CIS 4296: Syllabus Fall 2021 IS&T CAPSTONE 1 - Systems Analysis and Design – CRN 4434

IN PERSON COURSE MEETING TIMES

Tuesday & Thursday: 3:30 – 4:50 pm – Location SERC 214 - Student Attendance is **required.**

Wednesday 9:00 – 10:50 am – Location Tuttleman Room 9 - Student Attendance is **required.**

CONTACT INFORMATION

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| **Instructor** -- Rose McGinnis |
| [mcginnr@temple.edu](mailto:mcginnr@temple.edu) (215-204-3624) office phone – you can leave a message - (610-256-8392) cell |
| ***Student Drop In Hours:*** These are times I will be in my office in SERC – you can stop by or if you prefer you can set up a zoom meeting with me - If you need to meet with me outside of Student Drop In Hours – just email me and we can set up either an in person or zoom meeting |
| **T – TH 2:00 – 3:00 pm in person hours**    **TA** – Hannah Knapp [tuh10145@temple.edu](mailto:tuh10145@temple.edu)  ***TEMPLE AND COVID-19***  Temple University is committed to meeting the changing circumstances of the COVID-19 pandemic with flexibility and resilience. Guided by our motto of Perseverantia Vincit ("Perseverance Conquers"), we will work together as a community to ensure a meaningful learning experience for our students, which is the shared responsibility of the Temple University community.  ***How This Course Will Be Taught***  All Class Meeting including labs will be in person in the locations listed above. This capstone class is heavily dependent on student group projects and students working together safely. There is no final exam for this class as you client project completion replaces the final exam.  ***Attendance Protocol and Your Health***  To achieve course learning goals, students must attend and participate in classes, according to your instructors’ requirements. However, if you feel unwell or if you are under quarantine or in isolation because you have been exposed to the virus or tested positive for it, you should not come to campus or attend in-person classes or activities. It is the student’s responsibility to contact their instructors to create a plan for participation and engagement in the course as soon as they are able to do so, and to make a plan to complete all assignments in a timely fashion, when illness delays their completion.  ***Expectations for Class Conduct***  The best way to maintain a safe and focused learning environment is for everyone to get vaccinated. We all need to follow the university guidance on masking as well. For your general health and well-being, hand washing and monitoring your health is still highly recommended.  It is also important to foster a respectful and productive learning environment that includes all students in our diverse community of learners. Our differences, some of which are outlined in the University's nondiscrimination statement, will add richness to this learning experience. Therefore, all opinions and experiences, no matter how different or controversial they may be perceived, must be respected in the tolerant spirit of academic discourse. Treat your classmates and instructor with respect in all communication, class activities, and meetings. You are encouraged to comment, question, or critique an idea but you are not to attack an individual. Please consider that sarcasm, humor and slang can be misconstrued in online interactions and generate unintended disruptions. Profanity should be avoided as should the use of all capital letters when composing responses in discussion threads, which can be construed as “shouting” online. Remember to be careful with your own and others’ privacy. In general, have your behavior mirror how you would like to be treated by others. |

Course Description

This course is the first in a two-semester capstone sequence required for all IS&T students. It synthesizes all the material learned within the required courses and effectively prepares the students to enter the workforce. The course focuses on taking a software project from the Project Definition through Analysis then into Design. The second capstone course will then pick up in development and implementation. Students will have an individual project of their choice they will use to practice the deliverable on as well as a group project.

Each student will be assigned to a client project team and each team will have a unique client for whom they work. These clients will be selected from non-profits or Temple departments who have a clear and definitive need for an Information System. Systems requirements, analysis and design concepts, tools and techniques will be taught, and the students will apply them to their client projects. Student teams will meet with and interview their clients to understand their requirements, develop an appropriate scope of what can be accomplished, analyze the information system needs and design an appropriate solution. Next semester, in CIS 4396, the student teams will continue working on these projects and will develop the system, test it thoroughly, install it and train the users. Together, these two courses give students experience in the entire Systems Development Life Cycle (SDLC).

At the conclusion of the two-semester capstone course sequence, students are expected to have mastered both the professional and technical skills typically required in the IT/computing workplace.

* Technical knowledge and skills will involve some combination of procedural and object-oriented programming, database technology, software development methodologies, (including analysis, planning, design and implementation, operation, and maintenance).
* Professional skills should include the development of effective group work capabilities, excellent communication skills, project management skills, as well as presentation design, delivery, and discussion.

