



FOR APPROVAL

PUBLIC

OPEN SESSION

TO: Academic Affairs Committee

SPONSOR: Amrita Daniere, Vice-Principal, Academic & Dean
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DATE: January 8, 2019 for January 15, 2019

AGENDA ITEM: 7

ITEM IDENTIFICATION:

Minor Modification: Certificate in Advanced Economics

JURISDICTIONAL INFORMATION:

Under section 5 of its *Terms of Reference*, the Academic Affairs Committee is responsible for new graduate diploma and undergraduate certificate programs, and the closure of such programs, as required by the University's [Policy on Certificates \(For-Credit and Not-For-Credit\)](#).

GOVERNANCE PATH:

- 1. Academic Affairs Committee [For Approval] (January 15, 2019)**

PREVIOUS ACTION TAKEN:

No previous action was taken on this proposal.

HIGHLIGHTS:

The Department of Economics at the University of Toronto Mississauga (UTM) is proposing to create a Certificate in Advanced Economics. The Certificate includes core advanced courses in the three main fields of economics: microeconomics, macroeconomics, and econometrics. The Certificate will provide interested students enrolled with a rigorous and advanced study of the theoretical and analytical foundations of its main fields beyond the scope of their current programs of study. Completion will help prepare students who are considering pursuing graduate studies and may also be of interest to students who seek a more formal and deeper analysis of economic models and their application. The Department anticipates that the Certificate will generate awareness for interested and qualified students to enrol in these advanced courses.

The Certificate in Advanced Economics requires the completion of 2.0 credits: ECO325H5 Advanced Economic Theory – Macro; ECO326H5: Advanced Economic Theory – Micro; ECO375H5: Applied Econometrics I; and ECO475H5: Applied Econometrics II. The 400-level will include an experiential learning component organized around its final project. These four courses are all existing and are offered every year by faculty members who are leading researchers in their fields

FINANCIAL IMPLICATIONS:

There are no net implications for the campus' operating budget.

RECOMMENDATION:

Be It Resolved,

THAT the proposed Certificate in Advanced Economics, offered by the Department of Economics, recommended by Vice-Principal, Academic & Dean, Professor Amrita Daniere, and described in the proposal dated November 30, 2018, be approved, effective September 1, 2019.

DOCUMENTATION PROVIDED:

Minor Modification Proposal: Certificate in Advanced Economics

University of Toronto

Proposal to Create a Certificate in Conjunction With an Undergraduate Program

Certificates offered in conjunction with an undergraduate program are for-credit undergraduate certificates governed by the *Policy for Certificates (For-Credit and Not-For-Credit)*. Creation and closure of these certificates follow the protocols for minor modifications; are reviewed with the relevant undergraduate program; and are reported to the Provost through the Office of the Vice-Dean, Academic Programs. Successful completion of the certificate is recorded on the academic transcript. Students must be enrolled in a specific undergraduate program.

Proposed certificate name:	Certificate in Advanced Economics (Department of Economics, UTM)
Undergraduate degree(s) the certificate will be offered in conjunction with:	Honours Bachelor of Arts – HBA Bachelor of Commerce – BCom Honours Bachelor of Science – HBSc
Faculty/academic division:	University of Toronto Mississauga (UTM)
Dean’s office contact:	Andrew Petersen Acting Vice-Dean Teaching and Learning Rosa Ciantar, rosa.ciantar@utoronto.ca Acting Program and Curriculum Officer
Version date:	November 30, 2018

1. Summary

The Department of Economics at the University of Toronto Mississauga (UTM) is proposing to create a Certificate in Advanced Economics. The Certificate brings together the core advanced courses in the main fields of Economics to provide students enrolled in the HBA, HBSc and BCom degree programs with a rigorous and advanced study of the theoretical and analytical foundations of its core fields. Another core feature of this Certificate is that it comprises the standard required courses for admission to graduate programs in Economics and related fields. In recent years, the Department has expressed that this Certificate will be very valuable to students interested in pursuing graduate studies in this area by providing additional awareness and recognition for completing the core advanced courses in Economics.

The proposed Certificate responds to the goals of promoting advanced theory courses outlined in the most recent Academic Plan of the Department. The Certificate involves no new resource implications.

2. Effective Date

September 1, 2019.

