CALENDAR DESCRIPTION
Working in small groups, students are required to apply concepts in design and methods of analysis. Utilizing material from prerequisite courses, plan, manage, produce component parts to complete a small project within a specific time frame.

OFFERED:	4th QUARTER
CREDIT:	9
IN-CLASS WORKLOAD:	16 hours/week
OUT-OF-CLASS WORKLOAD:	16 hours/week
PREREQUISITES:	All Academic Term 5 Courses
COREQUISITES:	ENGL 273

OBJECTIVES

Upon successful completion of this course the student will have experience in:

1. Integrating academic knowledge with practical skills learned during school and co-op work placements;

2. Coordinating project activities with others in small teams;

3. Setting up and maintaining a practical production schedule;

4. Working closely with a client and learning the importance of client relations and communications;

5. Taking a project from concept through production and testing to the final report; the process will include the setting of realistic goals;

6. Improving skill levels in areas that most interest the individual students; and,

7. Gaining presentation experience by preparing both written and oral reports for the client and their peers.

GENERAL OUTLINE

OUTLINE – From Start to Finish

1. Teams of four will be formed based on the interests of each individual and the objectives of the project. Teams will organize themselves as small companies.
2. Each team will discuss a project idea(s) to present to a faculty review panel for consideration after which the panel will try to approve one of the projects. Some project scopes might need alterations and further discussions to ensure they will be as successful as possible.
3. Once approved, a formal design proposal will be produced and presented to the faculty. The design documentation will include written sections outlining the project and goals, preliminary design sketches, estimated costs, proposed Gantt chart. Also items requiring early ordering will be identified and ordered if possible.
4. A detailed design will be prepared and presented to the client for final approval prior to major construction. Final parts purchasing will be done at this time.
5. Project construction will commence.
6. Progress will be recorded individually in Engineering Log Books and as a group in a Financial Leger, which will be evaluated periodically
7. Project testing will be done by team members to ensure the completion goals stated in the proposal have been met.
8. A formal written report will be prepared and submitted to the client. The team will also produce a project display to be presented to the staff, student peers, and public

A short series of lectures will be given during the upcoming weeks to help get you started.

ORGANIZATION

Teams

Teams will be made up of four (4) individuals.

Each team will operate as a small company. The team members will choose and use a company name. Reports and other formal correspondents, made to the client, will require a cover letter and should be from a single contact person within the Group who will act as the team leader.

Corporate records (budget, progress, etc.) will be kept by a single individual and should be kept in a form that can be reviewed at the request of the client.

Individual team member notes taken during the project (meeting notes, specs, dims, to do lists, etc) shall be recorded in a single hardbound log book. These log books shall undergo periodic evaluations throughout the course and will be reviewed to aid individual marking.

Both group and individual marks will be awarded. It is up to you to make sure that each member pulls their own weight.

Client

A member of the Camosun College Mechanical Engineering Staff will be designated as the client. They will receive and review all formal correspondence and generally assist with certain aspects of the project.

EVALUATION

Evaluation will be based *objectively* on attendance, the quality of reports, including personal log books, weekly presentations, the final presentation, and of course the quality of the physical project. *Subjective* marks will be awarded/deducted for teamwork, attitude, and effort.

Just as in any business environment, the guidelines used to evaluate your work will be simple - you must do all that is expected of you and you must do it ***very*** well.

Evaluation will be broken as follows:

Group (55%)

a.	Physical Project and Design Presentation			20%
	Tech Defence		10%	
	Instructor grading		10%	
	Workmanship	2%		
	Difficulty	2%		
	Quality of Design	2%		
	Completeness	2%		
	Testing	2%		
b.	Interim Submissions			10%
c.	Final Report and Presentation			5%
d.	Weekly Progress			10%
e	Progress Presentations			5%
f	Financial Leger			5%
	Weekly Updates and Final receipt Package			
	- EVERY receipt or photocopy must be included in the receipt package.			

