

**PRAIRIE VIEW A&M UNIVERSITY**  
**Department of Mechanical Engineering**  
**SPRING 2024**  
**SENIOR DESIGN AND PROFESSIONALISM II**  
**COURSE SYLLABUS**

COURSE: Senior Design and Professionalism II

COURSE NO: MCEG 4248 P01, P02, P03, P81, P82 & P83  
Credit: 2 hrs

CATALOG DESCRIPTION:

***MCEG 4248 Sr Design & Professionalism II: 2 semester hours.***

MCEG 4248. Senior Design and Professionalism II. (1-4) Credit 2 semester hours. A continuation of MCEG 4247 with required design modifications of the team projects necessary to produce a working prototype of the designs initiated in Senior Design and Professionalism I. Design results are presented in a formal, final oral presentation as well as a final report. Professionalism elements reinforce the importance of professional ethics, corporate culture, life-long learning, and globalization.

PRE-REQUISITES: Prerequisite: MCEG 4247,  
Co-requisite: MCEG 3301.

CLASS HOURS: 11:00 – 11:50 a.m., Wednesday P01, P02, P03  
2:00 – 5:50 p.m., Thursday P81, P82, P83

CLASS ROOM: TBA

INSTRUCTOR: Dr. Xiaobo Peng, (936) 261-9959, xipeng@pvamu.edu  
Dr. Jeffrey Streator, (936) 261-9965, jestreator@pvamu.edu  
Dr. Mingli Han, (936) 261-9952, mihan@pvamu.edu

OFFICE: Dr. Xiaobo Peng, Room 102A, C.L. Wilson Bldg.  
Dr. Jeffrey Streator, Room 102, C.L. Wilson Bldg.  
Dr. Mingli Han, Room 311, S. R. Collins Bldg.

OFFICE HOURS: As Posted.

REQUIRED TEXTBOOK Senior Project Manual” by Prairie View A & M University College of Engineering  
REQUIRED HARDWARE

REFERENCES: 1. “Fundamentals of Engineering Design”, by Barry Hyman, Second Edition, 2003,  
Pearson Education, Inc. (Prentice Hall)  
2. Other project Related References.

**Policy on Class Attendance, Punctuality, Excused and Unexcused Absences**

**Class Attendance Policy (See Catalog for Full Attendance Policy)**

Prairie View A&M University requires regular class attendance. Attending all classes supports full academic development of each learner whether classes are taught with the instructor physically present or via distance learning technologies such as interactive video and/or internet. Excessive absenteeism, whether excused or unexcused, may result in a student’s course grade being reduced or in assignment of a grade of “F”. Absences are accumulated beginning with the first day of class during regular semesters and summer terms. Each faculty member will include the University’s attendance policy in each course syllabus.

NOTE: For this class, the roll will be checked within the first five minutes of class, and again for a second time at any time during the class on Thursday. On Wednesdays the class roll will be checked only once. Students not answering to either roll call on a Thursday will be marked absent. After the first week of class, students will be marked present, absent, late or excused absence. Absent, late, and excessive excused absence will count negatively towards your grade by reducing your class percentage according to the formula below;

Absent	= -1% per each class student is absent.
Late	= -0.5% per each class student is late
Excused absence	= -0.25% for each excused absence above 3 class periods (No penalty for first three excused absences). An excused absent will be given when <b>accompanied by verifying records and approved by the course instructor.</b>

### Project Status Reports:

There will be project status reports which will also serve as draft of various sections of the project report. These reports will be graded and correction and suggestions may be made for additional materials to be added. All corrections on these status reports in the first half of the semester should be made immediately and be reflected in the Mid-term report.

### Taskstream

Taskstream is a tool that Prairie View A&M University uses for assessment purposes. One of your assignments may be required to be submitted as an "artifact," an item of coursework that serves as evidence that course objectives are met. If applicable, more information will be provided during the semester by your department, but for general information, you can visit Taskstream via the link in eCourses.

### VERY IMPORTANT NOTE:

For **each correction** not made in the mid-term report, there will be a penalty of **-1%** on the mid-term report. Similarly, all corrections on these status reports in the second half of the semester and any additional corrections in the mid-term report should be made immediately and be reflected in the final report. For **each correction** not made in the final report, there will be a penalty of **-2%** on the final report.

In addition, there will be presentations. All presentations will be group presentations and each student is required to contribute to the success of the group. It is recommended that a member of the group be assigned the duty of recorder, and maintain the minutes of meetings (with listing of attendees) and a notebook with pertinent information. Each project status report will have a table of content page that lists the report sections and the group member responsible for each section. Individual reports are to be submitted detailing the contribution of each team member. A team report is to be submitted at midterm and a final report is to be submitted at the end of the semester. Each such report should have a detailed table of contents and the responsible person for each part in the table of content indicated.

**LOG BOOK** :Each student is required to use a log book for the whole senior design year. Individual Log Book should include notes from everything you do pertaining to your project and homework. **Individual performance in the teamwork may be graded by reviewing your Log Book. Put a copy of each of your contribution to each status report and any assignment you did for the group in the log book and keep a soft copy. In case of dispute, you will need to show your contribution of the work in dispute from your log book.**

### Use of Ecourses (<http://ecourses.pvamu.edu>)

Ecourses will be used extensively in this class. Lecture slides, assignment, and tutorials will be provided on Ecourses.

### GRADING SUMMARY:

Group Assignments	15%
*Individual Contribution & Confidential Peer Evaluation	10%
Mid-term presentation	10%
Mid term progress report (team)	10%

Final project presentation	10%
Final design report & specification	20%
Project demonstration	20%
Project Advisor Evaluation	5%

\*Individual contributions and peer review may include the following: (i) Taskstream assignments (3%), (ii) Peer review (7%).

Letter grade is to be determined as follows.

POINTS	GRADE
90 -100%	A
80-89%	B
70-79%	C
60-69%	D
0-59%	F

### REMOVE A MEMBER:

In the event that it becomes necessary to remove a member from a team, the following procedure must be followed:

1. The team minus the affected member, must meet to discuss the action to be taken.
2. The team must then meet with the affected student and discuss the action to be taken.
3. A letter must be submitted to the instructor giving justification for the action to be taken. The letter must be signed by all team members and a copy must be sent to the affected student.
4. The instructor will then schedule a meeting with the team members and the affected student for final discussion and appropriate action.

### UTILIZATION OF CLASS TIME:

The following class schedule will be used during scheduled class time.

#### Wednesdays

11:00 – 11:50 p.m. Discussion of Project Status Topics

#### Thursdays

2:00 – 3:00 p.m. Progress presentation, team meets with faculty advisor to discuss project, presentations by invited guest, attendance and reporting

3:00 – 5:50 p.m. Active project design activities or team meetings

### NOTE:

1. Please read the UNIVERSITY CLASS ATTENDANCE POLICY.
2. Please read the University Policy on Academic Honesty.

### DISABILITY REQUIREMENTS:

Do you have any special needs in this class related to a disability? Any student who has or believes they may have a disability that requires accommodations is advised to contact the Office for Students with Disabilities at 936-857-2610.

