Major Modifications to Existing Programs
Definitions and Proposal Template

Several types of curriculum initiatives fall under the category of Major Modifications to Existing Programs; a full listing is articulated in Section 5.1 of the *York University Quality Assurance Procedures*.

The attached **Major Modification Guidelines** are applicable for following types of Major Modifications:

Significant changes to program requirements (i.e., comprising approximately one-third of the major requirements, core requirements and/or the degree program).

Addition of a new major or specialization where a similar major or specialization currently exists at the undergraduate level.

Addition of a new option (e.g. location where program is offered; new specialization) within an existing graduate program.

Introduction or deletion of a major research paper or thesis, course-only, co-op, internship or practicum option to a Master's program.

Merger of two or more programs.

Change to the requirements for graduate program candidacy examinations or residence requirements.

Significant changes to the learning outcomes of an existing program

Significant changes to the faculty complement delivering an existing program.

Change to the essential resources of a program that impair its delivery.

Note: *Separate templates exist for the remaining types of Major Modifications, specifically:*

New undergraduate certificates
Closure of undergraduate certificates *(see Program Closure template)*

Policies related to bridging programs:
http://secretariat-policies.info.yorku.ca/policies/bridging-courses-policy-and-guidelines/
http://secretariat-policies.info.yorku.ca/policies/bridging-programs-at-york-university-policy-and-guidelines/

Major Modifications Proposal Guidelines

1. Program: Electrical Engineering and Computer Science

2. Degree Designation: MASc in Electrical and Computer Engineering

3. Type of Modification:

   - Change to fields of specialization

   - Change degree requirements

4. Effective Date: Winter 2020

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5. Provide a general description of the proposed changes to the program.

   A. Introduction of three fields to the MASc degree: Computer Engineering, Electrical Engineering and Software Engineering.

   B. Removal of the breadth requirement: “There is a breadth requirement for selected graduate courses. At least one course must be from two of the three fields of specialization: computer systems engineering, electrical engineering and interactive systems engineering.”

   C. Replacement of the MASc degree requirements: “three graduate 3.0 credit courses, a full-year 6.0 credit research project course (EECS 6400)" with “four graduate 3.0 credit courses, at least three of which are normally EECS graduate courses”.

6. Provide the rationale for the proposed changes.

   A. The Department of Electrical Engineering and Computer Science underwent a period of transition and major growth over the last years with the addition of new undergraduate Software and Electrical Engineering programs and the associated increase in number and breadth of faculty members and graduate students to the department. Research in the department spans a broad range of topics including Computer Engineering, Computer Science, Electrical Engineering, and Software Engineering. This change is already reflected at the undergraduate and PhD program level. The PhD in Electrical Engineering and Computer Science offers the fields of Computer Engineering, Computer Science, Electrical Engineering, and Software Engineering. The proposed change will align the graduate program’s MASc program with the PhD program and the ongoing research areas. The MSc program covers Computer Science. The MASc program will cover Computer Engineering, Electrical Engineering, and Software Engineering.
   Each graduate student in the MASc program will be associated with their field based on the course selection each will make.

   B. Since the fields of specialization are being changed, the breadth requirements need to be updated as well. The new fields of Computer Engineering, Electrical Engineering, and

Software Engineering are sufficiently different that not all students would benefit from being required to take a course outside of their field. Each field contains multiple sub-fields such as Power Electronics or Biomedical Circuits in Electrical Engineering. These areas are broad and applications of these technologies diverse, so a student focusing on any of the three fields would already attain a comprehensive education in that field. Most students already require both exposure to a range of technical and theoretical content as well as an understanding of their application domain in preparation for their thesis. Our current breadth requirements expose students to two distinct but narrowly defined subdisciplines (computer systems engineering and interactive systems engineering). However, in the multi-disciplinary research contexts where our students work, much more flexible preparation is required. Removal of the breadth requirement gives students more flexibility to create their own program of study together with their supervisor, focusing on courses that are directly relevant to their research plan whether offered by the department or by another graduate program. The proposed changes in the number of required 3.0 credit courses (C) will provide students with more opportunity to expose themselves to a broader range of topics, particularly in view of the increase in the numbers of graduate courses now offered for the Computer, Electrical and Software Engineering fields. These changes will provide more value to our graduate students, who often comment on their desire to take more courses in their field.

