COMP405 : Platform-Based Software Development
Spring 2016
Syllabus

Design and development of software applications that reside on specific platforms. The course focuses on integrated software development environment in which application development methodologies and constraints for web platforms, mobile platforms and game platforms will be covered.

Credits: 3 **Pre-requisite:** COMP305, COMP375

Course Objectives
Upon completion of the course, students should be able to:

- Describe the difference between platform-based and general purpose programming and application development.
- Design and implement web applications using industry standard scripting language and development tools.
- Design and implement a mobile application for a given mobile platform.

Learning Outcomes

- Describe how platform-based development differs from general purpose programming.
- List characteristics of platform languages.
- Write and execute a simple platform-based program.
- List the advantages and disadvantages of programming with platform constraints.
- Design and implement web applications.
- Compare and contrast web programming with general purpose programming.
- Describe the differences between Software-as-a-Service and traditional software products.
- Discuss how web standards impact software development.
- Review an existing web application against a current web standard.
- Design and implement a mobile application for a given mobile platform.
- Discuss the constraints that mobile platforms put on developers.
- Discuss the performance vs. power tradeoff.
- Compare and contrast mobile programming with general purpose programming.

Lectures & Labs : Mondays, Wednesdays, Fridays; Time : 12.45 pm – 1.35 pm

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Office Hours : Daily 2:00 - 4:00PM or by appointment.

Textbook - Required
Murach's PHP and MySQL
Author: Joel Murach and Ray Harris
ISBN-10: 1890774790; ISBN-13: 978-1890774790
Publisher: Mike Murach & Associates

Online Materials:
Handouts and Online Materials for HTML5, CSS3, PHP, Ruby On Rails, and Visual Studio Tutorials.

Grading
Grading for this course will be based on multiple quizzes, assignments, two midterm exams, course project and final exam. The total possible points at any given time in the course will divide your total points earned to-date, resulting in a percentage that will determine your grade according to the following table.

The performance level descriptions shown below generally identify computer program attributes necessary to achieve the associated point percentage and letter grade.

Quizzes	20%
Assignments	20%
Midterm Exams	20%
Mini Projects	20%
Course Project	20%

Grading Scale:

95 – 100	A
90 – 94	A-
85 – 89	B+
80 – 84	B
75 – 79	B-
70 – 74	C+
65 – 69	C
60 – 64	C-
50 – 59	D
Below 50	F

Assignments

General Information

Several short homework assignments will be given throughout the semester.

- Homework assignments will be posted on the course website.
- Except for occasional supplementary materials, hard copies of the assignments will not be provided.
- It is your responsibility to check the course web site for any materials relating to the course and to keep track of upcoming assignments, quizzes and midterms.
- Homework is due at the ***beginning*** of class on the due date.
    - You are expected to have completed the assignment before you arrive in class.
    - You will have a 30-minute window after the class during which you may turn in your assignment with no penalty.

Assignment Management

The Bachelor of Science Computer Science major focuses on decision-making skills, oral and written communications, the values and uses of information systems, project development and completion via teams, competency in a programming language and application development, familiarity with systems analysis and design, the completion of a systems development project and the use of the computer as a tool, hence a thorough understanding of the various platforms and operating systems.

The curriculum is designed to produce graduates ready to function in the computer industry with the competencies, skills, and attitudes necessary for success in the workplace or graduate school. It forms the basis for continued career growth, life-long learning as a computer professional or a future graduate program. Among other important skills for administrators and managers are time management and resource allocation. Specifically, appropriate attention to time management and resource allocation will aid you in meeting task deadlines with available resources. These skills will be important to your success in administration or management and to your success in this degree program. This syllabus describes course assignments and defines assignment due dates. Your effective use of time management and resource allocation will be key in meeting the assignment deadlines for both individual and study group assignments. From my own experience, I offer the suggestion that your time management plan include time for yourself and your academic work.

