COURSE OUTLINE

COURSE NUMBER: DIT 15566 1301

COURSE NAME: OBJECT-ORIENTED ANALYSIS LEVEL 2: O-O ANALYSIS

INSTRUCTOR: CLAUDIO SOUSA

INSTRUCTOR CONTACT: claudio@claudiosousa.com

DATES & TIMES: April 10 - May 8, 2013
8 Mondays/Wednesdays
6:00pm – 9:00pm
*No Class April 29th

TEXTBOOKS:
UML A Beginner's Guide,
Jason Roff; McGraw-Hill Osborne Media,

OPTIONAL TEXTBOOK:
Learning UML 2.0, Miles & Hamilton

COURSE WEBSITE:
www.claudiosousa.com/courses

COURSE DESCRIPTION:
This course introduces object oriented analysis techniques that can be applied to both business and system modeling. Upon successful completion of this course, learners will be familiar with the following concepts:
• Object Oriented Requirements Gathering and Analysis
• Modeling System Structures, Information and Process using OO techniques
• All core/essential elements of UML used to decompose and analyze systems.

COURSE OBJECTIVES:
Upon Successful completion of this course, learners will be familiar with the following techniques:
• Use Cases
• Class Diagramming and Domain Modeling
• Process Modeling with Activity and Sequence Diagram
**DISCLAIMER:**
Please consider this course outline as a general guide. Time constraints and other unforeseen factors may require some adaptation of the course materials.

**LECTURE SCHEDULE:**

<table>
<thead>
<tr>
<th>Unit / Schedule</th>
<th>Description/Abstract</th>
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<tbody>
<tr>
<td>1: Modeling to Reflect Scope of Your Project</td>
<td>A number of UML diagrams are particularly useful for illustrating the functional and architectural boundaries of your project. This unit will teach you which modeling techniques to use, how to avoid making them too detailed, and more importantly, how to prepare and present them effectively.</td>
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<tr>
<td>2: Modeling and Documenting the Requirements of a System</td>
<td>Use Case technique is at the heart of all systems that are modeled using object-oriented technique. This unit will go deep into use case technique and examine key principles, pitfalls, and benefits of this technique. Non-functional requirements will also be discussed.</td>
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<tr>
<td>3: Understanding the Problem and System: Domain Modeling and Analysis Class Modeling</td>
<td>The Domain Model, a subset of RUP’s business analysis model, is used to understand and express a system-agnostic view of key business information and concepts. The term “domain model” generally refers to a model that conveys an understanding of how things (concepts, people, information) that are relevant to the problem are related. The domain model is the foundation of analysis and design. In this unit, we will learn how to establish a domain model and develop an analysis class model from it. Object diagrams will be used to show examples of classes at work.</td>
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<tr>
<td>4: Process Modeling in UML</td>
<td>This unit will establish competency with three UML diagraming techniques: (1) sequence diagrams; (2) activity diagrams; and (3) state-transition diagrams. The context of how and where these diagrams can be applied will be explored. The UML communication diagram, interaction overview diagram will also be introduced.</td>
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<td>5: Modeling the Business*</td>
<td>Establishing a clear picture of the business processes and related structures is key for projects that include a process re-engineering effort or where understanding the business process is essential for establishing the role of the system. The techniques of object-oriented analysis can be applied to pure business analysis/re-engineering efforts.</td>
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<td>6: Putting it All Together</td>
<td>With the multitude of models and techniques, it is easy to get lost in them and lose sight of how they relate to one another. Modeling tools help us keep these things organized and offer a good visual way to understand how the models relate to one another.</td>
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GRADING OPTIONS:
*Letter-graded:* Students must choose the letter-graded option in order to apply a course towards credit in a PACE diploma or certificate program.

*Non-graded:* Students who do not wish to be graded may elect to receive a certification of participation as record of attendance in a specific course or seminar.

MINIMUM GRADE:
Students must receive a minimum grade of “C”, or better, in all courses within the program requirements to graduate.