Individual (45%)

d.	Contribution to Physical Project, Design and Reports as outlined in your individual Lab Book - *peer review component*	7.5%
e.	Attendance	7.5%
f.	Instructor/client relations	7.5%
g.	Effort - *peer review component*	7.5%
h.	Lab book**	15%

Note: Evaluation of individual performance will take place continuously throughout the term and during several private interviews between the students and the instructors.

**** your lab book may also be referenced when assessing individual marks, therefore proper maintenance is very important.**

PROJECTS

Project Students are required to select a project which involves a significant creative design component and whose project goals can be met using a formal design process.

A wide variety of projects are acceptable. The main focus of the projects should be the design, construction and testing of a device relating to mechanical engineering. The cost of the projects will be covered by the college if it is deemed desirable to the college, but an effort should be made to keep the costs as low as possible.

Students wishing to keep the results of their projects may do so if they pay for the materials used in its construction and projects are within the scope approved by the course instructors.

REPORTS SUBMISSIONS AND SCHEDULING

Class Presentations

Report Deadlines

Shop will be open

May 2023							
	1	2	3	4 Informal proposals	5 **Projects Assigned**	6	**Week 1**
7	8	9 2 hour group design meeting	10 2 hour group design meeting	11 2 hour group design meeting	12	13	**Week 2**
14	15	16 2 hour group design meeting	17 2hour group design meeting	18 2 hour group design meeting	19	20	**Week 3**
21 Formal Project Proposal	22 Victoria Day	23 2 hour group design meeting	24 2 hour group design meeting	25 2 hour group design meeting	**26**	27	**Week 4**
June 2023							
28	29	30 2 hour group design meeting	31 2 hour group design meeting	1 2 hour group design meeting	2	3	**Week 5**
4	5	6 2 hour design meetings	7 2 hour design meetings	8 2 hour design meetings	9	10	**Week 6**
11	12	13 1 hour design meetings	14 1 hour design meetings	15 1 hour design meetings	**16**	17	**Week 7**
18	19	20 1 hour design meetings	21 1 hour design meetings	22 1 hour design meetings	23	24	**Week 8**
25	26	271 hour design meetings	28 1 hour design meetings	29 1 hour design meetings	30 Design Drawing Package	1	**Week 9**
July 2023							
2	3 College Closed	4 1 hour design meetings	5 1 hour design meetings	6 1 hour design meetings	**7**	8	**Week 10**
9	10	11 1 hour design meetings	12 1 hour design meetings	13 1 hour design meetings	14	15	**Week 11**
16	17	18	19	20	21	22	**Week 12**
23	24	25	26	27	28 **Testing Report**	29	**Week 13**
August 2023							
30	31	1	**2**	3	4 **Tech Defense**	5	**Week 14**
6	7 BC Day	8	9	10	11 **Showcase**	12	**Week 15**

PROJECT PROPOSALS

Prepare a brief description of a project concept that you and your group would like to work on. Include just a paragraph or two and a few sketches for each project concept. Within each project description include:

1) a basic description of the project (function)
2) a basic **but informative** sketch of the project (form)
    - Stick people and non-technical sketches are **NOT** acceptable.
3) Estimated Cost of project
4) Who will pay for the project and why would they want to
5) What challenges are associated with the project
    - Focus on what the "show stoppers" or "deal breakers" may be
6) What manufacturing processes are associated with the project
    - This includes any software programming that you feel may be involved

It is safest to propose two projects in the likely event your group isn't matched to your first choice. Place the descriptions in your order of preference with the one you'd really love to work on being placed first.

Once your submissions are reviewed, the instructors may discuss it with you and cross-examine your conceptual understanding and technical grasp of the proposal. Final project selection/approval will be determined after all groups have been interviewed.

FORMAL DESIGN PROPOSAL

This submission will be a formalization of the planning and preliminary design work done in weeks one and two. Prepare two copies of your report – submit one to the English instructor and the other to your Projects course supervisor.

In essence you will be asked to prepare a detailed description of what you intend to do for your project and how you are going to do it. Also, define what constitutes the "successful" completion of your project.

