



**Graduate
Studies**

Office of the Vice-Provost and Dean
Yeates School of Graduate Studies

Final Assessment Report (FAR) and Implementation Plan

Periodic Program Review (PPR)

Chemical Engineering (PhD, MAsC, MEng)

Last Updated: March 8, 2019

FINAL ASSESSMENT REPORT

In accordance with the University Institutional Quality Assurance Process (IQAP), this final assessment report provides a synthesis of the external evaluation and the internal response and assessments of the graduate program in **Chemical Engineering (PhD, MAsC, MEng)**. This report identifies the peer review identified strengths of the program, together with opportunities for program improvement and enhancement, and it sets out and prioritizes the recommendations that have been selected for implementation.

The report also includes an Implementation Plan that identifies who will be responsible for approving the recommendations set out in the final assessment report; who will be responsible for providing any resources entailed by those recommendations; any changes in organization, policy or governance that will be necessary to meet the recommendations and who will be responsible for acting on those recommendations; and timelines for acting on and monitoring the implementation of those recommendations.

EXECUTIVE SUMMARY

The Chemical Engineering Graduate Program has more than 40 graduate students, and is supported by 16 core faculty members, three technical staff, and a shared program administrator. The program educates and trains the students in the research areas of Process Systems, Functional Materials, and Water and Wastewater Treatment. The research activities are carried out in 14 state-of-the-art labs of the Department.

Compared to similar programs across the country, the program is challenged by relatively low levels of student enrolment and research funding. The program needs to grow and achieve its fullest potential. To that end, the developmental plan is to

- work toward increasing the graduate enrolment significantly
- encourage faculty members to apply more for research funding
- increase the Department's publication rate of peer-refereed journal papers
- expect graduate students to be more research productive
- get more research-focused faculty positions

In addition to requisite efforts by the faculty members, the above plan relies on the University for the necessary resources in order to achieve the desired objectives.

Periodic Program Review and Peer Review Team Chemical Engineering (PhD, MAsC, MEng).

The graduate program in Chemical Engineering (PhD, MAsC, MEng), Faculty of Engineering and Architectural Science (FEAS), submitted a Self-Study Report to the Yeates School of Graduate Studies that outlined program descriptions and learning outcomes, an analytical assessment of the program, program data including data from student surveys and the standard data packages. Course outlines and CVs for full-time faculty members were also appended.

Two external and one internal arm's-length reviewers were selected from a set of proposed candidates. The Peer Review Team (PRT) for the Periodic Program Review (PPR) of the graduate program in Chemical Engineering (PhD, MAsC, MEng) consisted of Dr. Ajay Ray (Western University), Dr. Michel Perrier (Polytechnique Montreal), and Dr. Alireza Sadeghian (Ryerson University).

The appraisal committee spent two days at Ryerson. The visit included interviews with the University and Faculty Administration including the Provost and Vice-President Academic, FEAS Associate Dean, Vice-Provost and Dean Yeates School of Graduate Studies (YSGS); Associate Dean YSGS, Graduate Program Director of the Graduate Program, and meetings with Faculty, a group of current students, and support staff.

The PRT site visit was conducted on May 7 and 8, 2018. The PRT report was communicated to the Associate Dean, YSGS on June 15, 2018, and the response to the report from Architecture was communicated on September 26, 2018.

Summary of PRT Recommendations with Graduate Program and YSGS Responses

The PRT raised a number of concerns and recommendations regarding the research productivity of the department. The first six recommendations and responses address these issues.

Recommendation 1 Increase MEng enrollment.

Program Response The program notes that it admits all eligible MEng applicants with relevant academic backgrounds. It will continue to do so going forward.

YSGS Response *YSGS supports the program response.*

Recommendation 2 Attract in-house undergraduates for research and graduate programs.

The program notes that has been promoting research projects for undergraduates for the last few years in an effort to attract more domestic students. The program will continue these efforts. The program also notes that it will begin promoting the option for an accelerated MASc degree during the fall 2018 term.

