

Metropolitan State University of Denver

Regular Course Syllabus

CS - 4360 - Technical Software Project

Fall 2016

Status	completed
Tracking:	LAS 1617-52
Department	Mathematical and Computer Sciences, Department of
Prefix:	CS
Course Number:	4360
Course Type:	Computer Science
Course Title:	Technical Software Project
Transcript Course Title:	Technical Software Project
Equivalent/ Crosslisted?	
List all equivalent courses:	
List all crosslisted courses:	
Check All That Apply:	Required for Major
Credit Hours:	4
Schedule Type:	Lecture
Grade Mode:	Letter
Lecture:	60
Lab:	
Internship:	
Practicum:	
Other:	
Additional Student Work Hours per course:	120
Variable topics umbrella course:	No
If yes, number of credits/ repeats allowed	
Specified repeatable course:	No
If yes, number of credits/ repeats allowed	
Prerequisite(s):	Senior standing and CS 3210, CS 3600, 8 additional credits of upper-division CS courses, COM 2610, PHI 3370, and CAS 1010, all with grades of "C" or better, or permission of instructor
Corequisite(s):	
Prerequisite(s) and/or Corequisite(s):	
Banner Prerequisite(s):	CS 3210, CS 3600, COM 2610, PHI 3370, and CAS 1010, all with grades of "C" or better
Banner Corequisite(s):	
Banner Prerequisite(s) and/or Corequisite(s):	
Level	Undergraduate
Class	Senior
Program/Major	

Student attribute	
Catalog Course Description:	This course provides an experience in working on a software development project that requires technical knowledge. Students will work in teams of 3 or 4 to identify a problem, design a solution to that problem, and implement that solution. The solution must involve creating software and may involve also creating hardware.
Required Reading and Other Materials will be equivalent to:	Technical articles or books relevant to each group's problem domain
Specific, Measurable Student Behavioral Learning Objectives:	<ol style="list-style-type: none"> 1. Identify a real-world problem amenable to solution by software, perhaps with accompanying hardware. 2. Design a software solution to a given problem. 3. Analyze the feasibility of implementing a given software design. 4. Apply technical knowledge gained from courses and readings in the technical literature to a project. 5. Collaborate effectively as a team member. 6. Analyze and reflect, verbally and in writing, on a software development process.
Detailed Outline of Course Content (Major Topics and Subtopics) or Outline of Field Experience/ Internship	<ol style="list-style-type: none"> I. Identifying Real-World Problems <ol style="list-style-type: none"> A. Analyzing Legal, Social, and Ethical Impacts of a Proposed Solution B. Estimating the Feasibility of Solving a Problem II. Designing a Software Solution to a Problem III. Researching Technical Resources to Develop a Solution IV. Implementing a Proposed Solution in Software V. Refining the Scope of the Problem VI. Testing and Debugging the Software VII. Presenting the Project
Evaluation of Student Performance	<ol style="list-style-type: none"> 1. Peer and instructor evaluation of performance as a team member on the project 2. Instructor evaluation of the functionality of the project 3. Oral and written reflections on the development process 4. Oral and written presentation of the completed project
Distribution of Credit Hours	4 (4+0)
Senior Experience Designation The following criteria must be addressed for all courses seeking Senior Experience designation.	
The Senior Experience must allow students to: <ol style="list-style-type: none"> 1. synthesize learning through critical analysis and logical thinking. 	
Explain:	First, students must invent or recognize an appropriate problem for their project for this course, including critical analysis of social and ethical implications of their proposed artifact. Second, the project must be challenging enough, as judged by the instructor, that they will need to synthesize learning from a number of previous courses, including courses in computer science, mathematics, and science, in order to successfully complete it. Third, the requirement that they reflect on their on-going process and present their final product will require them to use expertise gained from the technical writing course and the public speaking course.

2. apply theoretical constructs to practical applications.		
Explain:	The core requirement of this course is that students use technical knowledge, much of which is theoretical in nature, to produce a software artifact that will solve a practical, real-world problem.	
3. critique philosophical tenets and current practices.		
Explain:	In analyzing possible problems, and later in examining possible solutions to arrive at the approach they will implement, students will need to consider the social and ethical impact of solving their proposed problem, and they will need to critique existing solutions to the problem.	
4. integrate and refine oral and/or written communication skills.		
Explain:	Throughout the course, students will be strengthening their oral and written communication skills by working in a team, writing and presenting reflections on their on-going development processes, and presenting their final project.	
5. verify their expertise.		
Explain:	The instructor will ensure that the problem proposed by the students presents an appropriate technical challenge, and the students will be required to produce a functioning solution to their problem, or an appropriately narrowed version of their problem, by the end of the course.	
Steps	Decision	Date
Originator		
Gerald Shultz	approve	10/03/2016 04:29PM
Department Curriculum Committee Chair		
Clark Dollard	approve	10/05/2016 03:19PM
Department Chair		
Lindsay Packer	approve	10/06/2016 10:43AM
Dean's Office Tracking Assignment		
Kelsey Smith	approve	10/06/2016 05:00PM
Senior Experience		
Gerald Shultz	approve	12/07/2016 03:31PM
Linda Lang-Peralta	approve	12/19/2016 04:56PM
Mona Mocanasu	approve	12/14/2016 10:49AM
Zsuzsa Balogh	approve	12/08/2016 03:33PM
Faculty Senate President		
Matthew Makley	approve	12/23/2016 08:24AM
AVP Academic and Student Affairs		
Bernice Harris	approve	01/05/2017 11:33AM