ACCESSING FINAL GRADE RESULTS:
Final grades for this course will be posted on WebAdvisor. To access your WebAdvisor account, please refer to the user name and password letter for instruction. Please contact the Registration Office if you have not received this information from the University or contact the Help Desk at 204-786-9149 or help.desk@uwinnipeg.ca to reset your account if you have lost this information.

MINIMUM ATTENDANCE REQUIREMENT:
Students must attend a minimum of 75% of the total course hours to meet the minimum attendance requirements and be eligible for a letter-grade in this course. Students, whose attendance falls below the minimum attendance requirement, must consult with an Information and Communication Technology Studies Program Coordinator regarding the academic process for continuing in this course.

METHOD OF EVALUATION:

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<tr>
<th>VALUE</th>
<th>ITEM OF WORK</th>
<th>DETAILS</th>
<th>DATE</th>
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<tbody>
<tr>
<td>40%</td>
<td>Final Exam</td>
<td><strong>Final Test Format</strong>&lt;br&gt;Part 1: Multiple Choice (closed book)&lt;br&gt;  - Approximately 10 Questions  &lt;br&gt;  - Focused on Concepts &amp; Understanding Terminology&lt;br&gt;Part 2: Short Answer (closed book)&lt;br&gt;  - Approximately 5 Questions to Choose From&lt;br&gt;  - Student Completes Two Questions&lt;br&gt;  - Focused on testing if you are able to explain similarities or differences between concepts.&lt;br&gt;Part 3: Creating Models for Aspects of Systems (open book)&lt;br&gt;  - Given a starting point/case study, students will need to rapidly develop models of a system.</td>
<td>Final Class</td>
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Assignment 1: Use Case Technique
Application of use case technique
Due April 22

Assignment 2: Domain Modeling
Modeling information concepts using class diagrams
Due April 29

Assignment 3: Process Modeling
Modeling business and system processes in UML.
Due May 6

DEFERRED EXAMINATION REQUESTS:
All examinations should be written at the time specified by the University.

Please note that the University may grant an examination deferral based on extenuating circumstances, such as documented illness or health reasons, severe personal difficulties, religious observance, or for other unforeseen circumstances. Under these circumstances, students should notify the University prior to the start of the exam session (wherever possible) and request a deferred examination through the formal accommodation process.

To formalize the request for academic accommodation, students must submit a Deferred Examination Request Form, the appropriate verification (such as a medical certificate or an obituary, etc.) and the administrative fee to the PACE Registration Office within five (5) days of the original examination date. Students may download this form from the PACE website at pace.uwinnipeg.ca or obtain a copy from the PACE Registration Office.

When students attempt an examination even though they are not fit to do so, the examination results will normally stand. Under some extenuating circumstances, students may petition the PACE Academic Review Committee to make exception to academic regulation to dismiss the original examination results and request permission to re-write the examination on grounds of illness along with the appropriate verification (see above).

CLASS PARTICIPATION:
Participants are expected to attend all classes and contribute to class and group discussion by sharing their own ideas. Participation includes asking questions, clarifying information, and being an equal contributor to class discussion.

Class participation will be measured by the following factors:
- Attendance and prompt arrival
- Preparation for class
- Positive participation in class discussions

POLICY FOR LATE ASSIGNMENTS:
All assignments will be given a due date. Students must comply with this deadline and submit their assignments on time in order to avoid a late penalty.

Special consideration may be given to students who, for unforeseen or exceptional circumstances, are not able to meet the deadline as assigned.
VOLUNTARY WITHDRAWAL:
Students can voluntarily withdraw from a course up to the 75% point in the class without any academic penalty. It is the student’s responsibility to withdraw from classes to ensure no academic penalties are incurred.

PLAGIARISM:
In the matter of plagiarism, please be aware that a student may not submit the same item of work for credit in two different courses. If you are referring to a document, article, book, news clipping or other media source, you should refer to the source in your exam or in your assignment. Grades, for any item of work where plagiarism or cheating is suspected, will be withheld until the issue is resolved.

