FOR APPROVAL

TO: Arts & Science Council

SPONSOR: Dwayne Benjamin, Vice-Dean, Graduate Education

CONTACT INFO: vicedeangraduate.artsci@utoronto.ca

DATE: November 13 for November 20, 2019

AGENDA ITEM: 4

ITEM OF BUSINESS: Proposal to establish a direct-entry option in the Department of Economics’ PhD program

JURISDICTIONAL INFORMATION:
The Arts & Science Council has delegated authority to approve major modifications that are defined in the University of Toronto Quality Assurance Process (UTQAP), including the addition of a direct-entry option to existing doctoral programs.

GOVERNANCE PATH:
1. Graduate Curriculum Committee – October 31, 2019 (for approval)
2. Arts & Science Council – November 20, 2019 (final approval)
3. Office of the Vice-Provost, Academic Programs (for information), in turn reported to the Committee on Academic Policy & Programs (for information) – May 6, 2020

The Office of the Vice-Provost, Academic Programs will also report this major modification to the Ontario Universities Council on Quality Assurance in the summer of 2020.

HIGHLIGHTS:
The Department of Economics proposes to add a direct entry (five-year) option to its existing doctoral program, allowing qualified students to be admitted into this option based on the completion of an appropriate bachelor’s degree. The Department anticipates admitting 1-3 students per year into the direct-entry program; only students with particularly strong background preparation will be considered.

The creation of the direct-entry option is coupled with a reduction in the course requirements for the regular-entry PhD, from 6.0 to 4.0 FCE. Doctoral students in both the direct and regular-entry programs will complete the same core course and exam requirements in their first year (3.0 FCE). In second year, in addition to completing a graduate research seminar, direct-entry students will complete 3.0 FCE in elective field courses (in a major and minor field), while regular-entry students will
complete at least 1.0 FCE. This allows direct-entry students to obtain the field breadth typically acquired in the Master’s year, and it brings the regular-entry PhD requirements more in line with programs at peer institutions, while freeing up time for students to begin their dissertation work earlier in the program.

This proposal has been developed by the Department of Economics in consultation with the Office of the Dean, Faculty of Arts & Science and the Office of the Vice-Provost, Academic Programs.

**MOTION:**

THAT the proposed changes to the Doctor of Philosophy (PhD) in Economics as described in the attached proposal dated November 11, 2019 be approved effective the 2020-21 academic year.
University of Toronto
Major Modification Proposal:

Significant Modifications to Existing Graduate and Undergraduate Programs

This template should be used to bring forward all proposals for major modifications to existing graduate and undergraduate programs for governance approval under the University of Toronto’s Quality Assurance Process.

<table>
<thead>
<tr>
<th>Program being modified:</th>
<th>Doctor of Philosophy (PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed major modification:</td>
<td>Adding direct entry option to existing PhD program</td>
</tr>
<tr>
<td></td>
<td>Reducing number of required courses for regular entry PhD program</td>
</tr>
<tr>
<td>Department/unit (if applicable):</td>
<td>Economics</td>
</tr>
<tr>
<td>Faculty/academic division:</td>
<td>Arts and Science</td>
</tr>
<tr>
<td>Dean’s office contact:</td>
<td>Dwayne Benjamin, Vice Dean, Graduate Education</td>
</tr>
<tr>
<td>Proponent:</td>
<td>Colin Stewart, Associate Chair, Graduate Studies</td>
</tr>
<tr>
<td>Version date:</td>
<td>2019/11/11</td>
</tr>
</tbody>
</table>

1 Summary

- Please provide a brief summary of the change(s) being proposed as it relates to the current structure of the program.

Two changes are proposed. The first is to add a direct entry option to the Economics PhD program to allow students to be admitted to the program without having first completed a master’s degree.

The second change is to reduce the number of courses required for the regular entry PhD.

2 Effective Date

September 2020.
3 Academic Rationale

- What are the academic reasons for the change proposed, and how do they fit with the unit’s and division’s academic plans?

Direct Entry Option

Our MA program receives a number of applications each year from students with very strong undergraduate records who intend to pursue a PhD. In some cases, these students take all of the first-year core PhD courses during their MA and enter the PhD program having completed the first-year requirements. Admitting these students directly to the PhD program will streamline this process and help us to recruit excellent students, some of whom may otherwise choose not to apply.

Reduction in Course Requirements

Students in our PhD program are currently required to take a full course load in their first and second years, amounting to a total of 6.0 FCEs plus ECO4060Y (Graduate Research Seminar), which runs for three terms. Consequently, in combination with the MA, our students typically take approximately 10.0 FCEs of graduate-level courses. This represents a much larger overall course load than that required for the Economics PhD at peer institutions in the U.S. Indeed, the current course requirements in our program parallel those of peer U.S. schools even though admission to these U.S. programs requires only a Bachelor’s degree, not a Master’s.