YSGS Response *YSGS supports the program response.*

Recommendation 3 Offer professional courses in order to generate funding and establish industrial relationships.

Program Response The PRT's suggestion of offering short courses to new immigrants, or diploma holders working in industries in [the](#) Greater Toronto Area (GTA), was discussed during a Graduate Council Meeting. The majority of faculty members considered that offering short courses to industrial sectors in the GTA has no direct correlation with establishing industrial collaborations. In addition, the Program doesn't expect to attain any additional funding by offering such short courses. The program will not be adopting this option in the near future.

YSGS Response *YSGS supports the program response.*

Recommendation 4 Build additional industrial collaborations.

Program Response The program notes that many of its faculty members strive to communicate with industries in the GTA for research collaboration and funding support through NSERC Engage, Engage Plus, CRD and/or MITACS grants. The program will continue its efforts in this area.

YSGS Response *YSGS supports the program response.*

Recommendation 5 Consider establishing a dual PhD program with other international institutes.

Program Response The program notes that the PRT's suggestion of creating a Dual PhD program with other international institutes is creative. We are open to exploring the suggestion pending appropriate policies and guidelines from the University.

YSGS Response *YSGS encourages the program to consult with the FEAS Associate Dean, Graduate Studies, the Associate Dean, Programs in YSGS, and Ryerson International if it is interested in discussing this option further.*

Recommendation 6 Recruit more out-of-province graduate students.

Program Response The program will explore and attend graduate fair events in other provinces where possible on an ongoing basis.

YSGS Response *YSGS supports the program response. YSGS encourages the program to work with the FEAS Dean's Office to explore potential recruitment options.*

The PRT raised a number of concerns and recommendations regarding the curriculum and overload teaching. The next five recommendations and responses address these issues.

Recommendation 7 Conduct a curriculum review.

Program Response Extensive discussions were conducted during the program's recent Graduate Program Council meeting (September 20th, 2018) regarding the Curriculum and course offering policy. The program will consider a number of options, including the deletion of courses, the consolidation of existing courses into new courses, and the introduction of required core courses. Full details on the preliminary plan are available in the program's full response to the PRT recommendations. The review will take place during the 2018-2019 academic year.

YSGS Response *YSGS supports the program response. YSGS notes that any changes to the program's curriculum must be made in accordance with Ryerson University Policy 127. YSGS encourages the program to consult with the Associate Dean, Graduate Studies in FEAS and the Associate Dean, Programs in YSGS on any potential curriculum changes.*

Recommendation 8 Change course offering policy.

Program Response The program will revise its course offering policy as follows, effective Fall 2019:

- (1) Six courses in total will be offered in an academic year. Additional courses will be offered based on students' request and sufficient enrolment.
- (2) The six courses in Item (1) will include
 - a. Three Core/Common courses, excluding CE 8100, CE 9100, and Group II.
 - b. One course on a rotational basis from each research theme of Process Systems, Functional Materials, and Water Treatment.

- (3) The PhD and MASc students will only be permitted to take courses from Group I (i.e., courses that are not cross-posted with the Undergraduate Program)
- (4) MEng students will be allowed to take a minimum of 70% of their courses from either Group I or Group II of the Chemical Engineering Graduate Program.

YSGS Response *YSGS supports the program response.*

As above, YSGS notes that any changes to the program's curriculum must be made in accordance with Ryerson University Policy 127. YSGS encourages the program to consult with the Associate Dean, Graduate Studies in FEAS and the Associate Dean, Programs in YSGS on any potential curriculum changes.

Recommendation 9 Hire more new faculty members.

Program Response The program notes that two faculty hires have been approved in the Department: one is a new faculty position and the other is a replacement of a retiring faculty member. Both positions are expected to be filled by July 2019.

