ISM 674: Systems Analysis and Design

ISSCM Dept., Bryan School of Business and Economics, UNCG

The University of North Carolina at Greensboro
The Bryan School of Business and Economics
Department of Information Systems and Supply Chain Management

ISM 674-01 and 674-02D - Systems Analysis and Design (Fall 2016)

Instructor: Dr. A. F. Salam
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E-mail: amsalam@uncg.edu
(E-mail is my preferred method for communication)

Classroom for ISM 674-01 (Face to Face Section ONLY): Class will be held in Bryan 114
Tuesdays 6:30 pm to 9:20 pm

ISM 674-01D (Online Section ONLY): Students enrolled in ISM 674-02D (Online Section) can participate through UNCG WebEx in live session class for ISM 674-01 Face to Face Section.

Note: We are using Bryan 114 for ISM 674-01 (face to face section) this semester. Bryan 114 is a technology-enhanced classroom that allows students from both face to face section and online section to participate in live class sessions and interact with each other. Online students will use UNCG WebEx for participation. It is anticipated that live classroom lecture and discussions will be recorded and made available for review for all students. Students are requested to be patient as this mixed-mode delivery and interaction will be highly dependent on technology and how well it may work. Details about required but free technology will be made available in time through Canvas course site.

Office Hours: Tuesdays 4 to 5:30 pm and by appointment.
Email contact: amsalam@uncg.edu (preferred method of communication)

Course Web Site: The course is hosted on UNCG Canvas - https://uncg.instructure.com/.

Study of systems analysis methodologies to create conceptual blueprints of systems and their processes using systems analysis and design and object oriented methodologies. Covers principles of software engineering, testing and software quality.

Required Textbook Materials:
Title: Systems Analysis and Design – An Object-Oriented Approach with UML
Authors: Alan Dennis, Barbara Wixom and David Tegarden
Publisher: Wiley
ISBN: 978-1-118-80467-4 (paperback)

Other Readings: Articles and other reading materials will be posted on Canvas Course Web Site.
Course Description: Systems analysis and design is concerned with the mechanisms for creating conceptual blueprints of systems and their processes. The area of study encompasses technical, economic, and organizational elements.

ISM 674 Systems Analysis and Design will help students understand and appreciate system and process concepts such as automation boundaries, feasibility assessments, object-oriented information and process modeling for information systems development and implementation.

ISM 674 takes a pragmatic approach to demonstrate the role of systems analysis in information systems application development. The course will primarily focus on object-oriented analysis and design methods along with due consideration to structured analysis and software engineering principles.

Course Objectives:
Upon successful completion, students will be able to:

- Describe the nature of systems design and software engineering methodology.
- Analyze system requirements through various techniques for information gathering
- Analyze and model system requirements using the Object-Oriented (OO) approach and understand traditional approaches to systems modeling.
- Create detailed systems design and related design documentation using Unified Modeling Language (UML).
- Apply UML to communicate in precise modeling language business-relevant business-domain related Information Systems requirements to both business managers and software developers.
- Evaluate alternatives for information systems requirements, environment and implementation
- Discuss the nature of systems quality assurance and software testing.
Relationship to Other Courses: Systems Analysis and Design comprises technical, business, economic, social, organizational, and political components. As such, the course bridges the skills and knowledge you've acquired in many other courses within and outside the ISSCM department. Students will see the relationships between topics covered in database and programming classes. In addition, the course content links topics from courses in business processes, operations management, economics, and statistics and other business fields. Whatever your background or interest in IS, remember that all parties must recognize, understand, and manage competing viewpoints for successful systems analysis and design.

Performance Evaluation and Course Grade:
ISM674 final course grade will be determined by the combination of the following components as outlined in the table below:

Note: The instructor reserves full right to modify or redistribute any or all component grade weights if needed (due to class pace or due to the need to add/delete any items). In that event students will be notified well in advance of any such change.