**IMPORTANT DATES:**      [Spring 2024 Academic Calendar](#)

### How Mechanical Engineering Courses meet Department Objectives & ABET Criterion 3

Specific objectives of the Mechanical Engineering Program are to produce graduates who will:

1. have the necessary knowledge and skills to enable them have successful careers in mechanical engineering and related fields;
2. have leadership skills to advance their careers through increasing levels of responsibilities and leadership;
3. have the necessary educational background to successfully pursue graduate or advanced professional degrees and continuing professional development, and
4. actively participate in professional and community services.

### ABET Criterion 3: Student Learning Outcomes and Assessment

The student learning outcomes directly assessed are highlighted are provided below Engineering Programs must demonstrate that their graduates have:

Outcome	New Student Learning Outcome
1	An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics (including use of the techniques, skills, and modern engineering tools necessary for engineering practice)
2	An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factor (including use of the techniques, skills, and modern engineering tools necessary for engineering practice). Partly covered in the course but not assessed in this course
3	An ability to communicate effectively with a range of audiences
4	An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5	An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6	An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions (including use of the techniques, skills, and modern engineering tools necessary for engineering practice)
7	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

### Assessment Matrix

MCEG Courses	ABET EAC Student Outcomes 1-7											
	Fall 2022	Spring 23	Fall 2023	Spring 2024	Fall 2024	Spring 2025	Fall 2025	2026	Fall 2026	2027	Fall 2027	2028
1102 Mech. Drawing & Desg.												
2301 Thermodynamics I												
2303 Materials Sci/Engr.												
2302 Engineering Mechanics II												
3101 Measurement Lab	7	6	7	6	7	6	7	6	7	6	7	6
3301 Heat Transfer	2	1	2	1	2	1	2	1	2	1	2	1
3102 Thermal Sci. Lab		6		6		6		6		6		6
3302 Thermodynamics II		2		2		2		2		2		2
3103 Manufacturing Lab		4		4		4		4		4		4
3303 Manufacturing Proc		4		4		4		4		4		4
3304 Machine Design I	2		2		2		2		2		2	
3305 Kinematic Design	1		1		1		1		1		1	
3306 Fluid Mechanics	1	6	1	6	1	6	1	6	1	6	1	6
4304 Machine Design II	2		2		2		2		2		2	
4306 Dynamic Systems		1		1		1		1		1		1
4309 Finite Element	1		1		1		1		1		1	
4247 Senior Project I	3, 4, 5		3, 4, 5		3, 4, 5		3, 4, 5		3, 4, 5		3, 4, 5	
4248 Senior Project II		2,3,5,7		2,3, 5,7		2,3,5,7		2,3,5,7		2,3,5,7		2,3,5,7

## Course Objectives and Performance Criteria for MCEG 4248 and

How the College of Engineering Program Objectives and ABET Criterion 4 are met

This course assesses students' abilities in two ABET student learning outcome areas

### STUDENT LEARNING OUTCOME 2

An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factor (including use of the techniques, skills, and modern engineering tools necessary for engineering practice).

Course Objectives under this outcome:

To teach and guide students on how to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factor.

Anticipated Outcome:

#### A. Ability to identify the specific needs to be met by defining/understanding the Problem and developing plans for the project to satisfy the need

Students will be able to:

- (i) Identify the customer and the specific needs to be met by the design
- (ii) Identify and list the design objectives.
- (iii) Identify the design constraints.
- (iv) Define the design requirements, strategy and methodology.
- (v) Identify and break down work into tasks and subtasks and identify the personnel and deliverables for each.
- (vi) Develop a project management plan using Gantt charts and critical path analysis.
- (vii) Establish major milestones for tracking progress and define performance metrics to measure success.

#### B. Ability to Conduct a Review of the Literature and perform preliminary design by generation of ideas and applying creativity

Students are able to:

- i. Identify the types of information needed for a complete understanding of all aspects of the project (Based on task described in the project planning).
- ii. Gather information on relevant fundamentals, theory / concept (demonstrate technical competence) and relate them to the design.
- iii. Provide the sources in a list of references properly cited in the literature review section and relevant sections of the report
- iv. Define functional requirements for design (Specific required actions needed to be performed for the design to be achieved).
- v. Transform functional requirements into candidate multiple solutions / mathematical models.
- vi. Evaluate multiple candidate solutions against requirements to arrive at feasible final designs.

#### C. Ability to perform detailed engineering design

Students will be able to:

- (i) Perform relevant detailed analysis (engineering, mathematical, economic)
- (ii) Consider and address issues relating to public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- (iii) Develop final design specifications
- (iv) Select materials/components/software/test equipment.
- (v) Fabricate a prototype or a model (physical, software, hardware) of the design.

Test or simulate the design and make necessary changes to obtain optimum design

### **STUDENT LEARNING OUTCOME 3**

An ability to communicate effectively with a range of audiences.

Course Objectives under this outcome: To teach students to:

Anticipated Outcome:

- A. Students will complete a final technical report that includes written description of project, technical schematics of the components, system or processes.
- B. All students will give a formal oral summary presentation on their aspect of the project.

### **STUDENT LEARNING OUTCOME 7**

An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Anticipated Outcome:

- 1. Students will be able to review literature and realize real world problems and how to solve those problems.
- 2. Invited guest will give topics of current interest that will give the student a perspective of future work environment

**COMBINED COURSE MAP AND CALENDAR FOR SENIOR DESIGN II**

**Senior Design & Professionalism II is used to assess ABET Student Learning Outcome (SLO) 2, 3 and 7**

At the end of this course, students will have the:

- Ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factor. (ABET SLO 2)
- Ability to communicate effectively with a range of audiences (Oral & Written Communication) (ABET SLO 3).
- Ability to acquire and apply new knowledge as needed, using appropriate learning strategies (ABET SLO 7)