YSGS Response *YSGS supports the program level response. Although the hiring of new RFA faculty is outside of its purview, YSGS encourages the program to continue to work with the FEAS Dean's Office on issues related to its faculty complement. YSGS notes that the curriculum review could have implications for faculty hiring and that these implications should be considered going forward as well.*

Recommendation 10 Offer fewer focused courses with small student enrollment numbers.

Program Response Please see the program's response to recommendations 7 and 8 above.

YSGS Response *YSGS supports the program response. YSGS agrees that courses with low enrolments should not be regularly offered. As above, YSGS further notes that any changes to the program's curriculum must be made in accordance with Ryerson University Policy 127. YSGS encourages the program to consult with the Associate Dean, Graduate Studies in FEAS and the Associate Dean, Programs in YSGS on any potential curriculum changes.*

Recommendation 11 Consider Internships as course substitution.

Program Response The program considers the suggestion of substituting elective courses with an industrial internship is more suitable for the undergraduate students in the Department of Chemical Engineering. Graduate students must finish 4 core courses as their course requirement. The program considers the industrial internship doesn't have the necessary theoretical backgrounds as the core courses. The program will not move forward with this recommendation

YSGS Response *YSGS supports the program response.*

YSGS notes that if the program considers offering an internship in the future, any changes to the program's curriculum must be made in accordance with Ryerson University Policy 127.

The PRT raised a number of concerns and recommendations regarding the availability of research resources. The next three recommendations and responses address these issues.

Recommendation 12 Approach CFI to set-up a central lab.

Program Response The program discussed this recommendation in its recent Graduate Program Council meeting (September 20th, 2018). The program will contact the Office of the Vice-President Research & Innovation (OVPRI) at Ryerson University to start planning a CFI proposal in Infrastructure Operating Fund. Furthermore, the majority of faculty members in the Department agreed to approach NSERC RTI grant to acquire specialized research instrument as a short-term strategy.

YSGS Response *YSGS supports the program response. It encourages the program to continue to pursue funding to improve the labs and other infrastructure for its graduate students. YSGS encourages the program to consult with the FEAS Dean's Office prior to its discussions with the OVPRI.*

Recommendation 13 Approach NSERC RTI for additional funding.

Program Response Please see the program's response above to recommendation 12.

YSGS Response *YSGS supports the program response.*

Recommendation 14 Create a Research equipment inventory and make it known to all departmental members.

Program Response Currently, the Department hosts 15 research laboratories for all faculty members. In its newly-developed website (<https://www.ryerson.ca/chemical/research/>), an inventory of research equipment in each laboratory is listed.

YSGS Response *YSGS supports the program response.*

The PRT raised a number of concerns and recommendations regarding the program culture. The next six recommendations and responses address these issues.

Recommendation 15 Hold more departmental symposia.

Program Response The program notes that graduate students from across the university hold a GRADShowcase event annually in August. The program's graduate students are informed and encouraged to participate in this event. The program will also consider hosting its own events within the Department when the number of MASc and PhD students sufficiently increases.

YSGS Response *YSGS supports the program response. YSGS also encourages the program to promote other faculty- and university-wide graduate student events to its students, faculty, and staff.*

Recommendation 16 Hold a departmental 3MT competition.

Program Response The program notes that YSGS holds a university-wide 3MT competition annually. The program's graduate students are informed and encouraged to participate in this event. The program will also consider hosting its own competition within the Department when the number of MASc and PhD students sufficiently increases.

YSGS Response *YSGS supports the program response.*

Recommendation 17 Invite more external speaker for Seminars.

Program Response The program notes that it currently invites external speakers for seminars. It will continue to make ongoing efforts in this area.

YSGS Response *YSGS supports the program response.*

Recommendation 18 Invite librarians to provide Seminars.

Program Response The program will start organizing seminars with librarians on an annual basis in Fall 2018.

YSGS Response *YSGS supports the program response.*

Recommendation 19 Provide soft skills workshops.

