

# CS430 - Syllabus

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## 1. Course Description

<b>Lecture/Lab hours:</b> <a href="#">See schedule</a>	<b>Prerequisites:</b> CS150	<b>Required for:</b> None	<b>Course Credit:</b> 3
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Survey of software engineering and detailed study of topics from requirement analysis and specification, programming methodology, software testing and validation, performance and design evaluation, software project management, and programming tools and standards.

Software engineering is a very broad field. It encompasses virtually everything a person might want to know in order to develop software -- software that is correct, on time, and on budget. Most other computer science courses emphasize the technical foundations of software development, such as programming, algorithms, data structures, languages, etc. This course focuses on the pragmatic aspects, such as requirements analysis, cost estimation, design, team organization, quality control, configuration management, verification, and testing.

The field of software engineering has several areas, each of which could well justify an entire semester of study. Since this course is the only course on SE taken by many students, we will sacrifice depth for breadth.

The intent of this course is that students coming out should be familiar with the core concepts and jargon in each area, have gone into a little more depth on some areas, and have experienced an attempt at applying software engineering methods to an actual project, as a member of a team. [T.Baker]

## 2. Learning Outcomes

The course is a survey of the field of software engineering, with a practical component. Students leaving the course should:

- be able to explain and apply a broad range of concepts from software engineering, spanning all aspects the software engineering process
- be able to recognize, define, and make correct use of generally accepted software engineering terminology
- have experience of working as a member of a team on a software engineering project
- have experience applying a representative cross section of software engineering techniques

## 3. Topics

Topics covered in this course will include the following:

### Part One: The Product and the Process

- The Product

- The Process

## Part Two: Conventional Methods for Software Engineering

- System Engineering
- Analysis Concepts and Principles
- Analysis Modeling
- Design Concepts and Principles
- Architectural Design
- User Interface Design
- Component-Level Design
- Software Testing Techniques
- Software Testing Strategies
- Technical Metrics for Software

## Part Three: Object Oriented Software Engineering

- Object-Oriented Concepts and Principles
- Object-Oriented Analysis
- Object-Oriented Design
- Object-Oriented Testing
- Technical Metrics for Object-Oriented Systems

## Part Four: Managing Software Projects

- Project Management Concepts
- Software Process and Project Metrics
- Software Project Planning
- Risk Analysis and Management
- Project Scheduling and Tracking
- Software Quality Assurance
- Software Configuration Management

## 4. Textbooks

Title	ISBN# / Editor	Author	Priority
<a href="#"><u>Software Engineering</u></a>	0-321-31379-8 Addison Wesley	Ian Sommerville	Required
<a href="#"><u>Software Engineering: A Practitioner's Approach.</u></a>	0-07-285318-2 McGraw Hill	Roger Pressman	Optional

*Last updated:*

## Syllabus (cont)

<u>5. General Info</u>	<u>6. Evaluation</u>	<u>7. Grading</u>	<u>8. Rights</u>
<u>9. Attendance</u>	<u>10. Quizzes</u>	<u>11. Communication</u>	<u>12. Punctuality</u>
<u>13. Exams</u>	<u>14. Assignment</u>	<u>15. Participation</u>	<u>16. Remarks</u>

### 5. General Information

<b>Classroom:</b> Henry Hall - H121	<b>Email:</b> <a href="mailto:pmartins@chaminade.edu">pmartins@chaminade.edu</a>
<b>Instructor:</b> Dr. Martins	<b>Schedule:</b> <a href="#">mySchedule</a>
<b>Office Number:</b> <a href="#">Keiffer #26</a>	<b>Web:</b> <a href="http://cs.chaminade.edu/faculty/pmartins/">http://cs.chaminade.edu/faculty/pmartins/</a>
<b>Telephone:</b> (808) 739-4601	<b>Fax:</b> (808) 440-4249
<b>Office Hours:</b>	<a href="#">See schedule</a>
	<b>Extra Office Hours:</b> <a href="#">email me</a>

### 6. Evaluation

Evaluation	# Points	Tentative Dates
First test (T1)	10	
Second test (T2)	10	
Third test (T3)	10	
Final exam (T4)	10	<a href="#">See Schedule</a>
<a href="#">1st Assignment (A1)</a>	15	
<a href="#">2nd Assignment (A2)</a>	15	
Quizzes (QZ)	30	

- The final grade (FG) will be determined as follows:  $FG = (T1+T2+T3+T4)*10 + 30* Qn + 10* (A1 + A2)$ .
- For example, a student that obtained 10 points in the first test, 10 in the second test, 10 in the third test, a total of 7 points in the final exam, 30 in the quizzes, 10 in the first assignment, 14 in the second assignment, will

accumulate a total of 91 points (meaning a final grade A).

