UNIVERSITY OF SOUTH FLORIDA
SARASOTA-MANATEE

Program in Information Technology

COP3515

IT Program Design

Spring 2012
3 Credit Hours

University of South Florida – Sarasota/Manatee
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University of South Florida – Sarasota/Manatee
Course Syllabus – Spring 2012

Course Number:	COP3515
Classroom:	Every **Tuesday 6:00 pm – 8:50 pm** The class is completely online via Elluminate. If we have students with compelling needs for a physical classroom and face-to-face interactions, a room will be identified for them. The rest of the students can continue to be online.
Course Name:	**IT Program Design**
Learning Outcome:	Concepts associated with the design and implementation of computer programs are studied, with emphasis on creation of object-oriented programs to be developed and maintained in a variety of environments from small to large information technology organizations. Students will learn and use the UML design language – the course has been extended to develop this expertize.
Instructor:	Dr. Sunita Lodwig
Office:	C266 **e-mail:**slodwig@sar.usf.edu Phone: 941-966-1260
Office Hours:	By appointment! We can meet face-to-face at school in my office, or we can meet in my virtual office via Elluminate. **Best way to contact me is via email. Please send course-related email from BlackBoard only. I receive close to a 100 messages a day, and it is very easy for important emails to get buried. Email from BlackBoard is flagged by Course Number and is easier to spot and respond to.** **In case you need to reach me very quickly, my home phone number is 941-966-1260.**
Required Materials:	**Stephen R. Schach, *Object-Oriented Classical Software Engineering, Seventh Edition*. McGraw-Hill Irwin, 2004 ISBN 0-07-319126-4.** This text will be used extensively in this course; it will be a practical necessity for students to obtain and use it. **Cautionary note: Make sure you buy the 7th edition and not the 8th! It is available but its emphasis on the OO approach and UML has been diluted, so please do not buy it!**
Supplemental Materials:	Matt Weisfeld, *The Object-Oriented Thought Process 2nd edition.* Sams Publishing, 2004 ISBN 0-672-32611-6. *Schaum's Outline of UML* (Schaum's Outlines) (Paperback) by

	Simon Bennett, John Skelton, Ken Lunn Other materials will be shared in class.
Prerequisites:	Working knowledge of Object-Oriented Programming.
Attendance Policy:	Class attendance is optional. However, the course moves through the material at a rapid pace, and each topic builds on the ones that preceded it. Catching up is difficult, and attempting to "cram" the material will surely lead to failure to adequately grasp it. Therefore, students are responsible for their class attendance, online or offline, and are **strongly advised that falling behind will affect their grades** (see Performance Evaluation and Grading).
Performance Evaluation and Grading:	Student performance will be evaluated based on class participation (either in-class or via the Discussion Board), two exams, and assignments. Late assignments will be accepted but only upto a point. Once an assignment has been discussed in class, it will no longer be accepted. Also, please note, late assignments will be penalized by a loss of 5 points (could be as much as 25% of the grade). The relative weights for each of these components in determining the final grade are as follows: Exercises and Assignments 60% 2 Tests (mid-term & Final) 30% In-class and online participation 10% **Total** 100% A grade will be determined based on the total of possible points earned, as follows: A 90-100; B 80-89; C 70-79; D 60-69; F 0-59.
Important Date	Last day to Withdraw from Course: March 24th

COURSE OBJECTIVES

The goals for this course are:

- To attain a thorough understanding of the object-oriented paradigm and its application to object-oriented systems analysis and design.
- To understand and apply the Unified Process methodology of object-oriented systems analysis and design, including the workflow stages and the artifacts to be produced.
- To apply the Unified Modeling Language (UML) CASE tool to a few case study scenarios and produce the design artifacts required by the methodology. Students will perform several assignments using UML in a wide range of applications.
- To implement (prototype) the system designed in a suitable object-oriented programming language.

On completing this course, each student should be able to:

- Compare and contrast the object-oriented paradigm with the traditional view of systems analysis and design.
- Apply the Unified Process methodology and the Unified Modeling Language (UML) graphical tool set. Develop expertize in using UML appropriately.
- Identify and describe the workflow steps for requirements determination, object-oriented analysis, and object-oriented design.
- Explain the role of teams in the analysis, design and implementation processes.
- Identify and describe the various stages of testing during object-oriented analysis, design, and implementation.
- Explain the importance of the maintenance phase of the O-O life cycle, and how this is made easier by application of the methodology and tools learned throughout this course.
- Explain the need for suitable interface design in O-O systems.