Program Response The program notes that the FEAS Dean's Office has provided several soft skills workshops during the past year, including Writing Café, Stress Management, Teaching Skill Development, etc. The program's graduate students are fully-informed and encouraged to participate in those workshops, as well as the GRADTalks events organized by YSGS.

YSGS Response *YSGS supports the program response. YSGS encourages the program to continue to support graduate student participation in soft skills workshops.*

Recommendation 20 Create more social events for graduate students.

Program Response The program notes that it has a Chemical Engineering Graduate Students Association (CEGSA). CEGSA does hold social events for students occasionally. The Department also provides an annual fund towards the social events. The Program Office will work with CEGSA to organize more social events and professional activities.

YSGS Response *YSGS supports the program response. YSGS also encourages the program to promote faculty- and university-wide graduate student events to its students.*

The PRT raised a number of concerns and recommendations regarding the clarification of program and student responsibilities. The next three recommendations and responses address these issues.

Recommendation 21 Review the currency of graduate courses.

Program Response As noted in the response to Recommendation 7 above, the program will conduct a curriculum review. This will include a review of the currency of all graduate courses.

YSGS Response *YSGS supports the program response.
As above, YSGS notes that any changes to the program's curriculum must be made in accordance with Ryerson University Policy 127.*

Recommendation 22 Explore more consistency in the allocation of TA hours.

Program Response The program notes that graduate students are only allowed to have a maximum of 130 hours per semester or a maximum of 390 hours per academic year, based on TA/GA Collective Agreement. Occasionally, a few graduate students might receive additional TA/GA hours, due to their superior past performance, their chemical engineering expertise, and the shortage of available applicants (due to low graduate student number). The program will work with the Department to minimize the inconsistency of TA/GA allocation. It is expected that the consistency of TA/GA assignment would be improved when the number of graduate students grows.

YSGS Response *YSGS supports the program response.*

Recommendation 23 Implement a policy requiring the active engagement of the Supervisory Committee.

Program Response Currently, each doctoral student is required to submit an annual report to their Supervisory Committee, in order to gather the committees' timely feedback on their research progress. The program will maintain this mechanism.

YSGS Response *YSGS supports the program response. YSGS also encourages the program to refer to Ryerson University Policy 164 for further information on the duties of supervisory committees.*

Implementation Plan

Recommendation	Program Response	YSGS Response	Proposed Action	Responsibility to Lead Follow Up	Timeline for Addressing Recommendation
The PRT raised a number of concerns and recommendations regarding the research productivity of the department. The first six recommendations and responses address these issues.					
1. Increase MEng enrollment.	The program notes that it admits all eligible MEng applicants with relevant academic backgrounds. It will continue to do so going forward.	YSGS supports the program response.	Admit all eligible MEng applicants with relevant academic disciplines	GPD	Every Winter and Spring/Summer semester
2. Attract in-house undergraduates for research and graduate programs.	The program notes that it has been promoting research projects for undergraduates for the last few years in an effort to attract more domestic students. The program will continue these efforts. The program also notes that it will begin promoting the option for an accelerated MASc degree during the fall 2018 term.	YSGS supports the program response.	Grad. studies orientation, and accelerated MASc	GPD, GPA	Fall 2018 – accelerated MASc (Done on September 12 th , 2018); Winter 2019 – Grad. studies orientation (Scheduled on March 5 th , 2019) and accelerated MASc (Done on January 18 th , 2019)
3. Offer professional courses in order to generate funding and establish industrial relationships.	The PRT’s suggestion of offering short courses to new immigrants, or diploma holders working in industries in Greater Toronto Area (GTA), was discussed during a Graduate Council Meeting. The majority of faculty members considered that offering short courses to industrial sectors in the GTA has no direct correlation with establishing industrial collaborations. In addition, the Program doesn’t expect to attain any additional funding by offering such short courses. The program will not be adopting this option in the near future.	YSGS supports the program response.	No action is needed, because the suggestion is not adopted by the Department	n/a	n/a