- Quizzes will be the mean average of all quizzes taken, scaled at 30%. It can be calculated as  $QZ = 3 * (Q1 + Q2 + Q3 + \dots + Qn)/n$ , where n is the total number of quizzes in this course. Each quiz will be graded in a scale from 0-10.
- For example, if there are five quizzes, then  $QZ = 3 * (Q1 + Q2 + Q3 + Q4 + Q5)/5$ .
- The final exam is **comprehensive**.

#### Special Rules and Other Notes:

1. The lowest grade **midterm test** (i.e. T1, T2 or T3) will be replaced by the final examination (T4), if and only if the final examination grade is greater than the lowest grade test.

This rule is based on the fact that the final examination is comprehensive, and is intended to motivate students who do not perform well on earlier exams to persevere and overcome those setbacks by further study. It also solves the problem of occasional emergencies which may cause a student to miss a midterm examination.

## 7. Grading

Grade	Interpretation	Points
A	Unusual degree of intellectual initiative.	90-100
B	Superior work done in a consistent and intellectual manner.	80-89
C	Average grade indicating a competent grasp of subject matter.	70-79
D	Inferior work of the lowest passing grade, not satisfactory for fulfillment of prerequisite course work.	60-69
F	Failed to grasp the minimum subject matter; no credits given.	00-59

## 8. Students Rights & Responsibilities

Please refer to the student rights and responsibilities in the Student Handbook.

## 9. Attendance

Experience has shown a high correlation between absenteeism and low grades. Role will be taken at each class. Attendance will be weighed in determining your final grade. Students are expected to attend all classes. If a student misses class, it will have the following adverse effect on his/her grade:

- Grade lowered by one grade if 7 times absent.
- Student will be withdrawn from the course, or take a grade of "F," if 10 or more times absent.

## 10. Quizzes

Pop quiz may be given at any time without advance announcement, if I get the impression students are not keeping up with the course. There will be no make-ups for quizzes, but the same forgiveness rule applies as for attendance.

## 11. Communication

If you are experiencing difficulty or are concerned about your progress, please contact me right away. Problems are usually easier to solve when they are addressed early.

You are required to verify that your e-mail address is included in the class e-mail list. I will send everyone a message at the start of the term. If you don't get that first message, make sure you are added to the list.

Check regularly for electronic mail sent to you containing information about this course. You are also encouraged to use e-mail to ask questions and report problems. As a Chaminade student you have an email account `firstInitial.LastName@student.chaminade.edu`.

Because of past problems with impersonation, I cannot reply to e-mails related to this course from other e-mail addresses.

This syllabus and other information, such as course announcements, assignments, lecture notes, and some useful links to other web sites, will be posted on the CS Department's web site for the course, which is located at <http://cs.chaminade.edu/faculty/pmartins>. Access to most of the materials on that site will require a special login name

and password, which I will provide to you via e-mail.

## 12. Punctuality

**Students.** Punctuality will also be weighed in determining your final grade. Students are expected to be on time for class. If a student is late to class (15 minutes or more) or leaves class early (15 minutes or more) , it will have the following adverse effect on his/her grade:

- Grade lowered by one grade if 7 times late or leaving class early.
- Student will be withdrawn from the course, or take a grade of "F," if 14 or more times leaving class late or early.

**Faculty.** I am normally punctual with classes. If in any circumstance I do not show up punctually, then you are expected to wait 15 minutes before considering the class cancelled and leaving.

A good time reference is the [official U.S. time](#).

## 13. Exams

Missed exams will not be covered with extra exams or make up exams. A missed midterm will be replaced by the final exam.

Students are not allowed to do exams before or after the set date. You know the date of all your exams, therefore it is expected that you organize your trips around these dates.

Upon receiving your graded exam you should check for any discrepancies. Complaints will not be accepted after you leave the classroom or if the exam was originally written using a pencil. If a discrepancy is found the entire exam will be revised and not only the problem found. A revision of an exam may increase or lower your grade.

You always have the entire class time to answer the exam. You should not expect any extension to this time.

