MEMORANDUM - I

Department of Electrical and Computer Engineering

DATE: May 7, 2015

TO: BME/CENG/ELEC/SENG 499 students
Also posted at: http://www.ece.uvic.ca/499/ under “Course Information”

FROM: Xiaodai Dong
Coordinator for Design Project and Technical Project Courses
BME/CENG/ELEC/SENG 499, May – August 2015

CONTACT INFO: Email: xdong@ece.uvic.ca, tel. 250-721-6029, fax. 250-721-6052

SUBJECT: 499 COURSE INFORMATION

1. Important Deadlines Summer 2015:

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>May 14</td>
<td>Team Selected</td>
</tr>
<tr>
<td>May 19</td>
<td>Project Selected: Title and Team Members to TA</td>
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<tr>
<td>May 28</td>
<td>Idea Pitch: 2 minutes</td>
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<tr>
<td>June 2</td>
<td>Progress Report #1, Bi-weekly Work Log, and Proposed Milestones submitted to Supervisor and TA</td>
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<tr>
<td>June 4</td>
<td>Idea Pitch: 2 minutes</td>
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<tr>
<td>June 16</td>
<td>Bi-weekly Work Log and Revised Milestones submitted to Supervisor and TA</td>
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<tr>
<td>June 18</td>
<td>Progress Presentation: 5 minutes</td>
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<tr>
<td>June 25</td>
<td>Progress Presentation: 5 minutes</td>
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<tr>
<td>June 30</td>
<td>Progress Report #2, Bi-weekly Work Log, and Revised Milestones submitted to Supervisor and TA</td>
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<tr>
<td>July 9</td>
<td>Progress Presentation: 5 minutes</td>
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<tr>
<td>July 14</td>
<td>Bi-weekly Work Log and Revised Milestones submitted to Supervisor and TA</td>
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<tr>
<td>July 21</td>
<td>Equipment Loan List for Public Presentation to TA</td>
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<tr>
<td>July 24</td>
<td>Public Presentation starts at 16:00, Engineering Lab Wing Lobby; Setup starts at 13:00</td>
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<td>July 31</td>
<td>Final Report, Bi-weekly Work Log, Revised Milestones submitted to Supervisor and TA; Project Web URL submitted to TA</td>
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<tr>
<td>August 15</td>
<td>Coordinator receives grades from Supervisors for Progress Reports and Final Report, and Website evaluations from panel of judges</td>
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</tbody>
</table>

Academic Teaching Assistant (TA): Maryam Behrouzinekoo, marry89@uvic.ca
2. **Course Objectives**
The Design Project course is intended to provide an opportunity for students to carry out a significant design experience by working on a project in a team of 3 to 5 persons. Each team will be assigned a suitable project supervised by a faculty member. The projects may originate from faculty members, students, companies, or other external sources. They may have a diverse nature (theoretical investigations, practical designs, measurements, software developments, etc.) and serve diverse needs (research, undergraduate laboratory experiments, open house demonstrations, feasibility studies of interest to local companies, etc.). For multi-disciplinary projects or acceptable projects originated external to the Department, a faculty supervisor from ECE, ME, or CSC Department will be appointed.

3. **Course offerings**
The above 499 courses are being offered in the summer terms and are compulsory for Biomedical Engineering (BME 499), Computer Engineering (CENG 499), Electrical Engineering, (ELEC 499), and Software Engineering (SENG 499) programs. The SE Program is offered jointly by the ECE and CSC Departments and students taking SENG 499 can approach both CSC and ECE faculty as potential project supervisors/co-supervisors.

4. **Project Selection**
Available projects are listed at: [www.ece.uvic.ca/499/](http://www.ece.uvic.ca/499/) that also documents past projects. Students must form teams of 3-5 persons and select a suitable project from the list of pre-approved projects. The team should be formed as a small company having a name, a suitable logo, and a motto. Students may select a project originating from an industrial or external organization. Teams formed with students from other Departments are encouraged but only students registered in the 499 courses will be evaluated by the ECE Department. Please notify the Coordinator of your project selection by completing the Project Selection form. If you intend to propose your own project, please provide the Coordinator with the appropriate description of the project, the resources needed, and the name of the potential Faculty Supervisor that you have approached beforehand who agrees to supervise your project. Since some projects might require specialized parts, it is very important that you finalize a complete project proposal and get it approved by the Coordinator prior to the deadline of Project Selection.

Students failing to submit an approved project by the deadline will be de-registered from the course. In any email correspondence, include the group (project) number (to be assigned) in the subject line.

5. **Requirements**
It is expected that systematic effort be put into this course comparable to that of any other course with a full laboratory component, namely approximately 9 hours/week. Due to the unstructured nature of the course, students are expected to show a great deal of self-discipline and initiative.