C. According to the latest Cyclical Program Review of 2017, the average completion times for the MASc degree has exceeded the 5-term program length in recent years (6 terms in 2010 and 2011, 8.3 terms in 2013 and 6.8 in 2015). In view of this data, the program has reviewed the degree requirements, particularly the required number of traditional 3.0 credit courses. A study was conducted of the requirements of other Science and Engineering Master's programs at York University and Electrical and Computer Engineering Master's programs at other Ontario universities, all by research thesis. Out of 16 programs, the breakdown of required courses is as follows:

Courses required	Number programs
3	1
4	7
5	7
6	1

It is worth noting that 15 of these 16 programs have a duration of 6 terms compared to our 5 terms. The average number of courses in the surveyed Science and Engineering Master's programs at York is four. Therefore, a requirement of four courses would put the MASc program at a comparable level with its peer programs, reflect the 5-term duration of the program, and provide increased opportunity for formal coursework over the current requirement of three courses. Additionally, a reduced course load will help students undertake practical research work earlier in their degree progression, facilitating a more timely average completion time. The requirement that at most one course can be integrated with an undergraduate course remains unchanged. In order to adapt our current degree requirement "three graduate 3.0 credit courses, a full-year 6.0 credit research project course (EECS 6400)" to a four 3.0 credit course model, the requirement for students to take EECS 6400 will be removed, allowing greater flexibility for students to take courses that are relevant to their studies. This shift is also

supported by the increase in the numbers of graduate courses offered over the last 5 years that are relevant to Engineering students.

7. Comment on the alignment between the program changes with Faculty and/or University academic plans.

In light of the University Academic Plan, York's Plan for the Intensification and Enhancement of Research and the Faculty of Graduate Studies Integrated Resource Plan, this proposal directly speaks to research intensification and an expansion of engineering. Both themes are also key ingredients of the Provostial White Paper. According to York's Strategic Mandate Agreement, engineering is one of the proposed areas of growth. Engineering, as well as Computer Science also feature prominently in York's Strategic Research Plan.

In Lassonde's Strategic Research Plan, research in Electrical Engineering, Computer Engineering, Computer Science and Software Engineering, features prominently. This proposal addresses the intensification of research in those fields by establishing studies in Software Engineering at the Master's level and broadening the scope of Computer Engineering. The increased integration of Engineering into Lassonde's graduate programs, which this proposal addresses, is one of the objectives of Lassonde's Integrated Resource Planning. Also in the Departmental Five-Year Plan, the integration of Electrical Engineering at the graduate level is one of the key objectives. These priorities were recently reiterated by the program and Lassonde in the EECS quality assurance brief and review.

8. Provide a detailed outline of the changes to the program and the associated learning outcomes, including how the proposed requirements will support the achievement of program learning objectives (i.e., the mapping of the requirements to the program learning outcomes).

As part of this proposal, the mapping of the requirements to program learning outcomes has been updated. These changes can be found in Appendix B.

9. Summarize the consultation undertaken with relevant academic units, including commentary on the impact of the proposed changes on other programs. Provide individual statements from the relevant program(s) confirming consultation and their support.

Members of the EECS graduate program were consulted multiple times:

2016-12-16: Formal graduate faculty meeting. Changes to the fields were discussed and unanimously approved.

2018-04-28: Formal graduate faculty meeting. Changes to EECS 6400 were discussed extensively with multiple suggestions from members. No formal decision was made.

2018-05-25: Formal graduate faculty meeting. All three changes were debated. The decision to change the fields was unanimously confirmed. The removal of the breadth requirement was voted on and carried. The other changes were tabled for the next graduate faculty meeting.

2018-08-20: Informal graduate faculty consultation. Changes to EECS 6400 and the degree requirements were further debated. A consensus was reached to remove EECS 6400 and change the degree requirements to four 3.0 credit courses. The Graduate Program Director was tasked with preparing a proposal for approval at a future graduate faculty meeting.

2019-02-08: Formal graduate faculty meeting. The major modification proposal draft was discussed and some changes to the text were suggested.

2019-03-13: The updated major modification draft was circulated to the members of the graduate program, and it was approved by e-vote.

These changes are to internal degree requirements within the EECS graduate program and should have no impact on other programs. The EECS 6400 course has never been taken by students in other programs and was strictly intended for EECS MASc students. Nevertheless, the Graduate Program Directors of related programs (Information Technology, Mechanical Engineering, Earth and Space Science and Engineering, Civil Engineering, Physics) were consulted and had no objections.

