EIN 4517 Systems Engineering, TR 12:00-13:15, HEC - 0118,

Instructor: Dr. Petros Xanthopoulos e-mail: webcourses email

T.A.: Tabitha Arcila e-mail: webcourses email

Credit hours: 3 (3,0)

Lecture: TR 12:00-13:15, Room: HEC 0118

Lab: On selected Thursdays (see course plan) Room: Engr II - 313

Office Hours:

- Instructor: TR 9:30am-12:00pm, Engr II - 424 or by appointment.
- T.A.: T 2-4 pm room: Engr II 217 - (after Jan 25)

Textbook: J. Holt and S. Perry *SysML for Systems Engineering* IET, ISBN: 978-0-86341-825-9 Publisher's webpage: `http://www.theiet.org/resources/books/computing/sysml.cfm`

Prerequisites: STA 2023 or STA 3032 or instructor's consent.

Course Goals:

- To give student basic understanding of systems engineering science.
- To introduce the student to the basic principles of system modeling.
- To help student identify the main applications and challenges of systems engineering.
- To provide the student with basic software knowledge of the system modeling language (sysML) for modeling real world systems.

Topics to be Covered: Introduction to systems engineering, introduction to sysML, systems modeling, sysML diagrams, modeling requirements, physical systems, interfaces and constraints, process modelling

Important Dates:

- January 12, no class due to scheduled participation of instructor in a local workshop.
- February 2, One page project proposal submission deadline.

- March 13, 15, Project Interim report meeting - no lecture this day, each group will meet with me separately.
- April 5, Final Exam - in class
- April 10, 12 Final project presentation preparation, there will be no lecture but there will be office hours.
- April 17, 19, Final Project presentation - no lecture these day, each group will meet with me separately.

For a detailed list of university wide important dates check the registrar's webpage:

`http://www.registrar.ucf.edu/calendar/academic/2012/spring/`

Course plan:

Date	**Related Material/ Activity**	**Related Textbook Chapter**	Lab
Jan 10,12	Introduction to SE	Ch1	No
Jan 17,19	Introduction to sysML, Modelling	Ch2, Ch3	No
Jan 24, 26	The sysML Diagrams	Ch4 (4.1-4.5)	Yes
Jan 31, Feb 2	The sysML Diagrams	Ch4 (4.6-4.7)	Yes
Feb 7, 9	The sysML Diagrams	Ch4 (4.8-4.9)	Yes
Feb 14,16	The sysML Diagrams	Ch4 (4.10-4.11)	Yes
Feb 21, 23	The sysML Diagrams	Ch4 (4.12-4.13)	Yes
Feb 28, Mar 1	Modeling requirements	Ch7	No
Mar 6, 8	**Spring break**		No
Mar 13, 15	Project Interim report meetings		No
Mar 20, 22	Physical Systems, Interfaces and Constraints	Ch5	Yes
Mar 27, 29	Process modelling	Ch6	Yes
Apr 3, 5	Review session, **Final Exam**		No
Apr 10,12	Preparation for Final Project Presentation		No
Apr 17,19	**Project Presentations**		No

Assignments and Exams Policy:

- Grading will be based on homeworks, exams and a term project (see section below for details).
- There will **NOT** be extra credit assignments.
- Exam will be in class and open books. However no computer or other collaboration will be allowed.
- There will be no make-up exams or quizzes unless you have a serious reason (e.g., illness with a doctor's report, jury duty or unexpected accident or a prescheduled participation in a international/national conference/meeting related to your major) and in such cases, you must notify as early as possible and **always** provide appropriate documentation.
- Late homework submissions will not be accepted and you will get a credit of 0. Homework policy is non-negotiable.
- Each student will work in groups of 2 for the homework's. Should some submitted homework assignments be identical or suspected to be identical between two or more groups, all involved parties will get a grade of 0 on the particular homework assignment. For more info refer to **Plagiarism & Cheating** section.
- If you have any question about your homework grade you should first talk to the TA. if the issue cannot be resolved then you can ask me to regrade the assignment.
- Requests for regrading of assignments and exams will be considered only within a one-week period from the time graded work is returned in class. Regrading can result in higher same or lower grade. Grades will be posted on Webcourses@UCF.
- Your homeworks, exams will be returned to you as soon as they are graded. Please keep your graded work for your records. You have to ensure that the grades are posted correctly and if you claim an error in the gradebook, you have to provide the graded work.
- You are responsible for checking the announcements, printing the assignments and reading material from the class web page located at Webcourses@UCF.

Grading: The grading will be based on Homeworks (30%), Project (40%) and Final Exam (30%).

- There will be approximately 4-5 HWs submitted in groups of 2 students
- The project grade will be
  - Project one page proposal (5%)
  - Project interim report (25%)
  - Project final report & presentation (40%)
  - Peer evaluation (30%)
- The final exam will be in class closed books, no collaboration allowed.

Final Grade: The final grade will be assigned as follows:

Letter Grade	Percentage	Grade Point Value
A	90-100%	4.00
A-	87-89%	3.75
B+	84-86%	3.25
B	80-83%	3.00
B-	77-79%	2.75
C	76-70%	2.00
D	69-0 %	

Rounding Policy: Non integer percentages will be rounded to the closest integer (e.g. 87.5 % will become 88% and 81.3% will become 81%). Rounding will be applied only on the final grade.

Classroom Policy:

- Attendance is recommended but not required. No credit is given or subtracted for attendance.
- Students are responsible for announcements and material covered in class.
- Cell phones, loud music and noisy behaviors are not allowed.

Internet Usage: You will be expected to have daily access to the internet and email, since I will be emailing you constantly about assignment updates, additions and changes. All students at UCF are required to obtain a Knight's Email account and check it regularly for official university communications. If you do not own a computer, there are computer accessible to you in all UCF's computer labs, and most computer labs have computers connected to the internet. For further information on computer labs, please see the following website:

`http://registrar.sdes.ucf.edu/webguide/index_quickfind.aspx`.

Dissability Policy: The University of Central Florida is committed to providing reasonable accommodations for all persons with disabilities. Students with disabilities who need accommodations in this course must contact the professor at the beginning of the semester to discuss needed accommodations. No accommodations will be provided until the student has met with the professor to request accommodations. Students who need accommodations must be registered with Student Disability Services, Ferrell Commons Room 132, phone (407) 823-2371, TTY/TDD only phone (407) 823-2116, before requesting accommodations from the professor.

Use of Webcourses@UCF: For this class we will be using Webcourses@UCF for certain parts of the class. Webcourses is an online course management system (accessed through my.ucf.edu

and then the "Online Course Tools" tab) which will be used as a medium for downloading course material and turning in assignments. My recommendation is to check Webcourses every 2-3 days for updates.

Plagiarism & Cheating: UCF faculty support the UCF Creed. Integrity - practicing and defending academic and personal honesty - is the first tenet of the UCF Creed. This is in part a reflection of the second tenet, Scholarship: - I will cherish and honor learning as a fundamental purpose of membership in the UCF community. - Course assignments and tests are designed to have educational value; the process of preparing for and completing these exercises will help improve your skills and knowledge. Material presented to satisfy course requirements is therefore expected to be the result of your own original scholarly efforts. Plagiarism and cheating - presenting anothers ideas, arguments, words or images as your own, using unauthorized material, or giving or accepting unauthorized help on assignments or tests - contradict the educational value of these exercises. Students who attempt to obtain unearned academic credentials that do not reflect their skills and knowledge can also undermine the value of the UCF degrees earned by their more honest peers.

Disclaimer: This syllabus may be modified at the discretion of the instructor. Changes will be discussed in class and/or via email.