

**Experiential-Learning and Professionalism in Chemistry (EPIC) 1 & 2, Course Outline**

**MSc. Students: Chem EPIC-1 MSc (0.25 Credits)**

**PhD. Students: Chem EPIC-2 PhD (0.5 Credits)**

This course is designed to encourage and recognize graduate student participation in experiential learning in chemistry outside of traditional graduate courses. It is meant to provide graduate students with exposure and skills that will be required as a chemical professional. It will also acknowledge this additional experience on their transcript. This is a guided,\* self-directed learning experience.

\*Course coordinator: Associate Chair, Graduate Education

\*Course guide: Associate Chair, Graduate Education or their designate.

**Learning outcomes**

By the end of this course, students will be able to:

1. Become proficient in the oral and written communication of chemistry to expert and non-expert audiences through both teaching experiences and highly technical activities.
2. Obtain skill sets specific to the chemical industry in order to enhance their career and professional readiness.
3. Acquire collaborative and interpersonal communication skills necessary to be an effective professional chemist in academia, government or private sector.
4. Promote chemistry as a cornerstone of every day societal life through teaching and outreach activities.

A key aim of this course is to actively address the core competencies of the Western Scholar see: [https://grad.uwo.ca/career\\_development/index.html](https://grad.uwo.ca/career_development/index.html) and <https://www.uwo.ca/ownyourfuture/>. The identified six curriculum-based competencies are: Communication and Relationship Building, Leadership, Thriving, Teaching and Learning, Intercultural and Social Fluency, and Career Engagement.

This course will be listed as a milestone course on your transcript. Once enrolled, you will remain enrolled until the course requirements are satisfied. There is no grade associated with this course. If you wish to enroll in this course, you must contact the Course Coordinator.

MSc. students will make a request to the Graduate Chair to register no later than the beginning of their 4<sup>th</sup> term in the program. Only experiences within the previous three terms, whilst registered as a graduate student at Western, are eligible for consideration. The student will normally remain as "milestone not completed" until their penultimate term; and will present the Course Guide with evidence of completion of the requirements as a single portfolio. A public presentation IS NOT required.

PhD students will make a request to register to the Graduate Chair no later than the beginning of their 10<sup>th</sup> term but are strongly encouraged to register earlier. Normally, only experiences within the previous six terms, whilst registered as a graduate student at Western, are eligible for consideration. The student will normally remain as "milestone not completed" until their penultimate term when they submit a single, comprehensive portfolio to the Course Guide with evidence of completion of the requirements. A 15-minute public presentation is required; this will usually take place as an add-on to the graduate seminar series.

**Course Operation:**

Students wishing to enroll in EPIC 1 or 2, should contact the Graduate Chair.

All students enrolling in EPIC (1 or 2) are required, at the outset to complete the power skills assessment offered by the 'own your future' program, SGPS at <https://www.uwo.ca/ownyourfuture/>.

The student will use the power assessment skills tool construct a pre-course self-evaluation to assist in choosing their experiences to build expertise in the categories where it is needed. Thus, it is important to perform the self-evaluation before accumulating too many 'points' in the various categories (see below). The student will submit a curriculum vitae and a short reflection on the power skills assessment to the Course Coordinator/Guide with a general plan for training, upon registration.

Once a year, on the anniversary of registration, the student will provide the Course Coordinator/Guide with a progress update and can seek advice/guidance for the direction of future experiences.

When the student has completed the requisite number of experiences, they will complete the power skills assessment once again, and construct a one-page reflection on their experiences that should describe their power skills assessment improvement and elucidate the take-away skills or knowledge that was obtained during the course. Thus, during the course the students should build a portfolio (Format: 1.5 spacing; 2.5 cm margins; Times font, size 12) consisting of their pre- and post- assessment, plan of training, reflection, curriculum vitae, and description of activities and outcomes under the headings of Professionalism, Communication and Teaching. For each section, a brief description of the activities and the points accumulated should be given.

It is the student's responsibility to ensure there is sufficient and appropriate documentation verifying their participation in selected activities. The elements in the portfolio will be subject to verification by the Course Coordinator/Guide as required. Once finished, the course will appear as a completed milestone on the student transcript.