10. Are changes to the program's admission requirements being proposed coincident with the program change(s)? If so, outline the admission changes, and comment on the appropriateness of the revised requirements to the achievement of the program learning outcomes.

Due to the addition of software engineering as a field in the program, we have explicitly added software engineering to the list of admission requirements. In practice we already accept software engineers as a 'closely related field'.

11. Describe any resource implications and how they are being addressed (e.g., through a reallocation of existing resources). If new/additional resources are required, provide a statement from the relevant Dean(s)/Principal confirming resources will be in place to implement the changes.

The deletion of EECS 6400 will free up faculty resources (project supervisors and course committee.

The removal of the breadth requirement will lessen the burden on the graduate program to monitor students' compliance. This gain is offset by the growing burden of administering the growing graduate program.

12. Is the mode of delivery of the program changing? If so, comment on the appropriateness of the revised mode(s) of delivery to the achievement of the program learning outcomes.

The mode of delivery of the program is not changing fundamentally. EECS 6400 was not delivered as a traditional course but rather consisted of individual research conducted under the supervision of a faculty member other than the student's thesis supervisor. This interaction will be removed but at the same time the overall course load will be reduced to four 3.0 credit

courses. Therefore, students will have more time to spend on their thesis research, which will allow them to delve deeper in their research and equally expose them to research methods.

The changes to the breadth requirement and the fields do not affect the mode of delivery.

13. Is the assessment of teaching and learning within the program changing? If so, comment on the appropriateness of the revised forms of assessment to the achievement of the program learning outcomes.

Assessment of EECS 6400 was through reports and a final presentation. Many graduate courses in the EECS graduate program contain these same elements of assessment. Additionally, the increased time for thesis research will result in students publishing more papers and presenting at more conferences, which is the real-world experience simulated by the EECS 6400 assessment elements. Therefore, the achievement of the program learning outcomes will be enhanced by the changes.

The changes to the breadth requirement and the fields do not affect assessment.

14. Provide a summary of how students currently enrolled in the program will be accommodated.

Current students will follow the existing regulations, consistent with York's grandparenting norms. Students are required to satisfy their course requirements (including EECS 6400) in their first year of study. Therefore, the changes will not impact current students. Students admitted in Fall 2019 will have the option of following the existing or new regulations.

15. Provide as an appendix a side-by-side comparison of the existing and proposed program requirements as they will appear in the Undergraduate or Graduate Calendar.

Appendix A

Existing Program / Graduate Diploma Information	Existing Program / Graduate Diploma Information
Electrical Engineering & Computer Science The Graduate Program in Electrical Engineering & Computer Science offers the degrees of Master of Science (MSc), Master of Applied Science (MASc) and Doctor of Philosophy (PhD). The MSc program covers Computer Science. The MASc program concentrates on Computer Engineering and Electrical Engineering. The PhD program covers Computer Engineering, Computer Science, Electrical Engineering and Software Engineering. **Master of Science Program** **Admission Requirements** Graduates with an honors degree in Computer Science or equivalent, with at least a B+ average in the last two years of study, may be admitted as candidates for the Masters of Science program in computer science. In addition, those admitted must have completed the equivalent of a senior-level course in the area of theoretical computer science. The following are the minimum English language test scores (if required): TOEFL 577 (paper-based) or 90-91 (Internet-based), IELTS 7, or York English Language Test 4. The Graduate Record Examination general test and computer science subject test are strongly recommended, especially for applicants who did their work outside of Canada and/or the United States. **Degree Requirements** Students are expected to choose between the degree by thesis or by project before the end of their second term. There is a breadth requirement on the selected graduate courses. At least one course must be from each of the following three areas: - Theory of Computing & Scientific Computing - Artificial Intelligence & Interactive Systems - Systems: Hardware & Software No more than one-third of the course requirements can be integrated with undergraduate courses. **MSc Degree by Thesis** Candidates for the MSc degree must complete five graduate three-credit courses and successfully defend a master's thesis. Candidates must conduct a piece of approved research under the general direction of a supervisor. The resulting thesis should demonstrate the Candidates' research ability in the research subject. **MSc Degree by Project**	**Electrical Engineering & Computer Science** The Graduate Program in Electrical Engineering & Computer Science offers the degrees of Master of Science (MSc), Master of Applied Science (MASc) and Doctor of Philosophy (PhD). The MSc program covers Computer Science. The MASc program concentrates on Computer Engineering, Electrical Engineering and Software Engineering. The PhD program covers Computer Engineering, Computer Science, Electrical Engineering and Software Engineering. **Master of Science Program** **Admission Requirements** Graduates with an honors degree in Computer Science or equivalent, with at least a B+ average in the last two years of study, may be admitted as candidates for the Masters of Science program in computer science. In addition, those admitted must have completed the equivalent of a senior-level course in the area of theoretical computer science. The following are the minimum English language test scores (if required): TOEFL 577 (paper-based) or 90-91 (Internet-based), IELTS 7, or York English Language Test 4. The Graduate Record Examination general test and computer science subject test are strongly recommended, especially for applicants who did their work outside of Canada and/or the United States. **Degree Requirements** Students are expected to choose between the degree by thesis or by project before the end of their second term. There is a breadth requirement on the selected graduate courses. At least one course must be from each of the following three areas: - Theory of Computing & Scientific Computing - Artificial Intelligence & Interactive Systems - Systems: Hardware & Software No more than one-third of the course requirements can be integrated with undergraduate courses. **MSc Degree by Thesis** Candidates for the MSc degree must complete five graduate three-credit courses and successfully defend a master's thesis. Candidates must conduct a piece of approved research under the general direction of a supervisor. The resulting thesis should demonstrate the Candidates' research ability in the research subject. **MSc Degree by Project**

