COUNCIL OF THE FACULTY OF SCIENCE

Notice of Meeting
Tuesday, January 9, 2018
at 3:00pm – 4:30pm
306 Lumbers

Agenda

1. Call to Order and Approval of Agenda
2. Chair’s Remarks
3. Approval of Minutes of November 14, 2017 meeting
4. Business Arising
5. Inquiries and Communications
   - Senate Synopsis: Meeting of November 23, 2017
6. Dean’s Report to Council
7. Associate Deans’ and Bethune Master’s Remarks
8. Reports from Science Representatives on Senate Committees
9. Reports from Standing Committees of Council
   9.1 Science Curriculum Committee (items for consent)
10. Other Business
    10.1 Presentation: ‘Collegial Governance Structure for Markham Campus’, Interim Vice-President Academic & Provost – L. Philipps
Minutes


Guests:       D. D’Angelo, B. Sheeler, M. Hough, M. Stea, S. Bernaudo, J. Parna, M. Armstrong

1. Call to Order and Approval of Agenda
   The Chair, D. Golemi-Kotra, called the meeting to order and the Agenda was adopted as presented with an amendment to delete item no. 10.2.

2. Chair’s remarks
   D. Golemi-Kotra welcomed Council members to the meeting.

3. Minutes of October 10, 2017 meeting
   A motion was moved, seconded and carried to approve the Minutes of October 10, 2017.

4. Business Arising
   There was none.

5. Inquiries and Communications
   Council noted the Senate Synopses of October 26, 2017.

6. Dean’s Report to Council
   The Dean presented his report as follows:

   Fermilab announcement
   Fermilab and YorkU signed a MOU on joint faculty appointment in Science to support involvement in DUNE. He elaborated that this
is the first such agreement Fermilab has made with a university outside the US, and that YorkU is the only Canadian university currently involved in the international DUNE collaboration.

CFI Grants
- Prof. Wendy Taylor is part of the project that received a $29M grant for the project ‘Upgrades to the ATLAS Detector at the Large Hadron Collider’
- A project initiated by Prof. Thilo Womelsdorf received a $3M grant to establish a Centre for Neuro-Behavioral Monitoring.

NSERC Discovery Grants
The Dean highlighted the Y-file article of Nov 13, 2017 which reported that two dozen Faculty of Science professors received more than $3M in NSERC Discovery Grants. Once again, 100% of newly hired Science faculty members succeeded in securing a Discovery grant. He also thanked AD - Sylvie Morin, Stephanie Bernaudo - Research Officer and Margaret Hough - Director Research & Partnerships for handling 34 applications ahead of the recent NSERC deadline.

New Canada Research Chairs
Thomas Baumgartner: CRC Tier-1 in Sustainable Organomain Group Materials and 275K in CFI funding.
Christopher Caputo: CRC Tier-2 in Metal-Free Materials for Catalysis and 125K in CFI funding.
Raymond Kwong: CRC Tier-2 in Environmental Toxicology and 125K in CFI funding.

York Science Fellows Program
FSc is inviting applications from emerging researchers for up to six York Science Fellowships. The fellowship is expected to begin shortly after the Ph.D is awarded and the application deadline is November 20, 2017. More details of the program can be found at science.yorku.ca/YorkScienceFellows

New Senior Development Officer
The Dean welcomed and introduced Maria Stea, Senior Development Officer. Maria’s office is located in Lumbers 344 and can be reached via email – mstea@yorku.ca or by phone – x58141.

On behalf of FSc, the Dean conveyed best wishes to our colleague in SAS – Nina Bui who is representing Canada at the Rugby League World Cup in Australia with the Canadian National Women’s Rugby Team.

Library Series:
The Dean encouraged everyone to spread the word of the following upcoming events:
November 14: Prof. Paul Delaney, Is Anyone Home?, Barbara Frum Branch
November 16: George Conidis, The Social Habits of Galaxies, Don Mills Branch

Upcoming Events:
November 16: Fireside Chat with President Lenton for FSc faculty, staff and students
November 20: York University/Gairdner Neuroscience Symposium Faire FCan Theater, Accolade East
November 25: The York Circle Lecture & Lunch, presented by Cora Young – Associate Professor and Guy Warwick Rogers Chair.
December 6: 2:00 – 4:00pm FSc Holiday Reception, The Underground Dining Hall
7. **Associate Deans’ and Bethune Master’s Remarks**

*Remarks – EJ Janse van Rensburg, Associate Dean - Faculty*

AD - Janse van Rensburg reminded members of the annual CV exercise and urged members to submit their CV within the set deadline.

Additionally, he drew attention to the Revisions to the T & P Policy and Procedures which was passed by Senate on October 26, 2017 (informational item no. 10.2 in the Agenda package)

*Remarks – A. Mills, Associate Dean – Students*

AD – Mills informed members that since 2015 in collaboration with the Toronto Public Library, FSc has offered a highly successful lecture series for the public at various library branches. The next series would be on Conversation Biology and Biodiversity. He encouraged members to contact him with ideas of a theme that would consist of 5 – 6 talks for this lecture series.

Additionally, AD – Mills announced that the annual Honours and Awards Evening will be held on January 17, 2018 and that the keynote speaker will be Matt McGrath, FSc Science Communicator in Residence & BBC Science and Environment Correspondent.

8. **Reports from Science Representatives on Senate Committees**

There were no reports.

9. **Reports from Standing Committees of Council**

9.1 **Executive Committee**

Council moved, seconded and carried a motion to ratify the nominations for the 2017-18 student caucus.

9.2 **Curriculum Committees**

Council noted this consent item.

10. **Other Business**

10.1 Julie Parna & Maureen Armstrong made a presentation on the steps/process for having program and curriculum changes approved by Senate Secretariat, which is posted in the ‘Council Documents’ tab on the FSc governance page.

10.2 The feedback/presentation by Cora Young – Strategic Research Plan Advisory Committee was cancelled.

10.3 Revisions to the T & P Policy and Procedures

Council noted this informational item.

____________________
D.Golemi-Kotra, Chair of Council

____________________
J. Sequeira, Assistant Secretary of Council
The 639th Meeting of Senate
held on Thursday, November 23, 2017

Remarks

The Chair of Senate, Professor Lesley Beagrie of the Faculty of Health, reported that the Academic Standards, Curriculum and Pedagogy Committee had agreed to remediation plans for students currently enrolled in the York-Sheridan Design Program and the York-Seneca Professional Writing Program. Accommodations were necessitated by the duration of the strike at Colleges of Applied Arts and Technology. Senate Executive concurred with ASCP’s proposals. The Chair asked that Senators continue to reserve time for the meeting scheduled on December 14. The Executive Committee will announce the status of the meeting as soon as possible.

The President of York University, Rhonda Lenton, focused her remarks on transition matters including implementation of Institutional Integrated Resource Plan recommendations and local IRPs. Her personal priorities include enhancing York’s reputation, supporting the University’s vision, building strong communities, establishing the Markham Centre Campus as a city builder, and positioning Glendon. She provided a status report on searches for the Vice-Provost Academic and Provost, Deputy Provost Markham and four Deans along with consultations on the creation of a Vice-President Engagement and Equity portfolio. Pointing to Employee Engagement Survey results, the President urged a dialogue highlighting the question of what can be done at York to understand, promote and achieve excellence. Closing comments on academic freedom in the current context led to a brief discussion during which Senators shared their perspectives on this enduring bedrock value.

The monthly “Kudos” report on the achievements of members of the York community can be accessed with other documentation for the meeting.

Senate Committee Member Elections

Senate acclaimed a candidate recommended by Senate Executive to serve on the Tenure and Promotions Committee and approved a slate of nominees for the contract faculty member position on Academic Standards, Curriculum and Pedagogy Committee. An e-vote will be conducted to elect the ASCP member.

Notices of Statutory Motion

Academic Standards, Curriculum and Pedagogy gave notice of its intention to recommend approval of the following new degree types:

- Master of Supply Chain Management (Schulich School of Business / Faculty of Graduate Studies)
- Master of Marketing (Schulich School of Business / Faculty of Graduate Studies)
Approvals

Senate approved, in principle, revisions to Senate’s Common Grading Scheme for Undergraduate Faculties. Principal elements of the ensemble of amendments include a change from the current 9-point letter scale to a 13-point letter scale (including minus grades) along with the calculation of grades to a weighted GPA with 4.0 as the maximum. These and other adjustments will the subject of further consultation before final approval is sought.

Major Reports

Under the auspices of the Academic Policy, Planning and Research Committee, Vice-President Research and Innovation Robert Haché provided Senate with an annual report on research. The report is accessible from the Senate Meeting website.

Committee Information Items

Executive

The Executive Committee’s information items included the following:

- the issuing of a call for expressions of interest in membership on Senate committees and other positions elected by Senate
- the approval of members of Senate committees nominated by student Senators
- the autumn meeting of Senate committee chairs and secretaries

Academic Policy, Planning and Research

APPRC provided information on these items:

- planned resumption of a collegial dialogue initiated by the Committee’s request for Faculty input on tracking progress to the achievement of objectives
- preliminary details about an APPRC / ASCP “Forum of Ideas” devoted to successful program renovation and redevelopment
- the questions addressed to the Deans, Principal and University Librarian in the annual conversation about the state of academic planning
- a discussion of Markham Campus Planning at the APPRC meeting of November 30 and the expectation that a substantial report will be made to Senate thereafter

Academic Standards, Curriculum and Pedagogy

ASCP reported that it had approved minor changes to degree requirements proposed by the following programs in the Faculty of Liberal Arts and Professional Studies:
• Specialized Honours BCom-ITEC program
• BA programs in Communications Studies

Appeals

The Appeals Committee presented its annual report on Faculty- and Senate-level petitions and appeals decisions. It also advised that efforts are underway to modernize the policy framework governing appeals.

Additional Information about this Meeting

Please refer to the full Senate agenda and supplementary material posted online with the November 23, 2017 meeting for details about these items.

http://secretariat.info.yorku.ca/senate/meeting-agendas-and-synopses/

December Meeting of Senate (Subject to Confirmation)

Senate’s next meeting is scheduled for 3:00 p.m. on Thursday, December 14, 2017 subject to confirmation.
Physics & Astronomy

1. Change to Existing Course – BPHS 2090 3.0
2. Change to Existing Course – ISCI 1310 6.0
3. Change to Existing Course – PHYS 1010 6.0
4. Change to Existing Course – PHYS 1410 6.0
5. Change to Existing Course – PHYS 1420 6.0
6. Change to Existing Course – PHYS 1800 3.0
7. Change to Existing Course – PHYS 1801 3.0
8. Change to Existing Course – PHYS 2010 3.0
9. Change to Existing Course – PHYS 2020 3.0
10. Change to Existing Course – PHYS 2030 3.0
11. Change to Existing Course – PHYS 2040 3.0
12. Change to Existing Course – PHYS 2060 3.0
13. Change to Existing Course – PHYS 2211 1.0
14. Change to Existing Course – PHYS 2212 1.0
15. Change to Existing Course – PHYS 2213 3.0
16. Change to Existing Course – PHYS 3050 3.0
17. Change to Existing Course – PHYS 3070 3.0
18. Change to Existing Course – PHYS 3150 3.0
19. Change to Existing Course – PHYS 3080 3.0/ESSE 3030 3.0
20. Change to Existing Course – PHYS/ ESSE 3280 3.0
21. Change to Existing Course – PHYS 3330 3.0/ENG 3330 3.0
22. Change to Existing Course – PHYS 4110 3.0
23. Change to Existing Course – PHYS/ MATH 4120 3.0
# Changes to Existing Course

**Faculty:** Science  
**Department:** Physics and Astronomy  
**Date of Submission:** November 2017  
**Course Number:** BPHS 2090 3.0  
**Effective Session:** FW 2018  
**Course Title:** Current Topics in Biophysics

### Type of Change:

- [X] in pre-requisite(s)/co-requisite(s)  
- [] in course number/level  
- [] in credit value  
- [] in title (max. 40 characters for short title)  
- [] in Calendar description (max. 40 words or 200 characters)  
- [] other (please specify):

### Change From:

Prerequisites: SC/PHYS 1010 6.00, or SC/PHYS 1800 3.00 and SC/PHYS 1801 3.00, or SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00, or SC/ISCI 1301 3.00 and SC/ISCI 1302 3.00; SC/Biol 1000 3.00 and SC/Biol 1001 3.00 or SC/Biol 1410 6.00, or SC/ISCI 1101 3.00 and SC/ISCI 1102 3.00, or permission of Instructor.

### To:

Prerequisites: SC/PHYS 1010 6.00, or SC/PHYS 1800 3.00 and SC/PHYS 1801 3.00, or or a minimum grade of C in SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00, or SC/ISCI 1310 6.00; SC/Biol 1000 3.00 and SC/Biol 1001 3.00 or SC/Biol 1410 6.00, or SC/ISCI 1101 3.00 and SC/ISCI 1102 3.00 SC/ISCI 1110 6.00; or permission of Instructor.