All students completing the capstone sequence should have developed an understanding of appropriate strategies and approaches for effective client-developer interaction and successful software system development.

Student Competencies

By the end of this course, students should be able to demonstrate the following competencies:

* As a Temple-defined ‘writing intensive’ course, students will be required to submit thorough and complete written reports on all aspects of their work, with requirements for iterative writing assignments. Students will also gain experience in research using technology resources. All writing assignments will focus on developing the writing skills that students will need to be able to execute in their future professional careers.
* Students will develop strong interviewing and listening skills while working with their clients.
* Students will develop strong presentation skills in giving presentations to the professor and to class, as well as communicating and presenting regularly to their clients.
* Students will use state-of-the art languages/tools. A variety of technologies will be used and discussed, including Object Oriented and Agile methodologies.
* Students will gain experience in actual writing that is done within industry, including all aspects of requirements, analysis and design documents.
* Students will learn to determine systems requirements, analyze systems problems, model potential solutions, and design these solutions.
* Students will learn how to work in remote project teams to accomplish a complete project.
* Students will draw upon the accumulated knowledge gained during their IS&T studies. Depending on the specifics of each project, programming, databases, operating systems, networking, server administration, and security are all components that will relate to this project.

***Course Objectives:***

* Learn and apply Information System consulting procedures and techniques.
* Utilize project and team management techniques to record, report, and monitor progress and hold each team member accountable for deliverables.
* Create various professional analysis and design client deliverables, including a statements of work (SOW), activity diagrams, use case diagrams, user stories, data models, database structure, requirements document, screen layouts and system prototype (UI).
* Learn about Waterfall, Object Oriented and Agile systems development, with ability to utilize the best of each in appropriate settings.
* Monitor and track group project deliverables using a group collaboration tool - Microsoft Team, Trello boards, Google Docs are examples of these tools.
* Learn to implement configuration management principles using Git Hub.
* Execute responsive system design with the use of the Bootstrap tool.
* Utilize and develop student writing skills, with requirements for iterative review and rewrite of documents and learn the importance of consistent writing and documentation across the project deliverables.

COURSE MATERIALS

* This course has no required course materials that must be purchased. There are no textbooks for this course. Students will be required to do independent research, watch videos and visit websites for course resources.
* We encourage you to start the Bootstrap and Git Hub work early in the semester as these are key pieces of the course and like most new technologies you will work with in the corporate environment, you will be learning most of this at your own pace and style.

***COURSE POLICIES***

* Teamwork and professionalism are overarching tenets of everything you do in this class. Both your professor and your client will expect you to deliver what you promise. Do not commit more than you can do as a team. ***It is always better to under commit and over deliver than to have the opposite situation.***
* There will be many assignments which must be handed in and will be graded.  **Assignments will not be accepted late without prior approval.** There are both individual assignments and group client deliverables.
* Remember that you are working for a client, and due dates are expected to be met. In school and in the business world, estimates and expectations need to be established and met. Professionalism is expected throughout this course and especially in interactions with your client.
* As a writing intensive course, students will be required to develop their writing skills throughout the course. This course will incorporate a number of requirements to emphasize the importance of writing, including independent research, the integration of a variety of sources, revision, and allocating a substantial amount of your grade on the quality of your writing. Students who feel that they are weak in writing proficiency should go to the Temple Writing Center for help. A key aspect of Temple’s writing intensive courses is the use of the revision process and iterative writing, and this will be required in this class.
* In addition to the required disability statement, please bear in mind that COVID-19 may result in a need for new or additional accommodations. Students should seek out assistance from DRS.
* Any student who has a need for accommodations based on the impact of a documented disability or medical condition should contact Disability Resources and Services (DRS) ([drs@temple.edu](mailto:drs@temple.edu); 215-204-1280) to request accommodations and learn more about the resources available to you. If you have a DRS accommodation letter to share with me, or you would like to discuss your accommodations, please contact me as soon as practical. I will work with you and with DRS to coordinate reasonable accommodations for all students with documented disabilities. All discussions related to your accommodations will be confidential.
* The University has adopted a policy on Student and Faculty Academic Rights and Responsibilities (Policy # 03.70.02) which can be accessed through the following link: <http://policies.temple.edu/PDF/99.pdf>
* Cell phones MUST be turned off in my class.