Each of the following can be used as a component of EPIC. Bear in mind that this list **is not exclusive** and other experiential/professional development activities can also be used with approval of the Chair of the GEC. EPIC MSc requires **25 units total** and they should normally come from each of the 3 categories listed below, with a minimum of 5 units from each category. EPIC PhD requires **50 units total** and should normally come from each of the 3 categories listed below with a minimum of 10 units from each category. Assessment of each activity will be conducted by members of the GEC or designate as appropriate. The weighting of each activity is noted in parentheses as well as guidelines for what students should include in their portfolio, which will serve as verification of completing the activity.

Current Common Sources for Training:

- 1) Own Your Future offered by SGPS. SGPS coordinates workshops from a variety of sources. <https://uwo.ca/ownyourfuture>
- 2) Centre for Teaching and Learning. <https://teaching.uwo.ca/programs/allprograms/index.html>
- 3) MITACS facilitated Sessions – various categories including Professionalism and career fundamentals; interpersonal skills, communication, leadership and management. Accumulate credits at a rate of 1 per hour of session. <https://www.mitacs.ca/en/programs/training/training-courses>

### **Category 1 – Professionalism**

- Participation in an approved chemical industry or chemical professional society-based course/training program consisting of at least 3 hours of instruction (5 units).

**NOTE** – depending on the subject matter of the course/training, this activity could count as a contribution to a different category.

Portfolio inclusion guideline: Proof of registration from the course as well as a copy of any certificate obtained. If no certificate is offered then a signed participation form by the presenter (or equivalent) of the course is required (see form attached).

- Participation in a “Mock Interview Day”. The student will prepare and submit a CV and participate in a formal mock interview with a representative from industry. This can be coordinated with the Chem 4491 Mock Interview Day, provided there is availability and with permission of the 4491 coordinator(s) (5 units).

Portfolio inclusion guideline: Signed participation form by 4491 coordinator or coordinator of MID (see attached).

- Participation in multi-disciplinary scientific journal club that includes being a presenter (5 units).

Portfolio inclusion guideline: A reference list of papers discussed with the club.

- Participation in a regularly scheduled scientific seminar program beyond Chem 9658 that includes presenting at least once during the year (10 units).

Portfolio inclusion guideline: Copy of abstract and slides.

- Participation for at least a year as a member of an active SOGS executive committee (See attached SOGS list, that lists appropriate weightings).

Portfolio inclusion guideline: Letter from President of SOGS (or designate) confirming participation.

- Participation as a student representative on one of the University’s Senate Committees for at least one year (10 units).

Portfolio inclusion guideline: Arrange for copies of attendance records from minutes that includes your name from University Secretariat’s Office.

- A minimum of 10 hours of chemistry outreach activities (10 units).

Portfolio inclusion guideline: Verification form signed by Department Outreach Coordinator or Faculty member who is part of the Chemistry outreach committee (See attached).

- Participation of at least 10 hours in organizing an Alumni event (such as an Alumni reception) (5-10 units depending on event)

Portfolio inclusion guideline: Verification form signed by event organizer/Alumni Western.

- Participation with the Development and Alumni Relations team (5-10 units). This could include participating in a Development with Director of Development, or event organized by their office; participate in an Advisory Council; provide support and volunteer hours for alumni events; Participation of at least 10 hours required.

Portfolio inclusion guideline: Verification form signed by event organizer.

- Completion of the remaining courses offered through OHS beyond those required for your research (5 units per course).

Portfolio inclusion guideline: Include certificates indicating successful completion.

### **Category 2 – Communication**

- Participation, by delivering a poster presentation or lecture, at a national/international conference. You may only use the activity once in your portfolio (10 units).