### Rationale:

SC/ISCI 1301 3.0 and SC/ISCI 1302 3.0 no longer exist and have been combined to create SC/ISCI 1310 6.0 and SC/ISCI 1101 3.0 and SC/ISCI 1102 3.0 also no longer exist and have been combined to create SC/ISCI 1110 6.0. The minimum grade of C for PHYS 1410 6.0 and PHYS 1420 6.0 is just a clarifying matter.

Note: For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.

Note: Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.

*Note: If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised "Course Design" and "Method of Instruction" information.*
**Changes to Existing Course**

**Faculty:** Science  
**Department:** Physics and Astronomy  
**Date of Submission:** November 2017  
**Course Number:** ISCI 1310 6.0  
**Effective Session:** FW 2018  
**Course Title:** Integrated Science (Physics)  

**Type of Change:**
- [ ] in pre-requisite(s)/co-requisite(s)  
- [ ] in course number/level  
- [x] in degree credit exclusion(s)  
- [ ] regularize course (from Special Topics)  
- [ ] in course format/mode of delivery *  
- [ ] in title (max. 40 characters for short title)  
- [ ] in Calendar description (max. 40 words or 200 characters)  
- [ ] other (please specify):  

**Change From:** SC/ISCI 1301 3.00, SC/ISCI 1302 3.0, SC/PHYS 1010 6.00.  

**To:** SC/ISCI 1301 3.00; SC/ISCI 1302 3.0; SC/PHYS 1010 6.00; SC/PHYS 1800 3.00; SC/PHYS 1801 3.00; SC/PHYS 1410 6.00; SC/PHYS 1420 6.00.  

**Rationale:** We are clarifying that the combination of PHYS 1800 3.0 and PHYS 1801 3.0 (our Physics for Engineers first-year sequence) or our other first year PHYS courses – PHYS 1410 6.0 and PHYS 1420 6.0 are equivalent to ISCI 1310 6.0 and satisfies the first-year physics prerequisite for second-year PHYS courses.

*Note: For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.*

*Note: Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.*

*Note: If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised “Course Design” and “Method of Instruction” information.*
Faculty: Science

Department: Physics and Astronomy

Date of Submission: November 2017

Course Number: PHYS 1010 6.0

Effective Session: FW 2018

Course Title: Physics

Type of Change:
- in pre-requisite(s)/co-requisite(s)
- in course number/level
- in credit value
- in title (max. 40 characters for short title)
- in Calendar description (max. 40 words or 200 characters)
- in cross-listing
- in degree credit exclusion(s)
- regularize course (from Special Topics)
- in course format/mode of delivery *
- retire/expire course
- other (please specify):

Change From:
Course credit exclusions: SC/PHYS 1410 6.00; SC/PHYS 1420 6.00; SC/ISCI 1301 3.00; SC/ISCI 1302 3.00.

To:
Course credit exclusions: SC/PHYS 1410 6.00; SC/PHYS 1800 3.00; SC/PHYS 1801 3.00; SC/ISCI 1310 6.00 SC/ISCI 1301 3.00; SC/ISCI 1302 3.00

Rationale:
We are clarifying that the combination of PHYS 1800 3.0 and PHYS 1801 3.0 (our Physics for Engineers first-year sequence) or ISCI 1310 6.0 (the Integrated Science first-year Physics sequence) are equivalent to PHYS 1010 6.0 and satisfies the first-year physics prerequisite for second-year PHYS courses.

Note: For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.

Note: Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.

* Note: If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised ‘Course Design’ and ‘Method of Instruction’ information.
# Changes to Existing Course

**Faculty:** Science  
**Department:** Physics and Astronomy  
**Date of Submission:** November 2017  
**Course Number:** PHYS 1410 6.0  
**Effective Session:** FW 2018  
**Course Title:** Physical Science

## Type of Change:

- [ ] in pre-requisite(s)/co-requisite(s)  
- [ ] in course number/level  
- [ ] in credit value  
- [ ] in title (max. 40 characters for short title)  
- [ ] in Calendar description (max. 40 words or 200 characters)  
- [ ] in cross-listing  
- [X] in degree credit exclusion(s)  
- [ ] regularize course (from Special Topics)  
- [ ] in course format/mode of delivery *  
- [ ] retire/expire course  
- [ ] other (please specify): 

## Change From:

Course credit exclusions: SC/PHYS 1010 6.00, SC/PHYS 1420 6.00; SC/ISCI 1301 3.00; SC/ISCI 1302 3.00.

## To:

Course credit exclusions: SC/PHYS 1010 6.00; SC/PHYS 1420 6.00; SC/PHYS 1800 3.00; SC/PHYS 1801 3.00; SC/ISCI 1310 3.00; SC/ISCI 1301 3.00; SC/ISCI 1302 3.00.

## Rationale:

We are clarifying that the combination of PHYS 1800 3.0 and PHYS 1801 3.0 (our Physics for Engineers first-year sequence) or ISCI 1310 6.0 (the Integrated Science first-year Physics sequence) are equivalent to PHYS 1410 6.0 and satisfies the first-year physics prerequisite for second-year PHYS courses.

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**Note:** For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.

**Note:** Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.

*Note:* If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised ‘Course Design’ and ‘Method of Instruction’ information.
**Changes to Existing Course**

**Faculty:** Science  
**Department:** Physics and Astronomy  
**Date of Submission:** November 2017  
**Course Number:** PHYS 1420 6.0  
**Effective Session:** FW 2018  
**Course Title:** Physics with Applications to Life Sciences

**Type of Change:**
- [ ] in pre-requisite(s)/co-requisite(s)  
- [ ] in course number/level  
- [ ] in credit value  
- [ ] in title (max. 40 characters for short title)  
- [ ] in Calendar description (max. 40 words or 200 characters)  
- [ ] in cross-listing  
- [x] in degree credit exclusion(s)  
- [ ] regularize course (from Special Topics)  
- [ ] in course format/mode of delivery *  
- [ ] retire/expire course  
- [ ] other (please specify):

**Change From:**

| Course Credit Exclusions: SC/PHYS 1010 6.00; SC/PHYS 1410 6.00; SC/ISCI 1301 3.00; SC/ISCI 1302 3.00. |

**To:**

| Course Credit Exclusions: SC/PHYS 1010 6.00; SC/PHYS 1410 6.00; **SC/PHYS 1800 3.00**; SC/PHYS 1801 3.00; SC/ISCI 1310 6.0; SC/ISCI 1301 3.00; SC/ISCI 1302 3.00. |

**Rationale:** We are clarifying that the combination of PHYS 1800 3.0 and PHYS 1801 3.0 (our Physics for Engineers first-year sequence) or ISCI 1310 6.0 (the Integrated Science first-year Physics sequence) are equivalent to PHYS 1420 6.0 and satisfies the first-year physics prerequisite for second-year PHYS courses.

Note: For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.

Note: Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.

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Changes to Existing Course

Faculty: Science
Department: Physics and Astronomy
Date of Submission: November 2017
Course Number: PHYS 1800 3.0
Effective Session: FW 2018
Course Title: Engineering Mechanics

Type of Change:
- □ in pre-requisite(s)/co-requisite(s)
- □ in course number/level
- □ in credit value
- □ in title (max. 40 characters for short title)
- □ in Calendar description (max. 40 words or 200 characters)
- □ other (please specify):
- □ in cross-listing
- □ in degree credit exclusion(s)
- □ regularize course (from Special Topics)
- □ in course format/mode of delivery *
- □ retire/expire course

Change From:
Course Credit Exclusions: SC/PHYS 1010 6.00, SC/PHYS 1410 6.00, SC/PHYS 1420 6.00; SC/ISCI 1301 3.00; SC/ISCI 1302 3.00.

To:
Course Credit Exclusions: SC/PHYS 1010 6.00; SC/PHYS 1410 6.00; SC/PHYS 1420 6.00; SC/ISCI 1310 6.00; SC/ISCI 1301 3.00; SC/ISCI 1302 3.00.

Rationale: SC/ISCI 1301 3.0 and SC/ISCI 1302 3.0 no longer exist and have been combined to create SC/ISCI 1310 6.0.

Note: For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.

Note: Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.

* Note: If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised ‘Course Design’ and ‘Method of Instruction’ information.
### Changes to Existing Course

**Faculty:** Science  
**Department:** Physics and Astronomy  
**Date of Submission:** November 2017  
**Course Number:** PHYS 1801 3.0  
**Effective Session:** FW 2018  
**Course Title:** Electricity, Magnetism and Optics for Engineers

#### Type of Change:

- [ ] in pre-requisite(s)/co-requisite(s)  
- [x] in degree credit exclusion(s)  
- [ ] in cross-listing  
- [ ] in course number/level  
- [ ] in credit value  
- [ ] in title (max. 40 characters for short title)  
- [ ] in Calendar description (max. 40 words or 200 characters)  
- [ ] other (please specify):

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<td>Course Credit Exclusions: SC/PHYS 1010 6.00; SC/PHYS 1410 6.00; SC/PHYS 1420 6.00; SC/ISCI 1310 6.00. SC/ISCI 1301 3.00; SC/ISCI 1302 3.00.</td>
</tr>
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**Rationale:** SC/ISCI 1301 3.0 and SC/ISCI 1302 3.0 no longer exist and have been combined to create SC/ISCI 1310 6.0.

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*Note: For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.

Note: Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.

*Note: If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised “Course Design” and “Method of Instruction” information.*
Changes to Existing Course

Faculty: Science

Department: Physics and Astronomy

Date of Submission: November 2017

Course Number: PHYS 2010 3.0

Effective Session: FW 2018

Course Title: Classical Mechanics

Type of Change:

X in pre-requisite(s)/co-requisite(s)

in course number/level

in credit value

in title (max. 40 characters for short title)

in Calendar description (max. 40 words or 200 characters)

其它 (please specify):

Change From:
Prerequisites: SC/PHYS 1010 6.00, or SC/PHYS 1800 3.00 and SC/PHYS 1801 3.00, or SC/ISCI 1301 3.00 and SC/ISCI 1302 3.00, or a minimum grade of C in SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00; SC/MATH 1014 3.00 or equivalent; SC/MATH 1025 3.00 or equivalent; SC/MATH 2015 3.00 or equivalent. Corequisite: SC/MATH 2271 3.00. PRIOR TO FALL 2010: Prerequisites: SC/PHYS 1010 6.00, or a minimum grade of C in SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00; SC/MATH 1014 3.00 or equivalent; SC/MATH 2015 3.00 or equivalent. Corequisite: SC/MATH 2271 3.00.

Rationale: SC/ISCI 1301 3.0 and SC/ISCI 1302 3.0 no longer exist and have been combined to create SC/ISCI 1310 6.0.

To:
Prerequisites: SC/PHYS 1010 6.00, or SC/PHYS 1800 3.00 and SC/PHYS 1801 3.00, or SC/ISCI 1301 3.00 and SC/ISCI 1302 3.00, SC/ISCI 1310 6.0, or a minimum grade of C in SC/PHYS 1410 6.00, or SC/PHYS 1420 6.00; SC/MATH 1014 3.00 or equivalent, SC/MATH 1025 3.00 or equivalent, SC/MATH 2015 3.00 or equivalent. Corequisite: SC/MATH 2271 3.00. PRIOR TO FALL 2010: Prerequisites: SC/PHYS 1010 6.00, or a minimum grade of C in SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00; SC/MATH 1014 3.00 or equivalent; SC/MATH 1025 3.00 or equivalent; Corequisite: SC/MATH 2015 3.00.

Note: For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.

Note: Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.

* Note: If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised ‘Course Design’ and ‘Method of Instruction’ information.
Changes to Existing Course

Faculty: Science

Department: Physics and Astronomy

Date of Submission: November 2017

Course Number: PHYS 2020 3.0

Effective Session: FW 2018

Course Title: Electricity and Magnetism

Type of Change:

X in pre-requisite(s)/co-requisite(s)

in cross-listing

in course number/level

in degree credit exclusion(s)

in credit value

regularize course (from Special Topics)

in title (max. 40 characters for short title)

in course format/mode of delivery *

in Calendar description (max. 40 words or 200 characters)

retire/expire course

other (please specify):

Change From:

Prerequisites: SC/PHYS 1010 6.00, or SC/PHYS 1800 3.00 and SC/PHYS 1801 3.00, or SC/ISCI 1301 3.00 and SC/ISCI 1302 3.00, or a minimum grade of C in SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00. Corequisite: SC/MATH 2015 3.00.

Rationale:

SC/ISCI 1301 3.0 and SC/ISCI 1302 3.0 no longer exist and have been combined to create SC/ISCI 1310 6.0.

