Metropolitan State University of Denver
Regular Course Syllabus

CS - 390P - Software Engineering Fundamentals

Status	completed
Originator	Jody Paul
Created	09/12/2016 04:57PM
Launched	09/12/2016 09:06PM
Tracking:	NLAS1617-37
Department	Mathematical and Computer Sciences, Department of
Prefix:	CS
Course Number:	390P
Course Type:	Computer Science
Course Title:	Software Engineering Fundamentals
Transcript Course Title:	Software Engr Fundamentals
Equivalent/ Crosslisted?	
List all equivalent courses:	
List all crosslisted courses:	
Check All That Apply:	Elective
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):	CS2050 with grade of "C" or better
Corequisite(s):	
Prerequisite(s) and/or Corequisite(s):	
Banner Prerequisite(s):	CS 2050 -- Grade C
Banner Corequisite(s):	
Banner Prerequisite(s) and/or Corequisite(s):	
Level	
Class	
Program/Major	
Student attribute	
Catalog Course Description:	This course introduces the enterprise of software engineering and establishes a foundation for further study and practice in the software engineering domain. Topics and concepts

	introduced in this course include: Software Development Life Cycles (SDLC) and SDLC Models; Object-Oriented Analysis, Design, and Programming; Design Patterns; Test-Driven Development; Code Quality Assessment using both Static and Dynamic Analyses; Principled Debugging; Source Code Management with Revision Control; Automated Build Management; and Software Development Teams. Students participate in software development experiences to reinforce acquired knowledge of the tecniques and tools introduced in the course.
Required Reading and Other Materials will be equivalent to:	*Essentials of Software Engineering, Third Edition* by Frank F. Tsui, et al. Jones & Bartlett (2013); ISBN 9781449691998 *Pragmatic Unit Testing in Java 8 with JUnit* by Jeff Langr, et al. Pragmatic Bookshelf (2015); ISBN 1941222595 *Version Control with Subversion* by B. Collins-Sussman, et al. svnbook.org (2016); Available Online http://svnbook.org *Debug It! Find, Repair, and Prevent Bugs in Your Code* by Paul Butcher Pragmatic Bookshelf (2009); ISBN 193435628X
Specific, Measurable Student Behavioral Learning Objectives:	Articulate fundamental software engineering principles and techniques Utilize basic software engineering techniques and tools Apply software engineering practices associated with source code management, build configuration, and testing Selectively employ appropriate computer-aided software engineering tools including static analyzers, test frameworks, and debuggers Evaluate software quality using established metrics
Detailed Outline of Course Content (Major Topics and Subtopics) or Outline of Field Experience/ Internship	1. Software Development Life Cycle (SDLC) and SDLC Models 2. Software Development Teams 3. Object-Oriented Analysis, Design (including Design Patterns), and Programming 4. Source Code Management & Revision Control 5. Code Quality Assessment (Static & Dynamic Analysis) 6. Test-Driven Development 7. Principled Debugging 8. Automated Build Management
Evaluation of Student Performance	1. Homework Assignments 2. Projects 3. Presentations 4. Examinations Written communication skills will be applied in this course.
Learning Objectives	
Distribution of Credit Hours	
Steps	
Originator	
Jody Paul	APPROVED 09/14/2016 05:00PM
Department Curriculum Committee Chair	

Clark Dollard	APPROVED	09/27/2016 03:53PM	
Department Chair			
Lindsay Packer	APPROVED	09/28/2016 08:11AM	
Dean's Office Tracking Assignment			
Cynthia Philbrook	APPROVED	09/28/2016 02:26PM	
Linda Lang-Peralta	APPROVED	09/28/2016 02:26PM	
Erica Buckland	APPROVED	09/28/2016 02:26PM	
Dean's Office Tracking Assignment			
Cynthia Philbrook	APPROVED	09/29/2016 03:45PM	
Associate Dean			
Linda Lang-Peralta	APPROVED	09/29/2016 05:50PM	