Syllabus: Systems Analysis and Design

Instructor: Jennifer Kreie

Office: Guthrie 206
Office phone: 646-2990
E-mail: jkreie@nmsu.edu
My web page: http://web.nmsu.edu/~jkreie
Canvas: http://learn.nmsu.edu/

Text: Modern Systems Analysis and Design, J. A. Hoffer, J. F. George, J. S. Valacich, Prentice Hall, 6th edition. FYI, a copy of the text book is in the BC lab and available for use while you're in the lab. This book was paid for by a donation from one of our graduates.

Course Description - This course teaches the application of software engineering techniques in the information systems life cycle. There is an emphasis on project management and formal techniques for analysis, design, and implementation. Use of various software engineering analysis and design tools and techniques are covered: information gathering for defining system requirements, entity-relationship diagrams, data flow diagrams, data dictionaries, and prototyping. The course will also present current topics, such as extreme programming, rapid application development (RAD), and the Unified Modeling Language (UML). This course will provide hands-on practice with project management and systems development through exercises in PERT/CPM and the design and prototyping of inputs/outputs, databases, and program modules. Prerequisite: BCIS 222 (or taken concurrently).

Course Objectives - The student who completes this course should know:

1. The traditional and RAD (Rapid Application Development) systems development methodologies.
2. Traditional analysis and design techniques for data and process modeling: entity-relationship diagrams, physical database design, and data flow diagrams.
3. How to use prototyping in the analysis and design phases of systems development.
4. Project planning: defining the scope, purpose and activities of a project; setting up a project management web page.
5. PERT/CPM project management techniques, including the use of Microsoft Project software.
6. What a CASE tool is and how it is used in software development.

Examinations - There will be three exams. The exams will cover material from the textbook and lectures. The third exam is the final exam. It covers the material since the second exam and any material, such as systems modeling, that is studied throughout the semester. Exams will be a combination of multiple choice, short answer, and problems.

If you miss an exam due to illness, work, or a university-sponsored activity, you must provide proper notification to the instructor as soon as possible. If no valid excuse is provided the student will receive a score of zero for the missed exam.

Individual and Team Exercises and Quizzes - Teams will be assigned the first day of class. These teams will remain throughout the semester. There will be individual and team exercises given during the first half the semester to enable each student and each team to practice the techniques being taught. In most cases, some class time will be given to teams to begin their group exercises and coordinate how to complete their work outside the class period.

There will be some individual and team quizzes that cover concepts presented in the textbook and class. The individual quiz will always be given first, followed immediately by your team taking the same quiz. Everyone on the team gets the team score unless a team member is absent for the quiz and each student gets his/her individual quiz score.

Late individual exercises will be accepted but there will be a 10% penalty for each day an exercise is late. Note: An exercise due at the beginning of class will have a 5% penalty if it is turned in at any time later that same day. Exercises more than 10 days late will be worth zero points. For students majoring in information systems please note that these assignments will help you build a skills set you'll use in the subsequent BCIS 450 course and you will very likely use these in your work once you graduate.

Individual Project and Group Project - Individual Project: There will be an individual project assignment just after mid-semester. This project will give each student practice developing an information system prototype. This project comes before working with a team on another project. The individual project requires you to complete a prototype in Oracle using APEX, based on project and design documents provided by the instructor. All the material and exercises up to this point in the class help prepare you for this project.

NOTE: The individual project must be submitted by the deadline (before the group project begins) and with a "C" or better functionality in order for you to participate in your team for the group project. If your individual project is not completed by the deadline and with the basic required functionality, you will have to do the group project individually, not as a member of a team.

Individual Project: There will be an individual project assignment just after mid-semester. This project will give each student practice developing an information system prototype. This project comes before working with a team on another project. The individual project requires you to complete a prototype in Oracle using APEX, based on project and design documents provided by the instructor. All the material and exercises up to this point in the class help prepare you for this project.

NOTE: The individual project must be submitted by the deadline (before the group project begins) and with a "C" or better functionality in order for you to participate in your team for the group project. If your individual project is not completed by the deadline and with the basic required functionality, you will have to do the group project individually, not as a member of a team.

Instructor: Jennifer Kreie

Office: Guthrie 206
Office phone: 646-2990
E-mail: jkreie@nmsu.edu
My web page: http://web.nmsu.edu/~jkreie
Canvas: http://learn.nmsu.edu/
The reason for this penalty is to emphasize the importance of each team member demonstrating he/she has certain skills and can contribute significantly to a team effort. The team does not have to cover for a non-productive teammate. If you have to work on the final project alone, there will be no other penalty. I'll work with you just as I do with the other teams.