To:

Prerequisites: SC/PHYS 1010 6.00, or SC/PHYS 1800 3.00 and SC/PHYS 1801 3.00, or SC/ISCI 1301 3.00 and SC/ISCI 1302 3.00 SC/ISCI 1310 6.00, or a minimum grade of C in SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00. Corequisite: SC/MATH 2015 3.00.

Note: For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.

Note: Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.

* Note: If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised “Course Design” and “Method of Instruction” information.
Changes to Existing Course

Faculty: Science
Department: Physics and Astronomy
Date of Submission: November 2017
Course Number: PHYS 2030 3.0
Effective Session: FW 2018
Course Title: Computational Methods for Physicists and Engineers

Type of Change:
- [x] in pre-requisite(s)/co-requisite(s)
- [ ] in cross-listing
- [ ] in course number/level
- [ ] in degree credit exclusion(s)
- [ ] regularize course (from Special Topics)
- [ ] in credit value
- [ ] in course format/mode of delivery *
- [ ] in title (max. 40 characters for short title)
- [ ] in course format/mode of delivery *
- [ ] in Calendar description (max. 40 words or 200 characters)
- [ ] retire/expire course
- [ ] other (please specify):

Change From:
Prerequisites: SC/PHYS 1010 6.00, or SC/PHYS 1800 3.00 and SC/PHYS 1801 3.00, or a minimum grade of C in SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00; either LE/EECS 1011 3.00 or LE/EECS 1541 3.00; SC/MATH 1014 3.00 or equivalent; SC/MATH 2015 3.00 or equivalent. Corequisite: SC/MATH 2271 3.00 or equivalent.

To:
Prerequisites: SC/PHYS 1010 6.00, or SC/PHYS 1800 3.00 and SC/PHYS 1801 3.00, or ISCI 1310 6.00 or a minimum grade of C in SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00; either LE/EECS 1011 3.00 or LE/EECS 1541 3.00; SC/MATH 1014 3.00 or equivalent; SC/MATH 2015 3.00 or equivalent. Corequisite: SC/MATH 2271 3.00 or equivalent.

Rationale:
We are clarifying that ISCI 1310 6.0 (the Integrated Science first-year Physics sequence) satisfies the first-year physics prerequisite for second-year PHYS courses.

Note: For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.

Note: Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.

* Note: If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised “Course Design” and “Method of Instruction” information.
## Changes to Existing Course

**Faculty:** Science  
**Department:** Physics and Astronomy  
**Date of Submission:** November 2017  
**Course Number:** PHYS 2040 3.0  
**Effective Session:** FW 2018  
**Course Title:** Relativity and Modern Physics  

### Type of Change:
- [x] in pre-requisite(s)/co-requisite(s)  
- [ ] in course number/level  
- [ ] in credit value  
- [ ] in title (max. 40 characters for short title)  
- [ ] in Calendar description (max. 40 words or 200 characters)  
- [ ] other (please specify):  

### Change From:
Prerequisites: SC/PHYS 1010 6.00, or SC/PHYS 1800 3.00 and SC/PHYS 1801 3.00, or SC/ISCI 1301 3.00 and SC/ISCI 1302 3.00, or a minimum grade of C in SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00.

### To:
Prerequisites: SC/PHYS 1010 6.00, or SC/PHYS 1800 3.00 and SC/PHYS 1801 3.00, or **SC/ISCI 1310 6.00** SC/ISCI 1301 3.00 and SC/ISCI 1302 3.00, or a minimum grade of C in SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00.

### Rationale:
SC/ISCI 1301 3.0 and SC/ISCI 1302 3.0 no longer exist and have been combined to create SC/ISCI 1310 6.0.

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Note: For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.

Note: Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.

* Note: If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised “Course Design” and “Method of Instruction” information.
# Changes to Existing Course

**Faculty:** Science  
**Department:** Physics and Astronomy  
**Date of Submission:** November 2017  
**Course Number:** PHYS 2060 3.0  
**Effective Session:** FW 2018  
**Course Title:** Optics and Spectra

## Type of Change:

- [x] in pre-requisite(s)/co-requisite(s)  
- [ ] in course number/level  
- [ ] in credit value  
- [ ] in title (max. 40 characters for short title)  
- [ ] in Calendar description (max. 40 words or 200 characters)  
- [ ] other (please specify):

## Change From:

Prerequisites: SC/PHYS 1010 6.0, or SC/PHYS 1800 3.0 and SC/PHYS 1801 3.0, or SC/ISCI 1301 3.0 and SC/ISCI 1302 3.0, or a minimum grade of C in SC/PHYS 1410 6.0 or SC/PHYS 1420 6.0; SC/MATH 1014 3.0 or equivalent; SC/MATH 1025 3.0 or equivalent.

## To:

Prerequisites: SC/PHYS 1010 6.0, or SC/PHYS 1800 3.0 and SC/PHYS 1801 3.0, or SC/ISCI 1310 6.0, SC/ISCI 1301 3.0 and SC/ISCI 1302 3.0, or a minimum grade of C in SC/PHYS 1410 6.0 or SC/PHYS 1420 6.0; SC/MATH 1014 3.0 or equivalent, SC/MATH 1025 3.0 or equivalent.

## Rationale:

SC/ISCI 1301 3.0 and SC/ISCI 1302 3.0 no longer exist and have been combined to create SC/ISCI 1310 6.0.

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Note: For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.

Note: Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.

*Note: If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised ‘Course Design’ and ‘Method of Instruction’ information.*
Changes to Existing Course

Faculty: Science
Department: Physics and Astronomy
Course Number: PHYS 2211 1.0
Course Title: Experimental Electromagnetism
Date of Submission: November 2017
Effective Session: Fall 2018

Type of Change:


Change From:
Prerequisite: SC/PHYS 1010 6.00 or a minimum grade of C in SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00. Corequisite(s): SC/PHYS 2020 3.00. Course credit exclusion: SC/PHYS 2213 3.00.

To:
Prerequisite: SC/PHYS 1010 6.00, or SC/PHYS 1800 3.00 and SC/PHYS 1801 3.00, or SC/ISCI 1310 6.00 or a minimum grade of C in SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00. Corequisite(s): SC/PHYS 2020 3.00. Course credit exclusion: SC/PHYS 2213 3.00.

Rationale:
We are clarifying that the combination of PHYS 1800 3.0 and PHYS 1801 3.0 (our Physics for Engineers first-year sequence) or ISCI 1310 6.0 (the Integrated Science first-year Physics sequence) satisfies the first-year physics prerequisite for second-year PHYS courses.

Note: For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.

Note: Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.

* Note: If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised 'Course Design' and 'Method of Instruction' information.
Changes to Existing Course

Faculty: Science

Department: Physics and Astronomy

Date of Submission: November 2017

Effective Session: Fall 2018

Course Number: PHYS 2212 1.0

Course Title: Experimental Physics

Type of Change:

X in pre-requisite(s)/co-requisite(s)

in cross-listing

in course number/level

in degree credit exclusion(s)

in credit value

regularize course (from Special Topics)

in title (max. 40 characters for short title)

in course format/mode of delivery *

in Calendar description (max. 40 words or 200 characters)

retire/expire course

other (please specify):

Prerequisite From: SC/PHYS 1010 6.00 or a minimum grade of C in SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00; SC/PHYS 2211 1.00. Corequisite: SC/PHYS 2060 3.00 recommended. Course credit exclusion: SC/PHYS 2213 3.00.

Prerequisite To: SC/PHYS 1010 6.00, or SC/PHYS 1800 3.00 and SC/PHYS 1801 3.00 or SC/ISCI 1310 6.00 or a minimum grade of C in SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00; SC/PHYS 2211 1.00. Corequisite: SC/PHYS 2060 3.00 recommended. Course credit exclusion: SC/PHYS 2213 3.00.

Rationale: We are clarifying that the combination of PHYS 1800 3.0 and PHYS 1801 3.0 (our Physics for Engineers first-year sequence) or of ISCI 1310 6.0 (the Integrated Science first-year Physics sequence) satisfies the first-year physics prerequisite for second-year PHYS courses.

Note: For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.

Note: Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.

* Note: If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised ‘Course Design’ and ‘Method of Instruction’ information.
Changes to Existing Course

Faculty: Science
Department: Physics and Astronomy
Date of Submission: November 2017

Course Number: PHYS 2213 3.0
Effective Session: Fall 2018

Course Title: Experimental Physics with Data Analysis

Type of Change:

- [x] in pre-requisite(s)/co-requisite(s)
- [ ] in cross-listing
- [ ] in course number/level
- [ ] in degree credit exclusion(s)
- [ ] in credit value
- [ ] regularize course (from Special Topics)
- [ ] in title (max. 40 characters for short title)
- [ ] in course format/mode of delivery *
- [ ] in Calendar description (max. 40 words or 200 characters)
- [ ] retire/expire course
- [ ] other (please specify):

Change From:

Prerequisites: SC/PHYS 1010 6.00, or a minimum grade of C in SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00. Corequisites: SC/PHYS 2020 3.00, SC/PHYS 2060 3.00 recommended. Course credit exclusions: SC/PHYS 2211 1.00, SC/PHYS 2212 1.00.

To:

Prerequisites: SC/PHYS 1010 6.00, or SC/PHYS 1800 3.0 and SC/PHYS 1801 3.0, or SC/ISCI 1310 6.0 or a minimum grade of C in SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00. Corequisites: SC/PHYS 2020 3.00; SC/PHYS 2060 3.00 recommended. Course credit exclusions: SC/PHYS 2211 1.00; SC/PHYS 2212 1.00.

Rationale:

We are clarifying that the combination of PHYS 1800 3.0 and PHYS 1801 3.0 (our Physics for Engineers first-year sequence) or ISCI 1310 6.0 (the Integrated Science first-year Physics sequence) satisfies the first-year physics prerequisite for second-year PHYS courses.

Note: For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.

Note: Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.

* Note: If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised "Course Design" and "Method of Instruction" information.
Changes to Existing Course

Faculty: Science
Department: Physics and Astronomy
Date of Submission: November 2017
Course Number: PHYS 3050 3.0
Effective Session: Fall 2018
Course Title: Electronics I

Type of Change:
- [X] in pre-requisite(s)/co-requisite(s)
- [ ] in course number/level
- [ ] in credit value
- [ ] in title (max. 40 characters for short title)
- [ ] in Calendar description (max. 40 words or 200 characters)
- [ ] other (please specify):

Change From:
Prerequisites: SC/PHYS 1010 6.00; SC/PHYS 2020 3.00 and SC/PHYS 2211 1.00. Course credit exclusion: LE/ENG 2200 3.00. PRIOR TO SUMMER 2013: Prerequisites: SC/PHYS 1010 6.00; SC/PHYS 2020 3.00 and SC/PHYS 2211 1.00.

To:
Prerequisites: SC/PHYS 1010 6.00, or SC/PHYS 1800 3.00 and SC/PHYS 1801 3.00, or SC/ISCI 1310 6.00, or a minimum grade of C in SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00; SC/PHYS 2020 3.00 and SC/PHYS 2211 1.00. Course credit exclusion: LE/ENG 2200 3.00. PRIOR TO SUMMER 2013: Prerequisites: SC/PHYS 1010 6.00; SC/PHYS 2020 3.00 and SC/PHYS 2211 1.00.

Rationale:
We are clarifying that the combination of PHYS 1800 3.0 and PHYS 1801 3.0 (our Physics for Engineers first-year sequence) or ISCI 1310 6.0 (the Integrated Science first-year Physics sequence) satisfies the first-year physics prerequisite for second-year PHYS courses. Also the course SC/PHYS2211 1.0 has not been taken as a prerequisite for many years, and this has not impacted the course performance.

Note: For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.

Note: Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.

* Note: If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised ‘Course Design’ and “Method of Instruction” information.
### Changes to Existing Course

**Faculty:** Science  
**Department:** Physics and Astronomy  
**Date of Submission:** November 2017  
**Course Number:** PHYS 3070 3.0  
**Effective Session:** Fall 2018  
**Course Title:** Planets & Planetary Systems  

### Type of Change:

- [X] in pre-requisite(s)/co-requisite(s)  
- [ ] in course number/level  
- [ ] in credit value  
- [ ] in title (max. 40 characters for short title)  
- [ ] in Calendar description (max. 40 words or 200 characters)  
- [ ] other (please specify):  

<table>
<thead>
<tr>
<th>Change From:</th>
<th>To:</th>
</tr>
</thead>
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<tr>
<td>Prerequisite: SC/PHYS 1010 6.00 or a minimum grade of C in SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00.</td>
<td>Prerequisite: SC/PHYS 1010 6.00, or SC/PHYS 1800 3.00 and SC/PHYS 1801 3.00, or SC/ISCI 1310 6.0, or a minimum grade of C in SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00.</td>
</tr>
</tbody>
</table>

**Rationale:** We include existing course options that are equivalent to PHYS 1010 6.0.

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**Note:** For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.

