The University of Texas at Austin
Department of Civil Engineering

CE 395 R 2-Project Information Management Systems – Spring 2006

UNIQUE NUMBER: 14765

INSTRUCTOR: Dr. Carlos H. Caldas
ECJ 5.436
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http://www.ce.utexas.edu/prof/caldas/

MEETINGS: Tuesday and Thursday – 9:30AM-11:00AM. Room ECJ 3.402
Alternate Room ECJ 5.418

OFFICE HOURS: Tuesday and Thursday – 11:00AM-12:00PM or by appointment.

I encourage students to come see me to address any questions or concerns about
the course material or other issues. I have an open door policy – if my office door
is open, I will see students without an appointment. If I am busy, we will
schedule a convenient time for both of us. If you are unable to come to my office,
the next best method to get in touch with me is by phone. I will respond to all
phone messages left M-F by 5 pm, within 24 hours. Because of the potential for
communication problems, I would prefer that you don’t rely on e-mail as our
primary method of communication. I will respond to most emails, but owing to
problems that can occur in sending and receiving electronic messages, it is much
better to come to my office or call me.

WEB PAGE: You will find the online materials for this course at the Blackboard web site at:
https://courses.utexas.edu/webapps/login

COURSE CATALOG DESCRIPTION: Information systems design and management concepts and
their implementation in construction projects. Data acquisition, transmission, and storage; database
management systems and information systems design.

COURSE OBJECTIVES: This course will discuss project information management systems. The class
will involve lectures, lab sessions, videos, class discussion, homework assignments, group projects, and
student presentations. By taking this class you will be able to:

(1) Identify and differentiate information management systems that can be used to support project
management in the U.S. and worldwide construction industry.
(2) Design and develop desktop database management applications.
(3) Recognize the design and implementation issues for information management systems in
construction.
(4) Analyze, evaluate, and recommend information management systems for construction owners,
contractors, and/or project managers.

Course objectives will be refined as the course evolves. Each student will therefore be given the
opportunity to influence the direction of the course.
REFERENCE MATERIAL:


TOPICS:

INFORMATION SYSTEMS

- Overview and Concepts
- Systems Analysis and Design

DATABASE MANAGEMENT SYSTEMS

- Data modeling
- Entity-Relationship Model
- Structured Query Language (SQL)
- Relational Database Design and Implementation
- Data Management: Warehousing, OLAP, and Mining

WEB TECHNOLOGIES

- E-business and E-commerce
- Mobile, Wireless, and Pervasive Computing
- Collaboration Technologies

INFORMATION MANAGEMENT FOR CONSTRUCTION PROJECT MANAGEMENT

- Product and Process Modeling
- Construction Information Integration
- Organizational Issues
- Applications:
  - 4D CAD
  - Supply Chain Management & ERP
  - Document Management
  - Knowledge Management

NOTE ON CONTENT OF THE COURSE

The course is necessarily focused, and therefore selected material is left out. Students may pick up a greater depth as necessary in related courses in MIS, CS, INF, and EE in management information systems, databases, web technologies, information sciences, and decision support systems.

SOFTWARE DEMONSTRATIONS

In-class demonstrations of software tools will be presented. They are intended to provide students with first introductions to the tools and give them a “jump start”, not to fully train students on the use of tools. Students will require self-study before they will be able to work effectively with the tools.
GRADING:

Grade components will be weighted as follows in the computation of the final course grade:

- Participation: 5%
- Homework Assignments: 25%
- 2/3 Term Exam: 30%
- Group Project: 40%

COURSE LETTER GRADES:

The correspondence of letter grade to numerical grade is:

- A: grade $\geq 93$
- A-: $90 \leq \text{grade} < 93$
- B+: $87 \leq \text{grade} < 90$
- B: $83 \leq \text{grade} < 87$
- B-: $80 \leq \text{grade} < 83$
- C+: $77 \leq \text{grade} < 80$
- C: $73 \leq \text{grade} < 77$
- C-: $70 \leq \text{grade} < 73$
- D+: $67 \leq \text{grade} < 70$
- D: $63 \leq \text{grade} < 67$
- D-: $60 \leq \text{grade} < 63$
- F: grade $< 60$

The instructor reserves the right to adjust letter grades, upward only, based on individual attendance and class participation if the numerical grade warrants such consideration.

COURSE/INSTRUCTOR EVALUATIONS:

Each student will be given the opportunity to evaluate the course using the standard course/instructor evaluation form during the last week of classes. Feedback from students will be requested throughout the semester.

POLICIES:

Exams and Homework Assignments:

The 2/3 term exam is closed book, closed notes. The exam will include material covered in reading assignments and class discussions. Exam make-ups will be given only in the event of a verified emergency or doctor-verified sickness. No final exam will be given.

The student is responsible for all reading assignments and class handouts whether or not covered in class or listed on the syllabus.

There will be individual and group homework assignments. Their due dates will be posted on the course website. All assignments are due at the beginning of the period assigned and those turned in late will count off 10% per day. (no exceptions!—except those listed for the test make-up).

There will be a group project. More information concerning the group project will be given at a later date. I will assign groups.

My goal is to return all exams and homework assignments to students within two course-weeks from the date submitted.
Class Participation and Attendance:

It is important that you are familiar with the course material as the course evolves. Your ability to answer questions and discuss the material will be part of the overall participation evaluation. Therefore, you should review class material ahead of time. Regular attendance is expected and encouraged. **Your attendance will be used to evaluate your participation grade.** I consider a student missing more than one week of class lectures without excuse to be a serious participation problem. In some cases, I will petition the Office of Student Affairs to drop students from the course who have excessive absences and may withhold the entire participation grade at my discretion for participation problems. Each student is responsible for all material and administrative instructions given during the lecture period.

