MIS 330 – C01 – Systems Analysis and Design

Professor Jon W. Beard, Ph.D.  
E-mail: Jbeard2@gmu.edu  
Enterprise Hall 137  
Office Phone – 703-993-1829

Office Hours:  MWF5:30 – 7:00PM  
(almost) any time my door is open  
and by appointment

E-mail: Jbeard2@gmu.edu  
Enterprise Hall 137  
Office Phone – 703-993-1829

Office Hours:  MWF5:30 – 7:00PM  
(almost) any time my door is open  
and by appointment

MIS 330 – C01  
MWF 7:00 – 10:05 PM  
Robinson A106


Prerequisites – Grade of 'C' or higher in MIS 301 and MIS 310

Course Homepage – Blackboard (see Course Materials section below) – Note: We will start with  
Blackboard 8.0 (the “old” Blackboard, but may switch to Blackboard 9.1 if we can work out some of  
the problems in the system).

Software – Microsoft Visio is highly recommended for the systems analysis and design tasks of your  
group project. You will also likely need to use Microsoft Word, Excel, PowerPoint, and Project for  
your group work. If you don’t already have or have access to this software, Microsoft Visio 2007 and  
some other Microsoft Office Applications are available for download free of charge to registered  
School of Management (SOM) students through the Microsoft Developer Network Academic  
Alliance (MSDNAA) agreement.

During the first week of the semester you should receive an email from the SOM IT support  
group providing you with instructions for downloading the software. All Microsoft software  
are available in the George Mason student computer labs (clastech.gmu.edu/computerlabs.cfm).  
George Mason and the School of Management use Microsoft Office 2007; if you are new to MS  
Office 2007, you can access online tutorials through the website transition.gmu.edu (click Tutorials  
on the left-hand menu). Additional IT related training is available free to GeorgeMasonUniversity  
students; see ITTraining.gmu.edu for more information.

Course Objectives – Information systems (IS) are ubiquitous. Today’s organizations and the global  
economy depend on information systems (or Information Technology – IT) in all aspects of their  
operations. And, many of us are also heavy users of IS in our daily tasks. Properly designed  
and implemented systems can provide firms with streamlined business processes and a competitive  
advantage, while poorly conceived systems can result in less successful operational support that can  
lead to severe operational deficiencies or failures. Understanding systems analysis and design concepts  
and methods are necessary for contemporary business analysts, managers, software engineers, and  
system users. MIS330 – Systems Analysis and Design (SA&D) – provides students with the  
foundations for effectively using modern systems analysis and design methodologies/techniques and  
tools for developing modern software systems and applications. The topics covered in MIS 330  
include:

- Systems planning and feasibility analysis  
- Project management  
- Use case analysis and system requirements  
- Process modeling and data modeling  
- Systems implementation and maintenance  
- Prototyping and user interface design  
- Application architecture and database design  
- Object-oriented analysis using UML 2.0
MIS 330 uses a combination of learning approaches to provide a comprehensive view of the course material. The course will incorporate in-class discussions, lectures, demonstrations and hands-on use of methods, and includes a practical systems analysis and design assignments.

Course Materials – Blackboard CE8: This course will use the Blackboard Learning System CE8 to deliver course materials such as lecture notes, announcements, online discussions, and assignments. You can access the course’s Blackboard site by going to courses.gmu.edu and logging in with your GMU account. From your main Blackboard page, follow the link to the MIS 330 course to access the course site. Note that we may transition to the “new” Blackboard during the semester (if some of the ‘kinks’ can be worked out.) For help or support using the Blackboard system you can contact course@gmu.edu, or call ITU Support at (703) 993 -8870.

Grading and Assessment

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>30%</td>
<td>Individual assessment</td>
</tr>
<tr>
<td>Exam 2 (Final)</td>
<td>30%</td>
<td>Individual assessment</td>
</tr>
<tr>
<td>In-Class Quizzes</td>
<td>15%</td>
<td>(or more) of equal value, individual assessment</td>
</tr>
<tr>
<td>Homework/Participation</td>
<td>25%</td>
<td>multiple (relatively short) assignments plus in-class participation, most will be individual assignments, although some may require/allow for a group effort</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Exams – There will be two (2) exams, each worth 30% of your course grade. Each exam will cover (approximately) one half of the course material (i.e., the second exam is not cumulative, but will include and/or be based on some material from the first half of the course). Course readings, lecture notes, and in-class discussions will be on the exams. Exams will be held in class on the dates designated in the course schedule. Exams will be closed book/note and are individual activities.

Quizzes – There will be four (4) in-class quizzes throughout the semester, totaling 15% of your final grade. (However, additional “pop” quizzes will be incorporated into the semester if it becomes apparent that people are not properly prepared for class.) Quizzes will be held on the dates designated on the course schedule. Quizzes are individual activities, and are closed book and closed notes. Typically, a quiz is 8-10 multiple-choice questions, although other question formats may sometimes be used. Additional information on the quizzes will be provided as we approach the quiz dates.

