COSC 898: Selected Topics in Computer Science

Department of Computer Science
Bowie State University
Syllabus
Fall 2016

COURSE TITLE: Selected Topics in Computer Science: Software Engineering

Instructor:	Sharad Sharma
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Phone:	301-860-4502
Email:	ssharma@bowiestate.edu
Class Hours:	Tuesday: 7:30 PM- 10:00 PM
Office Hours:	Tuesday: 1:55 PM to 4:55 PM or by appointment
Course Website:	http://www.cs.bowiestate.edu/sharad/software3/

Course Description: This is a seminar course which require students to research topics of their choosing. This research should adequately demonstrate the student's proficiency in the subject material. At the end of the semester the students are required to write a report of their study/findings and make a seminar presentation.

The students are expected to select topics of their interest in the areas of Software Engineering such as: Design Patterns, agile software development techniques, configuration, agent based modelling, software development, requirements, architecture, design, testing, formal methods, analysis, safety, usability, process, metrics, environments, open source, and software engineering research evaluations.

Suggested Reading

1. Bernd Bruegge, Allen H. Dutoit (2009), Object-Oriented Software Engineering: Using UML, Patterns and Java, 3rd Edition, Publisher: Prentice Hall, Upper Saddle River, NJ. ISBN-10: 0136061257, ISBN-13: 978-0136061250
2. Somerville, Ian (2001)Addison-Wesley *Software Engineering 9th Edition, Massachusetts: Addison Wesley*, ISBN-10: 0137035152, ISBN-13: 978-013703515
3. IEEE Transactions on Software Engineering
4. IEEE Transactions in Computational intelligence and AI in games
5. IEEE Transactions in Reliability
6. IEEE Transactions in Evolutionary computation
7. ACM Transactions on Software Engineering and Methodology (TOSEM)
8. IEEE Transactions in Multimedia

PREREQUISITES: COSC 799

Paper critiques review assignments and guidelines:

For each assigned paper, students should write a review answering each of the following questions:
1. What problems (with prior work or the lack thereof) were addressed or surveyed by the authors?
2. What solutions were proposed or surveyed by the authors?
3. What are the technical strengths and main contributions of the paper's proposed solutions?
4. What are the technical weaknesses of the paper's proposed solutions?
5. What suggestions do you have to improve upon the paper's ideas?

Class Presentations: Research papers will be assigned to students to read, analyze and present to the class. Presentations will be structured as follows:

- Presentation
- Questions to presenter
- Open discussion

On the day of your paper review, you should bring your review presentation, i.e., power point file (flash drive), to the class. In total 15 ~20 minutes each, including:
- Brief description of (1) introduction/idea; (2) method (experimental design, participants, apparatus, experiment procedure, data collection); (3) results; (4) discussion and/or conclusion; and (5) etc.
- What knowledge did you learn from the paper/work, e.g., anything you've never known before; which part of the work interests you most…

<u>In-Class Paper Presentation Grading:</u>
Items above, quality of oral/written presentation and visuals, timeliness, etc. The grading rubric are

- Content (35% Weighting)
- Preparedness (35% Weighting)
- Visual Aids/Handouts (15% Weighting)
- Discussion or Questions raised (15% Weighting)

GRADES: Class Presentations - 60%

Paper critiques - 25%

Literature Review - 15%

Literature Review: Students will be assigned a topic for literature review by the instructor. Students will write an abstract, introduction, and a literature review based on IEEE journal template.

Reminder: English Proficiency Examination

After successfully completing ENGL 101 and 102, Composition and Literature I and II, students must take and successfully pass the Bowie State University English Proficiency Examination. Transfer students who completed their English composition requirements at another university

should take the English Proficiency Examination during their first semester of enrollment at Bowie State University.

ADA Statement*:*

Students with disabilities who wish to receive ADA accommodations should report to the Office of Special Populations, Center for Learning and Technology (CLT) building, Suite 302 (301-860-3292).

COURSE REQUIREMENTS AND EXPECTATIONS

Policy on Attendance: Regular attendance in the class is mandatory. Students will be responsible for any loss of information, assignments, and projects due to absence from class.

Departmental Policy on Submission of Late Work*:* There will be no make-up for any missed classes, projects, assignments, and exams. 1/2 letter grade off for assignment each day late without documented excuse; papers more than one week late will not be accepted.

Academic Integrity: Academic dishonesty includes plagiarism, cheating, and other illegal or unethical behaviors in doing the work of the course. Plagiarism is the act of representing another's ideas, words or information as one's own. If you receive assistance on an assignment from someone else, you must avoid plagiarism by giving proper credit for this assistance. Include in your assignment a comment naming the person who assisted you and stating what the assistance was. Students who are guilty of academic dishonesty are subject to severe penalties ranging from a reduction in points (and possible failure) for the assignment/project, to failing the course, or in extreme cases, dismissal from the University. Do not copy other student's projects, codes, and design. A group of students working together on a project must change their forms and codes to differentiate from others.

Reference Book(s):

- Braude, Eric J. (2001). *Software Engineering An Object-Oriented Perspective*, John Wiley & Sons, Inc., ISBN 0-471-32208-3.
- Barnes D. J., and Kölling, M. (2003) *Objects First With Java*, Prentice Hall,ISBN 0-13-044929-6.
- Bruegge, B., and Dutoit, A. (2000). *Object-Oriented Software Engineering Conquering Complex and Changing Systems,* Prentice-Hall, ISBN 0-13-489725-0.
- Bruegge, B., and Dutoit, A. H. (2004). *Object-Oriented Software Engineering: Using UML, Patterns and Java,* Second Edition, Prentice Hall, ISBN 0-13-0471100
- David, K. (1998). *The Art of Computer Programming*, V. 1-3, 2nd ed. Boxed Set, Addison-Wesley, ISBN: 0201485419.
- Ghezzi, J., and Mandrioli, P. (1991). *Fundamentals of Software Engineering* by Hall.