CSCI470: Software Engineering

1.	Course Prefix and number	CSCI 490
2.	Number of semester hours	3
3.	Pre-requisites	CSCI 250 and CSCI 330
4.	Location of classroom and time course meets	WS 118 12:00-12:50 Mon, Wed, Fri
5.	Intstructor Web Page	Dr. Warren MacEvoy http://www.coloradomesa.edu/~wmacevoy
6.	Office Hours	1:00-1:50 MWF, 11:00-11:50 Tue and 9:30-10:20 Thu
7.	Course Description	Exploration of the philosophy of software engineering. Software project planning, requirement analysis, software system design and strategies, software design tools, program and system testing, system maintenance, and economics are examined. Prerequisites: CSCI 250 and CSCI 330.
8.	Essential Learning Objectives	This is not an essential learning class.
9.	Textbook and Materials	*None*
10.	Course Objectives	Learn about the process of writing useable reliable maintainable software. objectives
11.	Policy on absences and tardies	Make up exams will only be given with advanced notification or very unusual circumstances. You are responsible for material given in class, including changes of schedule for exams.

12.	Policy on late work	Late projects cost 2 letter grades per day.
13.	Policy on academic dishonesty	You may be given a failing grade on a project or the course overall for academic dishonesty.
14.	Disability Arrangements	In coordination with Educational Access Services, reasonable accommodations will be provided for qualified students with disabilities. Please meet with the instructor the first week of class to make arrangements. Nancy Conklin, the Coordinator of Educational Access Services, can be contacted at 248-1826, or in person in Houston Hall, Suite 108.
15.	Evaluation and grading	Your grade will be made in two parts, one half will come from my assessment of your participation in the classroom, and one from your client. Your classroom grade will include a presentation of your work.
16.	Major assignments	You will make a final project and presentation for the course.
17.	Course Topics	See below

Week	Mon	Wed	Fri
17-Aug	Mon 18-Aug 1	Wed 20-Aug 2	Fri 22-Aug 3
24-Aug	Mon 25-Aug 4	Wed 27-Aug 5	Fri 29-Aug 6
31-Aug	Mon 01-Sep 7	Wed 03-Sep 8	Fri 05-Sep 9
7-Sep	Mon 08-Sep 10	Wed 10-Sep 11	Fri 12-Sep 12
14-Sep	Mon 15-Sep 13	Wed 17-Sep 14	Fri 19-Sep 15
21-Sep	Mon 22-Sep 16	Wed 24-Sep 17	Fri 26-Sep 18
28-Sep	Mon 29-Sep 19	Wed 01-Oct 20	Fri 03-Oct 21
5-Oct	Mon 06-Oct 22	Wed 08-Oct 23	Fri 10-Oct *Fall Break*
12-Oct	Mon 13-Oct 24	Wed 15-Oct 25	Fri 17-Oct 26
19-Oct	Mon 20-Oct	Wed 22-Oct	Fri 24-Oct

	27	28	29
26-Oct	Mon 27-Oct 30	Wed 29-Oct 31	Fri 31-Oct 32
2-Nov	Mon 03-Nov 33	Wed 05-Nov 34	Fri 07-Nov 35
9-Nov	Mon 10-Nov 36	Wed 12-Nov 37	Fri 14-Nov 38
16-Nov	Mon 17-Nov 39	Wed 19-Nov 40	Fri 21-Nov 41
23-Nov	Mon 24-Nov *Thanksgiving*	Wed 26-Nov *Thanksgiving*	Fri 28-Nov *Thanksgiving*
30-Nov	Mon 01-Dec 42	Wed 03-Dec 43	Fri 05-Dec 44
7-Dec	Mon 08-Dec *Finals*	Wed 10-Dec *Finals*	

Topics:

1. Traditional software engineering models
2. Modern software engineering models
3. Teams
4. Management
5. Agile Development
6. Source control
7. Tests
8. Deployment

Agile
CMMI
6 sigma
SCRUM
XP
RUP
SEI

Individual

http://en.wikipedia.org/wiki/Happiness

http://content.time.com/time/magazine/article/0,9171,2019628,00.html
http://sams.scientificamerican.com/article/using-money-to-buy-happiness/
http://www.huffingtonpost.com/2014/07/17/map-happiness-benchmark_n_5592194.html

http://www.ted.com/talks/shawn_achor_the_happy_secret_to_better_work.html

http://en.wikipedia.org/wiki/The_Seven_Habits_of_Highly_Effective_People

http://www.microsoft.com/business/en-us/resources/marketing/advertising-branding/5-tips-for-creating-an-elevator-pitch.aspx?fbid=Zpn78R03miE

http://www.chasedumont.com/when-to-cut-losses-the-guide/

Team
http://www.ted.com/talks/tom_wujec_build_a_tower.html

Team Management
http://www.dummies.com/how-to/content/the-essentials-of-managing-a-project-team.html

Beer - The Key Ingredient to Team Development
http://www.sans.org/reading_room/whitepapers/leadership/beer-key-ingredient-team-development_33104

http://en.wikipedia.org/wiki/Teamwork

http://en.wikipedia.org/wiki/Team_building

Dan Pink: The puzzle of motivation
http://www.ted.com/talks/dan_pink_on_motivation.html

Medical imaging case study

http://www.agilealliance.org/resources/learning-center/agile2012-keynote-dr-sunita-maheshwari

CMMI overview
http://www.tutorialspoint.com/cmmi/cmmi-maturity-levels.htm

Scrum
http://en.wikipedia.org/wiki/Scrum_(development)

Agile
http://agilemanifesto.org/
http://www.agile-process.org/

A Brief Survey of the Team Software Process (TSP)
http://www.sei.cmu.edu/library/assets/presentations/SEITECHFORUM_JM.pdf

XP
http://www.extremeprogramming.org/

RUP
http://www.ambysoft.com/downloads/managersIntroToRUP.pdf

Working with other peoples code
http://www.natpryce.com/articles/000756.html

Cowboy Coders
http://gamesfromwithin.com/cowboy-coders-and-the-hero-programmer-culture

Get Er Done
http://blog.bootstraptoday.com/2011/10/14/5-tricks-to-getting-things-done/

Mistakes
http://www.stevemcconnell.com/rdenum.htm

Software Development Mistakes
http://www.techrepublic.com/blog/10things/10-classic-mistakes-that-plague-software-development-projects/3187

Software Contract / Understanding

https://docs.google.com/document/d/1ikd4zwcUKxI2C5W92xnkiEWS3NoixQvUyUifolPgG_k/edit?usp=sharing

Code of Ethics
http://www.acm.org/about/se-code

Business/Entrepreneurship

https://www.coursera.org/course/startup

IP

http://www.nolo.com/legal-encyclopedia/how-protect-intellectual-property-rights-29913.html
http://www.shopify.com/blog/8437521-12-must-watch-non-ted-talks-for-entrepreneurs#axzz2tep2UhNp

Useful tools:

Git Started

Trello, Asana

Basecamp, Redboot, Pivotal Tracker, Assembla

GitHub, BitBucket

TortoiseSVN, TortoiseGit, SourceTree

Google+, Google Drive, Dropbox

Final Presentations

How did you develop a specification?
How did you design your solution?
How did you test your solution?
What design choices did you make?
What did you learn about on this project?
What did each team member contribute?

Client Feedback Letter