Candidates for the MSc degree must complete seven graduate three-credit courses and conduct a research project. The research project will have a more limited scope and/or degree of originality than a thesis. The project is under the general direction of a supervisor. A paper describing the project must be submitted and graded by the supervisory committee.	Candidates for the MSc degree must complete seven graduate three-credit courses and conduct a research project. The research project will have a more limited scope and/or degree of originality than a thesis. The project is under the general direction of a supervisor. A paper describing the project must be submitted and graded by the supervisory committee.
Time Requirements	**Time Requirements**
Students are expected to complete all of their master's degree requirements in no more than five terms (twenty months). For more details refer to the program's supplemental calendar.	Students are expected to complete all of their master's degree requirements in no more than five terms (twenty months). For more details refer to the program's supplemental calendar.
Master of Applied Science Program	**Master of Applied Science Program**
Admission Requirements	**Admission Requirements**
Graduates with an honors undergraduate degree or equivalent (typically a four-year program with full-time enrolment) from an accredited university in electrical or computer engineering, with at least a B+ average in the last two years of study, may be admitted as candidates for the Master of Applied Science program in electrical and computer engineering. In addition, those admitted must have completed the equivalent of a senior-level project course or thesis in electrical or computer engineering. Significant industrial or research experience in electrical or computer engineering coupled with an honors undergraduate degree program or equivalent from an accredited university will be considered equivalent to an undergraduate electrical or computer engineering thesis. The following are the minimum English language test scores (if required): TOEFL 577 (paper-based) or 90-91 (Internet-based), IELTS 7, or York English Language Test 4. The Graduate Record Examination general test is strongly recommended, especially for applicants who did their work outside of Canada and/or the United States.	Graduates with an honors undergraduate degree or equivalent (typically a four-year program with full-time enrolment) from an accredited university in electrical, computer or software engineering, with at least a B+ average in the last two years of study, may be admitted as candidates for the Master of Applied Science program in electrical and computer engineering. In addition, those admitted must have completed the equivalent of a senior-level project course or thesis in electrical, computer or software engineering. Significant industrial or research experience in electrical, computer or software engineering coupled with an honors undergraduate degree program or equivalent from an accredited university will be considered equivalent to an undergraduate electrical, computer or software engineering thesis. The following are the minimum English language test scores (if required): TOEFL 577 (paper-based) or 90-91 (Internet-based), IELTS 7, or York English Language Test 4. The Graduate Record Examination general test is strongly recommended, especially for applicants who did their work outside of Canada and/or the United States.
Degree Requirements	**Degree Requirements**
Candidates for the MASc degree in electrical and computer engineering must complete ~~three~~ graduate three-credit courses~~, a full-year, six-credit research project course (Electrical Engineering & Computer Science 6400 6.0)~~ and write and successfully defend a master's thesis. ~~The Electrical Engineering & Computer Science 6400 6.0 project must be distinct from course assignments and the MASc thesis.~~	Candidates for the MASc degree in electrical and computer engineering must complete four graduate three-credit courses, at least three of which are normally EECS graduate courses, and write and successfully defend a master's thesis.
~~There is a breadth requirement for selected graduate courses. At least one course must be from two of the three fields of specialization: computer systems engineering, electrical engineering and interactive~~	No more than one course integrated with an undergraduate course can be used to satisfy degree requirements.