The content of the report will be determined by the English instructor but its content will likely contain at least the following:

1. A Description of the Project
2. Preliminary sketches of your design;
3. A list of each step required to complete the work;
    - include milestones *such as* reports due and design stage/construction start and finish dates
4. A list of how long it will take to do each step;
6. Summarize items 3, 4, and 5 in the form of a GANTT Chart; and,
7. Cost Estimate of project including a break down of your budget.
8. Project Completion Definitions
    - this is a list of your project goals,desired performace characteristics, designe criteria.
    - this section of the report will be cross-referenced with your final report to see if your project reached your goals or not.

FORMAL DESIGN

"Build it on paper."

The formal design illustrates the solution to the design problem you have chosen in its paper form. Each element of the finished item should be detailed. There will, of course, be areas of uncertainty (there always are) - identify these and outline how you think you will find out how to fill in these blanks. Hand this one into your Projects supervisor only.

Please include the following in your report:

1) Detailed design description
2) Current detailed drawings. This includes custom title blocks, BOM's, proper part numbers. Just handing in Screen shots of inventor/SolidWorks is not acceptable.
3) Revised up-to-date Gantt Charts.
4) Description of uncertain design aspects
5) Brainstorming results.

TESTING REPORT

This report will outline your testing results. The nature of your Project will dictate the type and number of tests that your project requires to assess if it completes the task(s) you initially outlined in your proposals.

FINAL REPORT/User manual

This report will summarize all the work that you have done during the term.

The details of this report will be described in ENGL 273.

Drawing Package
1st Section : Bill of Materials – Lists EVERY part required to build your project.

Format:

Item #	Description	Part #	QTY	Supplier	Assembly Drawing referenced on.

2nd Section : Drawing List:

Format:

Item #	Description	Drawing #	Paper Size	# of Sheets

3rd Section: Drawing Number Legend.

4th Section: Drawing Package

Format:
The first Drawing should be over all view of your assembled project. Use at least two sheets to accomplish this, the first of which is a 3 or 4 view projection showing overall dimensions and the second sheet will be an exploded assembly drawing which calls out all major sub assemblies.

All referenced sub assembly drawings should follow the top level assembly drawing and in turn reference additional sub assemblies or part files.

Include a Graph and pie chart of each group member's total hours (format to be discussed in class).

TECHNICAL PRESENTATION/DEFENCE

This will be a private demonstration of your project to Technical Faculty as well as invited guests from the engineering community. Some of the review panel will have no previous exposure to your project until this day, so you will need to explain your initial inspiration, technical challenges, and final results. This is an opportunity to show how proud you are of all the hard work you have done and all the technical growth your team has had. If, however, some aspects of your project are non-functional, your group will also be required to account for the shortfalls.

FINAL PRESENTAION

If Provincial guidelines allow for COVID restrictions to be lifted the Showcase will proceed at the Interurban Campus otherwise there will be alternate arrangements made to allow your hard work to be publicly presented.

More details of presentation day will be discussed in class later in the term.

COURSE DESPOSIT

During the projects course you team may need to spend substantial amounts of time in the Machine Shop. Access to the machine shop is NOT a right, but a highly regarded and valuable ***privilege***. This privilege must be earned by completing the following:

1) Pay $100 cash missing tools *deposit* to the shop Tech.
    a. A receipt will be issued which is required at the end of the term to collect your deposit back.
    b. The cost of any missing tools/equipment from both the machine shop AND the robotics lab will be deducted from the funds of the total class deposit before the deposits are returned. Since the misplacement of tools by one person will affect the whole class, you are accountable to your peers as they are accountable to you.
    c. Missing tools INLCUDES a penalty for a shop left in an unsatisfactory condition by ANY group at the end of a working day. The amount depends on the condition of the workstations/machines (typical $2-10 per incident).
2) Have your OWN safety glasses which are to be worn at all times in the shop
3) Participate in the shop safety refresher tour

ONGOING EVENTS

CLASS PRESENTATIONS

These presentations will be to the whole class. These presentations will include a peer-evaluation component as well as a question and answer period.

