Academic_Integrity). The formal regulations are extensive and detailed - familiarize yourself with them if you have not previously done so. A concise summary of and direct quote from the regulations: "Materials (written or otherwise) submitted to fulfill academic requirements must represent a student's own efforts". *Submission of other's work as one's own without proper attribution is in direct violation of the University's Policy* and will be dealt with according to the University's formal Procedures.

"Salem State University is committed to providing equal access to the educational experience for all students in compliance with Section 504 of The Rehabilitation Act and The Americans with Disabilities Act and to providing all reasonable academic accommodations, aids and adjustments. Any student who has a documented disability requiring an accommodation, aid or adjustment

should speak with the instructor immediately. Students with Disabilities who have not previously done so should provide documentation to and schedule an appointment with the Office for Students with Disabilities and obtain appropriate services."

In the event of a university declared critical emergency, Salem State University reserves the right to alter this course plan. Students should refer to http://www.salemstate.edu for further information and updates. The course attendance policy stays in effect until there is a university declared critical emergency. In the event of an emergency, please refer to the alternative educational plans for this course located at http://cs.salemstate.edu/~byi/2011Fall/CSC215/emergency/index.html. Students should review the plans and gather all required materials before an emergency is declared.

Please remember that if, for any reason, you decide to drop this course, you **MUST** do so officially through the Registrar's office. The last day to withdraw from a course this semester is **November 28th**.

Note: This syllabus represents the intended structure of the course for the semester. If changes are necessary, students will be notified in writing and via all regular class communication mechanisms (class discussion, emails, and/or the instructor's website at http://cs.salemstate.edu/~byi/).