CSC394 Software Projects

IS376 Information Systems Project

Professor Clark Elliott

Spring 2021-22

Logistics:

Class meets: Online.
Wednesdays 5:45 – 9:00 CDT:
      Asynchronous lectures are available on D2L
      Required synchronous group meetings take place via Zoom software.
Professor: Dr. Clark Elliott
Class website: http://condor.depaul.edu/~elliott/394
email: elliott@depaul edu.
  [Include "394: " prefix in subject line and MEANINGFUL mail header!]
  I respond to class email as soon as possible, and almost always within 24 hours.
Course Management: D2L.depaul.edu

Senior Capstone:

The Senior Capstone experience allows students to explore substantive areas of scholarship and creative works within their major. In this class students, working in collaborative project teams, are given the opportunity to create a substantial, fully operational, well-documented project based on their years of study within their associated major. The Capstone class further provides students the opportunity to integrate knowledge gained from their major with that which was learned in the core courses of the Liberal Studies Program. In this culminating experience, students create, under the mentorship of a faculty member, a final capstone project of their own design.

Textbooks: None required this quarter

Recommended background text: Schmidt, Terry, *Strategic Project Management Made Simple, Practical Tools For Leaders and Teams* (Hoboken, New Jersey: John Wiley and Sons, Inc., 2009) ISBN-13 978-0470411582 (light reading)

Recommended background classic text: Project Management Institute, Inc., A Guide to the PROJECT MANAGEMENT BODY OF KNOWLEDGE (PMBOK® GUIDE), Fifth Edition (Newtown Square, PA: PMI, Inc., 2013) ISBN-13: 893-7485908328

Grading:

All grades are fully broken down in D2L at D2L | Grades. Students have online access to their currently-recorded grades 24/7.

Exams & Quizzes   23.5%
Project grades   76.5% (Including an absolute attendance requirement)

Missing an in-class project group meeting results in a 4% grade reduction and cannot be made up. Absences from the weekly required synchronous project group meetings are not excused for any reason.

Projects *must run* on the various days they are scheduled for demonstration or the group will suffer a major point reduction. There is a *high* priority on have a running project ready to go. Online classes will submit Panopto videos to the appropriate D2L discussion forum.

Extensive rubrics are provided online at the class website for each demo. These are *recommended* guidelines with the understanding that—for the obvious reasons—most of them will be met. However, we do wish to leave some room for creative, innovative approaches to demos in this class, so it is not necessarily true that every box be checked for high quality project demos.

Depending on the size of the class, feedback is typically given for project demos either within hours of the presentation deadline, or within a day. Every effort is made to give written feedback prior to the next project group meeting, with feedback discussion of it also taking place prior to the next group meeting.

Quiz feedback is instantaneous. Every effort is made to give midterm and final exam / assessment feedback within one week.

Each student is responsible for the *entire* project on the day it is due, for all demos. All students share the same project grade for demos. Plan accordingly, ahead of time.

Grading Scale:
      95%   A
      90%   A-

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86,83,80      B+,B,B-
78,74,70      C+,C,C-
65,60         D+,D
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765/100 points, Project Grades include:

1. Concept demo (shared)
2. Requirements, Design, Plan demo (shared)
3. Project Preview demo (shared)
4. Final Project demo (shared)
5. Individual Copy of the Project Book (shared / individual)
6. Individual Project Contribution Assessment (individual)
7. Miscellaneous logistical checkpoint submissions
8. Negative 40 points: Missing an officially scheduled class project meeting (individual)

Specific point breakdowns are listed at D2L | Grades.

Note that I reserve the right to raise the grade of a student that has demonstrated exceptional contributions in any of these areas.

All grades are subject to Academic Integrity Sanctions. See the class website and the student handbook for further discussion.

Course is fully organized online through D2L. Under the D2L | Content tab can be found:

1. **Getting started**—~12 links and documents to prepare for the first project group meeting and get through the first week's assignments.
2. **Administration**—~5 links and documents including this syllabus, the class website, Zoom information, and *possible* makeup assignments.
3. **Resources and Links**—~8 major links, and ~15 minor links to many central web pages and documents relative to the course. Included are samples of work from other classes.
4. **Video Lectures**—~8 web pages with links to the many pre-recorded lectures for the course.
5. **PowerPoint Lecture Slides**—~10 full PowerPoint slide sets associated that have been broken down in to various lectures.
6. **Online Student Success**—~5 links to university-provided web pages on various technologies available to help students succeed in online courses.

Online quizzes and exams:

All of the quizzes and online exams can be found at **D2L | More | [Drop-down] Quizzes**

Course Calendar:

All due dates and course events can be viewed in D2L: **D2L | Course Home | Calendar icon | [drop-down] Go to Calendar | Select *List* tab**

Course News:

D2L | Course Home | News

Most class communications with students are through the D2L News vehicle. Students are instructed to set notifications for news so they also receive updates of news in email, but a dated record of all communications are also kept in the news archive for the course.