Required conent of presentations are:

Activity: Discuss each group's progress and schedule
Typical outline:
Last week in review:
-What we *planed* to do last period
-What we *did* do since the last update
Proposed week activities:
-what we plan to do this upcoming period
Updated GANTT charts should be presented by each group outlining changes to their timeline and affects/reasons for such change
Technical issues can also be addressed to the class.

Note: All group members must attend.

- *Your education in project planning does not consist of only your own project, but also the efforts and advances of your classmates in their projects. Each weekly meeting is meant as an interactive learning experience and MUST be attended. Marks will be deducted for each meeting missed, NO EXCEPTIONS. If you miss the meeting, you miss the beneficial content of the meeting.*

The meetings should be treated as a formal presentation using Power Point. Groups should include in their presentation:

- updated financial summary accurate to the day before the presentation
- updated Gantt chart showing progress
- graphics to explain technical accomplishments and/or problems
- contacts and supplier information they have used that may be relevant to other groups

WEEKLY GROUP MEETINGS

Once each week at a time to be determined.
Duration 120min for weeks 2 through 6, 60 min thereafter.
Activity: Discuss group progress with Supervisor.
Technical issues will be addressed.
Log Books might also be reviewed at this time.

WEEKLY CLASS LECTURES

Lectures will be given at the beginning few weeks of the course. Attendance is mandatory.

PROJECT LOG BOOKS

ENGINEERING LOG BOOKS.

Students are responsible for buying a HARD BOUND log book for use during the term.

Engineering Log books are used for three main purposes:

1 As a Personal Journal.
- it is a store of knowledge and experience.

2 As a Commentary for Others.
- it can be used by colleagues to understand and reconstruct the work.

3 As a Legal Document
- it can be used as evidence to support claims about dates of inventions, developments, etc.. (In this case, the logbook is usually attested to by witnesses, and more formal rules are followed about what does and does not go in the book.)
- in this course it will be used to understand individual contributions and justify any grades.

LOG BOOK ENTRY RULES:

- Label the Cover of your Log book with your NAME and GROUP name. The Label should be White with Dark Coloured Lettering.
- Leave the first few pages blank to add personal contact info and allow for table of contents
- Include all brainstorming results, design ideas, calculations, results that may have bearing on the project developments.
- Record industry contact information, phone calls, and business meetings details
- Do not leave any pages blank or remove any pages
- Include attachments (sketches, pictures, charts, etc….but *not receipts*) by gluing them to the page.
- Include attachments (sketches, pictures, charts, etc….but *not receipts*) by gluing them to the page.
- For legal documents Pen is mandatory for all entries. This includes sketches.
- For Shop activity, include individual tasks *and* time to manufacture each part.
- Keep an accounting of time spent for all activities. This includes design, CAD, and documentation.

Log Book Moto:

*****if you don't write it down,…YOU didn't do it*****

ACCOUNTING LOG BOOKS

All expenses must be recorded in a ledger style format in both a hard bound book and an excel spread sheet. All receipts must be kept regardless of the financier of the project and stored in an envelope inside the accounting ledger book. Further details will be given in Class.

Mech 295
TESTING REPORT OUTLINE

OUTLINE:

1 **Introduction to Project and Tests. (1/2 page max)**
Generally describe the critical features that MUST function for the system to reflect your initial project proposal and *briefly* outline how you will specifically test those features. These items may include strength, performance, accuracy, weight, etc. Some tests may be a onetime test (can it hold X weight?), while others may include reliability tests (does it continue to perform after X cycles or X hours use?).

2 **Summary (1/2-1 page max)**
Give an overall pass/fail to the project's operation as well as list ALL the critical, serious, and minor failures you observed. This section may include a table that lists test, pass/fail results, type of failure, etc.

3 **Tested Item(s)**
Describe in more detail what is to be tested and how you will perform and control each test. Detail the expected results as well as test pass/fail criteria for each test.