**Note:** Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.

*Note: If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised ‘Course Design’ and ‘Method of Instruction’ information.*
# Changes to Existing Course

**Faculty:** Science  
**Department:** Physics and Astronomy  
**Date of Submission:** November 2017  
**Course Number:** PHYS 3150 3.0  
**Effective Session:** Fall 2018  
**Course Title:** Electronics II

## Type of Change:

- [x] in pre-requisite(s)/co-requisite(s)  
- [ ] in course number/level  
- [ ] in credit value  
- [ ] in title (max. 40 characters for short title)  
- [ ] in Calendar description (max. 40 words or 200 characters)  
- [ ] other (please specify): 

### Change From:

Prerequisite: SC/PHYS 1010 6.00; and SC/PHYS 3050 3.00 recommended. Course credit exclusion: SC/ENG 2210 3.00.  
PRIOR TO SUMMER 2013: Prerequisite: SC/PHYS 1010 6.00; and SC/PHYS 3050 3.00 recommended. Course credit exclusion: SC/ENG 2210 3.00.

### To:

Prerequisite: SC/PHYS 1010 6.00; and SC/PHYS 3050 3.00 recommended. Course credit exclusion: LE/ENG 2210 3.00.  
PRIOR TO SUMMER 2013: Prerequisite: SC/PHYS 1010 6.00; SC/PHYS 3050 3.00 recommended. Course credit exclusion: SC/ENG 2210 3.00.

### Rationale:

SC/PHYS 3050 3.0 is required to take PHYS 3150 3.0. We also propose to change prerequisites for PHYS 3050 3.0 so that they will cover first-year physics courses for students in engineering and science programs.

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Note: For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant faculties/departments is required.

Note: Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.

*Note: If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised ‘Course Design’ and ‘Method of Instruction’ information.*
## Changes to Existing Course

**Faculty:** Science  
**Department:** Physics and Astronomy  
**Date of Submission:** November 2017  
**Course Number:** PHYS 3080 3.0/ESSE 3030 3.0  
**Effective Session:** FW 2018  
**Course Title:** Atmospheric Radiation and Thermodynamics

### Type of Change:
- X in pre-requisite(s)/co-requisite(s)
- in cross-listing
- in course number/level
- in degree credit exclusion(s)
- regularize course (from Special Topics)
- in course format/mode of delivery *
- in title (max. 40 characters for short title)
- in Calendar description (max. 40 words or 200 characters)
- retire/expire course
- other (please specify):

### Change From:
Prerequisites: SC/MATH 2015 3.0; SC/MATH 2271 3.0; SC/PHYS 1010 6.0, or a minimum grade of C in SC/PHYS 1410 6.0 or SC/PHYS 1420 6.0. Prior to Fall 2009: Prerequisites: AS/SC/MATH 2015 3.0; AS/SC/MATH 2271 3.0; SC/PHYS 1010 6.0, or a minimum grade of C in SC/PHYS 1410 6.0 or SC/PHYS 1420 6.0.  
Course Credit Exclusion: LE/SC/EATS 3030 3.00

### To:
Prerequisites: SC/MATH 2015 3.0; SC/MATH 2271 3.0; SC/PHYS 1010 6.0, or SC/PHYS 1800 3.00 and SC/PHYS 1801 3.00, or SC/ISCI 1310 6.0, or a minimum grade of C in SC/PHYS 1410 6.0 or SC/PHYS 1420 6.0. Prior to Fall 2009: Prerequisites: AS/SC/MATH 2015 3.0; AS/SC/MATH 2271 3.0; SC/PHYS 1010 6.0, or a minimum grade of C in SC/PHYS 1410 6.0 or SC/PHYS 1420 6.0.  
Course Credit Exclusion: LE/SC/EATS 3030 3.00

### Rationale:
We are clarifying that the combination of PHYS 1800 3.0 and PHYS 1801 3.0 (our Physics for Engineers first-year sequence) or ISCI 1310 6.0 (the Integrated Science first-year Physics sequence) are equivalent to PHYS 1010 6.0 and satisfies the first-year physics prerequisite for upper-year PHYS courses.

Note: For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.

Note: Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.

* Note: If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised “Course Design” and “Method of Instruction” information.
Hi Marlene,

I approve the changes.

Thanks, Jinjun

**************************
Jinjun Shan
Ph.D., P.Eng.
Professor of Space Engineering
Undergraduate Program Director for Space Science and Engineering
Room 255, Petrie Science and Engineering Building
Department of Earth and Space Science and Engineering
Lassonde School of Engineering
York University
4700 Keele Street
Toronto, ON M3J 1P3
Canada
Tel: +1(416)736 2100 ext. 33854
Fax: +1(416)736 5817
E-Mail: jjshan@yorku.ca
Website: www.yorku.ca/jjshan
**************************

-----Original Message-----
From: Marlene Caplan [mailto:marlene@yorku.ca]
Sent: Tuesday, November 21, 2017 4:04 PM
To: Jinjun Shan
Subject: PHYS 3080/ESSE 3030 3.0

Jinjun,

I need an email approving the change we want to make to PHYS 3080/ESSE 3030 (see attached).

Thank you.

Marlene
## Changes to Existing Course

**Faculty:** Science  
**Department:** Physics and Astronomy  
**Date of Submission:** November 2017  
**Course Number:** PHYS/ESSE 3280 3.0  
**Effective Session:** FW 2018  
**Course Title:** Physics of the Space Environment

### Type of Change:

- [x] in pre-requisite(s)/co-requisite(s)  
- [ ] in course number/level  
- [ ] in credit value  
- [ ] in title (max. 40 characters for short title)  
- [ ] in Calendar description (max. 40 words or 200 characters)  
- [ ] other (please specify):

### Change From:

Prerequisites: SC/PHYS 2020 3.0, SC/MATH 2015 3.0, SC/MATH 2271 3.0. Course Credit Exclusions: LE/EATS 3280 3.00 (prior to Fall 2014), SC/EATS 3280 3.00 (prior to Summer 2013).

### To:

Prerequisites: SC/PHYS 2020 3.0; SC/MATH 2015 3.0, SC/MATH 2271 3.0. Course Credit Exclusions: LE/EATS 3280 3.00 (prior to Fall 2014); SC/EATS 3280 3.00 (prior to Summer 2013).

### Rationale:

SC/MATH 2015 3.0 is included as part of the SC/MATH 2271 3.0 prerequisites.

---

**Note:** For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.

**Note:** Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.

* **Note:** If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised ‘Course Design’ and ‘Method of Instruction’ information.
# Changes to Existing Course

**Faculty:** Science  
**Department:** Physics and Astronomy  
**Date of Submission:** November 2017  
**Effective Session:** FW 2018  
**Course Number:** PHYS 3330 3.0/ENG 3330 3.0  
**Course Title:** Materials for Space Applications

### Type of Change:

<table>
<thead>
<tr>
<th>Change From</th>
<th>To</th>
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<td>in pre-requisite(s)/co-requisite(s)</td>
<td>x</td>
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<tr>
<td>in course number/level</td>
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<tr>
<td>in credit value</td>
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<td>in title (max. 40 characters for short title)</td>
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<tr>
<td>in Calendar description (max. 40 words or 200 characters)</td>
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<td>other (please specify):</td>
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</tbody>
</table>

**Change From:**  
Prerequisites: SC/CHEM 1000 3.0, SC/PHYS 1010 6.00, SC/ENG 2002 3.0 or permission of the Instructor.

**To:**  
Prerequisites: SC/CHEM 1000 3.00; SC/PHYS 1010 6.00, or SC/PHYS 1800 3.00 and SC/PHYS 1801 3.00, or SC/ISCI 1310 6.00, or a minimum grade of C in SC/PHYS 1410 6.00 or SC/PHYS 1420 6.00; SC/ENG 2002 3.00; or permission of the Instructor.

**Rationale:**  
We are clarifying that the combination of PHYS 1800 3.0 and PHYS 1801 3.0 (our Physics for Engineers first-year sequence) or ISCI 1310 6.0 (the Integrated Science first-year Physics sequence), or PHYS 1410 6.0 or PHYS 1420 6.0 (satisfies the first-year physics prerequisite for upper-year PHYS courses).

---

*Note: For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.*

*Note: Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.*

*Note: If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised “Course Design” and “Method of Instruction” information.*
Department: Physics and Astronomy  
Course Number: PHYS 4110 3.0  
Course Title: Dynamics of Space Vehicles  
Date of Submission: November 2017  
Effective Session: September 2018  

Type of Change:
- [ ] in degree requirements
- [ ] in course number/level
- [ ] in credit value
- [ ] in title (max. 40 characters for short title)
- [ ] in Calendar description (max. 40 words or 200 characters)
- [x] in pre/co-requisite(s)
- [ ] in cross-listing
- [ ] in degree credit exclusion(s)
- [ ] regularize course (from Special Topics)
- [ ] in course format/mode of delivery *
- [ ] retire/expire course
- [ ] other (please specify):

Change From:
Prerequisites: SC/PHYS 2010 3.0 or LE/EATS 2470 3.0; SC/MATH 2015 3.0; SC/MATH 2271 3.0. Prior to Summer 2013: Prerequisites: SC/PHYS 2010 3.0 or SC/EATS 2470 3.0; SC/MATH 2015 3.0; SC/MATH 2271 3.0.

To:
Prerequisites: SC/PHYS 2010 3.0, or LE/ESSE 2470 3.0; SC/MATH 2015 3.00; SC/MATH 2271 3.00. Prior to Summer 2013: Prerequisites: SC/PHYS 2010 3.0, or SC/EATS 2470 3.0; SC/MATH 2015 3.00; SC/MATH 2271 3.00.

Rationale:
To accommodate the name change of LE/EATS2470 3.0 into LE/ESSE 2470 3.0.

Remove the SC/MATH 2015 3.0 pre-requisite since it is included as part of the SC/MATH2271 3.0 pre-requisite.
Thanks, Marlene. I approved the course change.

As for cross-listing, please make this change first and I will cross-list this course with ESSE 4110 after.

Regards, Jinjun

-------------------------------------------------------------
Jinjun Shan
Ph.D., P.Eng.
Professor of Space Engineering
Undergraduate Program Director for Space Science and Engineering
Room 255, Petrie Science and Engineering Building
Department of Earth and Space Science and Engineering
Lassonde School of Engineering
York University
4700 Keele Street
Toronto, ON M3J 1P3
Canada
Tel: +1(416)736 2100 ext. 33854
Fax: +1(416)736 5817
E-Mail: jjshan@yorku.ca
Website: www.yorku.ca/jjshan
-------------------------------------------------------------

-----Original Message-----
From: Marlene Caplan [mailto:marlene@yorku.ca]  
Sent: Friday, November 17, 2017 8:27 AM 
To: jjshan@yorku.ca 
Subject: PHYS 4110 3.0/ESSE 4110 3.0 

Jinjun,  
This is the same form that you gave to Marko except I cleaned it up a little. 

Marlene
Changes to Existing Course

Faculty: Science
Department: Physics and Astronomy

Course Number: PHYS/MATH 4120 3.0

Course Title: Gas and Fluid Dynamics

Date of Submission: November 2017
Effective Session: FW 2018

Type of Change:

[x] in pre-requisite(s)/co-requisite(s)

in cross-listing

in course number/level

in degree credit exclusion(s)

in credit value

regularize course (from Special Topics)

in title (max. 40 characters for short title)

in course format/mode of delivery *

in Calendar description (max. 40 words or 200 characters)

retire/expire course

other (please specify):

Change From:

Prerequisites: SC/PHYS 2010 3.00 or LE/EATS 2470 3.00; SC/MATH 2015 3.00; SC/MATH 2271 3.00. PRIOR TO SUMMER 2013: Prerequisites: SC/PHYS 2010 3.00 or SC/EATS 2470 3.00; SC/MATH 2015 3.00; SC/MATH 2271 3.00.

Rationale:

To accommodate the name change of LE/EATS into LE/ESSE 2470 3.0.

Remove the SC/MATH 2015 3.0 prerequisite, since it is included as part of the SC/MATH 2271 3.0 prerequisite.

To:

Prerequisites: SC/PHYS 2010 3.00, or LE/ESSE 2470 3.00; SC/MATH 2015 3.00; SC/MATH 2271 3.00. PRIOR TO SUMMER 2013: Prerequisites: SC/PHYS 2010 3.00, or SC/EATS 2470 3.00; SC/MATH 2015 3.00; SC/MATH 2271 3.00.

Note: For course proposals involving cross-listings, integrations and degree credit exclusions, approval from all of the relevant Faculties/department is required.

Note: Since one change (such as a change in year level or credit value) may result in several other changes (e.g., to the course description, evaluation, instruction, bibliography, etc.), please submit as many details as possible. If there are several changes, please feel free to use a New Course Proposal Form in order to ensure that all the required information is included.