~~systems engineering.~~ No more than one course integrated with an undergraduate course can be used to satisfy degree requirements.	
A candidate must conduct approved thesis research that demonstrates their ability in the selected field of specialization under the general direction of a supervisor. Typically, the thesis includes a practical demonstration or implementation of the research work undertaken. For more details refer to the program's supplemental calendar.	A candidate must conduct approved thesis research that demonstrates their ability in the selected field of specialization under the general direction of a supervisor. Typically, the thesis includes a practical demonstration or implementation of the research work undertaken. For more details refer to the program's supplemental calendar.
Time Requirements	**Time Requirements**
Students are expected to complete all of their master's degree requirements in no more than five terms (twenty months). For more details refer to the program's supplemental calendar.	Students are expected to complete all of their master's degree requirements in no more than five terms (twenty months). For more details refer to the program's supplemental calendar.
Doctor of Philosophy Program	**Doctor of Philosophy Program**
Admission Requirements	**Admission Requirements**
Applicants must have a Master's degree in Computer Engineering, Computer Science, Electrical Engineering, Software Engineering, or closely related field, which is equivalent to the MSc degree in Computer Science (thesis option) or the MASc degree in Electrical and Computer Engineering at York University. A minimum average grade of B+ on all course work is required. Applications must include official copies of all academic transcripts, an extended abstract/copy of the MSc or MASc thesis, three letters of reference and a one-page statement of purpose and previous experience. The statement of purpose should indicate the applicant's area(s) of interest. The following are the minimum English language test scores (if required): TOEFL 577 (paper-based) or 90-91 (Internet-based), IELTS 7, or York English Language Test 4. For applicants to the fields of Computer Engineering, Computer Science and Software Engineering, the Graduate Record Examination general test is strongly recommended, especially for applicants who did their work outside of Canada and the United States.	Applicants must have a Master's degree in Computer Engineering, Computer Science, Electrical Engineering, Software Engineering, or closely related field, which is equivalent to the MSc degree in Computer Science (thesis option) or the MASc degree in Electrical and Computer Engineering at York University. A minimum average grade of B+ on all course work is required. Applications must include official copies of all academic transcripts, an extended abstract/copy of the MSc or MASc thesis, three letters of reference and a one-page statement of purpose and previous experience. The statement of purpose should indicate the applicant's area(s) of interest. The following are the minimum English language test scores (if required): TOEFL 577 (paper-based) or 90-91 (Internet-based), IELTS 7, or York English Language Test 4. For applicants to the fields of Computer Engineering, Computer Science and Software Engineering, the Graduate Record Examination general test is strongly recommended, especially for applicants who did their work outside of Canada and the United States.
Degree Requirements	**Degree Requirements**
Candidates for the PhD degree must complete at least three three-credit graduate courses. No more than one-third of the course requirements can be integrated with undergraduate courses. Candidates must successfully complete a qualifying examination consisting of a written report on the candidate's field of interest and have an oral defence of the report. Candidates must present a dissertation proposal outlining the anticipated results of their dissertation. Each term candidates must attend departmental seminars. Each fall and winter term, candidates must attend one professional development seminar.	Candidates for the PhD degree must complete at least three three-credit graduate courses. No more than one-third of the course requirements can be integrated with undergraduate courses. Candidates must successfully complete a qualifying examination consisting of a written report on the candidate's field of interest and have an oral defence of the report. Candidates must present a dissertation proposal outlining the anticipated results of their dissertation. Each term candidates must attend departmental seminars. Each fall and winter term, candidates must attend one professional development seminar.

Candidates must complete either an industrial internship or a teaching practicum. Candidates must conduct a significant body of original research under the supervision of a supervisory committee and successfully defend the resulting dissertation in their field of interest. **Time Requirements** Students are expected to complete their requirements in no more than four years. Courses must be completed within three terms. The qualifying examination must be completed within five terms. The dissertation proposal must be completed within eight terms.	Candidates must complete either an industrial internship or a teaching practicum. Candidates must conduct a significant body of original research under the supervision of a supervisory committee and successfully defend the resulting dissertation in their field of interest. **Time Requirements** Students are expected to complete their requirements in no more than four years. Courses must be completed within three terms. The qualifying examination must be completed within five terms. The dissertation proposal must be completed within eight terms.