Each team must give a 2-minute pitch presentation during the first month and a 5-minute progress presentation during the third month of classes. In addition, the following are the specific minimum requirements:
(a) **Progress Reports**

Two progress reports are required and must be submitted electronically on the required dates to the Supervisor and TA for comments and evaluation. The first progress report should clearly define a problem, the team (“company”- with contact information), the scope of the project, a proposed solution, the assigned tasks, the anticipated milestones and progress made (if any). It should also include a project summary. The summary will be used to publicize the Poster Presentation, so use layman’s language.

**REQUIRED INFORMATION**

- **Project Number:** (to be assigned)
- **Project Title:**
- **Personnel** (include email address and mobile phone of a contact person):
- **Faculty Supervisor:**
- **Project Summary (approximately 200 words)** – use simple language that appeals to the general public.

The second progress report should indicate the progress made so far and should form the basis for the final report. Both progress reports are to be returned to the team by the supervisor with suitable comments and grade within one week and are to be included as appendices in the final report.

(b) **Public Presentation**

Project demonstrations and presentation will be made to the Faculty and University community and the general public. Each team will be provided with a 6’x4’ table for the demo and prototype in the ELW Lobby (booked from 1:00 pm on the day of the demo). Each team should display the names of the team members, supervisor, and sponsor (if applicable). The team is expected to be present to offer all necessary explanations. In addition, each team is required to provide pamphlets to be given out to interested audience. The design of the pamphlet should be similar to that of a commercial product. This event is sponsored by the IEEE Victoria Section and co-sponsored by other organizations with cash prices for the best projects.

**Loan of Equipment for Public Presentation Day:**

Your team must send to the TA a list of equipment you require for your demo, three business days prior to the Public Presentation Day. This includes all lab equipment, computers, monitors, Internet access and any special requirements (access to compressed air, water, outdoor setup, etc.)

(c) **Web Presentation**

A suitable Web presentation based on the public presentation, demonstration, and other material must be prepared to provide a project description and the results obtained. These Web pages are to be set up on students’ Engineering accounts. These presentations will be archived on the permanent Departmental Website for the benefit of future students. The following requirements apply to the Web presentations:
(1) Heading of Web pages should clearly indicate that they are for the Design Project/Technical Project course BME/CENG/ELEC/SENG 499 and should include the name of the Supervisor and if applicable, the Sponsor.

(2) Web pages will be in the public domain. Check with your Supervisor and Sponsor and obtain their approval for the contents of your presentation.

(3) Test your Web pages to ensure that they work properly with commonly used browsers such as Internet Explorer, Safari, and Firefox, and also when accessed from various platforms, that is, PCs, Macs, and UNIX.

(4) Avoid using plug-ins that are non-standard or normally not installed with browsers by default.

(5) The Web pages should be location independent and, therefore, will work properly when transferred to the ECE Web page.

To avoid problems with locations you should use relative links rather than absolute links. For example, if your Web page resides at address “http://www.ece.uvic.ca/~student1” and you have pictures for the Web page residing in a directory called images, the Web page should link to the pictures using “images/picture1.jpg” rather than “http://www.ece.uvic.ca/~student1/images/picture1.jpg.”

To test your page you can transfer the page to the UNIX home directory of another student.

(6) It is desirable that the Web pages be properly designed and not just, for example, a Power Point Presentation or Word document converted to HTML.

A zero (0) mark will be given to Web presentation if any of the above is not satisfied.

(d) Final Report

A final report is required for each project. It should be typewritten and bound. It should be organized according to the following structure:

1) Project Title

2) Executive Summary – A brief overview of the project goal, description of the project and final design, performance of the design, and recommendations of modification or continued work. Do not exceed one page.

3) Introduction – Includes project motivation, objectives, review of existing solutions and alternative designs, deliverables and technical specifications.

4) Detailed Design Description – Provides a comprehensive description of the full design and prototype. Include a detailed description of the testing of the designed prototype, tests performed and results discussions, the impact of the results on the design process, recommendations and limitations. Tables and figures can be adopted to illustrate the results.

5) Project and team Management – Provides a detailed breakdown of tasks and schedules responsible and completed by each team member.
6) Conclusions and Recommendations – Provides a clear and concise summary that reviews the outcome of the project. Suggests any possible improvements and/or continued work.

7) Reference

8) Appendix – Cost Analysis and Parts List – Uses well-organized tables to provide detailed cost and source information.

9) Other Appendix (if applicable)

The final report must be submitted on the required date to the project Supervisor and TA for evaluation. It will not be returned to the team.

(e) **Milestones**

Each team should submit the initial milestones with their first progress report, and a revised version every two weeks after, reflecting progress and modification made.

(f) **Work Log**

Each team should submit a Work Log (see attached) every two weeks starting with their first progress report. The Work Log should specify the tasks and hours spent performed by each team member over the two-week period. Each member must sign and date the Work Log as an indication that he/she agrees with the information provided in the Work Log.

(g) **Technical and Progress Meetings**

Students are expected to attend all technical and progress meetings as scheduled.