Plagiarism may consist of, but is not limited to:
- Copying the work of another individual;
- Using unauthorized materials during an exam;
- Collaborating with another student during the exam;
- Collaborating with other students on individual assignments (including brainstorming) without an instructor's knowledge or consent;
- Plagiarizing, and/or paraphrasing in order to represent a piece of work as your own;
- Falsifying or modifying an exam document or another item of work without authorization in order to obtain additional credit;
- Using, buying, selling, stealing or soliciting any of the contents of an exam;
- Taking a test for another student or permitting another student to take a test for oneself.
- Refrain from using all forms of electronic communication devices (including cell phones, translation devices, tablets, laptops, etc.) during an examination or testing situation.

UNAUTHORIZED COLLABORATION:
Individual assignments call for the independent work. Unauthorized collaboration occurs when two or more students work together without the permission of an instructor and submit similar items of work for grading on an individual assignment.

Unauthorized collaboration is a form of plagiarism and may result in an academic penalty of "0" being applied against the item of work in question and, in extreme cases, academic suspension.

Please consult the course instructor for clarification on any matter concerning academic plagiarism.

SPECIAL NEEDS IN THE CLASSROOM:
Students should notify the Information and Communication Technology Studies Program office of any special need based on a physical or mental disability or other protected characteristic under The Human Rights Code that requires accommodation in the classroom. The University may require medical or other relevant information to consider the accommodation request. Lack of sufficient notice of a need for accommodation may make providing the accommodation an undue hardship for the University; students are encouraged to identify their need for reasonable accommodation at as early a date as possible.
RECORDING THE CLASS:
The University of Winnipeg, Professional, Applied & Continuing Education generally prohibits the use of audio or digital technology to record course lectures without the instructor's prior consent.

PACE will try to accommodate special learning requirements, based on the protected characteristics defined under the *Manitoban Human Rights Code*, and given reasonable diagnostic and/or medical documentation and the University's Disability Services requirements.

These recordings may not be used to substitute attendance in accordance with the PACE Minimum Attendance Requirement for Graded Standing.

Instructors own the intellectual property, and therefore the copyright, of all lecture content. Students may not reproduce, distribute, or use these recordings beyond the purpose of private study.

Unauthorized recording constitutes grounds for academic misconduct.

PERSONAL CONDUCT IN THE CLASSROOM:
Students are expected to:

- Arrive promptly and attend class in accordance to the scheduled course hours.
- Respect the individual right to engage in class discussion without monopolizing "air time".
- Respect individual learning needs by avoiding activities that distract from a productive learning environment such as side conversations, eating noisy or aromatic food, and frequent coming and going from the classroom.
- Conduct oneself professionally at all times and refrain from behaviour such as swearing, shouting, bullying, or intimidation.
- Mute or turn off cell phones, Blackberry (or PDA devices) pagers, and all other personal communication devices.
- Refrain from inappropriate use of computers (i.e., games, emails, and website searches) during class-time.
- Notify the instructor or the University administration of all class absences in advance, preferably by email and before 9am on the day of class whenever possible.
- Avoid scheduling personal appointments (dental, doctor etc.) or work shifts during class hours.

University of Winnipeg Professional, Applied & Continuing Education
Grading System

**Letter Graded**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A+</td>
<td>96-100</td>
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<tr>
<td>A</td>
<td>91-95</td>
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<td>A-</td>
<td>83-90</td>
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<tr>
<td>B+</td>
<td>75-82</td>
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<td>B</td>
<td>70-74</td>
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<tr>
<td>C+</td>
<td>66-69</td>
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<tr>
<td>C</td>
<td>57-65</td>
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<tr>
<td>D</td>
<td>50-56</td>
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<tr>
<td>F</td>
<td>Failure</td>
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<tr>
<td>VW</td>
<td>Voluntary Withdrawal</td>
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**Pass/Fail Graded**
- P: Pass
- F: Failure
- I: Incomplete

**Audit/Non-Graded**
- CP: Certificate of Participation (based on >75% attendance)
- NC: No Certificate of Participation (based on <75% attendance)

**DISCLAIMER:**
Please retain a copy of this course outline for reference purposes and/or future academic endeavors.

Note: The Information and Communication Technology Studies Program Area archives course outlines in PDF format for a period of five years and charges an administrative fee for archived course outline requests.