Homework – There will be a number of relatively small (i.e., typically < 1 hour effort) homework assignments. A few will be somewhat longer/larger in effort. These assignments are intended to provide you with the opportunity to experience and practice aspects/tools/techniques/approaches of the larger SA&D process. Specifics are included with each assignment. They will typically be turned in via Blackboard, although a printed copy may sometimes be requested to be turned in. (Note: It is often a good idea to bring a hardcopy with you to class, even if not specifically requested.)

Grading Scale – Grade Percentage

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>98% or higher, but less than 100%</td>
</tr>
<tr>
<td>A</td>
<td>92% or higher, but less than 98%</td>
</tr>
<tr>
<td>A-</td>
<td>90% or higher, but less than 92%</td>
</tr>
<tr>
<td>B+</td>
<td>88% or higher, but less than 90%</td>
</tr>
<tr>
<td>B</td>
<td>82% or higher, but less than 88%</td>
</tr>
<tr>
<td>B-</td>
<td>80% or higher, but less than 82%</td>
</tr>
<tr>
<td>C+</td>
<td>78% or higher, but less than 80%</td>
</tr>
<tr>
<td>C</td>
<td>72% or higher, but less than 78%</td>
</tr>
<tr>
<td>C-</td>
<td>70% or higher, but less than 72%</td>
</tr>
<tr>
<td>D</td>
<td>60% or higher, but less than 70%</td>
</tr>
<tr>
<td>F</td>
<td>less than 60%</td>
</tr>
</tbody>
</table>

Student Responsibilities – Students are expected to attend class each class session and to participate in class discussions and exercises. Students are expected to complete assignments on time and attend course quizzes and exams. Make-up quizzes and exams will not typically be provided. Students are expected to use their gmu.edu email accounts for communication with the instructor and other students in the class. All emails from the instructor will be sent to your gmu.edu email addresses; please try not to avoid using Blackboard for communications (since I don’t typically look for messages in
Students are expected to contribute equally to all group project work if/when assigned.

Students are expected to respect their fellow classmates and instructor, both in and out of the classroom environment. Students are expected to turn off or silence their mobile phones during class time (this also means no texting ☺) and to refrain from using e-mail or instant messaging during class time.

Learning Goals for Undergraduate Programs¹:
1. Our students will be competent in their discipline.
2. Our students will be aware of the uses of technology in business.
3. Our students will be effective communicators.
4. Our students will have an interdisciplinary perspective.
5. Our students will be knowledgeable about global business and trade.
6. Our students will recognize the importance of ethical decisions.
7. Our students will be knowledgeable about the legal environment of business.
8. Our students will be knowledgeable about team dynamics and the characteristics of effective teams.
9. Our students will understand the value of diversity and the importance of managing diversity in the context of business.
10. Our students will be critical thinkers.

Learning Goals of the Information Systems and Operations Management (ISOM) Program
1. Apply knowledge of information technology and business functions to understand its application in assessing, designing and improving business processes.
2. Develop data organization, storage and processing solutions to support organizational needs for information management. They will also have the option of developing skills in the area of supporting decision making through business intelligence solutions.
3. Use knowledge of computer networks as part of the IT solutions for improving business processes. They will also have option of developing more advanced skills in the areas of network and security.
4. Effectively manage information technology projects.
5. Understand the overall systems development life cycle and be able to recommend IT solution systems accordingly. They will also have option of learning appropriate development tools to develop prototype IT solutions for business management.

Honor Code Statement — Cheating and Academic Dishonesty: All students are responsible for knowing and following the GMU Honor Code Statement (honorcode.gmu.edu). Students will be given a 0 on any assignment where the University Guidelines for Academic Honesty are not followed. This includes project work, quizzes, and exams. In the event of a violation of the GMU Honor Code, the violating student will be immediately reported to the GMU Honor Committee.

Learning Disabilities – If you are a student with a disability and you need academic accommodations, please see me and contact the Disability Resource Center (DRC) at 703-993-2474, at the beginning of the semester. All academic accommodations must be arranged through the DRC.

¹ The Provost’s Office has requested that students be informed of the availability of the MASON ALERT SYSTEM to provide emergency information when needed. You are encouraged to sign up for this service by visiting https://alert.gmu.edu. And emergency poster has been placed in each classroom. Additional information about emergency procedures can be found at http://www.gmu.edu/service/impert.
How to Succeed in this Course

