

University of the District of Columbia
Department of Computer Science and Information Technology
SPRING SEMESTER 2021
Senior Project II
Tentative Schedule

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I. Course Description consistent with University catalog.

Senior Project II, Lec (3 cr). This is a continuation of SENIOR PROJECT I. Students learn project management skills and intensive writing with oral presentation.

II. Course Goals, Objectives, Prerequisites, and Co-requisites:

Goals:

The goal of this course is to demonstrate professional competency in the application of technical knowledge gained from all core and elective courses of the program courses. It satisfies both the professional components as defined by ABET and the general education writing requirements. It also satisfies all CSIT program objectives.

Course objective:

- The objective of this course is to consolidate the student ability in utilizing the scientific methods to collect, analyze, and discuss information across a wide variety of subjects.
- Design and develop an application-oriented or research-based project of significant complexity in the discipline.
- Understand the professional, ethical and social aspects of system design and creation.
- Prepare a presentation, oral or written (including poster) of their project and deliver to an audience of faculty and peers.
- The student is expected to demonstrate creativity and good judgment in the design activity, both in the selection of design tools and the materials for the design. Emphasis will be placed on cost effectiveness and the use of top-down design methodology.
- The student will also be encouraged to conduct thorough investigation about the assigned project by using appropriate literature search.
- Improve the overall technical competency of students in conducting thorough investigation about the assigned project by using appropriate literature search.
- Improve the written and oral communication of students.

Prerequisite: Senior Project I

Student Learning Outcomes

1. Demonstrate the ability to identify and develop research ideas that responds to the writing task (e.g. audience and purpose).

Assessment: literature search, Capstone project design proposal report, interim and final design reports.

2. Demonstrate the ability to analyze new and unfamiliar problems, reference it against known and familiar information, and to adapt known knowledge in solving new problems. This will include:
 - a. Plan an orientation and research process,
 - b. Learn new vocabulary,
 - c. Obtain relevant information,
 - d. Identify patterns and draw conclusions
 - e. Generate new questions based on learning, and recommend further study**Assessment:** class attendance and class discussion, project reports.
3. Demonstrate the ability to use modern design, test and verification tools in the implementation of open-ended projects.
Assessment: Design Specifications, Simulation and prototyping of the design project.
4. Demonstrate the ability to utilize scientific methods to collect, analyze, and discuss information across a wide variety of subjects.
Assessment: class presentations, progress and final project reports.
5. Demonstrate the ability to identify and develop research ideas that responds to the writing task (e.g. audience and purpose).
Assessment: Capstone project, interim and final design reports.
6. Demonstrate the ability to produce quality written reports for technical and non-technical readers using the IEEE format. All progress and final project reports need to be presented in writing in a manner that shows demonstrated knowledge of the IEEE conventions in writing including conventions and text type.
Assessment: class presentations and final project reports.
7. Demonstrate the ability to supply adequate evidence to support the quality of ideas and techniques used in the implementation of the project;
Assessment: class presentations, progress and final project reports.
8. Demonstrate the ability to cite sources used in research.
Assessment: progress and final project reports

Assessed for Program Outcomes:

- a) **SO3-A** Produce a variety of written documents using appropriate formats and grammar with discipline-specific conventions including citations appropriate to the audience.
- b) **SO3-B** Deliver well-organized, logical oral presentations, including good explanations when questioned
- c) **SO3-C** Produce appropriate graphics such as figures, tables in written and oral communications
- d) **SO4-A** Demonstrate the knowledge of ACM Code of Ethics and Professional Conduct
- e) **SO5-A** Participate as a team member or leader in developing and selecting ideas, establishing team goals and objectives, and creating a collaborative and inclusive environment
- f) **SO5-B Plan** collaborative tasks, understand individual responsibility, share responsibilities and information on schedule, and engage in the success of team
- g) **SO6-B** Apply software development fundamentals to produce a computing-based solution

Others:

- (C- 2.) Carry out design process (such as concept generation, modeling, simulation, synthesis, evaluation, iteration) to satisfy project requirements.
- (E-3.) Use analytical, computational, and/or experimental methods to obtain solutions.
- (F-1.) Evaluate ethical issues (such as safety, intellectual property, reporting data, etc.) that may occur in professional practice using professional codes of ethics.
- (F-2.) Interact with industry, project sponsors, professional societies, and/or community in a professional manner.
- (J-1.) Describe the impact of contemporary issues (such as environmental, global trade, economic, health, safety trade-offs, and emerging technologies).