3. Academic Rationale

The Department of Economics proposes a Certificate in Advanced Economics that brings together the core advanced courses in the three main fields of Economics: microeconomics, macroeconomics, and econometrics. The Certificate will provide interested students with a rigorous and advanced study of the theoretical and analytical foundations of its main fields beyond the scope of their current programs of study. While it will be open to students in the HBA, HBSc and BComm degree programs, we anticipate that the Certificate will be of most interest to students enrolled in an Economics major or specialist programs.

The Certificate in Advanced Economics requires the completion of 2.0 credits (4 courses) at the 300- and 400-level, subject to a minimum average grade (65%). These courses (or their equivalent at other institutions) are also entry requirements for admission to most graduate programs in Economics and related fields, both in Canada and abroad. Thus, the Certificate helps to prepare students for graduate studies in Economics. In addition to those students who are considering pursuing graduate studies, this certificate may also be of interest to students who seek a more formal and deeper analysis of economic models and their applications.

We note that, due to the range of course offerings at UTM Economics, students can complete a program in Economics without completing all four courses that comprise this Certificate. Therefore, as a signal of the requirements for graduate-level study, this Certificate will mostly benefit students enrolled in an Economics program (Economics, Financial Economics, International Affairs, Economics and Political Science). The Certificate also provides a clear recognition in the student's transcript of the completion of advanced Economics courses together with a minimum average grade, a distinct achievement for degree program students.

It is anticipated that the Certificate will generate both awareness and motivation for interested and qualified students to enrol in these advanced courses, while still providing flexibility and accessibility for students to complete the Certificate without requiring prior enrolment. These four courses are all existing and are offered every year by faculty members who are leading researchers in their fields.

The Academic Plan of the Department of Economics, approved in the Spring of 2017, remarks on the

difficulty that some students experience with identifying the courses needed to pursue a master's degree in Economics (Section 1.3.2), which the Certificate will help to alleviate. This Academic Plan also lists the promotion of advanced core courses as two of the Department's academic goals (Section 2.3).

4. Need and Demand

In recent years, there have been a number of students at the end of their Economics programs who have expressed interest in pursuing a graduate program in Economics (or a related field) but who did not complete the advanced economics courses at the 300- and 400-level that are required for admission to most graduate programs.

This was evidenced in results from a Departmental survey conducted in June 2017.¹ The survey asked recent graduates from UTM Economics whether they were aware that the advanced courses that comprise the Certificate are a necessary requirement for admission to a Master's Program in Economics. The results are striking in that 77.5% of respondents answered "No." In addition, about 25% of respondents regretted not having taken those four courses. In the Spring of 2018, the Department also ran a survey among students enrolled in ECO100Y5 Introduction to Economics, which yielded similar results. When asked about what they were planning to do after completing their undergraduate degree, 30% of respondents answered that they planned on doing a Master's or a Ph.D. When asked which second-year statistics/microeconomics/macroeconomics courses they were planning to take, however, only a very small fraction (less than 10%) were planning on taking the more advanced 200-level year courses in microeconomics, macroeconomics, and econometrics (which are pre-requisites for the Certificate courses).

While we note that the Academic Calendar states that these courses are recommended for students pursuing graduate studies, the results of these surveys as well as the interactions of faculty with students in upper years indicate that the additional awareness and recognition for completing the core advanced courses in Economics provided by the Certificate will be very valuable to our students.

While we cannot give definite numbers, we expect that a contingent of our Economics Major and Specialist students would be interested in pursuing the completion of this Certificate. Based on last year's enrolments and grades, anticipated yearly intake would be around 20 students, but it is likely that this number will grow over time with increased levels of student awareness and interest.

5. Admission Requirements

¹ See Appendix B for details on these surveys.

Admission is open to students in good standing in the HBA, HBSc and BComm degree program; however, it is anticipated that students enrolled in the Economics Specialists Programs and Economics Major Program will be attracted this Certificate.

This Certificate is awarded upon completion. Students can apply for the Certificate in the same manner as a subject post (ACORN), once they have completed one of the required courses.

6. Program Requirements

The Certificate requires 2.0 FCE obtained through the completion of four half-credit courses. All these courses are offered at UTM every year and, together, they represent the core advanced courses in Economics:

- ECO325H5: Advanced Economic Theory – Macro
- ECO326H5: Advanced Economic Theory – Micro
- ECO375H5: Applied Econometrics I
- ECO475H5: Applied Econometrics II

Students will be assessed in each individual course by the instructor in the usual way: assignments, tests, projects, exams. In addition to completion of these four courses, the Certificate will only be awarded to eligible students who have an average grade in these four courses of 65% or higher. Note that this average is taken over the grades on the four courses of this Certificate. This requirement will signal that students have demonstrated sufficient understanding of these advanced courses that warrants the recognition associated with the Certificate.