Recommendation	Program Response	YSGS Response	Proposed Action	Responsibility to Lead Follow Up	Timeline for Addressing Recommendation
4. Build additional industrial collaborations.	The program notes that many of its faculty members strive to communicate with industries in the GTA for research collaboration and funding supports through NSERC Engage, Engage Plus, CRD and/or MITACS grants. The program will continue its efforts in this area.	YSGS supports the program response.	Continuing efforts	All faculty members in the program	Ongoing
5. Consider establishing a dual PhD program with other international institutes.	The program notes that the PRT's suggestion of creating a Dual PhD program with other international institutes is creative. We are open to exploring the suggestion pending appropriate policies and guidelines from the University.	YSGS encourages the program to consult with the FEAS Associate Dean, Graduate Studies, the Associate Dean, Programs in YSGS, and Ryerson International if it is interested in discussing this option further.	No action is needed at this moment, because the suggestion is not adopted by the Department.	n/a	n/a
6. Recruit more out-of-province graduate students.	The program will explore and attend graduate fair events in other provinces where possible on an ongoing basis.	YSGS supports the program response. YSGS encourages the program to work with the FEAS Dean's Office to explore potential recruitment options.	Explore and attend graduate fair events in other provinces	GPD or GPA	Advertisement on 68 th Canadian Society of Chemical Engineering Conference on October 28 th , 2018. Fall 2019
The PRT raised a number of concerns and recommendations regarding the curriculum and overload teaching. The next five recommendations and responses address these issues.					

Recommendation	Program Response	YSGS Response	Proposed Action	Responsibility to Lead Follow Up	Timeline for Addressing Recommendation
7. Conduct a curriculum review.	Extensive discussions were conducted during the program's recent Graduate Program Council meeting (September 20 th , 2018) regarding the Curriculum and course offering policy. The program will consider a number of options, including the deletion of courses, the consolidation of existing courses into new courses, and the introduction of required core courses. Full details on the preliminary plan are available in the program's full response to the PRT recommendations. The review will take place during the 2018-2019 academic year.	YSGS supports the program response. YSGS notes that any changes to the program's curriculum must be made in accordance with Ryerson University Policy 127. YSGS encourages the program to consult with the Associate Dean, Graduate Studies in FEAS and the Associate Dean, Programs in YSGS on any potential curriculum changes.	Organize a meeting with Admission and Study Committee, and discuss/establish	GPD and Admission and Study Committee	Fall 2019
8. Change course offering policy.	The program will revise its course offering policy as follows, effective Fall 2019: (5) Six courses in total will be offered in an academic year. Additional courses will be offered based on students' request and sufficient enrolment. (6) The six courses in Item (1) will include a. Three Core/Common courses, excluding CE 8100, CE 9100, and Group II. b. One course on a rotational basis from each research theme of Process Systems, Functional Materials, and Water Treatment. (7) The PhD and MASc students will only be permitted to take courses from Group I (i.e., courses that are not cross-posted with the Undergraduate Program) (8) MEng students will be allowed to take a	YSGS supports the program response. As above, YSGS notes that any changes to the program's curriculum must be made in accordance with Ryerson University Policy 127. YSGS encourages the program to consult with the Associate Dean, Graduate Studies in FEAS and the Associate Dean, Programs in YSGS on any potential curriculum changes.	Revise course offering policy. Due to the recent budget cut, the program considers to offer less than six courses. Currently, we plan to offer four courses in total (two Core/Common courses, and two Group II courses)	GPD	Fall 2019

