

CHEE410 Engineering Innovation and Entrepreneurship

Academic Assistant – Winter 2023

(Posting date December 16, 2022)

Applications are now being accepted for CHEE410: Engineering Innovation and Entrepreneurship Academic Assistant (AA) for Winter 2023.

This course provides a fundamental understanding of the innovation process, intra- and entrepreneurial thinking, business model elements and the financial and market contributors to successful technology-based business opportunities, together with the systems thinking and design thinking approaches as effective means for identifying and developing opportunities, and solving challenges. Course topics include: elements of a business model, as distinct from a business plan, customer segments with associated value propositions, journey maps and personas, identifying opportunities, project management skills and intellectual property issues, competitive analysis, raising capital, financial measures of performance for making decisions, identifying and analyzing systems, and applying a design thinking approach to identify solutions and develop ventures.

This position is from *January 1, 2023 to April 30, 2023* working an average of 6 hours per week (duties may not be spread out uniformly every week). *Note that this position is **not** open to graduate or undergraduate students.*

AA assignment duties include facilitating student tutorials (3-2-1 session in which venture groups present their venture progress), presenting and facilitating discussions of case studies, marking midterms, oral presentations and assignments and project reports, and mentoring student ventures associated with the course. Any necessary training will be included in the assignment.

Academic Assistants are governed by the *Collective Agreement* between the United Steelworkers and the University. Remuneration is \$29.91/hour plus 7% in lieu of vacation and benefits, in accordance with the *Collective Agreement*. *Collective Agreement* details can be found at:

http://www.queensu.ca/humanresources/employees/unions/usw2010_academic_assistants.pdf

Please forward your applications to James McLellan (james.mclellan@queensu.ca) in the Department of Chemical Engineering by **December 23, 2022**.

Completed applications should include:

1. CV
2. A paragraph stating why the position is of interest to you and any relevant experience you may have for the position

The Department of Chemical Engineering thanks all applicants for their interest; however, only those candidates considered for the position will be contacted.

Calendar information for the course:

CHEE 410 Engineering Innovation and Entrepreneurship

This is a course about innovation – distinctive ideas, of value, put to practice – and entrepreneurship – the process of putting to practice and sustaining the implementation of innovations – for societal benefit and wealth creation. Curiosity of the world around us is emphasized for identifying opportunities to have an impact and make a difference, to which a discipline is imposed - one that identifies who might be interested in or benefit from our product or service, and how we can bring an idea to fruition and bring the necessary resources (e.g., financial, intellectual) to provide it to society. Legal aspects (e.g., incorporation, partnerships), raising capital, and protecting the strategic advantage of intellectual property (e.g., patents, trade secrets) are discussed, together with the importance of having a social acceptance to operate. The concept of a business model, summarized using the business model canvas methodology, is presented, together with the concept of a business plan describing how a venture will be operated over a time horizon. For-profit and not-for-profit ventures, and the elements of the business models for each, are studied and compared, along with similarities and contrasts between intra- and entrepreneurship. Financial metrics for assessing the viability of ventures and guiding investment decisions are presented. Systems Thinking (recognizing the whole/parts and that which is common/distinct) is introduced. Design Thinking – a human-centered design emphasizing observation and insight - is presented, along with journey maps and personas for understanding customer segments. Working in groups, students identify a venture opportunity having a technological component, and propose a business model and plan as the major evaluation in the course.

For more information: <https://chemeng.queensu.ca/undergraduate-studies/curriculum/Course-Pages/chee410.html>