Week	Date	MODULE # & DESCRIPTION OF MODULE TOPICS	ABET Student Learning Outcomes #	MODULE UNIT LEARNING OBJECTIVES By the end of this module, students will be able to:	Content Delivery Method and Class Type	Learning Assignment & Practice Activities	Due Dates
1	01/17/24	<b>MODULE 1: COURSE OVERVIEW, TEAM AGREEMENT</b> Overview of Course and information in Syllabus	5	<ol style="list-style-type: none"> <li>1. Understand the complete scope of the course from the syllabus</li> <li>2. Apply the recommendations in the project manual when writing a project report.</li> <li>3. Develop and describe the process for selecting a group leader and identify the pertinent information to be collected and shared among the group members.</li> <li>4. Identify technical &amp; non-technical roles and develop and describe a process used to assign technical and non-technical roles to each member</li> <li>5. Develop and describe how the group selected the group meeting times and meeting locations suitable to all members as well as meeting times with project advisors.</li> <li>6. Write a simple group agreement using appropriate legal terms that would be binding on each member.</li> </ol>	Face to Face PPT	Review Syllabus Download & Review Project Manual  Review Member schedules and Team roles  <b>Status Report 1: Team Agreement</b>	01/24/24
	01/18/24	<b>MODULE 2: ENGINEERING DESIGN PROCESS, Project Planning Stage for Spring 2022</b> Project team role & changes Project Manual (To be printed and used throughout the semester) Distribution and discussion of graded final report for Senior Design I	2	<ol style="list-style-type: none"> <li>1. Identify and make a detailed list of tasks needed for the project this Spring 2022 semester</li> <li>2. Develop objectives, deliverables, timeline, and assign team members for each task.</li> <li>3. Use a project management software such as Microsoft projects to develop a Gantt chart for all of the project tasks</li> </ol>	Face to Face PPT	Download and review PPT notes on Project Planning  <b>Status Report 2: Project Planning</b>  <b>Status Report X: Corrections for Senior Design I Final Report</b>	01/25/24  03/01/24 (with MT Report)

Week	Date	MODULE # & DESCRIPTION OF MODULE TOPICS	ABET Student Learning Outcomes #	MODULE UNIT LEARNING OBJECTIVES By the end of this module, students will be able to:	Content Delivery Method and Class Type	Learning Assignment & Practice Activities	Due Dates
2	01/24/24	<b>Final Corrected Detailed Design Analysis for Sizing Parts/Components</b>  Discussion of corrections needed in detailed engineering analysis	2,3	<ol style="list-style-type: none"> <li>1. Identify additional/correction analyses needed for the design and the subject area for the analysis.</li> <li>2. Identify specific equations needed for the analysis</li> <li>3. Perform detailed engineering analysis/corrections needed to correctly size, specify parameters needed for selecting parts and components of the design.</li> <li>4. Indicate applicable codes and standards used for the design</li> <li>5. Consider public health, safety, welfare, and other factors in the design</li> </ol>	Face to Face PPT	Review the graded status report, the mid-Term report and the final report on detailed design for SD I  <b>Status Report 3: Final Corrected Detailed Design Analysis for Sizing Parts/Components</b>	<b>SR-1 Due</b>  02/01/24
	01/25/24	<b>Final Corrected Detailed Design Analysis for Sizing Parts/Components</b>	2,3		Face to Face PPT	Review the graded status report, the mid-Term report and the final report on detailed design analysis for SD I  <b>Work on SR 3</b>	<b>SR-2 Due</b>
3	01/31/24	<b>MODULE 3: ENGINEERING DESIGN PROCESS: Final CAD Models &amp; Drawings:</b> Discussion of Corrections needed in CAD models & Drawings. Final Corrections of CAD models of project parts & components Final corrections/improvements of Engineering Drawings from part models Final corrections/improvements of sub-system assembly and system assembly Specification of parts Discussion of status report on CAD Models	2	<ol style="list-style-type: none"> <li>1. Use NX or other CAD software to model parts and components of the design and generate well labeled engineering drawings from the parts.</li> <li>2. Use NX or other CAD software to assemble parts into subassemblies and sub- assemblies into system assembly</li> <li>3. Apply drawing standards when generating drawings of the parts. Specify parts based on design analysis and CAD drawings</li> </ol>	Face to Face PPT	Review graded status report on CAD models & Drawings and the final report of SD I  <b>Status Report 4: Final Corrected Cad Models &amp; Drawings of parts.</b>	02/08/24
	02/01/24	<b>Detailed Design: Final CAD Models &amp; Drawings</b>	2		Face to Face PPT	Review graded status report on CAD models & Drawings and the final report of SD I  <b>Work on SR 4</b>	<b>SR-3 Due</b>

Week	Date	MODULE # & DESCRIPTION OF MODULE TOPICS	ABET Student Learning Outcomes #	MODULE UNIT LEARNING OBJECTIVES By the end of this module, students will be able to:	Content Delivery Method and Class Type	Learning Assignment & Practice Activities	Due Dates
4	02/07/24	<b>MODULE 4: ENGINEERING DESIGN PROCESS: Final Parts Specification, Cost Analysis, Vendor selection and quotes.</b> Discussion of Parts Specification Selection of a vendors for outside procured components and request for quotes Parts costing over \$50 should have 3 quotes. Purchase order for parts Order required components	2	<ol style="list-style-type: none"> <li>Specify designed part based on design analysis results.</li> <li>Select vendors for specified parts</li> <li>Obtain quotes from vendors for parts to be purchased or fabricated outside.</li> <li>Place order for the parts</li> </ol>	Face to Face PPT	Review status report on Parts Specifications and Economics analysis from SD I  <b>Status Report 5: Parts Specification, Cost Analysis and Purchasing</b>	02/15/24
	02/08/24	<b>Final Parts Specification and Cost Analysis Ordering of Parts for design</b>	2		Face to Face PPT	Prepare Purchase & submit orders for project parts  <b>Work on SR 5</b>	SR-4 Due
5	02/14/24	<b>MODULE 5: ENGINEERING DESIGN PROCESS: Consideration of Design Factors</b> <ol style="list-style-type: none"> <li>Public health, safety, and welfare</li> <li>Global, cultural, social impacts</li> <li>Environmental factors, and</li> <li>Economic factors.</li> </ol>	2	Incorporate into their design, <ol style="list-style-type: none"> <li>Consideration of public health, safety, and welfare</li> <li>Global, cultural, social</li> <li>Environmental factors, and</li> <li>Economic factors.</li> </ol>	Face to Face PPT	<b>Status Report 6 Consideration of Design Factors</b>	02/22/24
	02/15/24	<b>Consideration of Design Factors</b>	2		Face to Face PPT	Work on SR-6	SR-5 Due
6	02/21/24	<b>MODULE 6: ENGINEERING DESIGN PROCESS: DETAILED DESIGN, ANALYSIS, FABRICATION, and TESTING</b> Detailed plans for manufacturing and assembly of system Monitoring Machine Shop Work Conducting Testing in the Lab  Discussion of Project Proposal	2,3	<ol style="list-style-type: none"> <li>Have good knowledge of the machine shop safety regulation</li> <li>Apply for using the machine shop</li> </ol>	Face to Face PPT	Machine Shop use rules and safety.  <b>Status Report 7: Project Proposal</b>	03/21/24

