CSC 320
Systems Analysis and Design

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COURSE CREDIT: 3 hrs. credit
PREREQUISITES: Instructor’s consent

OFFICE HOURS: MWF 10:00-11:30; R 1:30-3:30; other times by appointment

TEXT: Systems Analysis and Design with UML version 2.0:
an Object-Oriented Approach, 2nd ed.
A. Dennis, B. H. Wixom, and D. Tegarden

DESCRIPTION: Physical and logical design of an operational computer system. The processes of
planning for control, implementation, change, analysis, and review of existing
systems from a technological as well as managerial standpoint will be covered.

RATIONALE: This course is required for majors in Computing and Information Systems.
This course is intended to present the basic concepts of the design and analysis activities
of the software development process.

LEARNING OBJECTIVES: Upon successful completion of this course, the student should have the skills
to:
1. Perform basic requirements engineering.
2. Create software design products that satisfy a set of requirements.
3. Document software design products using the Unified Modeling
Language.

EVALUATION: The instructor reserves the right to make adjustments as necessary.

Tests: There will be a two exams worth 100 points each (200 points total).

Assignments: Homework assignments and class participation will be worth 100 points.

Project: There will be a major design project that will be worth 200 points.

Final Exam: There will be a comprehensive final examination given at the time specified by the
college: Monday, December 12, 8:00am - 10:00am. The final is worth 100 points.

Grading Scale:

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<thead>
<tr>
<th>Grade</th>
<th>Points</th>
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<tbody>
<tr>
<td>A</td>
<td>360 - 419</td>
</tr>
<tr>
<td>B</td>
<td>480 - 539</td>
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<tr>
<td>C</td>
<td>420 - 479</td>
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<tr>
<td>D</td>
<td>0 - 359</td>
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CLASS ATTENDANCE:
The student is expected to attend classes. Regulations for class attendance are given in the Class Schedule. Remember in a MWF class, 12 absences is an automatic F. **Three tardies counts as one absence in this class.** (See the Mississippi College catalog).

MAKE-UP WORK & TESTS:
Students are expected to take tests on the day they are assigned. However, it is the student's responsibility to contact the instructor in case of an emergency illness or death in the family **before** the test. At that time the student and instructor will agree on a time for the make-up exam. This time should be within 2 days of the missed test. Assignments are to be turned in on the day they are due!! All work is due at the beginning of the class period. Any work not turned in will lose 10% credit for each school day **until the third day.** The due date at the beginning of class is day 1. No work will be accepted after the third day. Under no circumstances will work be accepted after the assignment has been graded and handed back in class.

ACADEMIC INTEGRITY:
This statement on academic honesty in computer science courses is an addendum to the Mississippi College policy 2.19 found at [http://www.mc.edu/publications/policies/academic/219.wpd](http://www.mc.edu/publications/policies/academic/219.wpd). In a computer science class individual effort is expected. Student misconduct not only includes cheating on tests, but also extends to copying or collaborating on programming assignments, projects, lab work or research unless otherwise specified by the instructor. Using other people's accounts to do your work or having others do your work is prohibited. Close proximity in lab does not mean collaboration is permitted.

**NOTE:** Discussing logical solutions to problems is acceptable, exchange of code, pseudocode, designs, or procuring solutions from the Web, other texts, the Internet or other resources on or off campus is not acceptable.

*First offense*: grade of 0 for **all** parties involved unless the "guilty" party can be determined as well as any punishment deemed necessary under policy 2.19

*Second offense*: grade of F in the course as well as any punishment deemed necessary under policy 2.19

SPECIAL ACCOMMODATIONS:
If you need special accommodations due to learning, physical, psychological, or other disabilities, please contact Dr. Buddy Wagner in the Counseling and Career Development Center. He may be reached by phone at (601) 925-3354 or by mail at P. O. Box 4016, Clinton, MS 39058.

DROPPING A COURSE: **LAST DROP DATE - October 28**
Students cannot withdraw after this date with a W (passing) unless the three following criteria are met:
- Extenuating circumstances (clearly outside the student’s control)
- Passing the course at the time of withdrawal
- Does not have excessive absences at the time of withdrawal

**NOTE:** Dropping after the THIRD (3rd) WEEK will result in a grade of W appearing on your permanent record (transcripts). See [http://www.mc.edu/publications/policies/academic/213.wpd](http://www.mc.edu/publications/policies/academic/213.wpd).
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MWF 9:00am-9:50am
MCC 104

Tentative exam dates
October 14
November 21

Final exam date
December 12, 8:00am-10:00am

Course Outline

1. The software development process
   a. Planning and Management
   b. Paradigms
   c. Software life-cycle models

2. Requirements Engineering
   a. Requirements Determination
   b. Requirements Analysis
   c. Requirements Specification
   d. Requirements Traceability

3. Object Modeling
   a. Object identification
   b. Object decomposition

4. Unified Modeling Language Diagrams
   a. Use Case Diagram
   b. Class and Object Diagrams
      i. Inheritance
      ii. Associations
      iii. Aggregations and Compositions
   c. Sequence Diagrams
   d. Collaboration Diagram
   e. State Diagrams
   f. Activity Diagrams
   g. Component Diagrams

5. User Interface Design

6. Implementation
   a. Software Construction
   b. Change Management

7. Validation