Late Assignments
In the general case, late assignments will not be accepted for grading. ALL ASSIGNMENTS;IF A HARD COPY IS REQUIRED, MUST BE SUBMITTED IN CLASS ON THE DUE DATE. If you know you must be absent from a class session, you should take appropriate steps to ensure that your assignments are delivered on or before the scheduled due date and time. I will not accept any excuse for late delivery. In addition to submitting a hard copy, you must keep electronic copies of all assignments in a folder in your home directory on ***nova***. If submission is electronic, it must be in your home directory on the server on or before the due date.

Quizzes
Quizzes are conducted during the class meeting and at times as take-home. Quiz questions will often be selected from or derived from the questions found at the end of the assigned chapters and readings. I will not give make-up exams and quizzes.

Attendance
Attendance is mandatory.

Course Materials
All course materials, can be found on Blackboard at http://bblearn.linfield.edu. It is your responsibility to check the web page on regular basis for course materials and due dates.

Extra Credit Policy
There will not be any extra credit in this course. There are a lot of assessment exercises in this course for you to catch up with areas you don't perform well. Therefore, don't bank on extra credit to improve your grades.

Missed Classes
It is your responsibility to make arrangements to obtain materials distributed on class days when you miss a class. This can be done through contacting a classmate who was present or by contacting me during my office hours or other times. Missed or late quizzes cannot be made up under any circumstances but with good cause and adequate notice, an early quiz may be given.

Academic Honesty
Cheating and plagiarism will not be tolerated. Any student found to be engaging in either of these activities at any point in the course will receive a failing grade for the entire course and may be subject to further college sanctions.

Classroom and Group Discussions
Study groups are highly recommended for a course of this kind. However, copying someone's work for presentation will be treated as academic dishonesty. Active involvement of each student in class discussions and exercises are essential. Class attendance and active participation are expected and required in this course. Absences or lack of participation generally reduces a learner's aggregate point score and thus may affect a learner's final grade.

We must assume that we are all persons of intelligence and good will who are here to learn from each other in a team environment. Group discussions should not be a forum to impose our ideas on others. For the academic endeavor to succeed, we must treat each other with civility, courtesy and respect. Software development involves team work and all contributions by group members should be discussed and analyzed thoroughly.

Preparation for Classes
- Read the text chapter assigned per schedule.
- Visit the companion Web site on Blackboard and review the topic objectives and other materials, complete online study guide quizzes, and review other materials.
- Make note of any questions you may have to pose during class or via e-mail.
- Browse the PowerPoint presentation for the topic.
- Take notes in class.

Difficulties
If you find you are having problems with the class – the use of the software package, case tool, attendance, keeping up with the reading, fitting into a group, please let me know. I am always available to help you, but I have to know about the problem while it's going on and before the end of the course. The last few weeks to the end of the course is not the best time to ask for help.

Students with Disabilities
Students with disabilities are protected by the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. If you are a student with a disability and feel you may require academic accommodations please contact Learning Support Services (LSS), as early as possible to request accommodation for your disability. The timeliness of your request will allow LSS to promptly arrange the details of your support. LSS is located in Melrose Hall 020 (503-883-2562).

Students with documented disabilities who may need accommodations for taking quizzes and tests, who have any emergency medical information I should know of, or who need special arrangements in the event of an evacuation, should make an appointment with me as early as possible, no later than the second week of the semester.

CELL PHONE USAGE, EMAIL AND WEB BROWSING
All cell phones should be turned off during lectures. Unless otherwise instructed, all applications, including browsers and emails must be closed during lectures.

Topics
Introduction
- Overview of platforms (e.g., Web, Mobile, Game, Industrial)
- Programming via platform-specific APIs
- Overview of Platform Languages
- Programming under platform constraints

Web Platforms
- Web programming languages (e.g., HTML5, Java Script, PHP, CSS)
- Web platform constraints
- Software as a Service (SaaS)
- Web standards

Mobile Platforms
- Mobile programming languages
- Challenges with mobility and wireless communication
- Location-aware applications
- Performance / power tradeoffs
- Mobile platform constraints
- Emerging technologies