Group Project: There will be a group project your team will work on over approximately three weeks near the end of the semester. In addition to learning technical skills in this course, it is important for you to practice these skills while working with colleagues as part of a systems analysis and design team. Being able to work effectively with others on a team project is essential and teamwork experience is quite important to future employers. This is something employers mention often when asked what skills they want to students to have when they graduate.

Peer Evaluation: At the end of the project, team members will complete confidential peer evaluations. These evaluations will be used in calculating each student's overall score for the project, so it is likely that team members won't receive the same score for their project.

Project Web Site: The group project will be posted on a project web site that is created and maintained by the team. By the end of the semester all the project material must be properly documented and organized on the project web site. Some project documents must also be printed and submitted to the instructor and the project submitted through Canvas. The printed documents submitted to the instructor will remain with the instructor even after the completion of the course.

Recommendation: At the end of the group project, the entire project web site will be downloaded to the instructor's office computer. If you want a CD of your team's project, you can notify the instructor near the end of the semester. I recommend you keep a copy of your team's work. That way you have a complete record of what your team did. It will be a useful reference for future courses, such as BCIS 450, as well as something you can take to job interviews to illustrate the work you've completed during your studies.

Graduate Students - Graduate students will complete an additional component for this course. This material will be made available by mid-semester. Graduate students will be required to take a quiz over this material. The quiz must be scheduled outside regular class time.

Attendance Policy - Attendance is important to doing well in this class. Lecture, discussion, and exercises are an essential part of learning the concepts and skills in this course. If a student misses a class, it is up to the student to find out what was covered by talking to other students, getting someone's notes, and checking the class Canvas site. The student may get specific assignments from the instructor or ask the instructor specific questions after the students has reviewed the notes for the missed class. During the group project, attendance will be required because considerable in-class time will be given to teams to work on their project. Absentees will lose points for each absence.

Class Procedures - The teaching method for this course will include lecture/discussion, in-class exercises, and homework assignments and a group project. All individual assignments are to be done independently. To assist you in meeting College expectations with respect to writing and presentation skills, an “Academic Survival Kit” with resources on writing and presentation skills is available on the College web page at http://business.nmsu.edu/students/survival-kit/.

Students with Disabilities - If you have, or believe you have a disability, you may contact the Student Accessibility Services (SAS) Office located in Corbett Center, Room 244, 575-646-6840, or email sas@nmsu.edu. Appropriate accommodations may then be provided for you. All medical information will be treated confidentially. If you have a condition which may affect your ability to exit safely from the premises in an emergency during class, you are encouraged to discuss this in confidence with the instructor and/or the Director of University Disability Services/ADA Coordinator, Diana Quintana, at the SAS Office. Questions regarding the Americans with Disabilities Act (ADA) and/or the American with Disabilities Amendment Act should be directed to the SAS Office. Questions regarding NMSU’s Non-discrimination Policy and discrimination complaints should be referred to the Office of Institutional Equity, 575-646-3635.

Scholastic Dishonesty - Scholastic dishonesty will not be tolerated. The penalty for dishonest behavior can range from receiving a zero for an assignment or exam to censure from the University (Please refer to the NMSU Student Handbook http://www.nmsu.edu/~vpsa/handbook.html).

Point Distribution and Grades - The points possible for this course will be approximately as follows:

<table>
<thead>
<tr>
<th></th>
<th>Estimated Pts</th>
<th>Est. % of Overall Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>100</td>
<td>14%</td>
</tr>
<tr>
<td>Exam 2</td>
<td>100</td>
<td>14%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>100</td>
<td>14%</td>
</tr>
<tr>
<td>Individual &amp; Team Quizzes</td>
<td>50</td>
<td>6%</td>
</tr>
<tr>
<td>Individual &amp; Team Exercises</td>
<td>150</td>
<td>20%</td>
</tr>
<tr>
<td>Individual Project</td>
<td>100</td>
<td>14%</td>
</tr>
<tr>
<td>Team Project*</td>
<td>130</td>
<td>18%</td>
</tr>
<tr>
<td>Total Points</td>
<td>730</td>
<td></td>
</tr>
</tbody>
</table>
Each student's project score will be a combination of the team score for the project (70%) and an individual score (30%) based on team members' peer evaluations.

Grades will be assigned as follows:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90% through 100%</td>
<td>A</td>
</tr>
<tr>
<td>80% through 89%</td>
<td>B</td>
</tr>
<tr>
<td>70% through 79%</td>
<td>C</td>
</tr>
<tr>
<td>60% through 69%</td>
<td>D</td>
</tr>
<tr>
<td>Below 60%</td>
<td>F</td>
</tr>
</tbody>
</table>