Course progress:

Students are expected to check off the provided course-progress links in D2L when they have completed each part of the class. This helps students to keep track of their progress through the course, and helps—along with the quizzes—to provide the instructor a detailed view of each student's progress through the course.

Topics will be drawn from, but are not limited to:

7. Understanding of project responsibilities
    a. Project manager
    b. Planning manager
    c. Chief designer
    d. Implementation manager
    e. Requirements manager
    f. Collaboration software manager
    g. Video / Media specialist
    h. Documentation manager
    i. Testing manager
    j. Unix systems programmer
    k. Webmaster
    l. Presentation manager
    m. **Exactly one** bottom-line name attached to each responsibility
8. Working with people

       a. Listening skills

       b. Leadership through service

       c. Introduction to the idea of working with different personality types

       d. Effective criticism and the idea of a cognitive-unit relationship

       e. How to get people angry at you—or not. Do what you said you were going to do.

       f. Cultural differences—avoiding misunderstandings by being clear on expectations

       g. Giving team members as much responsibility as they can handle

9. Project development

       a. Blue sky creativity—write everything down without critique

       b. Stakeholder analysis

       c. Requirements development

       d. Requirements validation

       e. Dynamic reworking of requirements

       f. Planning bubbles breakdown and the five-hour rule

       g. Dynamic re-planning and pruning of a project's scope

       h. Critical path through a project

       i. Maintaining a central project calendar

       j. Elements of a valid project design

       k. Excising weak links in project implementation before demonstration

       l. Testing-driven design

       m. Signing off on explicit tests, a name required for each test

       n. Critical elements of a successful presentation

       o. Working with users, the communication gap

       p. The difference between a plan and a design

       q. Risk assessment and response

10. Planning under uncertain futures

       a. Expected Value

       b. Utility Value

       c. Sunk Costs

       d. Framing Effects

11. The Logical Framework

       a. Systems thinking—what is the context?

       b. Strategic planning, from objectives to the environment, to the strategy

       c. If-then hypothesis thinking, testing the unknown

       d. Integrating Theory and Best Practices

       e. What are we trying to accomplish? (Objectives)

       f. How will we measure success? (Measures and verification)

       g. What other conditions must exist? (Assumptions)

       h. How do we get there? (Inputs)

Project Deadlines:

The project deadlines are absolute and project demos are due on the day scheduled without exception.

See the course calendar at D2L for demos and other dates: D2L | Course Home | Calendar

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Demonstrations of the project:

1. Concept demo (must run)
    a. Running early demonstration of SOME group vision, assess your group members
    b. Usually throw out the concept demo and start the real project from scratch
2. Requirements, Design, Plan demo (no running project component required)
    a. Requirements for the full final project, including requirements verification and validation, give history of requirements versions and development, etc.
    b. Plan for the project. Show complete breakdown to the five-hour task level, etc.
    c. Design for the full final project, including hardware and software, data, networking, security, platforms, program logic. Do NOT focus on the interface screens.
3. Preview demo (must run)
    a. May be a complete identical run-through of the final project
    b. Complete project ready to go, and just working out the kinks
    c. Recommend freezing the code at this point
4. Final demo (must run!)
    a. Presentation of the *running* final project
    b. Projects that are not running risk failure in the class
    c. Include the entire project from requirements to plan to design to testing to final running demonstration.
5. Project Manual
    a. Typically due for completion a week after the final demo
    b. To get credit for the project manual, each student must demonstrate that they have their own copy of the project manual.

Class structure:

This class will have a recorded lecture component each week, and extensive time during the regularly scheduled hours for collaborative real-time project group meetings. There is an absolute attendance requirement at project group meetings which cannot be made up. There will be a midterm and a final exam.

Office hours for the course are available from my faculty link at cdm.depaul.edu

All assignments, the assignment schedule, and the course materials, are available online at either D2L or the class website.

Writing Component:

This course has an important writing component. Students will write a short essay, or combination of brief essays about the status of their project group, answering specific questions and giving support for their arguments in a structured format. Students will write another essay as part of the final materials for the course specifying the nature of their contributions to the capstone project, again giving support for their arguments within a structured format.

Learning Outcomes:

At the end of class you will...

- have demonstrated, through presentations, quizzes and the project manual a broad understanding of the central systems principles in planning, designing, testing, implementing and testing a large software project.
- have demonstrated high-level knowledge of the *practical* aspects of implementing a large software project through successful, comprehensive demonstrations covering each major aspect of software project delveopment.
- have demonstrated that you have mastered the basic principles of effectively working within a project team via (a) passing testing on group dynamics principles, and (b) as rated by each of yourself (through structured self-reporting), your instructor (through the midterm and final exam/assessment), and your project team members (via the final group assessment).
- have demonstrated a good understanding of the basic principles of managing a software project team via your written responses on the midterm and via the management quizzes.
- have demonstrated the ability to produce a running capstone project as assessed by review of the various capstone project checkpoint demonstrations and your completed time-log-documented contributions to each of them.
- have demonstrated a broad survey-level knowledge of project management on quizzes and exams.
- apply one or more theories or concepts from courses within your major to an analysis of a particular issue relevant to the major
- identify an idea, method, or concept from a discipline outside your major field of study and be able to apply it within the context of your major field of study.
- examine how your previous coursework, including Liberal Studies courses, has contributed to your intellectual development and/or your post-graduation plans.