* Note: If there is a technology component to the course, a statement is required from ATS indicating whether resources are adequate to support the course. Courses converted from face-to-face to an on-line delivery mode should follow the instructions provided on page 4 of the New Course Proposal Form to provide revised ‘Course Design’ and ‘Method of Instruction’ information.
Collegial Governance Structures for Markham Centre Campus

Draft Options Paper

I. Introduction and Process for Consultation

This paper addresses collegial governance as a critical element in planning for the opening of York University’s Markham Centre Campus (“MCC”). It was compiled by the Office of the Provost with contributions from the Senate Secretariat and the Deans’ Offices in each of the Faculties that are developing programs to be offered at MCC as of September, 2021, as well as the Faculty of Graduate Studies.

The document is intended to serve as a reference point to inform consultations with the University community in 2017-18. Input will be solicited in writing and through in person discussions with Senate, Faculty Councils and student governments. These consultations will assist the Provost’s Office in developing specific proposals for MCC governance structures, to be approved through normal Faculty and Senate processes.

Part II sets out some starting assumptions based on the legislative framework for governance of the University and its commitments to its employees. It also suggests five principles to inform the development of collegial governance structures and processes for the new campus.

Part III provides context by summarizing information that has been circulated previously about the undergraduate and graduate programs currently being planned for phase one of the Markham campus, defined as 2021-27, and enrolment projections at the beginning and end of this period.

Part IV addresses questions about local governance at MCC, and how this could be integrated with Faculties, Departments and other units based at Keele.

Part V turns to Senate and its Committees, setting out a number of possible options for how Markham-based colleagues could participate.

Part VI concludes briefly. Appendix A is a brief review of literature on governance practices at other multi-campus universities in Canada and selected other countries.

Note that this paper focuses on collegial governance, defined as governance of academic matters through Senate and its Committees, and through academic units including Faculties, Departments, Divisions and Schools. Questions of administrative staffing and services are equally complex and important in their own right. The Division of the Vice-President Finance and Administration and the Division of Students are developing service models that could work for MCC, to be shared with the community in due course. Administrative staffing and services are addressed only peripherally in this paper as they arose in our research on collegial governance. Likewise, governance
questions surrounding our relationships with community partners in York Region are important but beyond the scope of this paper.

II. Guiding Principles

MCC is being developed around a broad vision of “one university, many campuses.” It is to be fully a part of York University, its mission and values. At the same time, designing a new campus provides an opportunity to experiment and innovate. The campus will be an incubator for bold ideas that have the potential to advance academic priorities in new and creative ways, for the benefit of students, faculty and staff across the University.

Fundamentally, the University’s existing governance policies, processes and norms will extend to MCC. The York University Act applies to the entire institution and MCC ultimately is overseen by Senate and the Board of Governors, as with any other activity of the University. Further, all collective agreements between York University and its bargaining units will be respected in regard to employees located at the Markham campus.

MCC will also require its own dedicated academic leadership. A search committee, Chaired by the President, has been constituted to recruit a Deputy Provost Markham to serve as the lead academic administrator for MCC.

In early discussions of the new campus the dominant view for the governance structure was to have existing Faculties develop and offer programs at the MCC, rather than creating Markham as a separate Faculty. The prevailing view of the six Faculties stepping forward to participate in phase one of the MCC was that this model would better enable them to coordinate activities in a way that was consistent with a commitment in the bid for a new campus that programs should be either new programs not currently offered at Keele, or programs where there was sufficient unmet demand at Keele that a second cohort would be justified at the MCC. As a result, extant Faculties have dedicated substantial time and effort to conceptualize and develop new programs for Markham on the understanding they will be delivering these programs when the new campus opens.

A review of other multi-campus universities shows that there are precedents for this model, and also for having a new campus function as a separate Faculty (such as Glendon). In Senate and its Committees, some colleagues have more recently expressed an interest in having further information about the benefits and challenges of different governance models, both in the short-term and long-term especially in terms of collegial governance. Further input is welcome on this issue. However the working assumption of those engaged most directly in MCC curriculum planning is that at least for some initial period of time, it will not be a separate Faculty.

York University will also be working in partnership with Seneca College at the new campus. The precise nature of this collaboration is still under discussion and may also have implications for how we think about governance.
Proceeding from these basic assumptions, the balance of this paper considers how the University’s collegial governance system should evolve to address the creation of a new campus. The following five principles are suggested to inform the discussion:

1. **Create a vibrant academic community at MCC.** In order to succeed the new campus must become a place where people want to be. Collegial governance should be designed to foster a thriving community of scholarship and learning that encourages collaboration across programs and disciplines.

2. **Take a student-centred approach.** Identified as a key priority in the University Academic Plan 2015-20, taking a student-centred approach means “viewing everything we do from a student lens”. Governance models should facilitate an excellent, seamless student experience at MCC, not just academically but in all aspects of student life.

3. **Allow time to grow in.** MCC enrolments are expected roughly to quintuple in size between 2021 and 2027 (see Part III below for details). What works at the outset may not be ideal in the outer years. In addition, the steady-state governance model should be developed with input from Markham colleagues who will join us in the coming years.

4. **Tailor governance to fit different programs.** Depending on their scale and relationship to existing programs and Faculties at the Keele campus, different programs may benefit from different governance models. We should not expect a “one size fits all” model.

5. **Create community across York University.** Governance models must also promote connection, community and shared interests between MCC and the wider University. This will be especially critical at the outset when Markham will be small and new colleagues will need support from more established faculty who conceived and designed the programs at MCC. The right collegial governance structures should help to promote the relationships that will be essential to success as a multi-campus University. While MCC students must have the opportunity to complete their entire programs at MCC if they wish, they will also benefit from feeling a part of York and understanding all that it has to offer.

### III. MCC Academic Programs and Projected Enrolments

All of the information below has been shared with the community previously in various forms. It is included here in summary format as part of the context for framing governance options. Programs will be offered by six Faculties in the first phase of MCC: Arts, Media, Performance & Design, Education, Environmental Studies, Lassonde School of Engineering, Liberal Arts & Professional Studies, and Science. Enrolment projections are approximate and subject to revision, but give a sense of the relative scale and the anticipated nature of each Faculty’s presence at MCC.
### MCC Programs and Projected Enrolments, 2021-27

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Undergraduate Programs</th>
<th>Graduate Programs</th>
<th>Projected Total Enrolment 2021 (FFTEs)</th>
<th>Projected Total Enrolment 2027 (FFTEs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMPD</td>
<td>BA “VERGE” – Visualization; Games and Entertainment; Critical and Creative Entrepreneurship</td>
<td></td>
<td>141</td>
<td>482</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MEd</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>Bed – Math/Science Focus</td>
<td></td>
<td>62</td>
<td>121</td>
</tr>
<tr>
<td>FES</td>
<td>BES (Environmental Management Stream) – with GIS Certificate Option</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Masters – Big Data (Phase 1 or 2 TBD)</td>
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<td></td>
</tr>
<tr>
<td>Lassonde</td>
<td>BASc (Liberal Engineering; Computer Science)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering</td>
<td></td>
<td></td>
<td>19</td>
<td>186</td>
</tr>
<tr>
<td>LA&amp;PS</td>
<td>BComm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BA – Social Science/Liberal Arts</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>BA – Criminal Justice Administration</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>MSc – Management Specialization</td>
<td>291</td>
<td>1899</td>
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<tr>
<td>Science</td>
<td>BSc – Medical Biotechnology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BSc – Entrepreneurial Science</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Masters in Biotechnology</td>
<td>181</td>
<td>777</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>718</strong></td>
<td><strong>3622</strong></td>
</tr>
</tbody>
</table>

Seneca College will be a significant partner at MCC and its students will bring the projected FFTEs to approximately 4,000 by 2027. Seneca is currently developing a new Bachelor of Interactive Media as well as pathway programs in Liberal Arts, Science, Gerontology, and Computer Programming to be offered at MCC.

### IV. Local MCC Governance and Integration with Faculty Structures

The programs at MCC are to be offered by existing Faculties, raising a host of interrelated governance questions that can be grouped as follows.
1. Questions about governance at the unit level. References to a “unit” in this paper refer to a Department, School or Division to which faculty members can be appointed. Will any new departments or other sub-Faculty academic hiring units be created at MCC? If not, will programs be affiliated with existing units on the Keele campus? Or will they be interdisciplinary programs, shared and delivered by faculty from multiple hiring units?

2. Questions about governance at the program level. What kinds of program director, coordinator or other roles will be created to provide strong academic leadership for undergraduate programs, especially in cases where there is no dedicated unit at MCC? How will graduate program leadership be effected? Will Masters degrees be delivered as extensions of or streams within existing graduate programs, or will MCC have its own graduate program structure with dedicated GPDs?

3. Questions about complement planning and assignment of teaching. What combination of new hires, relocation of faculty, or multi-campus teaching is envisioned, in order to attain a healthy faculty presence at the campus? What will be the process for recruiting new faculty for MCC? How will new hires be assigned to new or existing units for purposes of appointments, tenure and promotion, workload assignment, and other elements of their employment relationship? What will be the process to consider requests by any current faculty who wish to move their teaching and their offices to MCC?

4. Questions about governance at the campus level. What kinds of local governance bodies or practices will be needed at MCC to promote community and reach collective decisions on matters of distinct relevance to the Markham campus? Should a campus-wide governance body be created, akin to a Faculty Council? If so, how will faculty and students participate directly or be represented? What will be the mandate of the Deputy Provost Markham? How will he or she share responsibility for and leadership of MCC with the Deans of those Faculties that offer its programs? How will the Deputy Provost Markham report to and work with the University President and Vice-Presidents?

5. Questions about integration with Keele-based Faculties and units. How will Markham-based people, programs, and units be integrated into the collegial life of their home Faculties? How will coordination be achieved across the two campuses for purposes of curriculum planning, faculty recruitment, timetabling, and other matters that could implicate both campuses, or people sharing time between them?

Each of these areas is considered below with examples and preliminary observations about potential answers to at least some of these questions.

1. Governance at the Unit Level

Once again, a “unit” in this paper refers to a Department, School or Division to which faculty members can be appointed. Non-departmentalized Faculties are also hiring units, but on the
assumption that MCC at least initially will not be a separate Faculty, the discussion here addresses whether it should have any sub-Faculty units.

Several factors are likely to impact the decision of whether to create any new academic units to house particular MCC programs. These include,

- the existing structure of the Faculty that is offering the program in question (departmentalized or not);
- the degree to which the Markham program is a logical fit with, or extension of, an existing department or school at Keele; and
- the anticipated size of the student body and faculty complement for the program.

Non-departmentalized Faculties such as Education and FES likely would not wish to introduce a departmental structure via Markham. Furthermore, both will have a relatively small presence at the campus. Education will not be offering any new programs in Markham but rather specific, targeted versions of existing programs (B.Ed. & M.Ed.). For Education it is seen as important to maintain a united decision making structure so that the Markham programs, even if distinctive in character, structure and design do not operate independently of their parent programs. The programs at Markham therefore would be seen as part of the larger B.Ed. and M.Ed. and fall under the Faculty’s existing governance structure in terms of Graduate & Faculty Council and the various standing committees of these.

The context is different for departmentalized Faculties where the addition of a new unit would not in itself radically alter the Faculty’s governance structure. Here an important consideration will be whether MCC programs are logically connected to an existing unit at Keele which could simply extend its operations to a second site.

In LA&PS, for example, the B.Com is a single program that will be offered at two sites for a period of time. There is some interest in moving the entire School of Administrative Studies (SAS) eventually to a new base at MCC, which would give the B.Com program more visibility, a strong identity and presence, and would facilitate creation of a flagship daytime business program. However with 4500 students the space at MCC will not be sufficient in Phase 1 to accommodate such a move. Rather than splitting the B.Com into two units it will be more suitable to divide it between the two sites but keep both under the auspices of SAS.

By contrast, it is not as obvious which existing unit or units should house the two new undergraduate programs to be offered by LA&PS in Liberal Arts/Social Sciences and Criminal Justice Administration. These are distinctly new programs to be delivered by faculty with a variety of disciplinary affiliations. Creating a new department to house these programs would entail some administrative costs, as it would require at least a Chair and one UPD. The creation of departments at MCC may be unwieldy at the outset and may raise barriers to collaboration and sharing of courses across programs. On the other hand, a departmental structure may have the advantage of increased autonomy in program development, ease of building intellectual
community, and possibly better advising, especially if the curriculum is also to offer general education/common first year offerings at MCC.

As an alternative to a department, the new LA&PS programs and their faculty could be attached to an existing unit or units at Keele. Program coordinators could be appointed at Markham, and their roles could be designed to ensure strong lines of communication with the unit Chair and Dean’s Office at Keele (as discussed next under “Governance at the Program Level”). Starting with a program structure may minimize the need to identify new hiring practices or T&P standards, especially because the initial enrolment projections are relatively small.