Week	Date	MODULE # & DESCRIPTION OF MODULE TOPICS	ABET Student Learning Outcomes #	MODULE UNIT LEARNING OBJECTIVES By the end of this module, students will be able to:	Content Delivery Method and Class Type	Learning Assignment & Practice Activities	Due Dates
	02/22/24	Project Proposal	3	3. Develop a project proposal	Face to Face PPT	Generation. Review Project Manual for project report and presentation format <b>Project Proposal</b>	<b>SR-6 Due</b>
7	02/28/24	<b>MODULE 7: COMMUNICATION Written &amp; Oral Communication Mid Term Report &amp; Presentation Discussion</b>	3	<b>Written Communication</b> 1 Organize report by categorizing ideas for the report into well and logically organized chapters, major sections, subsections and paragraphs 2 provide Title Page, Abstract, and Table of Contents, list of Figures, and List of Tables properly formatted 3 provide figure number and title for each figure and in the report, reference each figure and table, and completely discuss each figure and table in the report in accord with standards 4 properly cite references in the report and provide well formatted reference list at the end 5 properly apply capitalization, punctuation, and penmanship, to communicate clearly 6 Spell proficiently 7 Apply standard grammar and usage to communicate clearly and effectively in writing 8 provide appropriate discussion, conclusions and recommendations  <b>Oral Communication</b> 9 Organize, Plan, Design/Prepare and Use Appropriate Visual Aids for communication/Presentation 10 Articulate Subject Knowledge 11 Provide Good Oral Delivery	Face to Face PPT	Review Project manual for report specifications and formatting.  Mid-Term Report and presentation preparation	<b>SR-7 Due</b>
	02/29/24	<b>COMMUNICATION Written &amp; Oral Communication Mid Term Report &amp; Presentation Discussion</b>	3		Face to Face PPT	Review Project Manual for project report and presentation format.	<b>SR-X &amp; Midterm Report Due</b>
8	03/06/24	<b>COMMUNICATION Written &amp; Oral Communication Mid Term Report &amp; Presentation Discussions</b>	3		Face to Face PPT	Review Project Manual for project report and presentation format.	
	03/07/24	<b>COMMUNICATION Written &amp; Oral Communication Mid-Term Project Presentation Mid- Term Project Report Due</b>	2,3		Face to Face PPT	Review Project Manual for project report and presentation format.	

Week	Date	MODULE # & DESCRIPTION OF MODULE TOPICS	ABET Student Learning Outcomes #	MODULE UNIT LEARNING OBJECTIVES By the end of this module, students will be able to:	Content Delivery Method and Class Type	Learning Assignment & Practice Activities	Due Dates
10	03/20/24	<b>MODULE 8: ENGINEERING DESIGN PROCESS: Codes &amp; Standards</b> Preparation of Detailed <b>Codes &amp; Standard used in Project</b> Engineering Analysis for System Optimization	2	<ol style="list-style-type: none"> <li>Identify and use codes and standards in the design</li> <li>Assess the impact of the project and proposed design solution on society (both local and global)</li> </ol>	Face to Face PPT	Review PPT notes on Design Analysis, Codes & Standard	<b>SR-7 Due</b>
	03/21/24	Preparation of Detailed <b>Codes &amp; Standard used in Project</b> Engineering Analysis for System Optimization	2		Face to Face PPT	Review PPT notes on Design Analysis, Codes & Standard	
11	03/27/24	<b>ENGINEERING DESIGN PROCESS</b> Impact of engineering on Society (as applied to your project)  <b>Project Poster Requirement Discussions</b> <b>Discussion of TaskStream Assignment &amp; Peer Review Assignment</b> <b>Corrections for Mid-Term Report</b> <b>Prototype development or Motion Simulation Or Dynamic Control (or other prototype requirement) Implementation</b>	2,3		Face to Face PPT	Review PPT notes on Design Analysis, Codes & Standard  Motion Simulation using NX Fabrication using machine shop or outside fabricators  <b>Status Report 8: Impact of engineering on Society</b>	<b>04/04/24</b>
	03/28/24	<b>MODULE 9: IMPLEMENTATION &amp; TESTING</b> <b>Prototype development or Motion Simulation Or Dynamic Control (or other prototype requirement) Implementation</b>	2		Face to Face PPT	Motion Simulation using NX Fabrication using machine shop or outside fabricators	
12	04/03/24	<b>IMPLEMENTATION, ASSEMBLY, TESTING</b> <b>Discussion of Final Report &amp; Presentation and Other Information Needed with Final Report.</b> <b>Improvement of Design Analysis, CAD Models &amp; Drawings</b> <b>Corrections for Mid-Term Report</b> <b>Prototype Implementation</b>	2	<ol style="list-style-type: none"> <li>Build and test a prototype</li> <li>Build a motion simulation model</li> <li>Perform dynamic analysis on simulated model</li> </ol>	Face to Face PPT	Motion Simulation using NX Fabrication using machine shop or outside fabricators	
	04/04/24	<b>Prototype development or Motion Simulation Or Dynamic Control (or other prototype requirement) Implementation</b>	2		Face to Face PPT	Motion Simulation using NX Fabrication using machine shop or outside fabricators	<b>SR-8 Due</b>

Week	Date	MODULE # & DESCRIPTION OF MODULE TOPICS	ABET Student Learning Outcomes #	MODULE UNIT LEARNING OBJECTIVES By the end of this module, students will be able to:	Content Delivery Method and Class Type	Learning Assignment & Practice Activities	Due Dates	
13	04/10/24	<b>IMPLEMENTATION, ASSEMBLY &amp; TESTING</b> <b>Improvement of Design Analysis, CAD Models &amp; Drawings</b> <b>Identification of Critical Issues for In-Depth Analysis</b> <b>Prototype or Motion Simulation or Dynamic Control (or other prototype requirement) Implementation</b>	2	<ol style="list-style-type: none"> <li>1. Build and test a prototype</li> <li>2. Build a motion simulation model</li> <li>3. Perform dynamic analysis on simulated model</li> </ol>	Face to Face PPT	Motion Simulation using NX Fabrication using machine shop or outside fabricators		
	04/11/24	<b>Prototype or Motion Simulation or Dynamic Control (or other prototype requirement) Implementation</b>	2		Face to Face PPT	Motion Simulation using NX Fabrication using machine shop or outside fabricators		
14	04/17/24	<b>IMPLEMENTATION, TESTING &amp; ECONOMIC</b>	2		Face to Face PPT	Motion Simulation using NX Fabrication using machine shop or outside fabricators		
	04/18/24	<b>Prototype Demonstration</b>			Face to Face PPT	<b>Prototype Demonstration</b>		
15	04/24/24	Final Report and Presentation Preparations	2,3		<ol style="list-style-type: none"> <li>1. Develop a detailed project report</li> <li>2. Develop and conduct a PowerPoint design presentation</li> </ol>	Face to Face PPT	Review Senior Design Manual	
	04/25/24	Final Report and Presentation Preparations						
	TBA	<b>FINAL PRESENTATION</b>	2,3	Conduct a formal oral project presentation to a range of audience.	Face to Face PPT			
16	05/01/24	<b>Final Report &amp; Additional Information Due</b>	2,3,7		Face to Face PPT			

