



MEMORANDUM

2016/17-10

To: All faculty

cc: Chairs and Directors

From: Cristina Amon, Dean

Date: March 3, 2017

Re: Calls for Proposals:

- **Engineering Instructional Innovation Program, and**
- **TEAL Fellows Program**

I am pleased to announce two calls for proposals for our Engineering Instructional Innovation Program, now in its fourth round, as well as, a new TEAL Fellows Program focused on preparing for the Technology Enhanced Active Learning (TEAL) classrooms in the Centre for Engineering Innovation & Entrepreneurship (CEIE).

Summary - Engineering Instructional Innovation Program

This program targets projects of larger scope involving the creation or substantial renovation of an undergraduate course, a closely related group of courses, or another type of learning experience. Projects should have the potential to produce significant and sustainable impact on student engagement and learning outcomes, identify measurable results, and include a plan for collecting data on outcomes. Submissions that will result in a course suitable for delivery in the large auditorium of the CEIE are also encouraged.

A short letter of intent must be submitted **by April 3, 2017**. Selected projects will be asked to provide a full proposal including a budget and project plan **by May 23, 2017**.

Summary - TEAL Fellows Program

Proposals are being solicited for the design or redesign of an undergraduate or graduate course to include active learning approaches that leverage the use of the CEIE's TEAL classrooms. Although not all active learning activities are dependent on technology, the new TEAL classrooms in the CEIE provide an ideal physical environment to support this approach to teaching and learning. The successful applicants will be known as TEAL Fellows for the 2 year tenure of the award, and will form the core of a community of practice in active learning.

A three page proposal describing the nature of the course, the motivation and concept for the new course design, along with a project plan and description of the required resources must be submitted **by April 18, 2017**.

Background

The Faculty of Applied Science & Engineering at the University of Toronto has a wide range of academic programs that are highly diverse in terms of size, scope, and approach to curriculum. The population of students we serve is academically strong and highly motivated. There is also a growing set of instructional innovation resources, supported through the Centre for Teaching Support and Innovation (CTSI), available to those interested in developing more effective learning experiences for our students. This environment provides a tremendous opportunity to implement instructional innovation and rethink traditional teaching approaches.

Technology, combined with research on teaching and learning, is substantially reshaping the landscape in higher education and provides opportunities for innovation. We are committed to providing a high quality undergraduate learning experience, while at the same time we are under increasing pressure from many sources: financial pressure; pressure to maintain quality and remain competitive; pressure to meet accreditation criteria; and pressure to meet the learning needs of our students without overloading them. Our goal is to continue to create a vibrant, relevant, and effective learning experience for our students that prepares them to be leaders in their field and gives them the opportunity to explore the full breadth of their university experience both in and outside the classroom.

Our professors have been recognized for advances in online courses and innovative pedagogies; and we have experimented with inverted classrooms, on-line modules, and other types of technology-enabled teaching and technology-enhanced active learning. We seek to build on this experience by making strategic investments that will lead to better pedagogy and improvements in the learning experience for our students.

The CEIE will provide new opportunities for innovative course delivery approaches. A unique 468 seat interactive lecture hall will be located on floors 1 & 2. This room has seven tiered levels and is equipped with an 18m x 3.4m composite LCD screen. The seating is not the traditional auditorium style seating. Rather, four students sit around fixed tables and can work together as a four-person group. Five TEAL classrooms will be located on the third floor of the CEIE. Four configurations are planned to provide an opportunity to explore the relative advantages of each in supporting active learning approaches and activities:

- Three rooms similar to the current SF3201 style, with high, hexagonal tables seating 6 students each. Two rooms will have 6 tables, one will have 12 tables.
- One room will have 8 standard height tables, 2m in diameter, each seating 9 students.
- One will include 100 moveable chairs with large work surfaces. This room can be divided into two equal sized rooms, each for up to 50 students.

On the third and fourth floors are seven design studios; six seating 36 students and one seating 72 students. These rooms feature rectangular tables with durable butcher block surfaces seating 6 students each. The fourth floor studios are adjacent to the Light Fabrication Facility and Rapid Prototyping Facility.

Engineering Instructional Innovation Program

Projects may be funded for up to \$50K/year for up to 3 years. Matching funds from the department/unit/institute are welcome. These funds can be used to develop resources, acquire additional assistance (e.g. additional TA support or educational expertise), offset a change in teaching responsibility if it is warranted, and acquire training, equipment and supplies.