The School of Arts, Media, Performance & Design (AMPD) is developing new programs for Markham with the explicit goal of transcending the traditional disciplinary orientations in which its departmental structure is rooted. These innovative programs will capture emerging interest in combining different forms and modes of creative activity in novel ways. By definition, then, it may be challenging to attach these programs and their faculty to any one of AMPD’s existing Departments. AMPD will have the third largest undergraduate presence at MCC (after LA&PS and Science). Based on projected enrolments, the BA currently known as “VERGE” will have a student body larger than that in any existing Department at Keele. It may well be desirable to create a new unit to house the MCC programs, either at the outset or when they reach a given scale.

The alternative would be for AMPD’s new programs to be delivered by faculty who are appointed to a mix of the existing AMPD Departments. New hires would be appointed to whichever unit most closely fits their expertise, though this may be somewhat artificial for those whose creative practice truly crosses traditional lines. The University already offers some interdisciplinary programs along this model. An inherent risk of such a structure is that no unit takes primary ownership of the program, leading over time to missed opportunities as the program struggles to attract time, attention and resources from the various units which support it, but which naturally prioritize their own primary programs. Moreover as the programs grow, having faculty appointed to a number of different units would create coordination challenges. Chairs would need to understand and balance the needs of Markham- and Keele-based programs in assigning undergraduate and graduate teaching, deciding on course release and sabbatical requests, etc. Existing units may also feel it would be better to consolidate their focus at Keele, rather than dividing their efforts between two campuses.

The simplest model for AMPD may be to create a new Department from the outset. A Chair could be appointed first with lead responsibility to oversee the start up of the programs, with additional faculty appointed as enrolments grow and upper year courses are introduced (the Lassonde School of Engineering provides a precedent for this model). Alternatively the MCC programs could be led at least initially by a coordinator with a direct reporting line to the Dean, who could ensure the needs of Markham are appropriately balanced and integrated with needs at Keele.

Science and Lassonde are also departmentalized Faculties. Science will have the second largest presence at MCC, after LA&PS, and will need to offer a suite of courses to surround its specialized undergraduate programs in Biochemistry and Entrepreneurial Science. It would not be feasible to
replicate existing Departments of Physics, Math and Statistics, etc, each of which may have only a couple of faculty based at Markham. The new programs could be offered at least initially by faculty appointed to various existing departments of Science, as discussed above in relation to AMPD and LA&PS. As the programs grow over time, Science may want to consider establishing a new general science department at Markham, with its own Chair and the ability to appoint faculty directly.

Lassonde’s presence at MCC will be smaller, and the nature of the programs to be offered there is still under discussion. However it is likely that a degree in Liberal Engineering would not map simply onto any one of the School’s existing departments.

2. Governance at the Program Level

Returning to the guiding principles stated at the outset, governance should promote an excellent student experience and set the Markham campus up to succeed as a community. Strong leadership at the program level may be key here especially, but not only, for those programs housed in a Keele-based unit.

For programs housed in a Markham-based unit, the Department Chair or equivalent will serve as a clear champion and voice in collegial governance at the Faculty and Senate levels. Even so, additional program-level leadership (UPD or otherwise) may be needed depending on the size of the student body and the nature of the curriculum and experiential learning opportunities, for example. Such leadership will be even more critical for programs housed in a Keele-based unit.

A large program like the B.Com, for example, would need a Markham UPD and Area Coordinators for at least its largest streams such as Accounting. The Faculty of Education programs will be much smaller but will nonetheless need a faculty member who is teaching at Markham to take on some academic coordination responsibility. The role of local program administrators will be to ensure that programs are effectively integrated and balanced, to protect the principles of general education, and to be vigilant regarding any individual decisions that shortchange the collective well-being of the Markham programs.

Where a program has no Markham-based unit, a local program director or coordinator may need to have a slightly expanded leadership role. For example they might participate in Faculty-wide meetings of Chairs and Directors, or have an ex officio seat on search committees to recruit faculty for the Markham program. They might be invited to share their views on complement needs directly with the Dean. Or, the Deputy Provost Markham might serve in such capacities to represent the particular needs of the program from the perspective of MCC.

Graduate program governance will raise some unique issues. The FGS Dean’s Office has offered a number of preliminary thoughts about governance of graduate programs offered at MCC:

- It is important to distinguish between graduate degrees and Graduate Programs. If a
degree (e.g., Master's in Biotechnology) is to be housed in a Keele Graduate Program (e.g., Biology), then the curriculum governance remains the same (e.g., Graduate Program in Biology --> FGS [with suggested consultation within Faculty of Science curriculum committees] --> Senate). Internal/local Graduate Program governance structures may need to adapt. If entirely new Programs were created for Markham, there would ordinarily be a Graduate Program Director, a Graduate Executive and/or Council, student representative to FGS Council, and a Delegated Research Ethics Committee. However, if the Markham degrees are not part of new Programs, then, the degrees could be incorporated into existing Program governance structures. Depending on the enrolment level it may be helpful to appoint a Markham-based Associate Director (the model at Osgoode Professional Development could be explored).

- Grad students’ positive experience often depends on good GPDs and strong GPAs providing front-line service in a timely manner. There should be on-site academic and staff advisors who can meet with students; they may not necessarily be tied to one program. For example, there might be a GPA who serves a number of different degrees. Depending on how degrees cluster, some sharing of GPD duties may also be in order to ensure that GPDs (or "MCC designates") are available to Markham graduate students. This might be an opportunity to adjust reporting lines around graduate student support more broadly. It may be useful to look at either Schulich or OPD as a service delivery model that addresses student populations at different sites.

- The role of the Deputy Provost Markham in relation to graduate programs and students will need to be defined.

- Markham faculty would continue to have appointments to FGS for graduate teaching and supervision. All new tenure stream faculty members for MCC should be grad-ready for appointment to FGS.

- Student membership on FGS Council is capped at 25% by Senate rules. As the graduate student population at Markham grows the question of how best to represent their interests on FGS Council will need to be addressed.

3. Complement Planning and Assignment of Teaching

Faculties offering programs at Markham will need to consider the size and make-up of faculty complement needed at the new campus in the planning stages, at the time of opening in 2021, and in subsequent years as enrolments and curricula grow. Complement planning will follow the normal process for complement requests and is expected to involve some combination of the following:

- consulting with current faculty in relevant areas about what role they might play on the new campus, with some individuals potentially shifting all or the bulk of their teaching and other activities to MCC (with the goal of identifying voluntary relocations);
- recruiting new faculty to be based at Markham; and
- recruiting new faculty to fill complement gaps at Keele if some colleagues move to MCC.

A critical question is the degree to which MCC programs should rely upon faculty who are based at
Keele, but travel to Markham to deliver specific courses. It seems likely that some bi-campus teaching will be needed and in fact could be useful to promote the integration of Markham with the rest of the University. This is not dissimilar to the existing bi-campus teaching of colleagues who travel between Keele and Glendon. Video conferencing facilities may also enable some degree of virtual bi-campus teaching.

However, relying too heavily on “drop in” or virtual models of program delivery would make it difficult to establish a robust academic community at the new campus, which requires meaningful relationships among colleagues and between faculty and students. Faculties will need to assess what number of faculty should be based primarily at Markham in order to build that local presence.

Being based at Markham would mean having one’s faculty office there (and for some their lab or studio space), and doing all or the majority of one’s teaching and service there. Faculty and students based at MCC will be supported by on-site administrative staff for day-to-day operational needs, though some functions that do not require a constant presence would continue to be delivered by Keele-based staff. Faculty offices are being designed to meet the standard University size of 11.2 m.sq. The building will also include some designated swing space so that faculty who are coming from Keele to teach a course will have access to temporary offices as needed to meet with students, prepare for class, etc. Consultations on the conceptual design for the building will be occurring this fall.

Faculties can also consider if there are opportunities for new Markham hires to teach a course at Keele. Where appropriate and feasible, this could allow a new faculty member to focus their energies primarily on developing the Markham program while at the same time fostering their integration into their home Faculty. It would also provide another avenue for renewing complement at Keele, especially in units where full appointments may not currently be possible. Ensuring that Keele-based programs can benefit directly from some of the new hiring for Markham is also a way to build excitement and maximize the opportunity that the new campus represents for the entire University.

Some programs at MCC may also require Teaching Assistants. Science would want to provide TA opportunities for the thesis-based graduate students who will be stationed in research labs at Markham. This is seen as important for graduate students’ own professional development as well as a way in which they can be financially supported during their graduate work. However, anticipating a research Faculty complement of about 12 professors, the pool of Masters students at MCC may not be sufficient to meet the need for TAs or tutorial leaders/demonstrators. Other universities with a shortage of graduate TAs rely effectively on 4th year undergraduate students or on contract faculty to fill these roles.

Recruitment processes will need to be designed for hiring new Markham faculty. It is important to remember that only units can hire faculty (hiring units include Departments, Divisions, Schools and non-departmentalized Faculties). Recruitment processes will therefore depend in part on decisions made about unit-level governance. Where the Markham program in question is to be
delivered by a single existing hiring unit, that unit’s normal recruitment process could well serve as the starting point, though it may need to be shaped to ensure appropriate representation of Markham interests. For new cross-disciplinary programs, a new recruitment process will need to be designed almost from the ground up. At the outset search committees likely should include faculty with program-area expertise (including Markham colleagues if any), and appropriate representation from the relevant department(s) and Faculty. It will also be important to consider what role the Deputy Provost Markham should have in recruiting faculty for the campus, whether providing input to Deans and Chairs, sitting as a member of search committees, or otherwise.

Once the initial core faculty for a Markham-based program have been identified or appointed, they should have a voice in future recruitments for the program. For example the Chair of a new department based at Markham would need to be involved in subsequent appointments to the department. Even where there is no Markham-based unit, program coordinators and faculty charged with delivering the Markham programs likely should be represented in some way on any future hiring committee for the program.

Teaching loads for tenure stream faculty based at MCC would follow existing Faculty- and unit-based workload documents informed by the YUFA Collective Agreement. Any new MCC units would need to establish workloads consistent with this framework.

Processes for Markham-based faculty to progress through the ranks will also need to be clarified. Absent a change in the tenure and promotion document, the "three" collegial committee levels would remain the same: department, Faculty and Senate. The creation of new departments at MCC would necessitate establishing the composition of a departmental committee (if the department is sufficiently large) and developing unit standards. Where MCC programs are part of existing departments, the departments may need to consider possible changes to the composition of their committee, and possibly unit standards, to reflect the expertise of colleagues in the new programs, but otherwise the existing department committees and unit standards would be used. Any pre-tenure faculty who relocate from Keele to Markham would be entitled to apply for tenure based on the terms and standards that applied at the time of their initial appointment.

4. Campus-Level Governance

The long term success of MCC and the quality of the daily experience of learning and working there will depend on how faculty, students and staff come together as an academic entity to build intellectual and social community.

Without a new Faculty in the legal sense, there will be no separate Faculty Council at Markham. Yet MCC colleagues likely will need a governance council or forum of some kind in order to know their community and build consensus about how the needs and aspirations of the campus should be advanced locally and represented within the wider University. The Deputy Provost Markham will need input from such a body to inform decisions about the ongoing development of the campus. Such a council may find it useful to strike sub-committees or working groups to develop recommendations or take action on issues of relevance to the campus community as a whole. The
Forum could be chaired by the Deputy Provost Markham, or by another faculty member.

An important question will be how to design a campus governance structure that helps to integrate the York and Seneca populations at MCC. Seneca will not have the kind of separate, dedicated space at MCC that it does at Keele. Rather, the building is being designed to meet the needs of both institutions, with the intention that York and Seneca students and faculty will share space seamlessly in the building. Colleagues from the two institutions are also working to identify opportunities for collaboration in course curricula. A truly campus-wide governance body would presumably need to allow for some form of representation or participation by Seneca colleagues.

One colleague with experience as a College Master at York has suggested the college model could be adapted to meet some of these governance needs (it is acknowledged that the nomenclature of “college” can be confusing, and that some other name may be preferable). Colleges are very flexible. They are a trans-Faculty entity with a long history at York. They house students, faculty, and even courses from multiple Faculties at the same time. And, because they are informal, they should be easy to adapt as Markham evolves. For students, it is a home, a place of belonging, an identity. There is a concern that students may not feel part of any Keele-based Faculty Council or college. A Markham-based college could contain their student government. It could offer a place to discuss Markham issues, host social events, and participate in intramural sports. The college could offer academic support.

For faculty members, colleges offer membership as Fellows. Fellows are faculty members (and also staff members) who form a community and are interested in students and want to be part of the college’s efforts to increase student engagement and student success. They can also hold social and other events for Fellows, to help create community for faculty. A monthly Fellows Council could meet to discuss a wide variety of issues. The Deputy Provost Markham could come brief the Fellows in a less formal atmosphere (they would be a Fellow as well). They would still be members of their respective Faculty Councils but they would also have an institutional home at Markham. Colleges can also offer courses. That flexibility could be useful in Markham. College Masters report to the Deans of those Faculties with which their College is aligned. They could be members of Faculty Council in those Faculties and report on happenings within the college. The Master can also sit ex-officio on a Faculty’s curriculum and APPC committees. The Master could be a formal conduit from Fellows and students in Markham to the various Faculty Councils and Dean.