Students are expected to do their own exam. Copying from each other or from published sources is prohibited. The penalty for copying on tests, exams or quizzes, or (also for sharing information about your test on a testing scenario) is:

- A zero mark for that item of evaluation (exam, quiz, etc), OR

- An F for the entire course.

## 14. Assignments

All assignments are due on the day indicated on them and must be turned in as specified. *Do not expect forgiveness for lateness. Whether to accept any late turn-ins of assignments will be entirely at my discretion.* If a late assignment is accepted, the score will ordinarily be reduced. The amount of the reduction will be entirely at my discretion, and may depend on how late the assignment is. In any case, no work will be accepted for grading after a solution is discussed or handed out, either in the class or on the web. Late submissions without a substantial reason such as illness will generally be subject to penalties as follows:

- Same day as due but after desired time.....03%
- Next day.....10%
- Two to four days:.....20%
- Five days or more:.....50%

There are certain expectations concerning the format and substance of assignments. They will be assessed based on the following criteria:

- Comprehensiveness. Elaborate as much as you can on the given issues or topics. Avoid giving short or incomplete answers.
- Originality. When formulating your answers, use your creativity (your own words, statements, programs etc..) i.e. avoid paraphrasing the text book.
- Correction. Needless to say, the ideal answer will be correct from a logical viewpoint.
- Organization. The structure, organization and clarity of the material that you present (program or document) is also part of the criteria for assessment and will also be considered in grading. Unless otherwise stated, only electronic document files are accepted - no handwriting please.

A major requirement of your programs is their coverage. No credit will be given for programs that cannot be compiled or

that do not work on any of the test cases. Beyond this, a significant portion of the credit will be determined by how many of the test cases, and also which of them, your program handles correctly.

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**Plagiarism.** While informal discussion is encouraged, students are expected to do their own work. Copying from each other or from published sources is prohibited, including "cut and paste" from websites. The penalty for copying on assignments is applicable to all parties involved, i.e. those who copy an assignment and those who share an assignment labeled "*individual*". It consists of a **zero mark for that item of evaluation for the first time, and an F for the course for the second occurrence**.

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**Backup.** Always keep a backup of all assignments and quizzes that you submit during the semester, in case you need to re-submit it later on.

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**Notifications.** Needless to say, it is your responsibility to notify your instructor as soon as possible of any events that may prevent you from doing your assignment (such as computer or application malfunctioning in one our labs, essential information missing or misrepresented in a web page and so on), so that the appropriate actions can be taken to address the problem.

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## 15. Participation

The study of much of Computer Science is cumulative (*i.e.*, understanding earlier material well is necessary to grasp later material. Do not allow yourself to fall behind, by postponing studying, and then figure you will jump ahead to catch up with the rest of the class.

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## 16. Remarks

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- **Copies.** All graded work will be returned in class for examination and taken back for the course records. Students who miss class are responsible for picking up their papers no later than one week after the start of the next semester. Work that is not picked up by then may be discarded. The one exception are final examinations. The original copies of all final examinations will be retained in the department for six months.
- **Note.** The contents of this syllabus can be changed with advance notification;
- **Class Meetings.** For a few of the scheduled days, shown in the course calendar, there may be no regular class because I am required to travel on University business. This class time will be made up by specially scheduled class meetings (to be arranged) in which students will demonstrate their projects for me and the other students who are able to attend. These meetings will be arranged at multiple times, if necessary, so that

every student can demonstrate his or her project.

- **Lab policy.** No eating or drinking in the labs. Eating or drinking in a computer based lab is considered obstruction of teaching, administration. Determination of whether a student is being obstructive or disruptive is left to the sole discretion of the faculty responsible for the class or activity. See attached [email](#) from Hg.

Last updated:

## Teaching Schedule

Time	MON	TUE	WED	THU	FRI
08:00	PROJECT	Office Hour	PROJECT	Office Hour	PROJECT
09:30	"	<a href="#">CS430</a>	"	<a href="#">CS430</a>	"
10:50	"	<a href="#">CS430</a>	"	<a href="#">CS430</a>	"
11:00	"	Office hour	"	Office Hour	"
12:30	"	<a href="#">CS410</a>	"	<a href="#">CS410</a>	"
01:50	"	<a href="#">CS410</a>	"	<a href="#">CS410</a>	"
02:00	"	PROJECT	"	PROJECT	"
03:20	"	"	"	"	"
04:50	"	CS ADMIN	"	"	"
05:00	"	"	"	"	"

- Note: This file contains all time-sensitive information for the courses I teach.