COURSE DESCRIPTION AND SCHEDULE

Week #	Topic	Chapter #
Introduction to Software Engineering		
Week 1 – Jan 8	Introduction – review syllabus Strengths of the objected-oriented paradigm Load StarUML on home computers from http://staruml.sourceforge.net/en/	1
Week 2 – Jan 15	Iterative-and-incremental life-cycle model, and other models Software Process – Workflows and Unified Process Discussion on StarUML	2 3
UML and the Unified Process		
Week 3 – Jan 22	From Modules to Objects	7
Week 4– Jan 29	Requirements workflow	10
Week 5 – Feb 5	**TEST**	
Week 6 – Feb 12	Object-Oriented Analysis	11,12
Week 7 – Feb 19	Object-Oriented Analysis	11,12
Week 8 – Feb 26	Design Workflow	13
Week 9 – Mar 4	More on UML	16
Spring Break		
Major Topics in Systems Analysis, Design, Implementation, Maintenance		
Week 10 – Mar 18	CASE Tools	5
March xxxx	Last day to Withdraw from Course	
Week 11 – Mar 25	Implementation	14
Week 12 – Apr 1	Postdelivery maintenance	15
Week 13 – Apr 8	Teams	4

Week 14 – Apr 15	**Testing**	6
Week 15 – Apr 22	Catch-up	
Week 16 – Apr 29	**FINAL**	
Please note this is a tentative schedule – some shifting could occur as we progress into the semester		

INSTRUCTIONAL METHODOLOGY AND GRADING POLICY

Instructional methodology: The Blackboard on-line course tools package, which may be accessed from campus computer labs and via the Internet at https://my.usf.edu, will be used to enhance the course. All that is required is Internet access and a reasonably up-to-date web browser. Except for response speed, there should be no difference in functionality between accessing from a lab and from home. Any exceptions to this will be announced as they become apparent. If you are new to Blackboard, please review the Blackboard tutorials at:

www.sarasota.usf.edu/CampusComputing/Documents/ CC_Student_Resources.php

If you need technical assistance with Blackboard, the following two modes of help are available:

- Toll-free Helpline: 866-974-1222
- Live online help: http://usfsupport.custhelp.com/cgi-bin/usfsupport.cfg/php/enduser/chat.php

Grading Policy: Student and instructor presentations, demonstrations, discussions, and hands-on use of computer tools to complete exercises and assignments. Students will also be expected to access web sites focused on program design techniques to research current issues, then report back to the class on their findings.

Two exams. Each of these exams is worth 15% of your grade (30% in all). The exams are not cumulative - each covers only the topics indicated, although an understanding of earlier material may be a practical necessity for understanding and solving problems on new material. There will be no makeup exams!

Quizzes & assignments will be required regularly. You should submit all work on time. Tardiness in submission will be penalized (and, as announced for some assignments, not permitted). These will be worth a total of 60% of your grade. As assignments and quizzes will occur as we complete corresponding topics in the course, and how quickly we cover those topics can vary, dates for these assessments cannot be given in advance.

Participation in on-line discussions constitutes 10% of your grade. You are expected to frequently review the Blackboard discussion function and take part in discussions of assigned topics. It is anticipated that there will be several discussion topics during the course, with announced (and possibly overlapping) participation timeframes. Participation that occurs after the closing participation date for a topic will not be counted for credit!

Class Attendance: As mentioned earlier, class attendance is optional. However, it is my observation that final course grades tend to be positively correlated with regular class attendance, even in the absence of any credit for attendance, because understanding of the material is best gained through a combination of exposures to the material, of which course lecture is an important one. In any event, you are responsible for the material covered in class, any announcements, schedule

changes, etc. Absenteeism is not an excuse for late work or missed exams unless approval from your instructor is obtained in advance.

Incomplete Grade: An Incomplete grade in the course is reserved for those with **good reason** for having missed a little bit of the work, and a completion plan agreed to by the student and instructor during the course, as circumstances require. Otherwise, exams not taken or assignments not turned in will receive a zero for that grade, and the course grade assigned accordingly.