## Student Support and Success

### John B. Coleman Library

The John B. Coleman Library's mission is to enhance the scholarly pursuit of knowledge, to foster intellectual curiosity, and to promote life-long learning and research through our innovative services, resources, and cultural programs, which support the Prairie View A&M University's global mission of teaching, service, and research. It maintains library collections and access both on campus, online, and through local agreements to further the educational goals of students and faculty. [Library Website](#) Phone: 936-261-1500

### Academic Advising Services

Academic Advising Services offers students various services that contribute to student success and lead toward graduation. We assist students with understanding university policies and procedures that affect academic progress. We support the early alert program to help students connect to success early in the semester. We help refer students to the appropriate academic support services when they are unsure of the best resource for their needs. Faculty advisors support some students in their respective colleges. Your faculty advisor can be identified in PantherTracks. Advisors within Academic Advising Services are available to all students. We are located across campus. Find your advisor's location by academic major on the [advising website](#). Phone: 936-261-5911

### The University Tutoring Center

The University Tutoring Center (UTC) offers free tutoring and academic support to all registered PVAMU students. The mission of the UTC is to help provide a solid academic foundation that enables students to become confident, capable, independent learners. Competent and caring staff and peer tutors guide students in identifying, acquiring, and enhancing the knowledge, skills, and attitudes needed to reach their desired goals. Tutoring and academic support are offered face-to-face in the UTC and virtually in online sessions. Other support services available for students include Supplemental Instruction, Study Breaks, Academic Success Workshops, and Algebra Study Jam. Location: J. B. Coleman Library, Rm. 307; Phone: 936-261-1561; Email: [pvtutoring@pvamu.edu](mailto:pvtutoring@pvamu.edu); [University Tutoring Website](#)

### Writing Center

The Writing Center provides well-trained peer tutors to assist students with writing assignments at any stage of the writing process. Tutors help students with various writing tasks from understanding assignments, brainstorming, drafting, revising, editing, researching, and integrating sources. Students have free access to Grammarly online writing assistance. Grammarly is an automated proofreading and plagiarism detection tool. Students must register for Grammarly by using their student email address. In addition, students have access to face-to-face and virtual tutoring services either asynchronously via email or synchronously via Zoom. Location: J. B. Coleman Library, Rm. 209; Phone: 936-261-3724; [Writing Center Website](#), [Grammarly Registration](#)

### Panther Navigate

Panther Navigate is a proactive system of communication and collaboration between faculty, academic advisors, and students that is designed to support student success by promptly identifying issues and allowing for intervention. Panther Navigate helps students by providing a central location to schedule advising appointments, view campus resources, and request assistance. Students who recognize that they have a problem that negatively affects their academic performance or ability to continue school may self-refer an academic early alert. To do so, students will log in to Canvas and click on Student Alerts on the left sidebar within a course. Students also have the option to download the Navigate Student app. Phone: 936-261-5902; [Panther Navigate Website](#)

### Student Counseling Services

The Student Counseling Services offers a range of services and programs to assist students in maximizing their potential for success: short-term individual, couples, and group counseling, as well as crisis intervention, outreach, consultation, and referral services. The staff is licensed by the State of Texas and assists students who are dealing with academic skills concerns, situational crises, adjustment problems, and emotional difficulties. Information shared with the staff is treated confidentially and in accordance with Texas State Law. Location: Hobart Taylor, 2<sup>nd</sup> floor; Phone: 936-261-3564; [Health & Counseling Center Website](#)

### Office of Testing Services

The Office of Testing Services serves to facilitate and protect the administration of educational and professional exams to aid students, faculty, staff, and the community in their academic and career goals. We provide proctoring services for individuals who need to take exams for distance or correspondence courses for another institution, exams for independent study courses, or make-up exams. In order for a proctored exam to be administered by our office, the instructor of the course must first submit the online PVAMU Testing Services – Test Proctoring Form (this form can only be completed by the instructor) to the Office of Testing Services 72 hours prior to the first exam being administered. Once the Test Proctoring Form has been submitted, the instructor will inform their testers so they can then register for an appointment with our office on one of the selected proctored exam test dates within the testing window for the exam and pay the applicable fees. To access the OTS – Test Proctoring Form, to schedule a proctored exam appointment, or to find more information about our proctoring services, please visit the [OTS – Proctoring Service website](#). Location: Wilhelmina Delco, 3<sup>rd</sup> Floor, Rm. 305; Phone: 936-261-3627; Email: [aetesting@pvamu.edu](mailto:aetesting@pvamu.edu); [Testing Website](#)

### Office of Diagnostic Testing and Disability Services

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, contact the Office of Disability Services. As a federally-mandated educational support unit, the Office of Disability Services serves as the repository for confidential disability files for faculty, staff, and students. For persons with a disability, the Office develops individualized ADA letters of request for accommodations. Other services include learning style inventories, awareness workshops, accessibility pathways, webinars, computer laboratory with adapted hard and software, adapted furniture, proctoring non-standardized test administrations, ASL interpreters, ALDs, digital recorders, Livescribe, and a comprehensive referral network across campus and the broader community. Location: Hobart Taylor, Rm. 1D128; Phone: 936-261-3583; [Disability Services Website](#)

### Center for Instructional Innovation and Technology Services (CIITS)

Distance Learning, also referred to as Distance Education, is the employment of alternative instructional delivery methods to extend programs and services to persons unable to attend classes in the traditional manner. CIITS supports student learning through online, hybrid, web-assist, and 2-way video course delivery. For more details and contact information, visit [CIITS Student Website](#). Phone: 936-261-3283 or email: [ciits@pvamu.edu](mailto:ciits@pvamu.edu).

### Veteran Affairs

Veteran Services works with student veterans, current military, and military dependents to support their transition to the college environment and continued persistence to graduation. The Office coordinates and certifies benefits for both the G.I. Bill and the Texas Hazlewood Act. Location: Evans Hall, Rm. 102; Phone: 936-261-3563; [Veteran Affairs Website](#)

### Office for Student Engagement

The Office for Student Engagement delivers comprehensive programs and services designed to meet the co-curricular needs of students. The Office implements inclusive and accessible programs and services that enhance student development through exposure to and participation in diverse and relevant social, cultural, intellectual, recreational, community service, leadership development, and campus governance. Location: Memorial Student Center, Rm. 221; Phone: 936-261-1340; [Student Engagement Website](#)

### Center for Careers & Professional Development

This center supports students through professional development, career readiness, and placement and employment assistance. The center provides one-on-one career coaching, interview preparation, resume and letter writing, and career exploration workshops and seminars. Services are provided for students at the Northwest Houston Center and College of Nursing in the Medical Center twice a month or on a requested basis. Distance Learning students

are encouraged to visit the center website for information regarding services provided. Location: Anderson Hall, 2<sup>nd</sup> floor; Phone: 936-261-3570; [Center for Careers & Professional Development Website](#)

## University Rules and Procedures

### Academic Misconduct

Academic dishonesty is defined as any form of cheating or dishonesty that has the effect or intent of interfering with any academic exercise or fair evaluation of a student's performance. The college faculty can provide additional information, particularly related to a specific course, laboratory, or assignment.

