

## **SCHOOL OF GRADUATE STUDIES**

***REPORT TO THE RYERSON UNIVERSITY ACADEMIC COUNCIL, MARCH 7, 2006***

**1. Review of Status of New Graduate Programs**

- (i) Being implemented 2006/2007
- (ii) Planned for 2007/2008

**2. PhD/MASc/MEng in Aerospace Engineering (See attached)**

**Motion:**

**That Academic Council approve the submission of the proposal for a *PhD/MASc/MEng in Aerospace Engineering* to the Ontario Council for Graduate Studies for Standard Appraisal.**

**3. Amendment to Policy 142: Policies and Procedures for Admissions and Studies (Master's and PhD Programs)**

**Motion:**

**That Academic Council approve the addition of DEF to *the Policies and Procedures for Admissions and Studies (Master's and PhD Programs)* (Policy #142) in section 5.9: Other Performance Designations ( p.11).**

**4. Amendment to Policy 135: Examination Policy**

**Motion:**

**That the current Ryerson University Examination Policy (Policy Number 135) be amended so that the language is inclusive of Graduate Programs and students, and so that the policy is consistent with the Policies of the School of Graduate Studies. The required amendments identified are:**

- 1) That “Department”, Departmental”, and/or “Department/School” be replaced by “Department/School/Graduate Program”**
- 2) That a footnote explains that when referring to a “Faculty” (e.g. Faculty of Community Services) for the purposes of the document this shall include the School of Graduate Studies.**
- 3) Stating that in section I A.4 (page 2) and II A.5 (page 3), the reference to the “Course Management Policy” refers to the Undergraduate Course Management Policy, since the Graduate Course Management Policy has no such restrictions.**

Submitted by:

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Maurice Yeates, Dean  
Chair, School of Graduate Studies

| <b>Status of New Programs in Graduate Review Process (for programs planned for September, 2006)</b> |  |               |                              |                                |                           |                              |
|---|--|---------------|------------------------------|--------------------------------|---------------------------|------------------------------|
| <b>Approval or Action by</b>  | <b>Responsibility</b>  | <b>MA ECS</b> | <b>MSc – Biomed. Physics</b> | <b>MBA /MSc Inf Tech Mngmt</b> | <b>MBA Business Admin</b> | <b>MSc Molecular Science</b> |
| <b>Ryerson Review</b>   |  |               |                              |                                |                           |                              |
| Dean - SGS  | Letter of Intent (LoI) – including initial analysis of financial viability   | X             | X                            | X                              | X                         | X                            |
| SGS Program & Planning Comm   | Reviews LOI to determine if program appears feasible.  | X             | X                            | X                              | X                         | X                            |
| Provost   | Decides to proceed based on responses to LoI. Instructs sponsors to prepare OCGS program proposal.                           | X             | X                            | X                              | X                         | X                            |
| Internal/External Consultant  | An expert in the field from another university reviews the proposal. Re-draft if necessary.                                  | X             | X                            | X                              | X                         | X                            |
| Provost   | Discusses proposal with Dean, sponsor.   | X             | X                            | X                              | X                         | X                            |
| P&P   | Reviews draft OCGS brief in light of I/E report – recommends to Council SGS based on academic quality                        | X             | X                            | X                              | X                         | X                            |
| Council, SGS  | Reviews proposal   | X             | X                            | X                              | X                         | X                            |
| Senate  | Reviews program proposal for academic quality and moves to proceed to OCGS   | X             | X                            | X                              | X                         | X                            |
| <b>Ontario Council on Graduate Studies Review</b>   |  |               |                              |                                |                           |                              |
| Appraisal Committee   | 7 senior faculty from across Ontario + Exec. Dir read brief and comment to Ryerson. Univ can advertise program.              | X             | X                            | X                              | X                         | X                            |
| External Consultants  | 2 or 3 selected, visit Ryerson for a two day period. Prepare reports for submission to OCGS, which sends reports to Ryerson. | X             | X                            | X                              | X                         | X                            |
| Ryerson   | Responds to report   | X             | X                            | X                              | X                         | X                            |
| Appraisal Committee   | Reviews report and response and presents recommendation to OCGS (All graduate Deans in Ontario).                             | X             | X                            | X                              | X                         |                              |
| OCGS Executive Director   | Informs Ryerson of decision, provides letter required by Ministry for funding claim. <b>OCGS Meeting.</b>                    | X             | X                            | X                              | X                         |                              |
|   |  |               |                              |                                |                           |                              |