***COMMUNICATION OUTSIDE OF CLASS***

Student Drop in hours and email are listed above. Email is typically the easiest way to reach me outside of class or my office hours. You need to check CANVAS and your Temple email regularly during the semester. If you do not use Temple’s email system, make sure that you forward your Temple emails to whichever one you do use.

***ORIGINALITY OF WORK and CITING OF SOURCES – YOUR WORK MUST BE YOUR OWN***

Do not cheat in this class. I take this very seriously as does the university!! This includes plagiarism. If you quote someone else’s material, you MUST cite it properly. This includes all material taken from the Internet. If you copy work from the Internet or another source, and do not cite it properly, you will fail this course. All of your work must be your own…this includes your homework assignments. Copying or sharing during an exam or quiz, copying homework, sharing printed or digital homework files, or any other type of plagiarism in any form is strictly prohibited in this class.

Students should also be familiar with the University statement on academic honesty found at the following link:

<https://bulletin.temple.edu/undergraduate/about-temple-university/student-responsibilities/>

I also expect you to understand and utilize the proper way to cite sources and utilize reference materials. There are many sites for proper APA or MLA citing – either is acceptable for this class. If you are not familiar with how to do this, you can get useful information from the Temple Writing Center at: <https://online.temple.edu/resources/writing>

**COMMON TYPES OF PLAIGARISM INCLUDE:**

1. Direct copying from internet sources or texts without acknowledgement (not even in the list of references/bibliography at the end).

2. Direct copying in reasonably large quantity from internet sources or texts with citation or bibliography, but without using quotation marks.

3. No citation throughout the essay, with a list of references only at the end. No evidence of direct copying, but evidence of failure to acknowledge source of ideas.

4. Failure to paraphrase properly, leaving the original passages more or less intact, except for the alteration of a few words here and there.

5. Improper acknowledgement of other’s work due to incomplete citations or bibliographic references.

6. NOTE: Each of these forms of plagiarism hold true for all work, including papers, presentations, homework, student blogs and student wikis.

***WITHDRAWAL POLICY***

Students may withdraw at any time as long as it meets university guidelines.

***GROUP STRUCTURE***

While there are portions of this course that are done as individuals, substantial amounts of this course require group work and collaboration. The instructor will determine the students who will be in each group. Groups may want to assign clear responsibilities to members for work that needs to be coordinated. This is totally up to each group. Groups will need to use a collaboration tool, such as Google Docs, Trello Board or Microsoft Teams, to coordinate their work. Other tools that will be utilized in class may include [Draw IO](https://www.draw.io/index.html) (for drawing diagrams) and [Figma](https://www.figma.com/wireframe-tool/) (for wireframing UI Design).

All group members will be asked to write assessments of each member’s performance and to discuss them with the instructor. This will happen throughout the semester. However, at all times the instructor is responsible for grading.

Groups will remain together for the entire semester of CIS 4296 and in general for CIS 4396. However, some changes may be made to accommodate differences in skill sets, scope and size before CIS 4396.

GRADING

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| |  |  |  | | --- | --- | --- | | **Item** | **Total Points** | **Individual/Group** | | Class Prep & Participation – Flipped Classroom | 40 | Individual | | In Class assessment – “project from my boss” - 2 each worth 20 points | 40 | Individual | | Individual Project – Individual Project Deliverables (referred to as IPDs) | 90 | Individual | | Technical Homework Assignments | 40 | Individual | | Group Project - Client Deliverables (referred to as CDs) | 190 | Group |   **TOTAL: 400 points** |

Specifics regarding grading:

**Class Prep and Participation - Flipped Classroom:** To provide as much time for group working time during class meeting time and to align with the way that most organizations “train” employees we will be using the model of a “Flipped Classroom” What this means is that prior to most classes there will be prep work that students must complete to come prepared for class. These will typically consist of online lectures – with supporting validation of completion such as discussion topics, and writing assignments that validate that students have completed the required class prep. When we meet in class, we will focus on reviewing material that students need clarification on and hands on activities and group time to execute the material learned in prep for class. For this style to work students **MUST** come to class prepared so that the materials learned are supported in class. This is where the Class Prep and participation portion of the grading occurs. We can not stress enough how important it is for students to complete their prep work prior to virtual class meetings.

**Individual Project – Individual Project Deliverables (referred to as IPDs):** It is important that students have a project that is their own that they can discuss and explain in an interview. Each student will come up with a project idea and execute the analysis and design of their project. This individual project will allow the student to execute all the skills learned in the Project Definition – Analysis and Design phases. These skills will then be used in their group project.