Personal Problems:

If you have illness or personal problems that will affect your performance during the course of the semester, please let me know as soon as possible. “After the fact” provides little protection unless there are extreme circumstances. I have an answering machine, a fax machine, and an e-mail address if you need to get in touch with me after hours. Do not hesitate to use them.

Scholastic Dishonesty:

IMPORTANT! Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and dismissal from The University. Since dishonesty harms the individual, all students, and the integrity of The University, policies on scholastic dishonesty will be strictly enforced. For further information, visit the Student Judicial Services web site http://deanofstudents.utexas.edu/sjs/. Remember, individual assignments are not group projects and do not build on the efforts of others without due reference.

Students with Disabilities:

The University of Texas at Austin provides, upon request, appropriate academic adjustments for qualified students with disabilities. Any student with a documented disability (physical or cognitive) who requires academic accommodations should contact the Services for Students with Disabilities area of the Office of the Dean of Students at 471-6259 as soon as possible to request an official letter outlining authorized accommodations. For more information, contact that Office, or TDD at 471-4241, or the College of Engineering Director of Students with Disabilities at 471-4321.

Privacy – Web Based Class Sites:

Web-based, password-protected class sites may be associated with all academic courses taught at the University. Syllabi, handouts, assignments and other resources are types of information that may be available within these sites. Site activities could include exchanging email, engaging in class discussions and chats, and exchanging files. In addition, electronic class rosters will be a component of the sites. Students who do not want their names included in these electronic class rosters must restrict their directory information in the Office of the Registrar, Main Building, Room 1. For information on restricting directory information, see: http://www.utexas.edu/student/registrar/catalogs/gi00-01/app/appc09.html.
Dropping the Class:

Undergraduate Students: From the 1st through the 4th class day, an undergraduate student can drop or add a course on ROSE or TEX. From the 5th through the 12th class day, a student can drop through ROSE or TEX; adds must be done in the department offering the course. For any drops beginning with the 13th class day, a student must initiate the drop process in the office of the Dean (ECJ 2.200). Departmental advisor and instructor approval may be required.

Graduate Students: From the 1st through the 4th class day, graduate students can drop or add a course on Ros or TEX. Beginning with the 5th class day, graduate students must initiate any adds or drops in their department. Graduate students can drop a class until the last class day with permission from the departmental Graduate Advisor and the Dean. Graduate students with GRA/TA/Grader positions or with Fellowships may not drop below 9 hours in a long session.

Computer Usage:

Students are expected to be proficient on a personal computer and to be able to use word processing and spreadsheet programs such as Word and Excel. Familiarity with the Civil Engineering Learning Resources Center (LRC) is assumed. Students need to get an ENGR account in order to access and log in to ECJ 3.402 computers. ENGR account requests may be submitted online on https://utdirect.utexas.edu/engine/adrequest.WBX. The web-based UT Blackboard system will be used extensively to coordinate class assignments and disseminate course information, including class notes.

IMPORTANT DATES:

No classes on March 14 and March 16 due to the Spring Break. February 1 is the last day to drop a class for a possible refund. February 13 is the last day to drop a class without a possible academic penalty. March 27 is the last day to change the course to/from credit/no credit or pass/fail. May 1 is the last day a graduate student may, with the approval of the instructor, the graduate adviser, and the graduate dean, drop a course. Midterm: Tuesday, April 04

SCHEDULE:

*Note: The course schedule is subject to changes. Any changes in the course schedule will be communicated in advance and posted in the course Blackboard web page.*

<table>
<thead>
<tr>
<th>Week</th>
<th>Lect.</th>
<th>Date</th>
<th>Topic</th>
<th>Reference Material</th>
<th>Assignment Due</th>
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<td>Jan 17</td>
<td>Project Information Management Systems</td>
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<td>Jan 19</td>
<td>Overview and Concepts; Systems Analysis and Design</td>
<td>Turban 2, 3, and 14.1</td>
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<td>3</td>
<td>Jan 24</td>
<td>Database Management Systems</td>
<td>Rob 1</td>
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<td>Data Modeling</td>
<td>Rob 2</td>
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<td>5</td>
<td>Jan 31</td>
<td>Lab: Database, Tables, and Forms</td>
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<td>Relational Databases</td>
<td>Rob 3</td>
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<td>Feb 7</td>
<td>Lab: Table Relationships, Queries, and Reports</td>
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<td>Group Project: Deliverable 1</td>
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<td>Lab: Application Switchboard, Macros, and Startup Settings</td>
<td>Prague 25</td>
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<td>Feb 21</td>
<td>Lab: Command Bars</td>
<td>Prague 25</td>
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<td>Database Design</td>
<td>Rob 8</td>
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<td>Feb 28</td>
<td>Lab: Forms and Reports</td>
<td>Prague 8 and 9</td>
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<td>Introduction to SQL</td>
<td>Rob 6</td>
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<td>Data Management: Warehousing, Analyzing, Mining</td>
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<td>Web Technologies</td>
<td>Rob 14; Turban 4</td>
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<td>E- Business and E-Commerce / Mobile and Pervasive Computing</td>
<td>Rob 13; Turban 5 and 6</td>
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<td>Knowledge Management / Document Management</td>
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<td>Lab: Automating Applications</td>
<td>Prague 18, 19, and 20</td>
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<td>Supply Chain Management &amp; ERP</td>
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* Away date – this class will be rescheduled.