

## 4. Project and Course Requirements

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### Pre-lab Preparation

The Team Leader is in-charge of coordinating the experimental activities of the team and will act as the main contact with the Project Supervisor on behalf of the group. The other members of the team are expected to give their Group Leader full cooperation.

Teams are required to carry out the laboratory-based portion of their work during a single lab period. ***To accomplish this successfully, the following sequential steps are recommended:***

1. Study and understand the lab project material presented on the course onQ website. Based on this information, outline a well-defined purpose/objective of your project. Determine an experimental methodology based on theoretical concepts.
2. Secondly, inspect (do not operate) the equipment and ***develop a detailed and complete procedure for carrying out the work.*** Inspection of the equipment may occur at any time when the laboratories are open, but not during a scheduled departmental laboratory. Observation of another team's work is not permitted. All work should be original.
3. When the Team Leader is ***confident*** that ***each team member*** completely understands all aspects of the lab project, all the team members will meet with the Project Supervisor to discuss their preparation for the project. This meeting will last for approximately 15 - 20 minutes. ***It is the responsibility of the Team Leader to ensure that the meeting is arranged in advance with the supervisor.***

### Guidelines for Team Leaders requesting a pre-lab meeting with their Project Supervisor:

- Team Leaders should make pre-lab meeting requests via email to their Project Supervisor at least 48 hours in advance of the desired meeting time.
- Propose at least 2 meeting times in case your supervisor is busy with their own research or course work for part (or all) of the proposed meeting date.
- Plan to schedule your pre-lab meeting with your supervisor far enough in advance of your assigned lab time, so that if your preparation is deemed unsatisfactory, you will have enough time to recover (i.e. better prepare, and arrange a second pre-lab) before missing your assigned lab-work time.

During the pre-lab meeting the Team Leader will make a ***short, informal oral presentation*** that will include:

- the specific **objectives** of your project
- a detailed explanation of the **experimental procedure**, any anticipated problems, and any specific safety requirements
- the form of **results** expected
- specific mathematical and statistical analysis of the data acquired

This meeting should be viewed as an informal presentation to a supervisor (note: informal does not mean unprofessional - be prepared, organized and business-like in your approach). Be prepared to speak without notes as proof of a solid understanding of the experimental theory and materials. All members of the group are expected to take part in the discussion. If the presentation is judged to be satisfactory the Lab Supervisor (TA) will sign the lab book and the team is approved to perform the experiment during their assigned lab-work time. If the presentation is not satisfactory, the team will **NOT** be permitted to continue with the experiment. Instead, the team must re-evaluate their work based on the Project Supervisor's comments and prepare for a second pre-lab meeting. Teams may not operate the equipment until they are authorized to do so by the Project Supervisor.

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## Laboratory Work

Each team is required to carry out the laboratory work during their assigned lab-work timeslot. This involves executing the plans for experiments and recording the experimental data.

The Team Leader is also responsible for maintaining the group's data book which is subject to periodic inspection by the Project Supervisor. At the end of each laboratory session, the lab book pages should be signed by the Project Supervisor or one of the Chemical Technologists.

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## Report Preparation & Submission

### Group-prepared Reports

Each Lab Team will submit one group-prepared formal technical report per project. The Team Leader is responsible for submitting the report (as a single WORD.docx file, max. size 20MB) on time via the course onQ website. However, all team members **Must** participate in all aspects of the preparation and should review its content and style before the report is submitted.

**Submit formal laboratory reports via the CHEE 315 onQ website by 12:00 noon on the designated due date (no hard copy required).** Reports should not exceed 20 pages (double-spaced on standard letter-size sheet with 12 pt. font) for the combined main sections (excluding appendices and front matter). Reports should be consistent with the style for formal reports suggested in the "*Formal Technical Report Writing Guide*" document in the "*CHEE 315 Course Manual*" module of the course onQ website. Pfeiffer and Boogerd (2003) is another useful resource for report writing. The components of a report are:

- Title page (include honesty statement at bottom of page)
- Abstract
- Introduction
- Experimental
- Results and discussion

- Conclusions and recommendations
  - References
  - Appendices
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## Technical Memorandum

One technical memorandum is required of each Team Leader. If someone must act as team leader twice, they do not need to prepare a second memo - no memo is required in that instance.

The Team Leader should submit the technical memo (as a single WORD.docx file) via the CHEE 315 onQ website by the report deadline.

The memo should not exceed two pages of text and can optionally include an extra page with table(s) or graph(s). The memo is addressed to your Project Supervisor.

The procedure and main conclusions should be clearly stated. Chapter 6 in Woolever (2002) addresses memo writing techniques and provides examples. Note that the preferred memo format has headings for this Department is:

DATE:  
TO:  
FROM:  
SUBJECT:

Note that the style of writing in the technical memo may be less formal than in the report and may use first person references such as "I" and "we".

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## Final Oral Presentation

A final Oral Presentation is required at the end of the 2<sup>nd</sup> and 3<sup>rd</sup> Project Rounds. The Course Instructor will schedule Oral Presentations sometime during the course timeslot in the week when the final the report is due. The presentation schedules can be found in the “*CHEE 315 Course Manual*” module on the CHEE 315 onQ website.

Presentations will be done via a Zoom meeting with your Project Supervisor. Your Project Supervisor will send you an email with an invitation link for the Zoom meeting.

If rescheduling is required, arrangements should be made by the Team Leader via e-mail with the Project Supervisor at least 48 hours in advance of the originally scheduled presentation time to use one of the unscheduled slots on your assigned presentation date. If a date other than the assigned presentation day is required, then a 5% deduction will be applied for scheduling outside

the timetable for your assigned presentation day and an additional 5% for each class day beyond the originally scheduled presentation date.

The final oral presentation will be co-prepared and co-presented by the Group Leader and one other group member (both team members must prepare and present 50 % of the content). The presentation should last **12 - 15 minutes**, followed by a **five-minute discussion** period based on questions from the presentation.

The presentation should include well prepared visual aids using PowerPoint. Allow approximately one minute per slide, except for the cover slide. The presentation should be structured to include the following:

- Introduction (with a description of the project and objectives)
- Experimental Procedure
- Results and Interpretation
- Conclusions and Recommendations

Both Presenters must submit a copy of the presentation slides (.pdf or .pttx) via onQ sometime before the assigned presentation time.

Each student is responsible for participating in only one presentation. For teams with three members, someone will end up preparing and presenting the final oral presentation individually. This situation should be discussed and resolved (to all team member's satisfaction) at the beginning of the term!

Your audience will be your Project Supervisor (TA) who is expecting to receive a clear presentation of your project objectives, results, conclusions, and recommendations.

All team members are required to attend the presentation meeting and be able to respond to questions if asked.

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## Peer Evaluations

Peer evaluations are a mandatory submission from all team members at the end of each project round. Peer evaluation surveys should be completed individually in the final week of the project period via the course onQ website. Peer evaluations are kept confidential.

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## References

Pfeiffer, W.S.; Boogerd, J. (2003) Technical Writing: A Practical Approach. 3rd Canadian Edition. Pearson, Prentice Hall, Toronto.

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Last updated June 12, 2020