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| **Project Definition** | **5 Points** |
| **Project Vision Statement** | **5 Points** |
| **Statement of Work** | **10 Points** |
| **Activity Diagram** | **10 Points** |
| **Use Case Diagram** | **5 Points** |
| **User Stories** | **15 Points** |
| **Data Model** | **15 Points** |
| **User Interface** | **15 Points** |
| **Final Presentation** | **10 Points** |

**Technical Homework Assignments:** These assignments allow the students to focus on the need to become proficient in Git and Bootstrap. The requirements will be clearly specified. Points vary by complexity and time requirements of each assignment. Late assignments will not be accepted. Pay attention to the requirements of each assignment, the due date, and the point values.

**In Class Assessment** – Twice during the semester we will have a ***“project from my boss”*** day. During class time each student will need to complete tasks associated with what we have covered up until that point. These will be used to ensure that each student has a good grasp of the material and build confidence in being able to demonstrate it comfortably.

**Group Project - Client Deliverables (referred to as CDs):** The professionalism and completeness of client documents is a critical component of this course. All the concepts taught in class will be practiced in your individual project and then utilized in your actual client project. Client deliverables will be done as a group. More weight will be assigned to your preliminary version of these documents as they will require the most time and effort. The final versions are edits and adjustments that will need to be made after our review meetings. This is the iterative review portion of the class.

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| **CD 1** | **Interview Questions, Meeting Agenda** | **Prelim=5, Final=5** | **10** |
| **CD 2** | **Statement of Work** | **Prelim=10, Final=10** | **20** |
|  | **Project Vision Statement** | **5 points** | **5** |
| **CD 3** | **Activity Diagram** | **Prelim=10, Final=10** | **20** |
| **CD 4** | **Use Case Diagram** | **Prelim=5, Final=5** | **10** |
| **CD 5** | **User Stories** | **Prelim=10, Final=10** | **20** |
| **CD 6** | **Data Model** | **Prelim1=10, Prelim2=5, Final=5** | **20** |
| **CD 7** | **User Interface** | **Prelim1=10, Prelim 2=10, Final=10** | **30** |
| **CD 8** | **CD Consistency (Use Case Diagram, User Stories, Data Model, UI) Traceability Matrix** | **Prelim1=10, Final=10** | **20** |
| **CD 9** | **Final Presentation** | **Prelim=10, Final=5** | **15** |
| **CD 10** | **“The Book” (final versions of all CDs, signoffs, and other documents)** | **Final=5** | **5** |
|  | **Meeting Minutes – 5 Meetings each worth 3 points** | **15** | **15** |

**Preparedness/Participation/Attendance**: You are expected to read the materials and complete the homework assignments prior to coming to class. Attending classes is critical for you to be successful in this course and to participate in all of the group interactions. If you miss class, it is your responsibility to get any work missed and to ensure that any assignments are submitted by the assigned time. More importantly, this course focuses on group work. You are expected to be an active participant in your group throughout the entire semester. Understanding that issues can occur, I will give you up to 2 absences. These are a total both across lab and class.

If you become ill or have an issue which is preventing you from attending - -Please reach out to me as soon as possible so we can make the needed accommodations to enable you to succeed with your group.

***FINAL GRADES***

Final grades will be assigned as follows. Your grade equals **your total points / 400 available points**

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| --- | --- | --- | --- |
| Final Grade | Total Points | | Percentage |
| A | | 368-400 | | 92-100 |
| A- | | 360-367 | | 90-91 |
| B+ | | 352-359 | | 88-89 |
| B | | 328-351 | | 82-87 |
| B- | | 320-327 | | 80-81 |
| C+ | | 312-319 | | 78-79 |
| C | | 288-311 | 72-77 | |
| C- | | 280-287 | 70-71 | |
| D | | 248-279 | 62-69 | |
| F | | 0-247 | 0-61 | |

***Student Support Services***

The following academic support services are available to students:

[Student Success Center](https://studentsuccess.temple.edu/)

[University Libraries](https://library.temple.edu/webpages/remote-learner-support)

[Tuttleman Counseling Services](https://counseling.temple.edu/access-services)

[Disability Resources and Services](https://disabilityresources.temple.edu/)

If you are experiencing food insecurity or financial struggles, Temple provides resources and support. Notably, the Temple University Cherry Pantry and the Temple University Emergency Student Aid Program are in operation as well as a variety of resources from the Division of Student Affairs.