You are expected to practice academic honesty in every aspect of this course and all other courses. Make sure you are familiar with the *University Administrative Guidelines on Academic Integrity*, which can be found on the [Academic Integrity webpage](#). Students who engage in academic misconduct are subject to university disciplinary procedures. As listed in the *University Administrative Guidelines on Academic Integrity*, the University Online Catalog, and the Student Code of Conduct, the following are examples of prohibited conduct. This list is not designed to be all-inclusive or exhaustive. In addition to academic sanctions, any student found to have committed academic misconduct that is also a violation of criminal law may also be subject to disciplinary review and action by the Office of Student Conduct (as outlined in the Student Code of Conduct).

### Forms of Academic Dishonesty:

1. **Cheating:** Deception in which a student misrepresents that he/she has mastered information on an academic exercise that he/she has not learned, giving or receiving aid unauthorized by the instructor on assignments or examinations. Examples: unauthorized use of notes for a test; using a "cheat sheet" on a quiz or exam; any alteration made on a graded test or exam which is then resubmitted to the teacher;
2. **Plagiarism:** Careless or deliberate use of the work or the ideas of another; representation of another's work, words, ideas, or data as your own without permission or appropriate acknowledgment. Examples: copying another's paper or answers, failure to identify information or essays from the internet and submitting or representing it as your own; submitting an assignment which has been partially or wholly done by another and claiming it as yours; not properly acknowledging a source which has been summarized or paraphrased in your work; failure to acknowledge the use of another's words with quotation marks;
3. **Collusion:** When more than one student or person contributes to a piece of work that is submitted as the work of an individual;
4. **Conspiracy:** Agreeing with one or more persons to commit an act of academic/scholastic dishonesty; and
5. **Multiple Submission:** Submission of work from one course to satisfy a requirement in another course without explicit permission. Example: using a paper prepared and graded for credit in one course to fulfill a requirement and receive credit in a different course.

PVAMU's General Statement on the Use of Generative Artificial Intelligence Tools in the Classroom  
Generative Artificial Intelligence (GAI), specifically foundational models that can create writing, computer code, and/or images using minimal human prompting, are increasingly becoming pervasive. Even though ChatGPT is one of the most well-known GAIs currently available, this statement includes any and all past, current, and future generations of GAI software. Prairie View A&M University expects that all work produced for a grade in any course, be it face-to-face or virtual, will be the sole product of a student's endeavors to meet those academic goals. However, should an instructor permit their students to use artificial intelligence as a resource or tool, students must not substitute the substance of their original work with the results of using such GAI tools. This clearly violates the [University's Administrative Guidelines on Academic Integrity](#) and its underlying academic values.

### Nonacademic Misconduct

The university respects the rights of instructors to teach and students to learn. Maintenance of these rights requires campus conditions that do not impede their exercise. Campus behavior that interferes with either (1) the instructor's ability to conduct the class, (2) the ability of other students to profit from the instructional program, or (3) campus behavior that interferes with the rights of others will not be tolerated. An individual engaging in such disruptive behavior may be subject to disciplinary action. The Office of Student Conduct will adjudicate such incidents under nonacademic procedures.

### Sexual Misconduct

Sexual harassment of students and employees at Prairie View A&M University is unacceptable and will not be tolerated. Any member of the university community violating the university's sexual harassment policy will be subject to disciplinary action. In accordance with the Texas A&M University System guidelines, your instructor is obligated to report to the Office of Title IX Compliance ([titleixteam@pvamu.edu](mailto:titleixteam@pvamu.edu)) any instance of sexual misconduct involving a student, which includes sexual assault, stalking, dating violence, domestic violence, and sexual harassment, about which the instructor becomes aware during this course through writing, discussion, or personal disclosure. The faculty and staff of PVAMU actively strive to provide a learning, working, and living environment that promotes respect that is free from sexual misconduct, discrimination, and all forms of violence. If students, faculty, or staff would like assistance or have questions, they may contact the Title IX Coordinator, Dr. Zakiya Brown, at 936-261-2144 or [titleixteam@pvamu.edu](mailto:titleixteam@pvamu.edu). More information can be found at [Title XI Website](#), including confidential resources available on campus.

### Protections and Accommodations for Pregnant and Parenting Students

The U.S. Department of Education's Office for Civil Rights (OCR) enforces, among other statutes, Title IX of the Education Amendments of 1972. Title IX protects people from discrimination based on sex, sexual orientation, and gender identity in education programs or activities that receive federal financial assistance. This protection includes those who may be pregnant and parenting. Title IX states: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance." Students seeking accommodations related to pregnancy or parenting should contact the Office of Title IX for information, resources, and support at [titleixteam@pvamu.edu](mailto:titleixteam@pvamu.edu). Additional information and/or support may be provided by the Office of Disability Services or the Office of the Dean of Students.

### Non-Discrimination Statement

Prairie View A&M University does not discriminate on the basis of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation, or gender identity in its programs and activities. The University is committed to supporting students and complying with The Texas A&M University System non-discrimination policy. It seeks to establish an environment that is free of bias, discrimination, and harassment. If you experience an incident of discrimination or harassment, we encourage you to report it. If you would like to speak with someone who may be able to afford you privacy or confidentiality, there are individuals who can meet with you. The Director of Equal Opportunity & Diversity has been designated to handle inquiries regarding the non-discrimination policies and can be reached at Harrington Science Building, Suite 109, or by phone at 936-261-1744 or 1792.

### Class Attendance Policy (See the University Online Catalog for Full Attendance Policy)

Prairie View A&M University requires regular class attendance. Attending all classes supports the full academic development of each learner, whether classes are taught with the instructor physically present or via distance learning technologies such as interactive video and/or the Internet. Excessive absenteeism, whether excused or unexcused, may result in a student's course grade being reduced or in the assignment of a grade of "F." Absences are accumulated beginning with the first day of class during regular semesters and summer terms. Each faculty member will include the University's attendance policy in each course syllabus.

### Makeup Work for Legitimate Absences

Prairie View A&M University recognizes that there are a variety of legitimate circumstances in which students will miss coursework and that accommodations for makeup work will be made. If a student's absence is **excused**, the instructor must either provide the student an opportunity to make up any quiz, exam, or other work contributing to the final grade or provide a satisfactory alternative by a date agreed upon by the student and instructor. Students are encouraged to work with instructors to complete makeup work before known scheduled absences (University-

sponsored events, administrative proceedings, etc.). Students are responsible for planning their schedules to avoid excessive conflicts with course requirements.