6. **Grading**

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<tr>
<th>Component</th>
<th>Weight</th>
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<tr>
<td>Progress during the term</td>
<td>10%</td>
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<tr>
<td>Public Presentation + Pamphlet</td>
<td>10%</td>
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<tr>
<td>Class Presentation (Idea Pitch + Progress)</td>
<td>2% + 3%</td>
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<tr>
<td>Web presentations</td>
<td>10%</td>
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<tr>
<td>Final Report + Work Log + Milestones</td>
<td>65%</td>
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100%

Progress Report 1 is marked by the supervisor and Progress Report 2 is marked by the TA, both of which are based on progress as documented in Progress Reports #1 and #2.

Public presentations are graded by markers designated by the Coordinator. Marks will be based on how well the project is communicated, in addition to the technical merit of the project. The following criteria were used in the past:

a. Excellent display, demo, and team
b. Very good, but without “sparkle”
c. Good, but missing some elements
d. Hodgepodge job but still acceptable
e. Not acceptable
f. Very poor
Web presentations are marked by the Coordinator or by faculty designated by the Coordinator. The following criteria were used in the past:

a. First page impression  
b. Ease and intuitiveness of navigation  
c. Esthetic value  
d. Clarity of presentation  
e. Website operation  
f. Efforts put in

The Final Report must be included in the Web presentation.

Final Reports (with Work Logs and Milestones) are marked by the Supervisor and TA. Grading rubrics will be published on the course website. Note that members of a team may not receive the same grade.

7. Awards
a. The ECE Department Chair Award (cash and a certificate) will be given to a team for the best project as judged by the Department based on the Final Report. This will take place once a year and will include students taking BME/CENG/ELEC/SENG 499 during the summer term.  
b. IEEE Awards will be given on the demo day based on presentation.  
c. Other sponsored Awards - to be announced.

8. Project Execution
The ECE Administrative Officer, in consultation with the Coordinator and Supervisors, will designate suitable times and laboratory space for work related to the project.

The general laboratory for the projects is located in ELW B336. Students registered in 499 will have card access to this lab. Resources available in the lab include PCs, scopes, signal generators, multi-meters, etc. IEEE Student Members can access the soldering facility in the IEEE McNaughton Centre (ELW-B350). A soldering station is also available for use under supervision in ELW B320 (ECE tech shop). ECE’s tech shop has various parts in stock including capacitors, resistors, ICs, and a few development kits (PIC, ATME). Signing out equipment, electronic/mechanical components and access to technical data books shall be done in accordance to the rules as set by the Department. This will be considered to be part of the course requirements and failure to comply may result in an N grade for the course.

The Department has some limited funds for component purchases and Supervisors may also have funding for component purchases. **Components to be purchased by the Department must be authorized in writing by the Coordinator and should be ordered by ECE technical support staff.** Orders are normally placed once per week. Parts bought by ECE Department remain the property of the Department.

ECE technical support staff:
Rob Fichtner rf@uvic.ca  
Paul Fedrigo pfedrigo@ece.uvic.ca
Brent Sirna  

brent@ece.uvic.ca

SENG technical support staff:
Lynn Palmer  

lpalmer@uvic.ca

On academic matters BME students should contact Biomedical Engineering Program Director, Dr. Nikolai Dechev, dechev@uvic.ca

On academic matters SENG students should contact Software Engineering Program Director, Dr. Margaret-Anne Storey, mstorey@uvic.ca
MEMORANDUM
Department of Electrical and Computer Engineering

DATE __________

TO: Students registered in BME/CENG/ELEC/SENG 499
Department of Electrical and Computer Engineering (by Email)

FROM: Xiaodai Dong, Coordinator for Design Project/Technical Project Courses
BME/CENG/ELEC/SENG 499, May – August 2015

CONTACT INFO: Email: xdong@ece.uvic.ca, tel. 250-721-6029, fax. 250-721-6052

SUBJECT: Project and Team Selection

Please submit this form to Xiaodai Dong (xdong@ece.uvic.ca) and the TA by May 19, 2015, 23:59 PST

Project Title: __________________________________________________________

Project Number if selected from list of pre-approved project: ___________

Self-proposed project must submit Coordinator’s approval with this form.

Faculty Supervisor:________________________________________________________

External Advisor (if any): ________________________________________________
(Include Email and/or phone number)

The Team (minimum three students):

<table>
<thead>
<tr>
<th>Family name</th>
<th>First name</th>
<th>Email</th>
<th>Student No.</th>
<th>Registration in</th>
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<td>SENG 499</td>
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BME/ELEC/CENG/SENG 499 Work Log
Summer 2015

Submit this Log to your supervisor and the TA

Team Number: ____________________________

Team Name: ____________________________

Work Log Period (dates): ____________________

<table>
<thead>
<tr>
<th>Member Name</th>
<th>Tasks Performed</th>
<th>Hours Spent</th>
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We agree with the information provided here regarding the work performed over the two-week period:

<table>
<thead>
<tr>
<th>Member Name</th>
<th>Signature</th>
<th>Date</th>
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