Academic Integrity:

Cheating, plagiarism, and unethical conduct are not allowed, and will be sanctioned, including referral to the dean's office, and failure in the class. Please refer to the academic handbook by which rules you are expected to abide.

Violations include, but are not limited to: making claims on any checklist for work that has not been done; including ANY un-cited work of others in any documents you turn in; turning in work, including any program, that has been authored by someone other than yourself; and in some cases including *any* work of others, whether cited or not–see the rules for each assignment.

"Minor points" notation:

From time to time I use the point box as a communication vehicle in two specific ways, and I reserve the right to add minor points for this purpose:

- One point extra: I am tipping my hat to you for particularly fine work. That is, if you get 101 points on a 100 point paper, I may be saying, "Hey, I noticed the five extra fine job you did. Good job!"
- Two points extra: If you receive two extra points, I am acknowledging an *exceptional* contribution beyond expectations, so 102 points on a 100 point assignment is something to feel really good about, and is a rare compliment.
- Grade of "1": used as a placeholder to let a student know that I have reviewed an assignment, and am waiting for further information or work as per correspondence. A "1" will *always* be resolved to a different grade.
- Grade of "2": a serious warning that you need to communicate with me about possible plagiarism or some other irregularity that is being investigated.

More Policies

Class Content

Some class content may be upsetting to some students. This is a university, and we are not afraid of addressing content that some may find controversial. For example, we may talk about gender roles and challenges in the workplace. We may talk about strategies for ensuring gender equality within project structure, and in the workplace in general. If you are not comfortable with this material for

any reason, *stop reading it,* or *leave the discussion.* Send email to the instructor about your discomfort. We will find something else for you to do for equal credit, as needed.

Changes to Syllabus

This syllabus is subject to change as necessary during the quarter. If a change occurs, it will be addressed during class, posted in D2L, and sent via email.

Online Course Evaluations

Evaluations are a way for students to provide valuable feedback regarding their instructor and the course. Detailed feedback will enable the instructor to continuously tailor teaching methods and course content to meet the learning goals of the course and the academic needs of the students. They are a requirement of the course and are key to continue to provide you with the highest quality of teaching. The evaluations are anonymous; the instructor and administration do not track who entered what responses. A program is used to check if the student completed the evaluations, but the evaluation is completely separate from the student's identity. Since 100% participation is our goal, students are sent periodic reminders over three weeks. Students do not receive reminders once they complete the evaluation. Students complete the evaluation online in CampusConnect.

Academic Integrity and Plagiarism

This course will be subject to the university's academic integrity policy. More information can be found at http://academicintegrity.depaul.edu/. If you have any questions be sure to consult with your professor. There is NO CHEATING OF ANY KIND in this class!

Academic Policies

All students are required to manage their class schedules each term in accordance with the deadlines for enrolling and withdrawing as indicated in the University Academic Calendar. Information on enrollment, withdrawal, grading and incompletes can be found at: cdm.depaul.edu/enrollment.

Students with Disabilities

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential.
To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at: csd@depaul.edu.

Lewis Center 1420, 25 East Jackson Blvd.
Phone number: (312)362-8002

Fax: (312)362-6544
TTY: (773)325.7296

Other Course Policies

Attendance: Students are expected to attend each class, or view the class online, typically during the week the lecture is presented. Attendance at in-class project meetings is mandatory, and for the obvious reasons there is no way to make up such an absence; the group has already moved on. The reason for such an absence is irrelevant; there are no excused absences from group meetings.

Class Discussion: Student participation in class discussions in the groups is expected.

Attitude: A professional and academic attitude is expected throughout this course. Measurable examples of non-academic or unprofessional attitude include but are not limited to: talking to others when the instructor is speaking, mocking another's opinion, cell phones ringing, emailing, texting or using the internet whether on a phone or computer. If any issues arise a student may be asked to leave the classroom.

Cell phones / laptops in class: If you need to use your cell phone for any reason, or your laptop for any reason other than following the class slides, and taking notes, *leave the room.* You may quietly leave and re-enter as often as necessary unless I note otherwise. Your peers devote many hours out of their busy lives, and hundreds of dollars, to come to class. They deserve a vibrant, focused, environment. If you have a special case, discuss it with the instructor ahead of time. NO TEXTING, EMAIL, FACEBOOK, etc. in the classroom.

Civil Discourse: DePaul University is a community that thrives on open discourse that challenges students, both intellectually and personally, to be Socially Responsible Leaders. It is the expectation that all dialogue in this course is civil and respectful of the dignity of each student. Any instances of disrespect or hostility can jeopardize a student's ability to be successful in the course.