

CHEM 448 GUIDELINES FOR STUDENTS AND SUPERVISORS

General Information

CHEM 448 is a three-credit course (which may be taken twice) in which students complete an original research project under the direction of a faculty member. Projects normally will be laboratory-based but may include library or field work. The nature and scope of the project is to be negotiated between the student and the prospective supervisor. Students wishing to register in CHEM 448 must make prior arrangements with a faculty member and then complete an application form.

An abstract of the project should be entered on the form, and the supervisor should sign the form. The abstract will include a summary of the proposed project and a statement indicating how the evaluation will be conducted.

CHEM 448 may be taken for either three or six credits, and may NOT be taken in place of any specified chemistry courses or chemistry electives in a majors or honours degree programme.

The completed application form should be returned to the Undergraduate Secretary in the Chemistry Office for signature of the Undergraduate Chemistry Advisor.

Why would I take CHEM 448?

CHEM 448 is intended to allow students to experience research, particularly in the summer after their third year of studies. Many students do not receive NSERC or other summer scholarships, but would still like the research experience. This course will allow students an opportunity to work in a research-active laboratory and to learn essential research skills under the direction of a faculty member. At the end of the course, they will be in a better position to be hired in a research laboratory. They may also decide to pursue graduate studies based on this experience.

How much work is required?

CHEM 448 is generally only available during the summer session, except for students with reduced winter-session course loads (permission from the Undergraduate Chemistry Advisor is required). During the summer, this course is available in two different seven-week periods each for three credits. Students registered in the first session of CHEM 448 may, with permission, continue for a subsequent seven weeks to earn an additional three credits. The weekly time commitment must be discussed with the supervisor prior to commencing the research project but it is expected that students will generally be in the laboratory daily. A total contact time of ca. 240 hours is expected for each three-credit unit of CHEM 448. For students taking CHEM 448 during the winter session, a similar time commitment would be expected for each three-credits of CHEM 448 (and thus the requirement of a reduced course load). This commitment is a significant amount of time, but is necessary in order to make progress on a research topic. The time requirement may be adjusted by mutual agreement between the student and the supervisor depending on the nature of the project.

Note that, depending on the project, students may have to attend safety courses as a part of the CHEM 448 commitment.

How are the projects to be evaluated?

Projects are to be evaluated by the supervisor and another professor, and require a formal laboratory report and the maintenance of a laboratory notebook. In addition, each student will give a 10-15 minute oral presentation and answer questions on their research for 15-20 minutes. The exact nature of this report is to be determined by the supervisor and the student. The written report may be in the form of a scientific paper. This format is encouraged, but not absolutely necessary. The supervisor may prefer a different form for the report, and must make it clear to the student what style of report is expected and when it is due.

CHEM 448 projects are intrinsically diverse and detailed evaluation will vary. However, overall projects will be evaluated as follows:

- 15% Laboratory Notebook
- 30% Written Report
- 15% Oral Presentation
- 15% Question Period
- 25% Initiative, independence, problem solving and understanding

Based on departmental experience with the CHEM 449 BSc thesis projects, it is expected that **median** marks for CHEM 448 projects will be in the low-to-mid 80s and marks above 90 will be rare, and indicate a truly exceptional project and presentation.

Who can supervise CHEM 448 Students?

Any faculty member at UBC can supervise a CHEM 448 student as long as the subject material is Chemistry. If the faculty member is not a member of the Department of Chemistry, the student must find a co-supervisor within the Department.