Recommendation	Program Response	YSGS Response	Proposed Action	Responsibility to Lead Follow Up	Timeline for Addressing Recommendation
	<p>minimum of 70% of their courses from either Group I or Group II of the Chemical Engineering Graduate Program.</p>				
<p>9. Hire more new faculty members.</p>	<p>The program notes that two faculty hires have been approved in the Department: one is a new faculty position and the other is a replacement of a retiring faculty member. Both positions are expected to be filled by July 2019.</p>	<p>YSGS supports the program level response. Although the hiring of new RFA faculty is outside of its purview, YSGS encourages the program to continue to work with the FEAS Dean's Office on issues related to its faculty complement. YSGS notes that the curriculum review could have implications for faculty hiring and that these implications should be considered going forward as well.</p>	<p>Request of two new faculty positions was approved by the University and the Dean's office of FEAS</p>	<p>Chair, Department Hiring Committee</p>	<p>Fall 2019</p>
<p>10. Offer fewer research-focused courses with small student enrollment numbers.</p>	<p>Please see the program's response to recommendations 7 and 8 above.</p>	<p>YSGS supports the program response. YSGS agrees that courses with low enrolments should not be regularly offered.</p> <p>As above, YSGS further notes that any changes to the program's curriculum must be made in accordance with Ryerson University Policy 127. YSGS encourages the program to consult with the Associate Dean,</p>	<p>Revise course offering policy</p>	<p>GPD</p>	<p>Fall 2019</p>

Recommendation	Program Response	YSGS Response	Proposed Action	Responsibility to Lead Follow Up	Timeline for Addressing Recommendation
		Graduate Studies in FEAS and the Associate Dean, Programs in YSGS on any potential curriculum changes.			
11. Consider Internships as course substitution.	The program considers the suggestion of substituting elective courses with an industrial internship is more suitable for the undergraduate students in the Department of Chemical Engineering. Graduate students must finish 4 core courses as their course requirement. The program considers the industrial internship doesn't have the necessary theoretical backgrounds as the core courses. The program will not move forward with this recommendation.	YSGS supports the program response. YSGS notes that if the program considers offering an internship in the future, any changes to the program's curriculum must be made in accordance with Ryerson University Policy 127.	No action is needed, because the suggestion is not adopted by the Department	n/a	n/a
The PRT raised a number of concerns and recommendations regarding the availability of research resources. The next three recommendations and responses address these issues.					
12. Approach CFI to set-up a central lab.	The program discussed this recommendation in its recent Graduate Program Council meeting (September 20 th , 2018). The program will contact the Office of the Vice-President Research & Innovation (OVPRI) at Ryerson University to start planning a CFI proposal in Infrastructure Operating Fund. Furthermore, the majority of faculty members in the Department agreed to approach NSERC RTI grant to acquire specialized research instrument as a short-term strategy.	YSGS supports the program response. It encourages the program to continue to pursue funding to improve the labs and other infrastructure for its graduate students. YSGS encourages the program to consult with the FEAS Dean's Office prior to its discussions with the OVPRI.	Consult with OVPRI	GPD	Fall 2019
13. Approach NSERC RTI for additional funding.	Please see the program's response above to recommendation 12.	YSGS supports the program response.	Continuing efforts	All faculty members	Fall 2019
14. Create a Research	Currently, the Department hosts 15 research	YSGS supports the	The inventory	GPA	Fall 2019