#### Absence Verification Process

All non-athletic absences (e.g., Medical, Death/Funeral, Court/Legal-related, etc.) for which a student seeks to obtain a valid excuse must be submitted to the Dean of Students/Office of Student Conduct, with supporting documentation, for review and verification. Please use the [Online Reporting Forms](#) to access/complete/submit the *Request for a University Excused Absence* form for an excuse. Upon receipt, a staff member will verify the documentation and provide an official university excuse, if applicable. The student is responsible for providing the official university excuse issued by the Office for Student Conduct to the professor(s). Questions should be directed to the Dean of Students via email: [deanofstudents@pvamu.edu](mailto:deanofstudents@pvamu.edu) or phone: (936) 261-3550 or Office for Student Conduct via email: [studentconduct@pvamu.edu](mailto:studentconduct@pvamu.edu) or phone: (936) 261-3524.

#### Student Academic Appeals Process

Authority and responsibility for assigning grades to students rest with the faculty. However, in those instances where students believe that miscommunication, errors, or unfairness of any kind may have adversely affected the instructor's assessment of their academic performance, the student has a right to appeal by the procedure listed in the University Online Catalog and by doing so within thirty days of receiving the grade or experiencing any other problematic academic event that prompted the complaint.

#### Technical Considerations

##### **Minimum Recommended Hardware and Software:**

- Intel PC or laptop with Windows 10 or later version; Mac with OS Catalina
- Smartphone or iPad/tablet with wi-fi\*
- High-speed internet access
- 8 GB memory
- Hard drive with 320 GB storage space
- 15" monitor, 1024 x 768, color
- Speakers (internal or external)
- Microphone and recording software
- Keyboard & mouse
- Most current version of Google Chrome, Safari, or Firefox

**Note:** Be sure to enable Java & pop-ups in the web browser preferences

\* Some courses may require remote proctoring. At this time only Chromebooks, laptops, and desktops running Windows or Mac work with our proctoring solution, but iPads are not compatible. Most other applications will work with Android or Apple tablets and smartphones.

##### **Participants should have a basic proficiency of the following computer skills:**

- Sending and receiving email
- A working knowledge of the Internet
- Microsoft Word (or a program convertible to Word)
- Acrobat PDF Reader
- Windows or Mac OS
- Video conferencing software (Zoom)

#### *Netiquette* (online etiquette)

Students are expected to participate in all discussions and virtual classroom chats as directed. Students are to be respectful and courteous to others on discussion boards. Foul or abusive language will not be tolerated. Do not use ALL CAPS for communicating to others AS IT CAN BE INTERPRETED AS YELLING. Avoid slang terms such as "wassup?" and texting abbreviations such as "u" instead of "you." Limit and possibly avoid the use of emoticons. Be cautious when using humor or sarcasm as tone is sometimes lost in an email or discussion post, and the message might be taken seriously or sound offensive.

## Video Conferencing Etiquette

When using Zoom, WebEx, or other video conferencing tools, confirm the visible area is tidy, clear of background clutter, inappropriate or offensive posters, and other distractions. Ensure you dress appropriately and avoid using high traffic or noisy areas. Stay muted when you are not speaking and avoid eating/drinking during the session. Before the class session begins, test audio, video, and lighting to alleviate technology issues.

## Technical Support

Students should go to [Password Reset Tool](#) if they have password issues. The page will provide instructions for resetting passwords and contact information if login issues persist. For other technical questions regarding eCourses, call the Center for Instructional Innovation and Technology Services at 936-261-3283 or email [ciits@pvamu.edu](mailto:ciits@pvamu.edu).

## Communication Expectations and Standards

Emails or discussion postings will receive a response from the instructor, usually in less than 48 hours. Urgent emails should be marked as such. Check regularly for responses.

## Discussion Requirement

Online courses often require minimal to no face-to-face meetings. However, conversations about the readings, lectures, materials, and other aspects of the course can occur in a seminar fashion. The use of the discussion board will accomplish this. The instructor will determine the exact use of discussion boards.

**It is strongly suggested** that students type their discussion postings in a word processing application such as Word and save it to their PC or a removable drive before posting to the discussion board. This is important for two reasons: 1) If for some reason your discussion responses are lost in your online course, you will have another copy; 2) Grammatical errors can be greatly minimized by the use of the spell-and-grammar check functions in word processing applications. Once the post(s) have been typed and corrected in the word processing application, copy and paste to the discussion board.

## COVID-19 Campus Safety Measures

In accordance with the latest guidelines from the PVAMU Health Services, the following measures are in effect until further notice.

- Students who are ill will be asked to adhere to best practices in public health, such as masking, handwashing, and social distancing, to help reduce the spread of illness across campus.
- Mandatory self-reporting will no longer be required by students. Students will be responsible for communicating with their professors regarding COVID, similarly to any other illness.
- There will be no mandatory isolation. Students who are too ill to engage in classroom activities will be responsible for securing the appropriate documentation to support the absence.
- Students who self-isolate will be responsible for communicating with their professors and securing an excuse from Student Conduct.
- All students will have access to [TimelyCare](#), a telehealth platform that provides virtual medical care 24/7 and by appointment in the Student Health Clinic. Students are encouraged to enroll with TimelyCare at the beginning of the semester, at [timelycare.com/pvamu](https://timelycare.com/pvamu).
- Students will have access to COVID testing in the Student Health Clinic by appointment. Testing is for students who are symptomatic ONLY.

**SENIOR DESIGN & PROFESSIONALISM II**  
**SPRING 2024**  
**PROJECT ASSIGNMENT COVER SHEET 1**

**GROUP NUMBER** \_\_\_\_\_

ASSIGNMENT# \_\_\_\_\_

Assignment Title \_\_\_\_\_

Due Date: \_\_\_\_\_

No	Group Member Name Group Member signature	Brief Description of Work Assigned to Member	% Completed by Member*	Your Score
1				
2				
3				
4				
5				
6				
7				
8				

\*100% means the member completed his/her assigned work.

*By signing this assignment cover sheet, I agree that the percentages stated in the % completed column reflect the contribution made by me and the other members of the group.*

**SENIOR DESIGN & PROFESSIONALISM II  
SPRING 2024 SEMESTER  
REPORT ON GROUP DYNAMICS**

**MINUTES OF GROUP MEETINGS**

Group no.: \_\_\_\_\_

Meeting Date: \_\_\_\_\_ Meeting Time: \_\_\_\_\_ Meeting Location: \_\_\_\_\_

Members Present: \_\_\_\_\_

Agenda for Meeting ( Items to be discussed or discussed at the meeting)

Detailed Minutes: (should include name of speaker and summary of what he/she suggested)

Brief statement on individual participation and or problems encountered with specific group members and how group resolved problem(s)

## MEETING TASK ASSIGNMENT & DELIVERABLES

Use this table to document task assigned and deliverables completed/submitted by each group member at this meeting

If deliverables were not completed, indicate the actions taken by the group on this individual.