| Further Procedures |   |   |   |   |   |   |
|--------------------|---|---|---|---|---|---|
| Board of Governors | Program is presented to Board of Governors for approval of financial viability. | X | X | X | X | X |
| Ministry           | The Program is presented to the Ministry for approval                           |   |   |   |   |   |
| Provost            | Provost decides about implementation  |   |   |   |   |   |

| <b>Status of New Programs in Graduate Review Process (programs planned for September, 2007_1)</b> |  |  |                        |                      |                      |                           |
|---|--|--|------------------------|----------------------|----------------------|---------------------------|
| <b>Approval or Action by</b>  | <b>Responsibility</b>  | <b>PhD Aerospace Engin. (06 or 07)</b> | <b>MSW Social Work</b> | <b>MFA Doc Media</b> | <b>MJ Journalism</b> | <b>MArch Architecture</b> |
| <b>Ryerson Review</b>   |  |  |                        |                      |                      |                           |
| Dean - SGS  | Letter of Intent (LoI) – including initial analysis of financial viability   | X                                      | X                      | X                    | X                    | X                         |
| SGS Program & Planning Comm   | Reviews LOI to determine if program appears feasible.  | X                                      | X                      | X                    | X                    | X                         |
| Provost   | Decides to proceed based on responses to LoI. Instructs sponsors to prepare OCGS program proposal.                           | X                                      | X                      | X                    | X                    | X                         |
| Internal/External Consultant  | An expert in the field from another university reviews the proposal. Sponsors re-draft if necessary.                         | X                                      | X                      | X                    | X                    | X                         |
| Provost   | Discusses proposal with Dean, sponsor.   | X                                      | X                      |                      |                      |                           |
| P&P   | Reviews draft OCGS brief in light of I/E report – recommends to Council SGS based on academic quality                        | X                                      | X                      |                      |                      |                           |
| Council, SGS  | Reviews proposal   | X                                      | X                      |                      |                      |                           |
| Senate  | Reviews program proposal for academic quality and moves to proceed to OCGS   | March 7                                | X                      |                      |                      |                           |
| <b>Ontario Council on Graduate Studies Review</b>   |  |  |                        |                      |                      |                           |
| Appraisal Committee   | 7 senior faculty from across Ontario + Exec. Dir read brief and comment to Ryerson. Univ can advertise program.              |  | X                      |                      |                      |                           |
| External Consultants  | 2 or 3 selected, visit Ryerson for a two day period. Prepare reports for submission to OCGS, which sends reports to Ryerson. |  |                        |                      |                      |                           |
| Ryerson   | Responds to report(s)  |  |                        |                      |                      |                           |
| Appraisal Committee   | Reviews report and response and presents recommendation to OCGS (All graduate Deans in Ontario)                              |  |                        |                      |                      |                           |
| OCGS Executive Director   | Informs Ryerson of decision, provides letter required by Ministry for funding claim. <b>OCGS meeting.</b>                    |  |                        |                      |                      |                           |
| <b>Further Procedures</b>   |  |  |                        |                      |                      |                           |
| Board of Governors  | Program is presented to Board of Governors for approval of financial viability.  |  |                        |                      |                      |                           |
| Ministry  | The Program is presented to the Ministry for approval  |  |                        |                      |                      |                           |
| Provost   | Provost decides about implementation   |  |                        |                      |                      |                           |