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Assignments</td>
<td>25%</td>
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<tr>
<td>Participation in in-class practice design assignments and discussions for</td>
<td>15%</td>
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<tr>
<td>face to face students</td>
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<tr>
<td>Participation in online practice design assignments and online discussion</td>
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<tr>
<td>forums for online students</td>
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<tr>
<td>Note: Same practice assignments will be used in both face to face and</td>
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<tr>
<td>online sections</td>
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<tr>
<td>Note: It is strongly recommended that students in the face to face section</td>
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<tr>
<td>also participate in online discussion boards and forums</td>
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<tr>
<td>Note: Online students are also strongly encouraged to participate in</td>
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<td>face to face class interaction using WebEx.</td>
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<tr>
<td>Group Project – Details will be provided in time</td>
<td>20 %</td>
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<tr>
<td>Mid-Term Exam (True/False MC and Design Problems) – Possibly Take Home</td>
<td>20 %</td>
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<tr>
<td>Final Exam (True/False MC and Design Problems) – Possibly Take Home</td>
<td>20 %</td>
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<tr>
<td>Total</td>
<td>100 %</td>
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Note on Grading: The letter grade is based upon percent of points earned on each item and is based on a standard 10-point scale. Practice assignments will NOT be graded but will be used for clarifying and applying various design concepts.

Note: But participation in solving practice assignments will be graded.

Keep a record of all points possible and earned on each. This will make it easy for you to determine your exact grade status throughout the course. They may also be needed to resolve any discrepancies in your record. There is no “extra-credit” work in this class.

Assignments: Due dates and format guidelines
All assignments are due at the time and date indicated on the posted assignment documents.
Assignments turned in after the deadline will be counted as late and will be assessed a grading penalty commensurate with the conditions of lateness (10% penalty for each day late). The instructor reserves full and complete right and discretion in this matter.

Professional business communication is an essential part of good systems analysis. Written assignments will be scrutinized for writing style, clarity and grammar. There is no room for stylistic, grammatical and clarity errors in graduate classes. Assignments, group work, all communication and all submitted written work will have points deducted for these issues. Use software features to check spelling and grammar, when appropriate. Do not assume that any software will catch all errors. Please proofread your work carefully. Be sure to cover all parts of questions posed to you in exams, assignments and projects.

Always use software to develop work turned in to you. Use MS Word or a suitable word processor for written work. Use MS Visio, Lucid Charts, Gliffy diagram, or suitable UML modeling software for Analysis and Design documentation. Visio is available to students registered in the MSITM program through the department MSDNAA agreement. See www.uncg.edu/bae/isom/msdnaa.pdf for more details.

Note: Hand-drawn diagrams or hand-written work will NOT be accepted and will received a grade of zero and will NOT be evaluated.

Exams:
Exams will be in the format of various types of questions including True/False, multiple choice and short answer questions as well as design problem solving to develop systems models. Questions will be derived from the textbook, in-class and/or online discussions, practice and graded assignments and other reading materials (articles).

There is a strong correlation among students reading assigned chapters and assigned reading materials, and actively participating in class discussion and/or online discussion forums and effective test performance. Students are strongly encouraged to actively participate in in-class and/or online practice design assignments. Exams will assess your knowledge of concepts and their application.

Note: Students in face to face section (ISM 674-01) are strongly encouraged to participate in online discussion forums. Similarly, students in Online Section (ISM 674-01D) are also encouraged to participate in live class session using WebEx (Tuesdays 6:30 pm to 9:20 pm- Fall 2016).

The final exam is not cumulative per se. However, given the nature of the materials covered in the course, it is unavoidable that concepts covered before the mid-term will be included in the materials covered in the final exam.

Expectations:
1. You are responsible for all information, announcements, and course materials presented in class lectures and discussions, and in Canvas course site and through emails. The instructor should be notified before class for special circumstances.
2. The reading assignments and practice assignments for each class session are indicated on the Canvas course site. You are expected to complete the readings before class on the dates indicated. Students should be prepared to discuss the assigned readings and participate in discussions and practice design assignments.
3. Students are expected to check Email regularly and frequently. Requirements for assignments and various soft-copy documents may be distributed electronically.