The large number of courses currently required is particularly problematic for PhD students coming from our own MA program, as they often exhaust the courses in their area of interest and take additional courses solely for the sake of satisfying the numerical requirement. Reducing the number of required courses will free up time for students to get a stronger start on their dissertation research during their second year, and may thereby reduce the average time to degree. We will retain the current rules that students’ course selections must satisfy the requirements of a major and minor field, which are designed to ensure that students have sufficient breadth and are well prepared for research in their chosen area.

4 Description of the Proposed Major Modification(s)

- Please describe in detail what changes are being proposed. Major modifications include changes to the program requirements that will significantly change what students will know and be able to do when they complete the program.
- Other major modifications that may be included are significant changes to admissions requirements, significant changes to faculty engaged in program and;
Major Modification Proposal: Significant Modifications to Existing Graduate and Undergraduate Programs

- Please be explicit about how the learning outcomes have changed and include both previous and proposed learning outcomes or one version of the current learning outcomes with the new learning outcome in track changes. You may wish to use Appendices A and B.
- Describe how the modification reflects universal design principles and/or how the potential need to provide mental or physical health accommodations has been considered in the development of this modification.
- Please provide calendar copy, either in track changes or as two separate documents in appendices C and D as applicable.

Direct Entry Option

Strong students with a Bachelor’s degree in Economics or a related field such as Finance, Statistics, or Mathematics, and who have attained an average grade of at least A- in their final two years of study, may be considered for admission to the direct entry PhD. In the first year of the program, students admitted through this option must complete the same requirements as for regular entry students, namely, the three core PhD sequences in microeconomics, macroeconomics, and econometrics, and passing grades in comprehensive exams in microeconomic and macroeconomic theory; students who do not complete these requirements by the beginning of their second year will not normally be allowed to continue in the program. In their second year, students admitted through this option must complete 3.0 FCEs of elective field courses that satisfy the requirements of a major and a minor field (chosen by the student). In addition, students must take ECO4060Y (Graduate Research Seminar) in their second year and complete it by the end of their third year.

Compared to the proposed requirements for the regular entry PhD, the required number of courses taken by direct entry students will be greater by 2.0 FCEs. This difference represents a substantial portion of the requirements for the MA degree, which consist of 4.5 FCEs. In most cases, the additional courses taken by direct entry students will be elective courses, which normally comprise 2.5 FCEs of the MA requirements. The first-year PhD core courses provide sufficient coverage of the other requirements for the MA.

The timing of the comprehensive exams will be the same for direct entry students as for regular entry students. The core comprehensive theory exams are based on the material taught in the core courses, which both direct and regular entry students will take during their first year. Similarly, the field comprehensive exam is based on material covered in the courses taken for the student’s major field, normally completed in the second year for both direct and regular entry students.

Reduction in PhD Course Requirements (Regular Entry)
Students in the PhD program are currently required to take 6.0 FCEs plus ECO4060Y (Graduate Research Seminar). Normally, required core courses comprise 3.0 FCEs and electives comprise the remaining 3.0 FCEs. Students who complete some of the core PhD courses before entering the PhD program take correspondingly more electives during the PhD. The proposed change is to reduce the total number of required courses to 4.0 FCEs plus ECO4060Y. Since there will be no change in the core course requirements, this will be a reduction in the number of required elective courses. The 4.0 FCE requirement will be a minimum; students who will benefit from taking additional elective courses may continue to do so (and indeed may need to do so to satisfy their field requirements). While courses taken during a master’s degree in our department may count toward satisfying a student’s major and minor field requirements, they will not count toward the 4.0 FCE requirement.

In addition, we propose to remove the third-year thesis proposal requirement from the calendar text, as this requirement has never been implemented. Successful completion of the second-year paper, which usually forms a chapter of the thesis, indicates departmental approval of the thesis topic. This normally occurs by the end of the fall term in Year 3.

5 Impact of the Change on Students

- Outline the expected impact on continuing students, if any, and how they will be accommodated.
- Please detail any consultation with students.

Direct Entry Option

This change will have no impact on continuing students. For future students, direct entry admission will be offered only to students with a particularly strong background preparation so as to ensure that they are able to perform well alongside their regular-entry peers.

Reduction in Course Requirements

This change will have an impact only on students who have not yet completed their course requirements in that the new policy will apply to them, allowing them to take fewer elective courses. Upon approval, all current PhD students will be notified of the change in requirements in writing and those who are eligible to opt-in to the new requirements will be asked to indicate this in writing. The Graduate Administrator will confirm students’ eligibility and record the opt-in to the new requirements in the student’s file.
6 Consultation

- Describe the impact of the major modification on other programs and any consultation undertaken with the Dean and chair/director of relevant academic units.