Appendix B

The Master's degree in Electrical and Computer Engineering is awarded to students who have demonstrated the degree level expectations described in the following table. This table contains

- the degree level expectations as specified by the Ontario Universities Council on Quality Assurance,
- the description for each degree level expectation provided by the Ontario Universities Council on Quality Assurance,
- the program learning outcomes for each degree level expectation, and
- the degree requirements associated with those program learning outcomes.

1. Depth and breadth of knowledge
A systematic understanding of knowledge, including, where appropriate, relevant knowledge outside the field and/or discipline, and a critical awareness of current problems and/or new insights, much of which are at, or informed by, the forefront of their academic discipline, field of study, or area of professional practice.
A. Review, analyze, assimilate and interpret a body of scientific literature in the area of research. B. Apply the techniques (mathematical, scientific, engineering, experimental) pertinent to the research being undertaken.
A. Courses and thesis. B. Courses ~~(in particular the required course EECS 6400)~~ and thesis.
2. Research and scholarship
A conceptual understanding and methodological competence that: *a) enables a working comprehension of how established techniques of research and inquiry are used to create and interpret knowledge in the discipline;* *b) enables a critical evaluation of current research and advanced research and scholarship in the discipline or area of professional competence; and* *c) enables a treatment of complex issues and judgments based on established principles and techniques; and,* *On the basis of that competence, has shown at least one of the following:* *d) development and support of a sustained argument in written form; or* *e) originality in the application of knowledge.*
A. Evaluate whether a research method is appropriate for a given research problem. (a) B. Apply an appropriate research method to address a research problem. (a) C. Critique approaches taken by other researchers to address a research problem. (b) D. Analyze a research problem based on established techniques. (c) E. Present a research problem, its significance, approaches taken by other researchers to address that problem, and an original approach to tackle the problem, in written form. (d and e)
A. Courses ~~(in particular the required course EECS 6400)~~ and thesis. B. Thesis. C. Thesis. D. Thesis. E. Thesis proposal and thesis.
3. Level of application of knowledge
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.
A. Conduct supervised research appreciating the limitations of one's knowledge. B. Solve a research problem using established methods or new variations of those methods. C. Extrapolate limitations of research methods and propose revised methods for future research.
A. Thesis.

B. Thesis. C. Thesis.

4. Professional capacity / autonomy
a) The qualities and transferable skills necessary for employment requiring: *i. exercise of initiative and of personal responsibility and accountability; and* *ii. decision-making in complex situations;* *b) The intellectual independence required for continuing professional development;* *c) The ethical behaviour consistent with academic integrity and the use of appropriate guidelines and procedures for responsible conduct of research; and* *d) The ability to appreciate the broader implications of applying knowledge to particular contexts.*
A. Accept responsibility for one's research. (a) B. Evaluate individual progress towards meeting degree requirements and timelines. (b) C. Develop a solution to a research problem that takes ethical, social, environmental, and legal influences into account. (c) D. Comply with relevant laws, regulations and intellectual property guidelines. (d)
A. Thesis. B. Yearly progress report. C. Thesis. D. Courses and thesis.
5. Level of communications skills
The ability to communicate ideas, issues and conclusions clearly.
A. Present material in a coherent and organized way, using an appropriate combination of media, to a variety of audiences. B. Construct a credible argument and design an appropriate format to convey the argument. C. Present material in the literature relevant to the research problem in one's own words.
A. Courses, thesis proposal, and thesis. B. Thesis. C. Thesis.
6. Awareness of limits of knowledge
Cognizance of the complexity of knowledge and of the potential contributions of other interpretations, methods, and disciplines.
A. Justify the strengths and limitations of the proposed solution to the research problem. B. Propose research questions and methods to solve those questions.
A. Thesis. B. Thesis.

Note that no specific courses are associated with the program learning outcomes. The supervisor plays a crucial role in the selection of the courses. Students have to submit a course selection form at the start of their studies. Each term, students have to complete a progress report. Both are used to monitor that students achieve the program learning outcomes.