The Deputy Provost Markham will play a central role in governance at the campus level. In order to successfully champion and lead the development of MCC, the Deputy Provost will also need direct lines of communication with Deans, Vice-Presidents and the University President. This should be reflected in the reporting lines for the Deputy Provost Markham and in participation on the University Executive Committee, for example.

5. Integration with Faculties and Units Based at Keele

One of the guiding principles informing this paper is that governance models should aim to create community across all of York University. Participation of Markham colleagues in Senate and its
Committees is considered below in Part V. Similarly, Faculties and other units based at Keele should examine whether they need to revisit the composition of Faculty Council or committees (including departmental committees), to ensure Markham colleagues and students are properly included in the conversation. Adding the Deputy Provost Markham to Faculty Council may be one way to address this in some cases.

In order to ensure the proper coordination and balancing of curricular offerings at Markham, the six Faculties participating in phase 1 might also explore the value of forming an MCC Academic Planning (and Policy) Committee whose membership would include all the participating departments (whether based at Keele or MCC) and Dean’s offices. This body might also serve to identify and coordinate opportunities for collaboration with Seneca College.

Whatever formal structures are put in place, it will be important to foster regular and meaningful participation of Markham colleagues. Drawing from our experience of the Glendon and Keele campuses, mechanisms to facilitate interaction could include the following:

- A shuttle service and/or parking arrangements that facilitate inter-campus travel
- Alternating meeting locations between the two campuses
- Revisiting the possibilities for electronic participation in governance (e.g., Skype attendance at Faculty Council)

V. Participation in Senate and its Committees

This section lays out options for ensuring that Markham faculty, students and academic leadership have a voice in York’s Senate and its Committees, and the process for making any changes to the current composition of these bodies.

*Senate Membership: Legislative Framework*

The membership of Senate and its committees is defined as statutory. Changes in statutes are effected by motions put by Senate Executive requiring two stages: notice of motion, when Senate is provided with as much detail as possible and discussion is permitted followed at a subsequent meeting where consideration is activated by a motion, and debate results in a vote.

By Senate rule, Senate Executive reviews Senate membership every two years and brings forward recommended changes. Calculations are relatively straight-forward formula based on the full-time faculty member complement of Faculties. The last changes were made in 2017 to cover the period July 1, 2017 to June 30, 2019. Reviews are scheduled for 2019 and 2021. Changes can also be proposed at other times.
York’s Senate and Off-Site Membership

York is present at a number of remote sites where academic activities are conducted. Examples include Osgoode Hall’s downtown space, Schulich in India (Schulich also has a physical presence in China) and the Lillian Meighen Wright Centre (known as the EcoCampus) in Las Nubes, Costa Rica. In its early days the University offered individual courses in York Region and Simcoe County. The Faculty of Education has a long history of teaching some students at off-campus sites. Senate has never made explicit provision for membership for these entities given that they are extensions of Faculties, primarily devoted to complementary and convenient delivery of education, small in scale, and staffed by faculty members appointed to existing Faculties (full-time, contract and secondees). As it is now conceived, Markham Centre will differ in a number of respects. Senate endorsed the University’s engagement in a process leading to a bid for a new campus on the understanding that it would constitute an academic entity of some kind. This makes it desirable to take up questions related to governance during the 2017/18 academic year, and ask how Senate and committee memberships should account for the new campus. Senate Executive has had very preliminary discussions about possibilities and would welcome feedback from the community at an early stage.

York Membership Models in Comparative Perspective

Generally speaking, other Canadian university Senates provide for members associated with campuses that are discrete Faculties. An example is the Grenfell campus of the Memorial University of Newfoundland, which houses three separate Faculties and elects faculty members from each. Conversely, Senates do not typically designate Senators from campuses offering curriculum on behalf of other Faculties. For example, there is no provision made for faculty and student Senators from MacEwan University’s Jasper Place campus because courses there are all taught on behalf of Faculties on the main campus. At Dalhousie, faculty member Senators are also elected according to Faculty only, and no special allocation is made to any of its four satellite campuses in Halifax and Truro.

There are some variations on these broad practices. Members are elected to the University of Toronto’s Academic Council from the St George, Mississauga and Scarborough campuses, but all have Faculty characteristics and the east and west campuses are headed by Deans. There is a seat on the Guelph Senate for the Vice-Provost of the Guelph-Humber campus (along with four students) but faculty members continue to be elected according to Guelph Faculty affiliation only. Like the UofT, a number of Canadian universities have affiliated universities or colleges. In some cases, these institutions are granted elected faculty member seats. This may result from history and formal independence, the extent to which the curriculum is self-contained and, significantly, how faculty appointments are arranged. For others, the academic leaders of affiliated universities and college may hold ex officio seats (as is the case at Laurentian where the presidents of

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Huntington, Sudbury and Thorneloe universities are Senators but there are no seats reserved for faculty members and students there). Undergraduate students at smaller, multi-campus universities are commonly elected at large. To take one example, there is one student on the Trent University Senate, elected by peers at the Peterborough, Oshawa and “other” campuses. For larger universities like York, undergraduate student seat distribution may be tied to Faculties.

**Bases for Modelling York’s Senate Membership**

York’s Senate membership rules reflect the University’s diversity and deliberately take into account unique circumstances. It remains one of the largest Senates in Canada. Although Senate itself has expressed its desire to restrain growth, new Faculties and other developments have resulted in a number of Senators that exceeds the ceiling of 150 contemplated in past membership reforms. The upper limit is currently 167. Senate and its committees include Librarians and Archivists, College masters, and individuals designated by collective bargaining units. Smaller Faculties are guaranteed at least 4 elected faculty members. Glendon has a larger allocation than the proportionality formula would produce because of its special nature. In this light it seems appropriate to anticipate some collegial participation at the Senate level from the Markham Centre campus. Determining the precise form will require greater clarity about the academic unit and program array, the appointment status of faculty members, and the size of the dedicated complement and student body (students are expected to be able to complete a degree at Markham, but will also enjoy access to offerings at Glendon and Keele). By convention (but implemented by statute) Vice-Provosts are members of Senate and Markham Centre Campus will be led by a Deputy Provost. For some it would follow that an elected faculty member should also be added.

One helpful precedent to consider involves the means by which contract faculty members are elected to Senate. Although they are found in all anchor Faculties, and “all full-time and contract faculty members are eligible for membership on Senate”\(^2\), it is LA&PS alone that is required to elect 2 contract faculty members. If the curriculum at Markham is offered exclusively by existing Faculties, as is now intended, it may be appropriate to apply this model and require that the Faculty with the greatest presence at Markham (presumably LA&PS) elect a minimum number of Senators from the new campus. Allocation of student Senate seats for Markham may also be based on the logic of redistribution with allocations rather than accretion. However, this is only one possibility. The discussion paper addresses other models below.

**Modelling Senate Membership**

<table>
<thead>
<tr>
<th>Capsule Description of Model</th>
<th>Assumptions and Considerations</th>
<th>Academic Leader</th>
<th>Faculty Members</th>
<th>Students</th>
<th>Change in Senate Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimal change involving</td>
<td>Keep faculty member allocation</td>
<td>One seat for the academic</td>
<td>Determine projected full-time</td>
<td>If LA&amp;PS students dominate,</td>
<td>Add DeputyProvost</td>
</tr>
</tbody>
</table>

\(^2\) Senate Rules, Procedures and Guidelines, Section B, 6.
<table>
<thead>
<tr>
<th>Requirement</th>
<th>Description</th>
</tr>
</thead>
</table>
| the application of current model for contract faculty members and other provisions | constant at 99
Keep student member allocations at 28 with 6 for LA&PS
Assume LA&PS is the dominant presence on site (BComm, other programs, Gen Education) |
| leader on site at Markham (Deputy Provost) | complement
Determine full time faculty member allocations by Faculty
If LA&PS dominant, require 1 or 2 faculty members are elected from the Markham complement (alternatively each participating Faculty reviews its "rules" for identifying Senate members to ensure or promote membership of faculty colleagues at MCC) |
| require that one of the LA&PS enriched cohort is elected by Markham students (alternatively each participating Faculty reviews its "rules" for identifying Senate members to ensure or promote membership of students at MCC) | Require Markham members from within existing Faculty allocation |
| Treat the Markham campus as a Faculty-like entity | Treat Markham as a campus and allow faculty member allocations to grow consistent with general formulae
Programs are diverse and span multiple faculties |
| One seat for the academic leader on site at Markham (Deputy Provost) | Determine projected full-time complement equivalencies / determine full time faculty member allocations by Faculty |
| Allocate 2 seats to Markham students in keeping with general Senate rules / make adjustments to LA&PS cohort | Add Deputy Provost
Add 4 elected faculty members
Add 2 students (or re-allocate from LA&PS) |
and interdisciplinary programs making a Faculty approach feasible

Allocate student membership to grow consistent with general rules; cap at 28 or adjust upward

Cap elected faculty members at 99 or adjust upward

| Blended Recognition of Markham | Allow faculty member and student allocations to grow but more modestly | One seat for the academic leader on site at Markham (Deputy Provost) | Determine projected full-time complement / determine full time faculty member allocations by Faculty | Create new rule to accommodate Markham (e.g. allocate 1 seat to Markham students at the outset) | Add Deputy Provost
Add 2 faculty members
Add 1 student |
### Modelling Senate Committee Membership

<table>
<thead>
<tr>
<th>Capsule Description of Model</th>
<th>Assumptions and Considerations</th>
<th>Academic Leader</th>
<th>Faculty Members</th>
<th>Students</th>
<th>Change in Committee Membership</th>
</tr>
</thead>
</table>
| Early engagement (2018-opening) | Recognize the utility of a Markham leader on key Senate committees | Member of APPRC and / or ASCP (voting or non-voting; regular or periodic) | n/a | n/a | +1 on APPRC?  
| Markham as a “Faculty equivalent” | Faculty-designated Senate committees have members elected by colleagues who are based at Markham  
This may require that Markham has a body like a Faculty Council (or the Academic Matters group for Librarians and Archivists) for some governance, formal or informal | Not necessarily a member | Elected to all Faculty-designated committees (may require additional accommodations such as SKYPE)  
Elected to all at-large, non-designated committees based on interest, availability etc. (may require additional accommodations such as SKYPE)  
Student caucus continues to nominate committee members | n/a | +1 on Exec  
+1 on APPRC  
+1 on ASCP  
+ 1 HonDeg | Electable to non-designated committees at large |
<p>| Adjudication | Markham should have | Not a | Some panels of | n/a | +1 SAC? |</p>
<table>
<thead>
<tr>
<th>committees</th>
<th>Senate committee members on student adjudications</th>
<th>member of any committee or only a member of appropriate ones</th>
<th>SAC will deal with Markham student decisions at Markham or through SKYPE etc.</th>
<th>Student caucus continues to nominate committee members</th>
<th>+1 T&amp;P?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensive review of membership rules by Senate Executive</td>
<td>Markham development occasions a thorough review of Senate committee membership by Executive, taking into account a variety of factors (ideal committee sizes, diversity goals, governance principles, best practices, faculty member workloads, etc.)</td>
<td>Not necessarily a member</td>
<td>Adjust committee numbers? Use Senate “diversity rules” to ensure that nominations reflect all campuses? Make all committees or none Faculty-designated?</td>
<td>?</td>
<td></td>
</tr>
</tbody>
</table>
Interim Committee Membership and Participation Arrangements

Senate rules now state “Ex officio members of Senate committees may designate alternates to represent them. They may also request the attendance and participation of others to assist in committee deliberations.” [February 25, 2016].” This may be a handy rule at an early stage of the process to provide regular input (for Executive, APPRC and ASCP). Markham is a standing agenda item on APPRC and a source of ongoing interest at meetings of ASCP and Executive. Committees themselves can also invite regular contributions. As always, it would be appropriate for the Provost to identify any individual(s) best able to contribute to the work of committees if this was desired.

It may also be appropriate to have faculty member participation on Senate committees before the campus opens. This depends on when the first appointments are made and would be especially germane if some faculty members are hired for Markham (or have agreed to switch to the site before the campus is open) for the purpose of developing curriculum. Interim membership would require formal ratification by Senate as a statute.