4. Due dates for assignments will be posted on Canvas and on assignment documents. Instructor reserves complete and full discretion to adjust due dates of assignments for the benefit of the students and under certain special circumstances if necessary (may also depend on class pace).

5. Work effectively and cooperatively as a team member on group projects if assigned.

   Please ensure that you report any cooperative or communicative issues to the instructor that hamper your effective group work. It is expected that each student will work towards creating a conducive and professional team environment that leads to excellent team processes and outcomes.

6. Contact your instructor and discuss circumstances which may prevent acceptable performance and to make such contact on a timely basis.

7. Peer evaluation from group members will be used in final assessment of Group related activities and corresponding grades. So it is extremely essential that each individual student participate and contribute fully as a team member and that other team members provide full support for effective team work and outcome.

8. Systems analysts almost always work as part of a team comprised of other systems analysts and/end-users. So development of strong team skills and being able to manage diverging viewpoints and perspectives, and being able to manage conflicts and elicit cooperation are essential to being a successful business and information systems analyst.

Academic Policies:

All UNCG students are required to follow the UNCG Academic Integrity Policy in completing course work. If you do not know provisions of the Honor Policy, make time to study the corresponding documents at UNCG.

University students conduct themselves in accordance with the highest standards of academic integrity. Academic misconduct includes all forms of cheating, such as illicit possession of examinations or examination materials, forgery, or plagiarism in assignments and other course related activities. Students will not make, borrow, or “share” copies of their assignments or files or exams with other students.

Plagiarism is presenting as one’s own work, that work which is, in whole or in part, the work of another person or persons without giving proper credit to the appropriate source. This includes submitting work done by another, as one’s own work. Helping one another is allowed, but copying, even electronically, is cheating. This practice is against the UNCG Honor Code and defeats the purpose of this course and overall academic pursuit at this University. No credit will be given for academic work violating UNCG Honor Code Policy, and other penalties may be imposed by the University. UNCG’s Academic Integrity Policy (AIP) can be downloaded from http://academicintegrity.uncg.edu/.

COURSE CONTENT and PERSPECTIVES

Oral & Written Communications Content:

Much of ISM 674 is spent in understanding analysis of business problems and investigating systematic solutions to those problems, from a hands-on and practitioner’s perspective. Students are expected to attend class prepared to think, analyze systems requirements and communicate their designs effectively. Analysis questions and problems frequently do not have one correct answer. So, students should be prepared to defend the conclusions they reach! Students may be required to participate in web-based threaded discussions of questions or issues that are
distributed by the instructor.

Effective written communication is stressed through written assignments, web discussions, e-mail communications, and short essays on tests and the final project. Since this class teaches professional analysis behaviors, it is expected that all communications are prepared and presented professionally.

**Technology Applications:** Discussion of information technology is a major component of the course and, although this class is not a programming class, technology is used as a tool in ISM 674. Knowledge of graphics software, a spreadsheet, and a word processor is assumed. Students will be introduced to modeling and CASE tools.

**Ethical Perspectives:**

The importance of ethical considerations in the management and use of technology by business will be addressed because systems analysts frequently must use their professional judgment to make difficult decisions. Specific ethical issues such as software piracy, confidentiality of data and databases, software licensing and copyright protection (among others) may be discussed. Other ethical issue discussions may relate to uses of the Internet, e-mail, threaded discussion groups, groupware, and other electronic tools.

**Global Perspectives:** Although globalization of IS is an emerging topic, global aspects of business and technology are not specifically covered in this introduction course.

**Demographic Diversity Perspectives:** Many information systems deal with and about an increasingly diverse workplace. Many exercises within analysis deal with breaking myths and get to core values and core "truths" about systems and the people that make them work. A by-product of this course is to learn how to respect diverse perspectives.

**Political, Social, Legal, Regulatory, and Environmental Perspectives:** Coverage of political, social, regulatory, and environmental perspectives is limited to the context of business issues in general and newsworthy developments that are both business-related and technology-related.