4 **Test Procedure:**
Outline how each test was structured, and the exact steps used to conduct the test. The test procedure is meant to instruct a third party, with no knowledge of the project, how to set up and perform the test to produce useable results. Drawings or pictures are very useful in outlining your test and could save a lot of descriptive typing. Include what data or observations the tester should document that will help classify any failures. The Test Procedure may include a test form or table that is filled out as the test is conducted by the tester.

5 **Summary of Results and Test Documentation**
Present the results of the test only, leave the analysis of those results for the evaluation section. This section includes data sheets or log book entries that were created during the test. Sometimes this could be a marked up copy of the test procedures or photocopies of log books. There should be NO attempt to clean up the test data sheets. Test documentation will be used to support the test conclusions and recommendations for the particular test. Testing a project means testing *not only* it's critical functions (does it do what you said it would in the project proposal), it is also looking for other flaws that, while not ideal, don't actually prevent the system from operating (see following description of serious and minor failures).
Some failures may be totally unexpected. You may be testing the strength of a beam only to find it's actually the bolt that holds the beam that fails. You may also be looking at the speed that a system can spin, only to find that the sampling rate of your sensors can't actually keep up with the spec'd spin speed. Wheels/labels/buttons may even fall off while you're testing so try and be aware of all other aspects that may also be influenced during an isolated test.

6 **Evaluation**

Provide a detailed analysis of each failure, explaining why the system failed to meet the requirement (if known) or what the failure may be related to. Classify each failure as critical, serious, or minor.

Critical Failures

Critical failures usually require redesign before further testing of the system can continue. The system cannot be operated after a critical failure. These are referred to as “show stoppers” and mean that the device essentially didn’t work due to strength issues or even overall concept failures.

Serious Failures

Serious failures are those that need to be fixed, but an interim solution exists that can be used to operate the system. Examples of serious failures are:

-an input switch or process step needs to be manually operated rather than automatically so that the control process can continue.
-the heat generated while operating is excessive and could be a safety hazard.
-the product needs constant bolt tightening due to excess vibration

Serious failures need recommendations for interim and long term solutions.

Minor Failures

Minor Failures do not materially affect the operation of the system and can be fixed at a later date or ignored. Examples include:

-Spelling mistake in a user interface display
-Surface finish of aesthetic parts may suffer due to operation of device

If the system requires a major redesign (critical failure), briefly outline possible directions the redesign should take. Serious failures also need a brief recommendation for remedies, while the fixes for minor failures will be obvious and need not be expanded upon.

Mech 295
TECHNICAL DEFENCE OUTLINE

This is a FORMAL presentation and should be approached the same way you would an interview. Dress professionally, rehearse, and KNOW your product. The guests are seasoned engineers so give them all the tech talk you've got. Remember that they are *directly* responsible for **10%** of your final grade.

Format:

Intro (2-3min).

Some of the panel will have ZERO knowledge of your project so it is **paramount** that the first thing you tell them is WHAT YOUR PROJECT IS. Show an assembled picture of it and say in a single sentence what it does then continue by explaining the concept and motivation behind it. There will be no need to do personal introductions of group members. Names and format are not as important to the panel as your actual project so save time for that.

Initial Brainstorming (3-5min)

Remember that a *good* design seems simple, but that doesn't mean it began that way. Outline the different design paths your group explored and explain why you chose the direction you took. If your log books contain "legible" concept drawings feel free to use them, but typically these drawings need to be recreated to tell the story properly. Some of you may have fantastic screen shots of early Solidworks/ Inventor designs which may come in handy here.

Design (7-10min)

This is where you draw attention to the technical aspects of the project that are most important and impressive. Outline the different components (structure, drive system, software, electronics) of the project and give as much detail as appropriate on how they work. Try and isolate the most impressive engineering achievements as opposed to the ones that are self explanatory.

Comment on the construction challenges (if any) that you faced and how you overcame them. If certain parts required amazing precision or some components have a clever method of assembly, highlight it.

Briefly mention the total hard costs for the project as well as the hours spent and artificial cost.