| Status of New Programs in Graduate Review Process (programs planned for September, 2007_2) |  |                             |                      |                              |  |  |
|--|--|-----------------------------|----------------------|------------------------------|--|--|
| Approval or Action by  | Responsibility   | Masters in Media Production | MSc Computer Science | MHSc Nutrition Communication |  |  |
| <b>Ryerson Review</b>  |  |                             |                      |                              |  |  |
| Dean - SGS   | Letter of Intent (LoI) – including initial analysis of financial viability   | X                           | X                    | X                            |  |  |
| SGS Program & Planning Comm  | Reviews LOI to determine if program appears feasible.  | X                           | X                    |                              |  |  |
| Provost  | Decides to proceed based on responses to LoI. Instructs sponsors to prepare OCGS program proposal.                           | X                           | X                    |                              |  |  |
| Internal/External Consultant   | An expert in the field from another university reviews the proposal. Sponsors re-draft if necessary.                         | X                           | X                    |                              |  |  |
| Provost  | Discusses proposal with Dean, sponsor.   |                             |                      |                              |  |  |
| P&P  | Reviews draft OCGS brief in light of I/E report – recommends to Council SGS based on academic quality                        |                             |                      |                              |  |  |
| Council, SGS   | Reviews proposal   |                             |                      |                              |  |  |
| Senate   | Reviews program proposal for academic quality and moves to proceed to OCGS   |                             |                      |                              |  |  |
| <b>Ontario Council on Graduate Studies Review</b>  |  |                             |                      |                              |  |  |
| Appraisal Committee  | 7 senior faculty from across Ontario + Exec. Dir read brief and comment to Ryerson. Univ can advertise program.              |                             |                      |                              |  |  |
| External Consultants   | 2 or 3 selected, visit Ryerson for a two day period. Prepare reports for submission to OCGS, which sends reports to Ryerson. |                             |                      |                              |  |  |
| Ryerson  | Responds to report(s)  |                             |                      |                              |  |  |
| Appraisal Committee  | Reviews report and response and presents recommendation to OCGS (All graduate Deans in Ontario)                              |                             |                      |                              |  |  |
| OCGS Executive Director  | Informs Ryerson of decision, provides letter required by Ministry for funding claim. <b>OCGS meeting.</b>                    |                             |                      |                              |  |  |
| <b>Further Procedures</b>  |  |                             |                      |                              |  |  |
| Board of Governors   | Program is presented to Board of Governors for approval of financial viability.  |                             |                      |                              |  |  |
| Ministry   | The Program is presented to the  |                             |                      |                              |  |  |

|         |                                      |  |  |  |  |  |
|---------|--------------------------------------|--|--|--|--|--|
|         | Ministry for approval                |  |  |  |  |  |
| Provost | Provost decides about implementation |  |  |  |  |  |

2. The School of Graduate Studies has reviewed the proposal for a *PhD/MASc/MEng in Aerospace Engineering* listed below, and submits it to the Ryerson University Senate for its approval for it to be sent to the Ontario Council on Graduate Studies for external review ('standard appraisal'). Vol. I of the brief ('The Program') is available for review in the office of the Secretary of the Senate, and Volumes I & II ('The Program', and 'Curricula Vitae') are available for review in the office of the Dean of the School of Graduate Studies (EPH 439). Vol. I of the brief ('The Program') is also available for review at [www.ryerson.ca/gradstudies/temp](http://www.ryerson.ca/gradstudies/temp). Username: gradstudies Password: 4ryerson

It is planned that the *PhD/MASc/MEng in Aerospace Engineering* will be implemented in Fall 2006.

### **Motion**

To approve the submission of the proposal for a *PhD/MASc/MEng in Aerospace Engineering* to the Ontario Council for Graduate Studies for Standard Appraisal.

*Note: Once a program is approved by OCGS, it is presented to the Board of Governors for approval. The Provost has final authority to determine whether a program may proceed.*

## **RYERSON UNIVERSITY**

### ***PhD/MASc/MEng in Aerospace Engineering***

#### **EXECUTIVE SUMMARY**

In 2001, the Ontario Council of Graduate Studies approved an MASc/MEng program in Mechanical Engineering, in the Department of Mechanical Engineering, in the fields of aerodynamics and thermofluids; manufacturing, materials, and solid mechanics; and industrial engineering.