## Calendar

Week	Class	Day		Month
	01	Monday	15	January
	02	Tuesday	16	
Week 1	03	Wednesday	17	

	04	Thursday	18	
	05	Friday	19	
	06	Monday	22	
	07	Tuesday	23	
Week 2	08	Wednesday	24	
	09	Thursday	25	
	10	Friday	26	
	11	Monday	29	
	12	Tuesday	30	
Week 3	13	Wednesday	31	
	14	Thursday	01	
	15	Friday	02	
	16	Monday	05	February
	17	Tuesday	06	
Week 4	18	Wednesday	07	
	19	Thursday	08	
	20	Friday	09	
	21	Monday	12	
	22	Tuesday	13	
Week 5	23	Wednesday	14	
	24	Thursday	15	
	25	Friday	16	
	26	Monday	19	
	27	Tuesday	20	
Week 6	28	Wednesday	21	
	29	Thursday	22	
	30	Friday	23	
	31	Monday	26	
	32	Tuesday	27	
Week 7	33	Wednesday	28	
	34	Thursday	01	
	35	Friday	02	
	36	Monday	05	March
	37	Tuesday	06	
Week 8	38	Wednesday	07	
	39	Thursday	08	

	40	Friday	09	
	41	Monday	12	
	42	Tuesday	13	
Week 9	43	Wednesday	14	
	44	Thursday	15	
	45	Friday	16	
	46	Monday	19	
	47	Tuesday	20	
Week 10	48	Wednesday	21	
	49	Thursday	22	
	50	Friday	23	
	51	Monday	26	
	52	Tuesday	27	
Week 11	53	Wednesday	28	
	54	Thursday	29	
	55	Friday	30	
	56	Monday	02	April
	57	Tuesday	03	
Week 12	58	Wednesday	04	
	59	Thursday	05	
	60	Friday	06	
	61	Monday	09	
	62	Tuesday	10	
Week 13	63	Wednesday	11	
	64	Thursday	12	
	65	Friday	13	
	66	Monday	16	
	67	Tuesday	17	
Week 14	68	Wednesday	18	
	69	Thursday	19	
	70	Friday	20	
	71	Monday	23	
	72	Tuesday	24	
Week 15	73	Wednesday	25	
	74	Thursday	26	
	75	Friday	27	

	76	Monday	30	
	77	Tuesday	01	May
Week 16	78	Wednesday	02	
	79	Thursday	03	
	80	Friday	04	

## Final Examination Schedule

Class Day	Class Time	Exam Day	Exam Time
TR	9:30 - 10:50 AM	Monday, Week 16	8:00 - 10:00 AM
MWF	9:00 - 9:50 AM	Monday, Week 16	10:30 - 12:30 PM
MWF	2:00 - 2:50 PM	Monday, Week 16	12:45 - 2:45 PM
ALL EN *	-----	Monday, Week 16	3:00 - 5:00 PM
TR	8:00 - 9:20 AM	Tuesday, Week 16	8:00 - 10:00 AM
MWF	1:00 - 1:50 PM	Tuesday, Week 16	10:30 - 12:30 PM
TR	12:30 - 1:50 PM	Tuesday, Week 16	12:45 - 2:45 PM
ALL JA, SPN*	-----	Tuesday, Week 16	3:00 - 5:00 PM
TR	11:00 - 12:20 PM	Wednesday, week 16	8:00 - 10:00 AM
MWF	11:00 - 11:50 AM	Wednesday, week 16	10:30 - 12:30 PM
TR	2:00 - 3:20 PM	Wednesday, week 16	12:45 - 2:45 PM
MWF	4:00 - 4:50	Wednesday, week 16	3:00 - 5:00 PM
MWF	8:00 - 8:50 AM	Thursday, week 16	8:00 - 10:00 AM
MWF	10:00 - 10:50 AM	Thursday, week 16	10:30 - 12:30 PM
MWF	3:00 - 3:50 AM	Thursday, week 16	12:45 - 2:45 PM
TR	3:30 - 4:50 PM	Thursday, week 16	3:00 - 5:00 PM

## Office Hours

T,Th	11:00 - 12:00	+	appointment via	<a href="#">email</a>