Letter of intent - due April 3, 2017

The letter should identify the project leader, and concisely explain the context and vision for the project. A project may involve two or more faculty; at least one of whom must hold a continuing appointment. A short statement on the intended outcomes should be included such that the committee can judge the depth and scope of the potential impact. The letter should also include a preliminary estimate of the time and required funding for the project. The project must be endorsed by the chair(s) and/or director(s) of the department/unit/institute involved. This endorsement must acknowledge any change in teaching responsibilities if this is part of the project plan.

The selection of projects to be invited to move on to the full proposal stage will be made by April 10, 2017.

Full proposal - due May 23, 2017

The proposal should include a clear timeline and budget for the project. In particular, the activities and milestones in the first year of the project should be clearly defined. The budget can include support for TAs or other staff; technology or resource development; and equipment.

The proposal could include an adjustment in the course teaching responsibilities of the project leader if it is warranted by the project plan. In this case, the budget must include funds to contribute towards any costs associated with changes in teaching responsibilities. Preferably a departmental contribution to those costs would also be included; in any event, changes in teaching responsibilities must be acknowledged in the chair/director's endorsement letter.

A plan for professional development (i.e. training) could be included in the project that leaders would draw upon to develop their own capabilities and any training for other staff (e.g. TA training). This plan could include collaboration with CTSI through their Course Design Institute (CDI), workshops on pedagogy, programs in support of Scholarship of Teaching and Learning (SoTL) research, etc. The [CDI](#) currently has courses scheduled for May 24-25 and June 14-15 that may be of interest.

As part of the project activities, project leaders are expected to work with educational developers and other experts (e.g. instructional technology specialists) during the course of the project to measure the impact of the innovation being implemented. This could include a before and after assessment, a cross-over study, or other types of metrics in a way that the impact of the change is benchmarked against existing teaching practices.

The proposal should explain the sustainability of the project beyond the funded period. Selection will be based on the quality of the project and the potential impact on student engagement, learning and experience. Preference will be given to projects which utilize the new facilities in the CEIE (auditorium, TEAL rooms, design studio rooms, and maker spaces).

Proposals should be submitted to the Office of the Dean: director.fase@ecf.utoronto.ca. Decisions are expected to be announced by the end of **June 2017**.

TEAL Fellows Program

A three page proposal is due **April 18, 2017**. The proposal should describe the nature of the course, the motivation and concept for the new course design, and any past experience with innovative instructional practices. Proposals which include a pedagogical research component will be favoured. Applicants may request a variety of supports and services to assist in designing and implementing the active learning aspects of the course, including purchase of educational technology (up to \$2,500), support from the Educational Technology Office (up to 50 hrs), and assistance from specially trained TAs (up to 100 hrs). At the discretion of the unit chair/director, these course development activities may be taken into consideration in evaluating the teaching portion of the workload. In this case, the support requested must include funds to contribute towards any costs associated with changes in teaching responsibilities. Preferably a departmental contribution to those costs would also be included; in any event, changes in teaching responsibilities must be acknowledged in the chair/director's endorsement letter.

The definition of active learning is broad, and generally the objective is to transform students from passive listeners and note takers into active participants. Activities that promote this transformation include relatively simple examples such as think-pair-share exercises, task-based assignments, in-class collaboration and peer instruction, and approaches such as Flipped Classrooms that encourage inquiry and critical reflection. Studies have shown that students in active learning environments often learn, retain, and perform better than in passive learning, or traditional lecture-based, environments.

The successful applicants will be known as TEAL Fellows, and will form the core of a Community of Practice in active learning. Fellows will be expected to attend 4 one-hour workshops during the first year, which will provide a background in relevant teaching and learning literature, training in the implementation of active learning approaches, and an opportunity to share progress with the other TEAL Fellows. During their second year, Fellows will continue to participate in Workshops and remain active on the Community of Practice, serving as a source of advice and mentorship of the new cohort of Fellows.

Proposals should be submitted to the Office of the Dean: director.fase@ecf.utoronto.ca. Decisions are expected to be announced by **mid May 2017**.

Questions regarding either the EIIP or TEAL Fellows Program should be sent to Professor Thomas W. Coyle, Vice Dean Undergraduate, at vicedean@ecf.utoronto.ca.