These modifications will not affect other units. These proposals were presented and discussed at a meeting of the Department of Economics Graduate Committee on March 28, 2019. This committee consists of faculty, PhD student, and administrative staff representatives. The proposals were then discussed at a Department of Economics faculty meeting on May 23, 2019. At both meetings, there was broad support for both proposals, and no serious objections were raised.

7 Resources

- Describe any resource implications of the change(s) including, but not limited to, faculty complement, space, libraries and enrolment/admissions.
- Please be specific where this may impact significant enrolment agreements with the Faculty/Provost’s office.
- Indicate if the major modification will affect any existing agreements with other institutions, or will require the creation of a new agreement to facilitate the major modification (e.g., Memorandum of Understanding, Memorandum of Agreement, etc). Please consult with the Provost’s office (vp.academicprograms@utoronto.ca) regarding any implications to existing or new agreements.

Direct Entry Option

The resource implications of this change are negligible. We anticipate that the number of students admitted under this option will normally be in the range of 1-3 per year, making it small relative to the overall size of the program. The number of regular-entry admissions will be correspondingly reduced.

Reduction in Course Requirements

No additional resources are required for this change. We expect to see a modest decrease in enrolments in elective courses, but do not intend to alter our course offerings as a result. Almost all of our graduate elective courses are open to both Master’s and PhD students; PhD students currently account for approximately one-sixth of the total enrolment in these courses. While there are some elective courses
taken primarily by PhD students, in most cases these form part of the student’s field requirements, limiting any effect on enrolments.

8 UTQAP Process

The UTQAP pathway is summarized in the table below.

<table>
<thead>
<tr>
<th>Steps</th>
<th>Approvals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development/consultation within unit</td>
<td>Unit-level approval as appropriate</td>
</tr>
<tr>
<td>Consultation with Dean’s office (and VPAP)</td>
<td>Faculty/divisional council</td>
</tr>
<tr>
<td>Provost’s office Sign-off</td>
<td>November 5, 2019</td>
</tr>
<tr>
<td>Reported to the Provost and included in annual report to AP&amp;P</td>
<td>July 2020</td>
</tr>
<tr>
<td>Ontario Quality Council—reported annually</td>
<td></td>
</tr>
</tbody>
</table>
## Appendix A: Current Learning Outcomes, and Degree-Level Expectations

Address how the design, structure, requirements and delivery of the program support the program learning outcomes and degree-level expectations.

<table>
<thead>
<tr>
<th>Degree-Level Expectations</th>
<th>Program Learning Outcomes</th>
<th>How the Program Design/Structure Supports the Degree-Level Expectations</th>
</tr>
</thead>
</table>
| 1. Depth and Breadth of Knowledge             | Depth and breadth of knowledge is defined in the PhD in Economics program as: an in-depth understanding of core theory models in economics; a familiarity with quantitative methods and broadly-used data analysis techniques; and a critical understanding of recent advancements of scholarly research in at least two subfields of the discipline. This is reflected in students who are able to:  
  - recognize the current frontier of scholarly research in at least two subfields of economics;  
  - contribute to scholarly inquiry and debate in the discipline;  
  - teach university-level courses in a number of subfields of economics.                                                                                                                                                                                                                                                                                                                                                         | The program design and requirements that ensure these student outcomes for depth and breadth of knowledge are as follows:  
  - First-year program requirements include a Microeconomic Theory sequence (ECO2020 and ECO2030), a Macroeconomic Theory sequence (ECO2021 and ECO2031), an Econometric Theory sequence (ECO2400 and ECO2401), and a Mathematics and Statistics requirement (ECO1011).  
  These requirements provide in-depth coverage of a broad range of core theory models as well as quantitative and analytical methods used in economics.  
  - The mandatory first-year comprehensive examinations in microeconomic and macroeconomic theory test student familiarity with core theory knowledge.  
  - The 6-electives course requirement helps students to build breadth of knowledge in the subfields of the discipline.  
  - Students must choose electives to satisfy the requirements of a major and a minor field of concentration. This ensures student familiarity with recent scholarly development in at least two subfields of the discipline.  
  - The mandatory second-year comprehensive examination for each student’s major field of specialization assesses knowledge and readiness to conduct research in a subfield of the discipline.                                                                                                                                                                                                                     |
2. Research and Scholarship  
   a. The ability to conceptualize, design, and implement research for the generation of new knowledge, applications, or improvements in understanding at the forefront of the discipline, and to adjust the research design or methodology in light of unforeseen problems;  
   b. The ability to make informed judgments on complex issues in specialist fields, sometimes requiring new methods; and  
   c. The ability to produce original research, or other advanced scholarship, of a quality to satisfy peer review, and to merit publication.  