- Come to class prepared! Come to class having read the assigned material and be prepared to discuss the material and participate in the in-class activities. Advance preparation gives you the best opportunity to be successful with this material.
- Come to class!
- Take notes; don’t rely only on the PowerPoint slides or on just listening, then recalling what was said. While it may “make sense” during and after class, this often fades with time, i.e., give yourself the best opportunity to be successful by taking notes.
- After each class, take a few minutes to:
  - Review the materials in your notes that were covered
  - Consider what questions were asked and answered, as well as those that were left unanswered
  - What items, if any, were highlighted, during the discussion?
  - What are you still confused about?
  - What questions, if any, do you have that were not answered?
  - How does today’s material connect with what has previously been covered?
  - How might this material connect to recent or current events?
  - How might this material be relevant to your current job or future career?
- What are the key terms/concepts from the chapter, related readings, or exercises? Do I know what these terms/concepts mean?
- To prepare for a quiz, review the materials that have been covered. Make sure to have read the assigned material. Reread them. Reread them again. Look for real-world examples of how the technology/concept is being used. To give yourself the best chance to succeed, don’t wait until the last minute to start your preparations.
- To prepare for an exam, do the same as for a quiz, only on a larger scale for more material.
- Note that some of this material will require basic understanding of terminology and concepts; it will require basic memorization of definitions, descriptions, examples, even lists. Other material will be much more applied in nature and placed in a business-world context.
- Do the homework assignments and get them turned in correctly and on time. While the assignments may not be easy, if you fulfill the specified requirements you should receive full (or almost full) credit for the assignment. To be successful:
  - Make sure you understand the requirements for the assignment … details matter!
  - Make sure you fulfill all requirements by the deadlines. (Note that there may be interim deadlines or subtasks that need to be completed for some assignments.)
  - Make sure you take care of all required details … I may repeat this again!
  - Double-check what you have done against the assignment; what might have been missed?
  - Turn the assignment in by the due date and time, typically via Blackboard. Note that a hardcopy (i.e., a printed or hand-written copy) may be requested for some assignments
  - Keep a copy of your assignment until the end of the semester, just as a backup in case there is a problem with your submission. Also, keep graded materials after they have been returned
  - Remember that late assignments will be accepted, but with a penalty; better late than never!
  - Unless otherwise noted, you are to complete the assignments on your own. Copying the work of others may result in an Honor Code violation (for ALL involved) and result in a score of zero on the assignment and possibly additional disciplinary action.
**MIS 330 – C01 – Systems Analysis and Design – Schedule**

Note that this schedule is subject to update and revision. Additional readings may be assigned.

<table>
<thead>
<tr>
<th>Class #</th>
<th>Day</th>
<th>Topic</th>
<th>Readings</th>
<th>Deliverables</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>W 7/6</td>
<td>Course Introduction / Overview</td>
<td>Ch 1 – The Systems Analyst and IS Development</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>F 7/8</td>
<td>Project Management</td>
<td>Ch 2 – Project Selection and Management</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>M 7/11</td>
<td>Requirements Discovery</td>
<td>Ch 3 – Requirements Determination</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>W 7/13</td>
<td>Modeling Systems Requirements w/ Use Cases &amp; User Stories</td>
<td>Ch 4 – Use Case Analysis Quiz 1 Chapter 2 from “The Mythical Man-Month” – F. Brooks <a href="https://www.cs.drexel.edu/~jsalvage/Winter2011/CS451/Papers/MythicalManMonth.pdf">https://www.cs.drexel.edu/~jsalvage/Winter2011/CS451/Papers/MythicalManMonth.pdf</a> (Note that the web addresses are likely to change …)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>M 7/18</td>
<td>Data Modeling</td>
<td>Ch 7 – Moving into Design</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>W 7/20</td>
<td></td>
<td></td>
<td>Exam 1</td>
</tr>
<tr>
<td>8</td>
<td>F 7/22</td>
<td>Architecture Design</td>
<td>Ch 8 – Architecture Design Ch 6 – Data Modeling (limited coverage – essentially MIS 310-related material)</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>M 7/25</td>
<td>User Interface Design</td>
<td>Ch 9 – User Interface Design</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>W 7/27</td>
<td>Program Design</td>
<td>Ch 10 – Program Design Quiz 3</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>F 7/29</td>
<td>Data Storage Design System Implementation</td>
<td>Ch 11 – Data Storage Design (probably limited coverage – details forthcoming) Ch 12 – Moving into Implementation</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>W 8/3</td>
<td>Object-Oriented Analysis &amp; Design, Future of SA&amp;D</td>
<td>Ch 14 – The Movement to Objects (probably limited coverage …)</td>
<td>Final Exam</td>
</tr>
</tbody>
</table>

**Note:** A Summer session course, particularly during the “C” session, moves very quickly. Each class session is equivalent to about 1.1 weeks of effort/material during a standard Fall or Spring semester. Therefore, you must budget your time and stay with (or ahead) of the topic coverage. [As I was told during one summer course in which I was enrolled: “After today’s class (i.e., the first class meeting), you should feel about a week behind. Read, do your assignments, study, and work hard, and by the end of the term you should be able to catch up. But, it requires you to do the work and to put in the time.”] Please keep this in mind and you should have a good experience in this course!