The completion of ECO475H5 will provide a unique experiential learning opportunity organized around an empirical research project that brings an economic model to the data, as well as the achievement of the minimum average grade.

7. Consultation

The Economics faculty has consulted extensively and agrees on the need to develop an advanced economics Certificate that recognizes the completion of advanced economics courses required for admission to graduate studies. Miquel Faig (Chair, Department of Economics), together with Ferzeen Sammy (Academic Counsellor) and Mihai Baetu (Department Manager), consulted with Heather Miller (Vice-Dean, Teaching & Learning) and Yen Du / Rosa Ciantar (Program and Curriculum Officer, Office of the Dean) who offered advice on formalizing this proposal for a For-Credit Certificate Program.

8. Resources

This certificate has no resource implications and does not entail the creation of any new courses. The required courses currently exist in the curriculum of courses offered by the Department of Economics at UTM. This certificate does not affect any existing agreements with other institutions nor does it require the creation of new ones.

9. Oversight and Accountability: Review

The Certificate will be assessed and reviewed annually by the Chair, Associate Chair, and the Curriculum Committee of the Department of Economics as part of the curriculum review process and, periodically, during departmental reviews.

10. Process Steps and Approvals

Steps	Approvals
Development/consultation within unit	Miquel Faig, Chair, Department of Economics, October 4, 2018
UTM Office of the Dean	October 22, 2018
UTM AAC	January 15, 2019
Submission to Provost's office for information	November 2018
Reported to the Provost and included in annual report to AP&P	

Appendix A: Proposed Learning Outcomes

Certificates offered in conjunction with an undergraduate program will have a sub-set of complementary learning outcomes in relation to the program. Divisions are responsible for developing the outcomes and expectations for certificates in the context of divisional norms. Please outline in the table below how the design, structure, requirements and delivery of the certificate support the certificate learning outcomes and expectations.

Certificate Expectations	Certificate Learning Outcomes	How the Design/Structure Supports the Certificate Expectations
1. Depth and Breadth of Knowledge	Students will develop an advanced knowledge and understanding of a wide range of theoretical and analytical concepts that cover the three main fields in Economics: Macroeconomics, Microeconomics, and Econometrics.	<p>As part of the Certificate, students will complete one course in macroeconomics, one course in microeconomics, and two courses in econometrics. All courses are required.</p> <p>All courses required for this Certificate are 300- and 400-level courses that cover a rigorous and advanced study of theoretical and analytical foundations in Macroeconomics, Microeconomics, and Econometrics. ECO325H5: Advanced Economic Theory – Macro expands students’ analytic skills in constructing and solving macroeconomic models. ECO326H5: Advanced Economic Theory – Micro covers an advanced treatment of topics in microeconomic theory, such as consumer behaviour under uncertainty, game theory, etc. ECO375H5: Applied Econometrics I introduces students to the statistical foundations and the interpretation of multiple regression models. ECO475H5: Advanced Econometrics II is a research-oriented course that builds on ECO375H5. In this course students complete a major empirical term paper, applying the tools of econometrics to a topic of their choice.</p>
2. Knowledge of Methodologies	<p>Students will:</p> <ul style="list-style-type: none"> - develop an understanding of the microeconomic foundations of macroeconomic theory; - develop analytical skills in constructing and solving 	<p>Students learn about alternative methodologies in economics through course readings, class discussions and assignments.</p> <p>In ECO325H5 and ECO326H5 students will learn to develop economic models and test them to better understand economic behaviour. ECO375H5 provides the statistical background needed to conduct empirical research in Economics.</p>