Demonstration (3-5min)

Have your project ready to turn on and demonstrate. Some projects will be portable and can be brought into the room, however some demonstrations might be faster and easier to have set up in another room ready to run. If this is the case, please orchestrate things so that it is immediately ready to demo when the panel arrives.

Video of testing could also be a very viable method of demonstration, as long as the panel has the physical item present to 'kick the tires' without having to fully test drive.

Question time (5-10min)

The panel with have various questions about your design, construction, and operation of your project which are very influential to the marks they give. Try not to be apologetic or defensive but rather treat their questions as an opportunity to be mentored by seasoned engineers. If there was a reason that something didn't work, try and comment on why and what you learned from it.

Around the 25min mark the question period will be ended to give the panel time to tally their marks before the next group starts.

BONUS: Each year we ask the Technical Defense Panel to choose one project to be awarded <u>BEST TECHNICAL PROJECT .</u> Being chosen for this does not contribute or affect your grade, but could be used as 'padding' for your resumes or scholarship applications. Your Group name as well as each individuals name will be engraved on a trophy and displayed in the trophy cabinet by the Engineering Office.

<u>Hints for a good presentation.</u>

Remember that a good presentation tells a story that flows easily from topic to topic using the visual (screen) and audio (dialogue) to complement each other rather than replicate each other. Don't read what you've written on the screen, but rather use the screen to show something that invokes the audience's attention then use your dialogue to guide their interpretation of what they see. Use more pictures and less text to convey your message. Imagine Apple at it's annual conferences… how many 'words' are printed on screen as opposed to how many pictures. Video Google "apple keynote" if you're unfamiliar.

Use text to highlight key points only

Have the person who is advancing the PowerPoint be familiar with your section so he/she knows when to show the next slide rather than you ask for it. Give them a script and REHEARSE, REHEARSE, REHEARSE.

Make sure your text/pictures stand out from your background, ie; don't use white text on a light - background.

Have the transition between speakers be seamless rather than formal and abrupt. Don't bother introducing the next speaker, but instead have them familiar with your script so they know exactly when to speak once you are finished your section.

Decide ahead of time which aspect of the project each team member will answer questions about. This way there are no moments when the group members stand looking at each other, uncertain as to how or who should respond to any particular question.

Be confident in what you are presenting and what you've designed/built. It doesn't matter if *every* aspect of it works as you hoped yet, there will still be many things that DO work and that the average person would have no idea how to do. Show the panel that you are proud of your efforts.

Mech 295 – Project Planning and Design

Technical Presentation/Defense Marking Guide

INTRODUCTION:	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Explanation of:								
Why they took on this particular project	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
What does it do	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
Does the project have a relevant application.	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6

TECHNICAL:								
Does the project seem complete?	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
Level of Difficulty of project	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Quality of Construction.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Technical Knowledge of Project.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
Does the project work as expected?	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12	1 2 3 4 5 6 7 8 9 10 11 12

PRESENTATION:								
Did the group present themselves professionally	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
Did the group make you interested in their project	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
Did the group seem to function well as a team	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
Does the group answer questions with technical authority.	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
TOTAL:	**/100**	**/100**	**/100**	**/100**	**/100**	**/100**	**/100**	**/100**

COMMENTS:

Group 1
Group 2
Group 3
Group 4
Group 5
Group 6
Group 7
Group 8

Mech 295 – Project Planning and Design

Group Presentation Marking Guide

Name: Date:

Group: Meeting #: 1

Did the group**:	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
..present a good project introduction	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
..present technical details understandably	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
..use graphics to support their discussion	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
..follow a logical outline	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
..use easy to read text	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
.convince you that they have adequate knowledge of their project	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
..make you feel they have brainstormed extensively	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
..answer questions well	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
.. allow each team member to speak equally	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
..seem to function well as a team	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
TOTAL	/40	/40	/40	/40	/40	/40	/40	/40

** this is only a *sample* list of questions to be used at first bi-weekly meeting. As projects progress, marking criteria with change to reflect the progress of Projects.