STATEMENT ON ACADEMIC HONESTY

The instructor of this course trusts that all students behave in strict compliance with accepted standards of academic honesty. A conscious effort is made to ensure that grading standards are fair, and that anyone who makes an honest and consistent attempt to do well in the course will succeed, as, by this time in your degree program, it is expected that you are capable of doing the work. There will be no tolerance for anyone who attempts to "succeed" by dishonest routes.

Academic honesty includes, but is not limited to:

- Honesty in taking examinations – all exams are to be taken on an individual basis.
- Honesty in completing your assignments yourself or with your team member, as the case may be. There is no objection to some degree of helpful collaboration in completion of assignments; often a rough spot can be overcome with a helpful word. But assignments passed in for grading must be substantially one person's - the submitter's - work. Please note that in many of the assignments for this course, it will be fairly obvious to the instructor when students have collaborated beyond a reasonable degree (having exactly the same wrong answer, for example, is usually a dead giveaway).
- Honesty in attributing others' work. In all submitted work, including papers and presentations, ideas, concepts and quotations obtained from other persons' works must be properly attributed. Not doing so constitutes theft of intellectual property.
- Consequences for violating this trust will be severe. Credit will not be given for any work that does not meet the above criteria. In an extreme violation or repeated violations, a failing grade in the course for reasons of academic dishonesty is an appropriate and reasonable penalty.

USF Sarasota-Manatee Policies and Procedures

Religious Observances

The University recognizes the right of students and faculty to observe major religious holidays. Students who anticipate the necessity of being absent from class for a major religious observance must provide notice of the date(s) to the instructor, in writing, by the second week of classes. http://generalcounsel.usf.edu/policies-and-procedures/pdfs/policy-10-045.pdf

Disabilities Accommodation

Students are responsible for registering with the Office of Students with Disabilities Services (SDS) in order to receive academic accommodations. Reasonable notice must be given to the SDS office (typically 5 working days) for accommodations to be arranged. It is the responsibility of the

student to provide each instructor with a copy of the official Memo of Accommodation.
www.sarasota.usf.edu/Students/Disability/
Contact Information: Pat Lakey, Coordinator 941-359-4714
plakey@sar.usf.edu

Academic Dishonesty
The University considers any form of plagiarism or cheating on exams, projects, or papers to be unacceptable behavior. Please be sure to review the university's policy in the catalog, USFSM Undergraduate Catalog or USFSM Graduate Catalog and the USF Student Code of Conduct.
Undergraduate: http://www.sarasota.usf.edu/Academics/Catalogs/
Graduate: http://www.sarasota.usf.edu/Academics/Catalogs/
USF Student Code of Conduct: http://www.sa.usf.edu/srr/page.asp?id=88

Academic Disruption
The University does not tolerate behavior that disrupts the learning process. The policy for addressing academic disruption is included with Academic Dishonesty in the catalog:, USFSM Undergraduate Catalog or USFSM Graduate Catalog and the USF Student Code of Conduct.
Undergraduate: http://www.sarasota.usf.edu/Academics/Catalogs/
Graduate: http://www.sarasota.usf.edu/Academics/Catalogs/
USF Student Code of Conduct: http://www.sa.usf.edu/srr/page.asp?id=88

Contingency Plans
In the event of an emergency, it may be necessary for USFSM to suspend normal operations. During this time, USFSM may opt to continue delivery of instruction through methods that include but are not limited to: Blackboard, Elluminate, Skype, and email messaging and/or an alternate schedule. It's the responsibility of the student to monitor Blackboard site for each class for course specific communication, and the main USFSM and College websites, emails, and MoBull messages for important general information. The USF hotline at 1 (800) 992-4231 is updated with pre-recorded information during an emergency.

Emergency Preparedness
It is strongly recommended that you become familiar with the USF Sarasota-Manatee Emergency Action Plan on the Safety Preparedness site
http://www.sarasota.usf.edu/facilities/SafetyPreparedness.php

Fire Alarm Instructions
At the beginning of each semester please note the emergency exit maps posted in each classroom. These signs are marked with the primary evacuation route (red) and secondary evacuation route (orange) in case the building needs to be evacuated.