In 2003, faculty members and staff in aerospace engineering, and the undergraduate program, formally separated from the Department of Mechanical and Industrial Engineering, to form a new Department of Aerospace Engineering. Faculty members involved with graduate work, however, remain part of the OCGS approved MASc/MEng program in Mechanical Engineering.

In 2004, the Ontario Council of Graduate Studies approved a PhD program in the aforementioned fields of aerodynamics and thermofluids; manufacturing, materials, and solid mechanics; and industrial engineering -- involving faculty members in the Department of Mechanical Engineering and the Department of Aerospace Engineering. The OCGS approved program thus became a PhD/MASc/MEng program in Mechanical Engineering. Within this large program, faculty members in the Department of Aerospace Engineering currently supervise/mentor 42 graduate students: 21 MASc., 16 MEng, and 5 PhD students.

The proposed new program separates the aerodynamics component from the PhD/MASc/MEng program in Mechanical Engineering to form a new PhD/MASc/MEng program in Aerospace Engineering in three fields: aerodynamics and propulsion; aerospace structures and aerospace manufacturing; and, avionics and aerospace systems. In consequence, the field of 'aerodynamics and thermofluids' in the PhD/MASc/MEng program in Mechanical Engineering will become, when the new program is approved, 'thermofluids'.

The new PhD/MASc/MEng program in Aerospace Engineering will be a source of the highly qualified personnel required to fill the need for interdisciplinary expertise relevant to the aerospace community both within Canada, and internationally. Furthermore, the proposed program is aligned with Ryerson's mandate of professionally-oriented education, and will enhance our ability to attract and retain the best students and faculty members.

The program meets all the requirements documented in Ryerson's Academic Plan (2003-2008). The program is designed to: (i) to provide an excellent educational experience to the graduate students; (ii) enable students to realize their full potential upon completion of their graduate studies; (iii) bring relevance to the programs through strong interaction with the aerospace industry and associated technical community; and, (iv) conduct significant, internationally recognized, research in the aerospace domain.

The MEng degree requires the successful completion of ten one-term courses, or, eight one-term courses and a two-credit project. The MASc degree consists of not less than five one-term course credits, and a research thesis accounting for the equivalent of five course credits. The core requirement of the Ph.D. degree is the completion and defense of a thesis that is based on original research. In addition, the student must pass a candidacy examination and successfully complete at least four one-term graduate courses. In all cases an oral presentation of the research thesis, and the research results, will be arranged in seminar format, and evaluated by the candidate's examination committee.

***Graduate Courses in Aerospace Engineering***

|  |
|--|
| Advanced Mechanics of Solids                               |
| Aircraft Turbine Engines                                   |
| Advanced Systems Control                                   |
| Computational Fluid Dynamics & Heat Transfer               |
| Finite Element Method in Engineering                       |
| High-Speed Aerodynamics                                    |
| Rocket Propulsion  |
| Space Mechanics  |
| Computational Dynamics                                     |
| Flight Dynamics and Control of Aircraft                    |
| Introduction to Composite Materials                        |
| Advanced Fluid Mechanics                                   |
| Advanced Heat Transmission I                               |
| Advanced Heat Transmission II                              |
| Multidisciplinary Design Optimization of Aerospace Systems |
| Advanced Aerospace Structural Design                       |
| Advanced Aerospace Manufacturing                           |
| Aerospace Thermal Engineering                              |
| Avionics   |

The OCGS brief lists 18 tenure and tenure-track core faculty for the program. The teaching workload of each faculty members is nominally 3 courses per academic year, typically 9 course credits. This teaching load can be a mix of both undergraduate and graduate courses. In addition to these courses, each faculty member supervises a maximum of 2 undergraduate thesis students, as part of a 4<sup>th</sup> year capstone design/thesis course, as well as graduate students.