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Research and Scholarship</td>
<td>- Research and scholarship is defined in the PhD in Economics program as the production of original research that significantly improves on existing scholarly work, and/or expands knowledge in the discipline in a new and relevant direction, and/or has significant impact on policy or professional practices. This is reflected in students who:  - are able to identify an original, non-trivial, and relevant research question;  - are well versed in a variety of research approaches in economics, including both theoretical and quantitative methods, and can identify the most appropriate and effective research methodology for the question at hand, or expand and improve upon existing methods when necessary;  - can produce final research outcomes of sufficient quality to satisfy the rigorous peer review process before publication.</td>
</tr>
<tr>
<td>3. Level of Application of Knowledge</td>
<td>- The capacity to i) Undertake pure and/or applied research at an</td>
</tr>
</tbody>
</table>

| Level of application of knowledge is defined in the PhD in Economics program as the ability to competently apply economic intuition and methodology to study a |
| The program design and requirements that ensure these student outcomes for level of application of knowledge are as follows:  - Through a close relationship with the supervisor and other committee |

Developed by the Office of the Vice-Provost, Academic Programs  
Template last updated March 2, 2017
advanced level; and ii) Contribute to the development of academic or professional skills, techniques, tools, practices, ideas, theories, approaches, and/or materials.

| broad range of problems of economic relevance.  
| This is reflected in students who are able to:  
| - apply economic analysis to a broad set of research questions, ranging from abstract theoretical problems to practical policy evaluation;  
| - design, conduct, and interpret original research and statistical analysis;  
| - improve on existing methods, or develop new methods, as appropriate for the underlying research question.  

| members, students acquire the necessary skills for the application of knowledge.  
| - A variety of courses facilitate the development of professional skills and techniques. The graduate course offerings provides a large selection of methodological and applied courses. Together with the core theory requirements, they enable equip students to conduct theoretical or applied research at an advanced level.  

4. Professional Capacity/Autonomy

| a. The qualities and transferable skills necessary for employment, requiring the exercise of personal responsibility and largely autonomous initiative in complex situations; b. The intellectual independence to be academically and professionally engaged and current; c. The ethical behavior consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research; and d. The ability to evaluate the broader implications of applying knowledge to particular contexts.  
| Professional capacity/autonomy is defined in the PhD in Economics program as the ability to independently carry an original research program. This includes identifying original and relevant research questions, determining the appropriate research methodology, or developing new methods if necessary. This is reflected in students who are able to:  
| - conduct individual original research and disseminate its finding through a variety of means, including workshops, academic conference presentations, and scholarly articles or policy reports;  
| - conduct research in accordance with ethics and academic integrity protocols;  
| - pursue a successful career in academia, or hold a position of responsibility in a government agency, central bank, international organization, or private sector.  

| The program design and requirements that ensure these student outcomes for professional capacity/autonomy are as follows:  
| - Students are encouraged to present their work at major conferences, and the department supplements the SGS travel funds available to graduate students.  
| - A presentation skills workshop and a writing workshop are organized every year as part of the Graduate Research Seminar course (ECO4060).  
| - All students gain significant experience as teaching assistants, and some students also hold course instructorships. This experience enriches their professional skill set and helps to prepare them for a career as academic instructors.  

Developed by the Office of the Vice-Provost, Academic Programs
Template last updated March 2, 2017
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
</table>
| **5. Level of Communication Skills** | The ability to communicate complex and/or ambiguous ideas, issues, and conclusions clearly and effectively. 
Level of communication skills is defined in the PhD in Economics program as the ability to articulate complex academic arguments clearly and effectively, both orally and in the appropriate written format. 
This is reflected in students who are able to: 
- give clear and effective presentations of scholarly work to a broad range of audiences, including experts and non-experts in the field; 
- produce coherent and effective presentations of scholarly work in written format, with attention to the correctness of theoretical arguments and the validity of supporting empirical or experimental evidence. |
| **5. Level of Communication Skills** | The program design and requirements that ensure these student outcomes for level of communication skills are as follows: 
- Almost all elective courses include a presentation requirement or a written submission of a research proposal and/or research paper. 
- Students must present their second-year paper in an official departmental workshop open to all faculty members. 
- More advanced students are encouraged to present their work at major conferences (the department supplements SGS travel grants with internal resources). 
- A number of more informal and student-friendly lunch workshops and discussion groups are offered regularly for multiple research areas, providing students with opportunities to present early work to a broader audience of faculty members. 
- When students are close to completing their degree, and are ready to seek employment, the department provides a number of opportunities to present their job market paper to a broad faculty audience. 
- The department organizes mock interviews for students seeking employment, to sharpen their interviewing skills. |
| **6. Awareness of Limits of Knowledge** | An appreciation of the limitations of one’s own work and discipline, of the complexity of knowledge, and of the potential contributions of other interpretations, methods, and disciplines. 
Competence in the research process by | Level of awareness of limits of knowledge is defined in the PhD in Economics program as a critical understanding of one’s own work limitations. 
This is reflected in students who: 
- appreciate that multiple methodological approaches—not only within the economics discipline but also across disciplines—can be fruitfully |
| **6. Awareness of Limits of Knowledge** | The program design and requirements that ensure these student outcomes for awareness of limits of knowledge are as follows: 
- Students are permitted to take graduate courses outside of the economics department. 
- The graduate course offering covers a range of alternative methodological approaches within the discipline (e.g. reduced form vs. structural estimation methods). 
- Students gain further awareness of the limit of their research approach by presenting to, and interacting with, a faculty complement that is very diverse |
| applying an existing body of knowledge in the critical analysis of a new question or of a specific problem or issue in a new setting. | used to study the same research questions; - are aware of the limits of their own methodological approach, and understand the potential contribution other approaches may bring to their research question. | in terms of research interests and approaches. |
# Appendix B: Proposed Learning Outcomes, and Degree-Level Expectations