VI. Conclusion

The goal of this options paper has been to bring some order to the discussion of governance questions raised by the creation of a York University campus in Markham, and to set the stage for wide consultations. Some of the most basic questions can be answered by the University’s existing collegial governance framework, but many others will require clarification of or changes to that framework. All members of the community are encouraged to reflect on the options paper and to contribute their perspectives to inform decisions going forward.
Appendix: Literature Review

Branch or satellite campuses have existed in Ontario for some time with examples that include the University of Toronto’s Mississauga campus established in 1967 and Trent’s Oshawa Campus. Other Ontario universities such as Wilfrid Laurier University, Laurentian University, and Lakehead University have also established university campuses in other municipalities (e.g. Brantford, Barrie, Orillia). After decades of incremental integration of its multiple campuses, WLU (Laurier) established a Presidential Task Force on Multiple Campus Governance (2011) to “recommend to the University community an overarching model of governance appropriate for our present reality, but flexible enough to incorporate expansion to new locations should additional campuses become reality” (3). The Taskforce recommended 14 consensus points and, for the purposes of York’s Governance Options Paper, the most significant conclusions of the Laurier Taskforce include the following:

- “One Senate of the University” for all WLU campuses. The Taskforce noted several Canadian universities that operate with dual or multiple Senate models for multiple campuses (e.g. UBC, UNB, UT) while others (e.g. York, Simon Fraser, UAlberta) operate with a singular Senate.
- “one institution operating in multiple locations” with a commitment to the same level of degree program quality across campuses while local degree programs may leverage local relationships/partnerships to enhance student experience (e.g. local placement opportunities)
- “Academic discipline, rather than geographic location, shall drive Faculty structure” and the relevant WLU Faculty Dean will be responsible for ensuring integrity and consistency of program quality across multiple campuses.
- As the university and/or its satellite campuses grow, WLU would review multiple campus governance, academic and administrative structures on an ongoing basis and adapt as needed.
- Course consistency (e.g. learning outcomes) across multiple campuses and credits transferable between programs and campuses.
- Resource allocations based upon student enrolments and program delivery costs.
- Administrative resources allocated based upon institutional priorities and externally mandated requirements (e.g. health and safety). Quality of administrative services would be consistent across campuses in order to support similar quality of student experience across campuses.

Various governance models exist among branch/satellite campuses and, drawing upon Fraser’s (2016) study of Australian university branch campuses, governance models can be differentiated based upon three key areas: campus autonomy in decision making and budgetary authority, responsibility for faculty and, to a lesser degree, research activities.
Branch campus autonomy – key dimensions include:

- Academic program mix (e.g. who determines program offerings, enrolment, overall success of program mix)
- Marketing of campus and its programs (e.g. branch campus as distinct brand from main/parent campus, multiple campuses with one university brand)
- Academic program delivery (including program quality)
- Teaching delivery issues (e.g. class sizes, pedagogical approaches)
- Supervision/management of administrative staff and student services
- Campus-community relationships and partnerships (e.g. community engagement, establishing relationships with local/regional industry or government)
- Budgetary authority and business planning

- Recruitment, promotion and support of faculty
- Responsibility for research support and intensification

Fraser (2016) created five categories of branch campus models based on his review of multi-campus Australian universities. The selection of the most appropriate governance tended also to depend upon whether the branch campus was focused/specialized or comprehensive in nature, geographical factors, university brand aspiration, level of community engagement required and the campus’ regional economic environment.

Fraser’s Five Models:

1. **Study Centre** – teaching focused; primary function is to serve educational needs of students in more accessible/convenient geographical location; generally low autonomy from primary campus; few or no permanent academic staff and may not require permanent academic administrative leader. Note: York examples may include Osgoode Professional Development.

2. **Administrative Model** (most common model in Australia) – although academic administrative leader/head exists he/she tends to have little or no management responsibility for academic staff or academic research and may have limited authority over administrative staff. Academic leader functions more as a branch manager with limited executive functions and may focus on general operations, community relationships, etc. Branch campus not responsible for marketing and business decisions as these decisions tend to be made by main/parent campus. Considered a low autonomy model and while attractive because of its administratively ‘lean’ structure and primary oversight by main campus, campuses working under this model tend to be at greater risk for poor performance and have higher reports of staff feel relatively disempowered. Works best when branch campus is in relatively close proximity (same region) of main campus and where campus academic/administrative lead functions not just as a figure-head/manager but has a campus leadership role with ability to shape campus and campus decision making. Note: in Ontario, Trent@Durham may be this model.
3. **Matrix Model** – branch campus operates autonomously as a distinct business unit with responsibility and accountability for program mix, teaching/pedagogy, marketing, performance accountability and campus operations. Responsibility for faculty is shared through matrix management models between campus lead and main campus administrators. Some activities are managed through service agreements with main campus but operations/services generally managed locally to ensure responsiveness to branch campus needs although research tends to remain the responsibility of central campus. Fraser found that the matrix model worked best where faculty were shared between main and branch campus. Campus administrator is expected to be accountable for business decisions. Considered high autonomy as campus has authority to shape program offerings in response to local need, establish relationships with regional community and create its own student experience (although less control over research and hiring/promotion of academic staff).

4. **Faculty Model** – branch campus is a high autonomy model that operates as a distinct business unit with the lead academic administrator of the branch campus responsible for faculty. Program offerings and mix (including development) are the responsibility of the branch campus and there is little or no requirement to ‘go through’ the Faculties/Programs at the main campus. The academic administrative leader has primary authority over administrative
5. structures/operations within the branch campus and manages staff (e.g. unit configuration, student services). Challenges identified by Fraser include the potential for political tensions between the branch and main campus. Note: Glendon would be considered a Faculty Model.

6. **Federated Model** – model tends to have greatest control over business operations, academic programs and research. All faculty and staff are responsibility of/managed by the branch campus though there may be budgetary accountability to main campus (e.g. accountability to University President/Chancellor). While a federated model operates very independently, there is general agreement that the branch campus operations and marketing must be consistent with and/or align with the university’s brand. Note: in Ontario historical colleges such as Trinity College (UT) or St Paul’s University (UOttawa) may be federated models.

A Report was also prepared by David Trick with SEG Management Consultants (2013) to the Ministry of Training, Colleges and Universities exploring capital costs associated with satellite campuses. Although the report did not focus on governance, it described various models of satellite campuses (primarily in Ontario) and categorized them, by institutional mission, as follows:

<table>
<thead>
<tr>
<th>Campus Model/Category</th>
<th>Institution/Campus</th>
<th>Enrolment (2012)</th>
<th># FT /PT Faculty</th>
<th>Campus Lead(s)</th>
<th>Comments</th>
</tr>
</thead>
</table>
| College Satellites    | George Brown College Waterfront Campus | 2,465 but capacity up to 3,500 | 108 / 100 | Assistant Vice-President Waterfront Development and Dean, Community Services and Health Sciences | • follows normal governance processes of College  
• programs focused on health sciences  
• students take all of their courses at campus (except BSc Nursing)  
• key partner includes Waterfront Toronto. |
|                       | Sheridan College Hazel McCallion Campus (Mississauga) | 1,757 | 48 / 125 |             | • follows College governance processes  
• program focus on Business (e.g. Accounting, HR, Financial Planning)  
• key partner includes City of Mississauga |
| Smaller university satellites (<5,000 FT students) | Lakehead University Orillia Campus (two sites) | 986 (2011-12)/ 2,000 | 32 FT | Dean and Vice-Provost (Orillia Campus) | • governed by “one university, two campuses approach” and operating as a “Faculty”  
• programs include part-time MBA, BEd, Social Work and Honours Bachelor of Arts and Science |
| University of Guelph-Humber (with a college partner) | 3,373 / 4,000 | 8FT although employed either by U Guelph or Humber/ many courses taught by part-time faculty or by full-time faculty from U Guelph or Humber | Vice-Provost Guelph Humber | operated by UGuelph and Humber reporting to senior admin and subject to governance processes of both institutions  
| campus is represented by the Guelph-Humber Academic Management and Programs Committee to U Guelph (Board of Undergraduate Studies) and Humber (Academic Council)  
| programs in Business, Community and Social Services, Justice Studies, Kinesiology, Psychology; Media Studies; degree completion programs and U Guelph's MFA in Creative Writing  
| Guelph-Humber students access Humber facilities (e.g. food, athletics, labs and library) and Humber students access Guelph-Humber facilities (e.g. food, learning commons, math/writing supports)  
| Guelph-Humber supported in various ways by Humber and U Guelph re: building maintenance, HR and finance |
| Wilfrid University University Brantford | 2,492 but capacity up to 4,095 | 64 full-time and /31 FTE part-time | Principal (with VP status) | multi-campus governance model of “one university with multiple campuses” rather than main/satellite campus model. Programs governed by parent Faculty (not campus specific)  
| 13 undergraduate programs  
| leads responsible for core administrative functional areas are responsible for multiple campuses (e.g. WLU IT housed at Brantford but responsible for all WLU campuses)  
| partnership with Brantford Public Library and academic/shared space and service agreements with YMCA and other PSE partners (e.g. Nipissing, Mohawk, Six Nations) re: library, health & counselling |
| Stand-alone universities with research mission | University of Ontario Institute of Technology (2 sites) | 5,842 at North Oshawa and 1,817 at Downtown Oshawa | 214/74 | Lead administrator for Downtown campus N/A | • reporting structure of UOIT Downtown to main campus unclear  
• various programs (although downtown campus has education, humanities and social sciences)  
• UOIT and Durham co-own tennis centre, Durham students access UOIT owned ice centre, UOIT students access Durham owned buildings (e.g. residence). Agreements in place for shared services in IT, facilities, purchasing, health & safety, campus safety and ancillaries. |
| Larger university satellites with a research mission | University of Toronto Scarborough (post 2000) | 9,757 (2012) | 274/32 Note: FT faculty may teach grad courses downtown | UTSC Principal (with VP status) | • UT Governing Council and President for all UT campuses  
• 85 undergrad programs |
| | University of Toronto Mississauga (post 2000) | 11,284 (2012) | UTSC Principal (with VP status) | • UT Governing Council and President for all UT campuses  
• 148 programs (including some graduate) |

(Adapted from Trick, 2013)
The National Association of Branch Campus Administrators (NABCA), a U.S. based professional association representing academic and administrative personnel working in branch campus environments, has conducted a two major surveys exploring various components of branch campus governance and administration. Below is a summary of key findings of the NABCA 2010 and 2015-16 Survey.

NABCA 2010 Survey (responses representing 110 institutions and over 500 branch campuses):
- 48% of branch campus lead administrators (e.g. Dean, Provost) were responsible for one branch campus although 1/3 were responsible for multiple sites/campuses
- 78% of degree granting branch campuses had academic lead administrators with doctorate degree and 6+ years of branch campus administration
- Branch campus lead administrators typically reported to President (23%) or VP (20%)
- Among 4 Year degree granting branch campuses, 20% of branch campuses had part-time faculty responsible for teaching 2/3+ of credit hours.

NABCA 2015-16 Survey (120 respondents)
- Majority of branch campuses had on-site, dedicated full-time staff responsible for student financial aid/student accounts and admissions.
- Majority of branch campuses did not have an on-site Registrar, Career Services or Alumni office.
- Majority of branch campuses had on-site, dedicated part-time staff responsible for writing support, disability services and online learning support.
- 80% of survey respondents describe the process of program mix/program offerings development as led by main campus
- Almost 70% of survey respondents described their funding /budgetary allocations as determined by main campus.
- The title of the highest ranking branch campus was “Director or Executive Director” for 43% of branch campuses followed by Dean/Associate or Assistant Dean for 15%.
- Services offered dependent on student enrolment size. Larger campuses (2501-5000 head count) tended to have services such as career development, cultural events/programming, food services, counselling, recreation, student government, veteran services (U.S.), bookstore, clubs/student organizations, library services, security staff, disability services, writing centre, student activity/programming, admissions, financial aid, academic advising, computer labs, computer, registration, testing.

Trick’s (2013) report to MTCU also touched upon the institutional governance and satellite campuses and found that the majority of campuses were led by a “Campus Principal or Campus Dean”, and in some cases by a Vice President or Assistant Vice President, with responsibilities delegated from the President or Vice President Academic.
The Ontario Confederation of University Faculty Associations (OCUFA) issued a 2009 position paper in response to MTCU’s Request for Proposals for Satellite Campuses. OCUFA reviewed two existing Ontario branch campus models (Laurentian@Georgian and Laurier-Brantford) and raised a number of concerns related to the Government’s desire to create additional satellite campuses. Although OCUFA commends the Government’s interest in satellite campuses as a strategy to improve access to postsecondary education in geographically underserved communities, OCUFA’s concerns include lack of clear Government policy about governance/development of satellite campuses, assumed regional economic development potential of satellite campuses, reliance upon part-time faculty, reduced library and/or student services, program quality, satellite campus’ faculty decreased access to high quality research and/or other campus resources, implications of community college/CAAT teaching university courses and faculty input at Government/institutional level in development of satellite campuses.

References

National Association of Branch Campus Administrators 2009 Survey.
National Association of Branch Campus Administrators 2015-16 Survey.