<b>Name</b>	<b>Task Assigned to team members at this meeting</b>	<b>Deliverables completed &amp; submitted from tasks assigned in previous meeting(s)</b>	<b>Actions taken by group on non-performing member</b>

**COLLEGE OF ENGINEERING**  
**SENIOR DESIGN & PROFESSIONALISM II**  
**Oral Presentation**

<b>Title of Presentation:</b>
Team Members:
Date of Presentation:
Name of Examiner/Appraiser:

<b>Performance Criteria</b>	Not Acceptable (0-59.9%)	Below Expectations (60-69.9%)	Average meets minimal expectations 70-79.9	Very Good Meets Expectations (80-89.9%)	Excellent  Exceeds Expectations  (90-100%)
<b>1. Ability to Organize, Plan, Design/Prepare and Use Appropriate Visual Aids for communication/Presentation</b>	<b>20 40 59</b>	<b>60 65 69</b>	<b>70 75 79</b>	<b>80 85 89</b>	<b>90 95 99</b>
Presentation is organized in well structured logical sequence making it easy for audience to follow the content with clear understanding.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Slides are well prepared and are effective in helping audience to understand. ( <i>adequate and relevant technical content and viewgraphs that are legible, completely labeled, annotated, dimensioned to illustrate important features of the work being presented</i> )	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Modern presentation techniques are used ( <i>may include visually enhanced transitions, animations, video, and sound clips</i> ).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>Average for this Performance Criteria</b>					
<b>2. Ability to Articulate Subject Knowledge (Technical Content)</b>					
Demonstration of knowledge and understanding of the technical subject. ( <i>This may be demonstrated by presenting literature review, originality, creativity, required standards, constraints, and other appropriate considerations such as economics, environmental, and societal impact</i> )	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Prototypes or models are prepared and displayed when they are necessary to support the presentation.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Questions are responded to in a clear professional manner after restating questions to audience	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>Average for this Performance Criteria</b>					
<b>3. Appearance and Ability to Provide Good Oral Delivery</b>					
Correct grammatical English and technical terms appropriate to technical area and audience are used; and presenters speak with clarity and confidence	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Good posture and eye contact with the audience are maintained ( <i>should not read from prepared notes</i> ) and elicits the attention of the audience	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Presenters dress appropriately for the occasion.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>Average for this Performance Criteria</b>					
<b>GRAND AVERAGE FOR OUTCOME</b>					

**COLLEGE OF ENGINEERING**  
**SENIOR DESIGN & PROFESSIONALISM II**  
**Written Communication**

	MAX POINTS	POINTS RECEIVED	PC TOTAL
<b>1. Ability to organize, plan and properly format a written technical report</b>			
(i) Students are able to organize report by categorizing ideas for the report into well and logically organized chapters, major sections, subsections and paragraphs blended within the larger units.			
(ii) Students provide Title Page, Abstract, and Table of Contents, list of Figures, and List of Tables properly formatted.			
(iii) Students provide figure number and title for each figure in the report, reference each figure, and completely discuss each figure in the report in accord with standards in the project manual.			
(iv) Students provide table number and title for each table in the report in accord with standards in the project manual, reference each table, and completely discuss each table in the report.			
(v) Students properly cite references in the report and provide well formatted reference list at the end.			
(vi) Students prepare the written report in accord with standard report formatting provided in the Senior Projects Report Manual.			
<b>2. Ability to compose original texts and properly apply the conventions of written language.</b>			
(i) properly apply capitalization, punctuation, and penmanship, to communicate clearly			
(ii) Spell proficiently			
(iii) Apply standard grammar and usage to communicate clearly and effectively in writing including: <ul style="list-style-type: none"> <li>• <b>using complete sentences</b>, varying the types such as compound and complex to match meanings and purposes</li> <li>• properly employing standard English usage in writing for audiences, including subject-verb agreement, pronoun referents, and parts of speech</li> <li>• properly using adjectives (comparative and superlative forms) and adverbs appropriately to make writing vivid or precise</li> <li>• properly using prepositional phrases to elaborate written ideas</li> <li>• properly using conjunctions to connect ideas meaningfully</li> </ul>			
(iv) Use available technology to support aspects of creating, revising, editing, spell checking, and publishing the report.			
<b>3. Ability to provide appropriate discussion, conclusions and recommendations</b>	<b>0</b>	<b>0</b>	
(i) Summarize the goals, objectives, and indicate whether they were met.			
(ii) Summarize the results.			
(iii) Summarize constraints and codes and indicate whether they were met.			
(iv) Provide logical conclusions and recommendations (including strengths and weaknesses).			
<b>ESD</b>	<b>Max</b>	<b>Score</b>	<b>% Score</b>
PC1			
PC2			
PC3			
<b>TOTAL</b>			

**COLLEGE OF ENGINEERING  
SENIOR DESIGN & PROFESSIONALISM II  
PROJECT DESIGN**

	MAX POINTS	POINTS RECEIVED	PC TOTAL
<b>1. Ability to Define/Understand the Problem and then Plan the Project</b>			
(i) Identify the customer and the needs.			
(ii) Identify and list the design objectives.			
(i) Identify the design constraints.			
(ii) Define the design strategy and methodology.			
(iii) Identify and break down work into tasks and subtasks and identify the personnel and deliverables for each.			
(iv) Develop a Gantt chart and critical path analysis for managing the project.			
(v) Establish major milestones for tracking progress and define performance metrics to measure success			
<b>2. Ability to Conduct a Review of the Literature, Generate Ideas and Apply Creativity</b>			
(i) Identify the types of information needed for a complete understanding of all aspects of the project (Based on task described in the project planning).			
(ii) Gather information on relevant fundamentals, theory / concept (demonstrate technical competence) and relate them to the design.			
(iii) Provide the sources in a list of references properly cited in the literature review section and relevant sections of the report.			
(iv) Define functional requirements for design (Specific required actions needed to be performed for the design to be achieved).			
(v) Transform functional requirements into candidate solutions / mathematical modeling.			
(vi) Evaluate candidate solutions to arrive at feasible designs.			
<b>3. Ability to Perform Preliminary and Detailed Design</b>			
(i) Identify applicable codes and standards for the design			
(ii) Perform relevant detailed analysis (engineering, mathematical, economic) in accord with applicable codes and standards.			
(iii) Develop final design specifications			
(iv) Do the design within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability			
(v) Select materials/components/software/test equipment.			
(vi) Fabricate a prototype or a model (physical, software, hardware) of the design.			
(vii) Test or simulate the design and make necessary changes to obtain optimum design.			
	Max	Score	% Score
PC1			
PC2			
PC3			
TOTAL			