Address how the design, structure, requirements, and delivery of the program support the program learning outcomes and degree-level expectations.

<table>
<thead>
<tr>
<th>Degree-Level Expectations</th>
<th>Program Learning Outcomes</th>
<th>How the Program Design/Structure Supports the Degree-Level Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Depth and Breadth of Knowledge</td>
<td>Depth and breadth of knowledge is defined in the PhD in Economics program as: an in-depth understanding of core theory models in economics; a familiarity with quantitative methods and broadly-used data analysis techniques; and a critical understanding of recent advancements of scholarly research in at least two subfields of the discipline. This is reflected in students who are able to: - recognize the current frontier of scholarly research in at least two subfields of economics; - contribute to scholarly inquiry and debate in the discipline; - teach university-level courses in a number of subfields of economics.</td>
<td>The program design and requirements that ensure these student outcomes for depth and breadth of knowledge are as follows: - First-year program requirements include a Microeconomic Theory sequence (ECO2020 and ECO2030), a Macroeconomic Theory sequence (ECO2021 and ECO2031), an Econometric Theory sequence (ECO2400 and ECO2401), and a Mathematics and Statistics requirement (ECO1011). These requirements provide in-depth coverage of a broad range of core theory models as well as quantitative and analytical methods used in economics. - The mandatory first-year comprehensive examinations in microeconomic and macroeconomic theory test student familiarity with core theory knowledge. - For the direct-entry option, the 6-electives course requirement helps students to build breadth of knowledge in the subfields of the discipline. - Students must choose electives to satisfy the requirements of a major and a minor field of concentration. This ensures student familiarity with recent scholarly development in at least two subfields of the discipline. - The mandatory second-year comprehensive examination for each student’s major field of specialization assesses knowledge and readiness to conduct research in a subfield of the discipline.</td>
</tr>
</tbody>
</table>
2. **Research and Scholarship**

   a. The ability to conceptualize, design, and implement research for the generation of new knowledge, applications, or improvements in understanding at the forefront of the discipline, and to adjust the research design or methodology in light of unforeseen problems;

   b. The ability to make informed judgments on complex issues in specialist fields, sometimes requiring new methods; and

   c. The ability to produce original research, or other advanced scholarship, of a quality to satisfy peer review, and to merit publication.

Research and scholarship is defined in the PhD in Economics program as the production of original research that significantly improves on existing scholarly work, and/or expands knowledge in the discipline in a new and relevant direction, and/or has significant impact on policy or professional practices. This is reflected in students who:
- are able to identify an original, non-trivial, and relevant research question;
- are well versed in a variety of research approaches in economics, including both theoretical and quantitative methods, and can identify the most appropriate and effective research methodology for the question at hand, or expand and improve upon existing methods when necessary;
- can produce final research outcomes of sufficient quality to satisfy the rigorous peer review process before publication.

The program design and requirements that ensure these student outcomes for research and scholarship are as follows:
- The graduate course offering includes a broad range of methodological courses. An analytical methods course (ECO1011 Mathematics and Statistics) and a quantitative methods sequence (ECO2400 and ECO2401 Econometric theory) are required for all students.
- Elective courses offered include ECO2803 (Methods for Empirical Microeconomics), ECO2404 (Empirical Applications of Economic Theory), ECO2104 (Quantitative Macroeconomics), and ECO2411 (Financial Econometrics).
- Students are required to take ECO4060 (Graduate Research Seminar) in their second and third years of study. This three-term course fosters student transition from coursework to research. The key course requirement is an original research paper written under the supervision of a faculty member. Students also participate in a number of workshops on presentation and writing skills, and serve as discussants of their peers’ work. By the end of the course, students must have found a thesis supervisor.
- Many students work as research assistants for faculty during their program. This RA experience can provide valuable training in research design, as well as significant methodological training in data analysis, coding, and writing. Some RAships may also lead to co-authored publications with the faculty supervisor, providing students with some first-hand experience of the peer-review process.
- A PhD dissertation must be comprised of a minimum of three original research papers.