III. Course Requirements:**Course Content**

This second Senior Project course is a culmination of the student's undergraduate studies in CSIT. This course embraces many technical and nontechnical aspects of the professional practice in CSIT.

The technical aspects of this course include:

1. Review of basic design tools, methodologies and relevant literature.
2. Top-down and bottom-up design methodologies
3. Review of modern design tools
4. The design and implementation of a major open-ended mini project.

The non-technical aspect of this course requires a set of writing assignments. Students are expected to present in writing all their research results pertaining to their team or individual projects in compliance with the course learning objectives. All progress and final project reports need to be presented in writing in a manner that shows that the student can:

1. Demonstrate the ability to identify and develop content that responds to the writing task (e.g. audience and purpose).
2. Demonstrate knowledge of the IEEE conventions in writing.
3. Demonstrate the ability to apply the rules of writing as dictated by the writing task and the IEEE format
4. Demonstrate the ability to supply adequate evidence to support the quality of ideas and techniques used in the implementation of the project.
5. Demonstrate the ability to cite sources used in literature research phase of the project.

The details of the project proposal, progress, and final report in terms of number of pages, contents, and format will be provided to students in a separate document.

Textbook(s) and/or Other Required Material(s):

1. Material dependent upon project. Other course materials pertinent to the individual projects will be provided either electronically or through hand-outs as needed.
2. Manufacturer's data manuals and/or Instruction Manual

IV. Format and Procedures:

This is a lab course. Students will be divided into teams. Each member of a team will have a specific responsibility in executing their assigned major project. However, all members of each team are collectively responsible for the successful completion of their work. The course instructor will mentor, guide, provide technical assistance, and evaluate the performance, efforts of all students and the quality of their designed projects. The course instructor will also evaluate the writing components of the course and may, if needed, seek help from a faculty in the English Department in the evaluation of the quality of student writings.

V. Student Resources

1. The IEEE digital library: available on-line through the UDC library web site, for literature search.
2. UDC Email. All students must use a UDC e-mail account. UDC e-mail is the only e-mail for academic use and will be the address that instructors use to communicate with students from inside Blackboard.
3. Blackboard: for reviewing course syllabus, assignments, class notes, grades, and communication with team members, classmates, and course instructor
4. The Academic Support Center: at Building 32, B level, for professional help with proofreading of student writings.

VI. Assessment Procedure

Grades will be assigned on the scale: 90-100 = A; 80 – 90 = B; 70 – 80 = C; 60 – 70 = D; Below 60 = F

VII. Grades

The project will be graded as follows:

Assignment	Points	Due Date
Progress Report 1	10%	02/05
Progress Report 2	10%	02/19
Documentation of results	20%	03/19
Prototype	30%	04/02
Final Report and oral presentation	30%	05/07

VIII. Academic Integrity

The UDC catalog states the following:

“Students enrolling at the University of the District of Columbia assume the obligation to maintain standards of academic integrity. Violation of academic obligations include: unethical practices and acts of academic dishonesty, such as cheating, plagiarism, falsification, and the facilitation of such acts.

Cheating includes the actual giving or receiving of any unauthorized aid or assistance or the actual giving or receiving of any unfair advantage on any form of academic work. Plagiarism is the use of another person's ideas or words, or both, as if they were one's own without acknowledgement. However, ideas or direct quotations from others are acceptable with appropriate citation of source.

Students are subject to dismissal from a degree program for unethical practices and acts of academic dishonesty. It should also be stated that a plea of ignorance of the policy will not be accepted.”

IX. Policies on Classroom attendants:

Classroom attendants’ roll call will be made regularly. There will be a Penalty of 10% of the Final Grade for students that missed class 3 times in the semester without a valid reason. Evidence of valid reason has to be substantiated.

X. Statement on ADA (Americans with Disabilities Act) Procedures

The UDC catalog states the following: “A policy statement describing procedures for verification of disability and the provision of appropriate auxiliary aids and services, reasonable accommodations, and academic adjustments is available in the Services for Students with Disabilities Office. Services to Students with Disabilities Office Bldg. 38, Level A (Room A-11) (202) 274-6152 TTY (202) 274- 5579”

XI. Tentative Course Schedule

Week	Assignment
1	Review of IEEE writing format
2	Review of top/down design methodology and design specifications
3-4	System design tools overview
5-13	Development and Implementation of project Project report writing
14	Technical demonstration of the project and proofreading of the final project report
15	Oral presentation of the project and the submission of the project final report