Recommendation	Program Response	YSGS Response	Proposed Action	Responsibility to Lead Follow Up	Timeline for Addressing Recommendation
equipment inventory and make it known to all departmental members.	laboratories for all faculty members. In its newly-developed website (https://www.ryerson.ca/chemical/research/), an inventory of research equipment in each laboratory is listed.	program response.	list is on the website. The inventory will be updated annually during Spring/Summer semester		
The PRT raised a number of concerns and recommendations regarding the program culture. The next six recommendations and responses address these issues.					
15. Hold more departmental symposia.	The program notes that graduate students from across the university hold a GRADShowcase event annually in August. The program's graduate students are informed and encouraged to participate in this event. The program will also consider hosting its own events within the Department when the number of MASc and PhD students sufficiently increases.	YSGS supports the program response. YSGS also encourages the program to promote other faculty- and university-wide graduate student events to its students, faculty, and staff.	Advertise the event and encourage graduate students to attend the event	GPA	Every Spring/Summer semester
16. Hold a departmental 3MT competition.	The program notes that YSGS holds a university-wide 3MT competition annually. The program's graduate students are informed and encouraged to participate in this event. The program will also consider hosting its own competition within the Department when the number of MASc and PhD students sufficiently increases.	YSGS supports the program response.	Advertise the event and encourage graduate students to attend the event	GPA	March, 2019
17. Invite more external speaker for Seminars.	The program notes that it currently invites external speakers for seminars. It will continue to make ongoing efforts in this area.	YSGS supports the program response.	Continuing efforts	GPD	November 19 th , 2018
18. Invite librarians to provide Seminars.	The program will start organizing seminars with librarians on an annual basis in Fall 2018.	YSGS supports the program response.	Invited a librarian to introduce Ryerson Library resources	GPD	October 1 st , 2018
19. Provide soft skills workshops.	The program notes that the FEAS Dean's Office has provided several soft skills	YSGS supports the program response. YSGS	Advertise events of FEAS	GPA	Fall, 2018 Winter, 2019

Recommendation	Program Response	YSGS Response	Proposed Action	Responsibility to Lead Follow Up	Timeline for Addressing Recommendation
	workshops during the past year, including Writing Café, Stress Management, Teaching Skill Development, etc. The program's graduate students are fully-informed and encouraged to participate in those workshops, as well as the GRADTalks events organized by YSGS.	encourages the program to continue to support graduate student participation in soft skills workshops.	workshop series in conjunction with YSGS GRADtalks		
20. Create more social events for graduate students.	The program notes that it has a Chemical Engineering Graduate Students Association (CEGSA). CEGSA does hold social events for students occasionally. The Department also provides an annual fund towards the social events. The Program Office will work with CEGSA to organize more social events and professional activities.	YSGS supports the program response. YSGS also encourages the program to promote faculty- and university-wide graduate student events to its students.	Work with CEGSA to organize social events or meetings at least once in a semester	GPD, and GPA	Fall 2018 Winter 2019 Spring/Summer 2019
The PRT raised a number of concerns and recommendations regarding the clarification of program and student responsibilities. The next three recommendations and responses address these issues.					
21. Review the currency of graduate courses.	As noted in the response to Recommendation 7 above, the program will conduct a curriculum review. This will include a review of the currency of all graduate courses.	YSGS supports the program response. As above, YSGS notes that any changes to the program's curriculum must be made in accordance with Ryerson University Policy 127.	Establish the review mechanism with Admission & Study Committee	GPD, and Admission and Study Committee	Winter 2019
22. Explore more consistency in the allocation of TA hours.	The program notes that graduate students are only allowed to have a maximum of 130 hours per semester or a maximum of 390 hours per academic year, based on TA/GA Collective Agreement. Occasionally, a few graduate students might receive additional TA/GA hours, due to their superior past performance, their chemical engineering expertise, and the shortage of available applicants (due to low graduate student number). The program will	YSGS supports the program response.	Work with the Department, so that the allocation of TA hours is in line with TA/GA Collective Agreement	GPD, GPA	Spring/Summer and Fall semesters in each year

Recommendation	Program Response	YSGS Response	Proposed Action	Responsibility to Lead Follow Up	Timeline for Addressing Recommendation
	work with the Department to minimize the inconsistency of TA/GA allocation. It is expected that the consistency of TA/GA assignment would be improved when the number of graduate students grows.				
23. Implement a policy requiring the active engagement of the Supervisory Committee.	Currently, each doctoral student is required to submit an annual report to their Supervisory Committee, in order to gather the committees' timely feedback on their research progress. The program will maintain this mechanism.	YSGS supports the program response. YSGS also encourages the program to refer to Ryerson University Policy 164 for further information on the duties of supervisory committees.	Maintain the current mechanism	GPD, GPA	Fall, 2018

A report on the progress of these initiatives will be provided in the Follow-up Report which will be due in one year from the date of Senate approval.