- Portfolio inclusion guideline: Copy of your abstract from the conference program, conference name tag and a copy of the presentation slides. Deliver the lecture to members of the GEC or thesis supervisory committee.
- Submission to the Aspiring Minds Showcase ([grad.uwo.ca/academics/inspiringminds.html](http://grad.uwo.ca/academics/inspiringminds.html)) (5 units).  
Portfolio inclusion guideline: Copy of submission and links to repository.
  - Participation in Industrial Problem Solving Week: <http://ipsw.uwo.ca/> (15 Units)  
Portfolio inclusion guideline: Certificate of completion
  - Participation in a chemical industry related plant tour with written report (10 units)  
Portfolio inclusion guideline: Report (maximum 5 pages) including a description of the tour with related professional issues (e.g. process flow diagram; chemistry involved; possible roles for chemists in the operation; etc.) .
  - Conducting an information interview(s) of a non-academic chemist with a 5 page written report (10 units). Report will be reviewed by the GEC or designate. Please see:  
[http://www.success.uwo.ca/careers/research\\_your\\_career/informational\\_interview.html](http://www.success.uwo.ca/careers/research_your_career/informational_interview.html)
  - Completion of Mitacs workshops (1 unit / hour of workshop)  
Portfolio inclusion guideline: Description of the workshop and total hours and Certificate of completion by workshop organizer.
  - Academic and professional communication series - TSC (10 units).  
Portfolio inclusion guideline: Notation in your TSC "Discipline-Specific Training Progress Tracker" (see attached for sample form).

### Category 3 – Teaching

- Future Professor: Path to Teaching Excellence Workshops (5 units each). \*  
Portfolio inclusion guideline: As noted in your TSC "Discipline-Specific Training Progress Tracker" (see attached for sample form).
- Teaching Master Classes (5 Units each). \*  
Portfolio inclusion guideline: As noted in your TSC "Discipline-Specific Training Progress Tracker" (see attached for sample form).
- Participation in TA Day: Graduate Student Conference on Teaching (10 units).  
Portfolio inclusion guideline: Confirmation of registration, copy of conference name tag, as well as a list of sessions attended.
- Teaching Mentor Program for Graduate Students (10 units). \* Note: Attendance mandatory once enrolled. Successful completion of this activity relies on consistent participation of all team members.  
Portfolio inclusion guideline: Completed mentor program form with signatures from group members and TSC facilitator.
- Significant contribution to the development of a new undergraduate laboratory experiment in our undergraduate program, outside of a TA duty (20 units)\* EPIC PhD only.  
Portfolio inclusion guideline: Copy of the final lab instruction as well as a mock write up expected by undergraduate performing the lab.
- Publication as a co-author in J. Chem. Education or similar (e.g. Teaching Innovation Projects Journal (TIPS) (25 Units). EPIC PhD only  
Portfolio inclusion guideline: Copy of the manuscript.
- Advanced teaching program (ATP) – TSC (30 units). \* EPIC PhD only  
Portfolio inclusion guideline: will require copy of manuscript submitted to TIPS.
- International Student Programs: EPIC PhD only
  - (i) CCC – Communication in the Canadian Classroom (25 units)
  - (ii) TCC – Teaching in the Canadian Classroom (25 units).

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Portfolio inclusion guideline: Copy of CCC or TCC certificate.

- TATP – Teaching Assistant Training Program (15 units). Note: NOT eligible if you have been resident in the graduate program for 6 or more terms. Designed for new graduate students.

Portfolio inclusion guideline: Copy of TATP certificate.

- Certificate in University Teaching and Learning (50 units). Note: this encompasses many of the components listed among others. \*\* EPIC PhD only

Portfolio inclusion guideline: Copy of UTL certificate.

\* Note: completion of any teaching workshop must include, if not already a part of the workshop/course, teaching an undergraduate/graduate lecture on a topic directed from the course coordinator. The lecture will be attended by the course coordinate and member of the GEC or designate.

\*\*With permission of the Chair of the GEC.

### **SOGS Participation list (1 year minimum):**

- The following duties are considered to contribute 10 units to EPIC.

Graduate education Council Member

Senate Committee on University Planning Member

Senator

Councilor (Department Specific availability of positions)

- Committee Member (5 units):

Policy	Academic	Graduate Student Teaching Awards
Gradcast Radio Show	Equity Issues	Graduate Student Issues
Bursaries and Subsidies	Finance	Grad Club
Sustainability	Health Plan	International Graduate Student Issues
Orientation and Socials	Bylaws and Constitution	Graduate Peer Support
Appeals Review		