3. **Level of Application of Knowledge**

   The capacity to i) Undertake pure and/or applied research at an

Level of application of knowledge is defined in the PhD in Economics program as the ability to competently apply economic intuition and

The program design and requirements that ensure these student outcomes for level of application of knowledge are as follows:
- Through a close relationship with the supervisor and other committee
advanced level; and ii) Contribute to the development of academic or professional skills, techniques, tools, practices, ideas, theories, approaches, and/or materials.

| methodology to study a broad range of problems of economic relevance. This is reflected in students who are able to: |
| - apply economic analysis to a broad set of research questions, ranging from abstract theoretical problems to practical policy evaluation; |
| - design, conduct, and interpret original research and statistical analysis; |
| - improve on existing methods, or develop new methods, as appropriate for the underlying research question. |

| members, students acquire the necessary skills for the application of knowledge. |
| - A variety of courses facilitate the development of professional skills and techniques. The graduate course offerings provides a large selection of methodological and applied courses. Together with the core theory requirements, they enable equip students to conduct theoretical or applied research at an advanced level. |

| 4. Professional Capacity/Autonomy |
| a. The qualities and transferable skills necessary for employment, requiring the exercise of personal responsibility and largely autonomous initiative in complex situations; b. The intellectual independence to be academically and professionally engaged and current; c. The ethical behavior consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research; and d. The ability to evaluate the broader implications of applying knowledge to particular contexts. |

| Professional capacity/autonomy is defined in the PhD in Economics program as the ability to independently carry an original research program. This includes identifying original and relevant research questions, determining the appropriate research methodology, or developing new methods if necessary. This is reflected in students who are able to: |
| - conduct individual original research and disseminate its finding through a variety of means, including workshops, academic conference presentations, and scholarly articles or policy reports; |
| - conduct research in accordance with ethics and academic integrity protocols; |
| - pursue a successful career in academia, or hold a position of responsibility in a government agency. |

<p>| The program design and requirements that ensure these student outcomes for professional capacity/autonomy are as follows: |
| - Students are encouraged to present their work at major conferences, and the department supplements the SGS travel funds available to graduate students. |
| - A presentation skills workshop and a writing workshop are organized every year as part of the Graduate Research Seminar course (ECO4060). |
| - All students gain significant experience as teaching assistants, and some students also hold course instructorships. This experience enriches their professional skill set and helps to prepare them for a career as academic instructors. |</p>
<table>
<thead>
<tr>
<th>5. <strong>Level of Communication Skills</strong></th>
<th>Level of communication skills is defined in the PhD in Economics program as the ability to articulate complex academic arguments clearly and effectively, both orally and in the appropriate written format. This is reflected in students who are able to: - give clear and effective presentations of scholarly work to a broad range of audiences, including experts and non-experts in the field; - produce coherent and effective presentations of scholarly work in written format, with attention to the correctness of theoretical arguments and the validity of supporting empirical or experimental evidence.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The ability to communicate complex and/or ambiguous ideas, issues, and conclusions clearly and effectively.</strong></td>
<td>The program design and requirements that ensure these student outcomes for level of communication skills are as follows: - Almost all elective courses include a presentation requirement or a written submission of a research proposal and/or research paper. - Students must present their second-year paper in an official departmental workshop open to all faculty members. - More advanced students are encouraged to present their work at major conferences (the department supplements SGS travel grants with internal resources). - A number of more informal and student-friendly lunch workshops and discussion groups are offered regularly for multiple research areas, providing students with opportunities to present early work to a broader audience of faculty members. - When students are close to completing their degree, and are ready to seek employment, the department provides a number of opportunities to present their job market paper to a broad faculty audience. - The department organizes mock interviews for students seeking employment, to sharpen their interviewing skills.</td>
</tr>
<tr>
<td>6. <strong>Awareness of Limits of Knowledge</strong></td>
<td>Level of awareness of limits of knowledge is defined in the PhD in Economics program as a critical understanding of one’s own work limitations. This is reflected in students who: - appreciate that multiple methodological approaches—not only within the economics</td>
</tr>
<tr>
<td><strong>An appreciation of the limitations of one’s own work and discipline, of the complexity of knowledge, and of the potential contributions of other interpretations, methods, and disciplines.</strong></td>
<td>The program design and requirements that ensure these student outcomes for awareness of limits of knowledge are as follows: - Students are permitted to take graduate courses outside of the economics department. - The graduate course offering covers a range of alternative methodological approaches within the discipline (e.g. reduced form vs. structural estimation methods). - Students gain further awareness of the limit of their research approach by</td>
</tr>
</tbody>
</table>