	<p>macroeconomic models;</p> <ul style="list-style-type: none"> - understand an advanced study of different topics in microeconomics, such as, behaviour of consumers under uncertainty, game theory and its applications to economics and political economy, for example; - develop an understanding of the statistical foundations and interpretation of multiple econometric models; - learn how to use econometric software to analyze real data in regression analysis. 	<p>Good performance in these three courses indicates that students have mastered the methods of economic theory and empirical research at a level necessary to start an MA in Economics.</p>
3. Application of Knowledge	<p>Students will:</p> <ul style="list-style-type: none"> - learn how to differentiate between, and compare alternative economic models, to interpret data; - develop critical technical skills in order to read and understand method-based economics research texts; - develop essential technical skills to critically evaluate and comment policy-oriented economics texts. 	<p>In ECO325H5, ECO326H5, and ECO375H5 students will apply their knowledge in individual assignments and projects.</p> <p>ECO475H5 is organized around an empirical research project that brings economic theory to the data. Students must select the appropriate econometric methodology to apply in a project of their choice. Good performance in this course indicates that the student is capable of applying the statistical methods learned in ECO375H5 to an economic model, as those seen in ECO325H5 and ECO326H5.</p>
4. Communication Skills	<p>Students will:</p> <ul style="list-style-type: none"> - learn to formulate economic arguments clearly, rigorously, and using appropriate vocabulary; 	<p>All courses that comprise this Certificate will support the development of students' written and oral communication skills through a variety of assignments and in-class interactions. In ECO475H5 students will write a major term paper where they are expected to pose a compelling economic question, propose an empirical strategy</p>

	<ul style="list-style-type: none"> - develop their ability to communicate clearly and effectively, both in writing and verbally, their research results. 	<p>to address it, explain the econometric methodology used, and describe the results obtained.</p>
5. Awareness of Limits of Knowledge	<p>Students will:</p> <ul style="list-style-type: none"> - learn the assumptions behind different economic models and how these assumptions restrict their interpretation; - identify and explain the limits of different theoretical models and econometric methodologies. 	<p>It is essential that students taking the Certificate in Advanced Economics develop an awareness of the limitations of economic models and empirical research. In ECO325H5 and ECO326H5, students will learn not only the most relevant economic models, but also when they are useful and when they are not. In ECO475H5, students will get first-hand experience in the difficulty of answering an empirical economic question convincingly.</p>
6. Autonomy and Professional Capacity	<p>Students will:</p> <ul style="list-style-type: none"> - develop the ability to undertake and complete a research project; - locate and compile data and other relevant resources; - develop the time-management skills necessary to keep up with their workload; - identify gaps in their understanding, and determine ways to solve them; - accept responsibility for their work. 	<p>Students will be responsible for the timely completion of coursework. In completing the Certificate in Advanced Economics, students are expected to complete a wide variety of coursework. The research project in ECO475H5 will give students first-hand experience in conducting the type of research that professional economists develop.</p>

Appendix B: Student Surveys

The proposal refers to two student surveys ran by the Department: the Economics Program Exit Survey and the ECO100Y5 Student Survey.

The Economics Program Exit Survey is a survey of graduating students. It consists of 36 questions that broadly cover students' experience at UTM. It was conducted in June of 2016 and 2017. The results mentioned in the proposal refer to the 2017 survey which had 144 respondents. The proposal makes reference to question #9 “Are you aware that taking Advanced Macroeconomics (ECO325H5), Advanced Microeconomics (ECO326H5) and Econometrics (formerly, ECO327Y5; now ECO375H5/475H5) are a necessary requirement for admission to a Master's Program in Economics?” and question #11 “Do you regret not having taken these courses: ECO325H5; ECO326H5; ECO327Y5-ECO375H5/475H5?”

The ECO100Y5 Student Survey is a survey of all students taking ECO100Y5. The survey consists of 15 questions that aim to find out more about the student, his/hers academic and career plans, and how the student goes about making academic plans. This survey has been conducted in the Spring of 2017 and 2018. The results mentioned in the proposal refer to the 2018 survey which had 907 respondents. The proposal makes reference to question #2 “What are you planning to do after completing your undergraduate degree?”, question #9 “Which statistics course are you planning to take in your second year?”, question #11 “Which microeconomics course in Economics are you planning to take in your second year?”, and question #13 “Which macroeconomics course in Economics are you planning to take in your second year?”

Appendix C: Proposed Calendar Copy

Certificate in Advanced Economics

The Certificate in Advanced Economics is open to students who seek a more formal and deeper analysis of economic models and their application. The requirements include core advanced courses in the three main fields of economics: microeconomics, macroeconomics, and econometrics that will help prepare students for graduate and professional studies as well as provide valuable applicable skills for future careers.

Completion of 2.0 credits with average grade of 65% or higher from the following list of courses: ECO325H5, ECO326H5, ECO375H5, ECO475H5.