Developed by the Office of the Vice-Provost, Academic Programs
Template last updated March 2, 2017
Competence in the research process by applying an existing body of knowledge in the critical analysis of a new question or of a specific problem or issue in a new setting.

discipline but also across disciplines—can be fruitfully used to study the same research questions;
- are aware of the limits of their own methodological approach, and understand the potential contribution other approaches may bring to their research question.

presenting to, and interacting with, a faculty complement that is very diverse in terms of research interests and approaches.
Appendix C: Current Calendar Copy

Doctor of Philosophy

Minimum Admission Requirements

• Applicants are admitted under the General Regulations of the School of Graduate Studies. Applicants must also satisfy the Department of Economics' additional admission requirements stated below.
• Minimum B+ standing in an MA program in economics. Admission is competitive, so accepted applicants will normally have achieved a standing considerably higher than the minimum B+.
• A strong preparation in advanced mathematics, statistics, and economics, including successful completion of MA-level microeconomic theory, macroeconomic theory, and econometrics.
• All applicants who do not hold a degree from a Canadian university must submit an official Graduate Record Examination (GRE) General Test score. Applicants who hold a degree from a Canadian university are strongly encouraged to submit an official GRE General Test score. See the website for details.

Program Requirements

• The PhD is a full-time program. Applicants must be registered as full-time students for a minimum period of three years.
• Students must maintain a minimum average of B+ throughout their coursework.
  ▶ Year 1: normally two half-courses in each area (3.0 full-course equivalents [FCEs]), as follows:
    ▪ Microeconomics (ECO 2020H and ECO 2030H)
    ▪ Macroeconomics (ECO 2021H and ECO 2031H)
    ▪ Econometrics (ECO 2400H and ECO 2401H)
  ▶ Year 2: six half-courses (3.0 FCEs), including the required courses for a major field of specialization and a minor field of specialization.
    ▪ Second-year and third-year students must also participate in the full-year ECO 4060Y0 Graduate Research Seminar (1.0 FCE).
    ▪ Suitable PhD-level courses taken by a student in the MA program in the Department of Economics may fulfil some of the course requirements of the PhD program.
  ▶ Year 3:
    ▪ An original paper must be written in Year 2 and presented in the relevant workshop in the fall of Year 3,
    ▶ A proposal must be submitted to a formal dissertation committee by the spring.
• A thesis based on original research.
• **General examinations**
  - Successful completion of **theory comprehensive** examinations. Students are required to take two comprehensive examinations in microeconomic and macroeconomic theory after the end of the Winter session (usually June) in Year 1 of their program. Performance on these exams is evaluated on a distinction/pass/fail basis. If a theory comprehensive examination is failed on the first attempt, it must be re-taken later in the Summer (usually in August) of the same year.
  - All students who did not obtain a minimum grade of A in every course required for their major field of specialization, or took some of the required courses during their MA in Economics program at the University of Toronto, are required to take a **field comprehensive examination** in their major field of specialization after the end of the Winter session in Year 2 (usually June). If the exam is failed, it must be re-taken later in the Summer (usually in August) of the same year. The major fields of specialization offered regularly are:
    - Econometrics
    - Economic Development
    - Financial Economics
    - Industrial Organization
    - International Economics
    - Labour Economics
    - Macroeconomics
    - Microeconomic Theory
    - Public Economics

**Program Length**
4 years

**Time Limit**
6 years
Appendix D: Proposed Calendar Copy

PhD Program

Minimum Admission Requirements
- Applicants are admitted under the General Regulations of the School of Graduate Studies. Applicants must also satisfy the Department of Economics' additional admission requirements stated below.
- Minimum B+ standing in an MA program in economics. Admission is competitive, so accepted applicants will normally have achieved a standing considerably higher than the minimum B+.
- A strong preparation in advanced mathematics, statistics, and economics, including successful completion of MA-level microeconomic theory, macroeconomic theory, and econometrics.
- All applicants who do not hold a degree from a Canadian university must submit an official Graduate Record Examination (GRE) General Test score. Applicants who hold a degree from a Canadian university are strongly encouraged to submit an official GRE General Test score. See the website for details.

Program Requirements
- The PhD is a full-time program. Applicants must be registered as full-time students for a minimum period of three years.
- Students must maintain a minimum average of B+ throughout their coursework (4.0 FCEs in total).
  - **Year 1:** 3.0 full-course equivalents [FCEs], normally consisting of two half courses in each area, as follows:
    - Microeconomics (ECO 2020H and ECO 2030H)
    - Macroeconomics (ECO 2021H and ECO 2031H)
    - Econometrics (ECO 2400H and ECO 2401H)
  - Students who have completed some or all of these courses before entering the PhD program normally fulfill the 3.0 FCE requirement by taking elective courses in place of the core courses they have already completed.
  - **Year 2:** at least two half courses (1.0 FCE), including the required courses for a major field of specialization and a minor field of specialization.
    - **Year 2** and **Year 3** students must also participate in the full-year ECO 4060Y Graduate Research Seminar (1.0 FCE).
    - Suitable PhD-level courses taken by a student in the MA program in the Department of Economics may, with the permission of the Associate Chair, Graduate Studies, fulfil a portion of the major and minor field requirements of the PhD program.
  - **Year 3:**
    - An original paper must be written in Year 2 and presented in the relevant workshop by in the Fall session of Year 3.
    - A thesis based on original research.
General examinations

- Successful completion of theory comprehensive examinations. Students are required to take two comprehensive examinations in microeconomic and macroeconomic theory after the end of the Winter session (usually June) in Year 1 of their program. Performance on these exams is evaluated on a distinction/pass/fail basis. If a theory comprehensive examination is failed on the first attempt, it must be re-taken later in the Summer (usually in August) of the same year.

- All students who did not obtain a minimum grade of A in every course required for their major field of specialization, or took some of the required courses during their MA in Economics program at the University of Toronto, are required to take a field comprehensive examination in their major field of specialization after the end of the Winter session in Year 2 (usually June). If the exam is failed, it must be re-taken later in the Summer (usually in August) of the same year. The major fields of specialization offered regularly are:
  - Econometrics
  - Economic Development
  - Financial Economics
  - Industrial Organization
  - International Economics
  - Labour Economics
  - Macroeconomics
  - Microeconomic Theory
  - Public Economics

Program Length
4 years

Time Limit
6 years

PhD Program (Direct-Entry)

Minimum Admission Requirements

- Applicants are admitted under the General Regulations of the School of Graduate Studies. Applicants must also satisfy the Department of Economics' additional admission requirements stated below.

- Minimum A− standing in the last two years of study in a Bachelor’s program in economics or a related field, such as Finance, Statistics, or Mathematics. Admission is competitive, so accepted applicants will normally have achieved a standing considerably higher than the minimum A−.

- A strong preparation in advanced mathematics, statistics, and economics.
• All applicants who do not hold a degree from a Canadian university must submit an official Graduate Record Examination (GRE) General Test score. Applicants who hold a degree from a Canadian university are strongly encouraged to submit an official GRE General Test score. See the website for details.

Program Requirements
• The PhD is a full-time program. Applicants must be registered as full-time students for a minimum period of three years.
• Students must maintain a minimum average of B+ throughout their coursework (6.0 FCEs in total).
  ➤ Year 1: normally two half courses in each area (3.0 full-course equivalents [FCEs]), as follows:
    ▪ Microeconomics (ECO 2020H and ECO 2030H)
    ▪ Macroeconomics (ECO 2021H and ECO 2031H)
    ▪ Econometrics (ECO 2400H and ECO 2401H)
  ➤ Year 2: six half courses (3.0 FCEs), including the required courses for a major field of specialization and a minor field of specialization.
    ▪ Second-year Year 2 and third-year Year 3 students must also participate in the full-year ECO 4060Y Graduate Research Seminar (1.0 FCE).
  ➤ Year 3:
    ▪ An original paper must be written in Year 2 and presented in the relevant workshop in the Fall session of Year 3.
• A thesis based on original research.

General examinations
• Successful completion of theory comprehensive examinations. Students are required to take two comprehensive examinations in microeconomic and macroeconomic theory after the end of the Winter session (usually June) in Year 1 of their program. Performance on these exams is evaluated on a distinction/pass/fail basis. If a theory comprehensive examination is failed on the first attempt, it must be re-taken later in the Summer (usually in August) of the same year.
• All students who did not obtain a minimum grade of A in every course required for their major field of specialization or took some of the required courses during their MA in Economics program at the University of Toronto, are required to take a field comprehensive examination in their major field of specialization after the end of the Winter session in Year 2 (usually June). If the exam is failed, it must be re-taken later in the Summer (usually in August) of the same year. The major fields of specialization offered regularly are:
  ▪ Econometrics
  ▪ Economic Development
  ▪ Financial Economics
  ▪ Industrial Organization
  ▪ International Economics
Major Modification Proposal: Significant Modifications to Existing Graduate and Undergraduate Programs

- Labour Economics
- Macroeconomics
- Microeconomic Theory
- Public Economics

**Program Length**
5 years

**Time Limit**
7 years