



COUNCIL OF THE FACULTY OF SCIENCE

Notice of Meeting

Tuesday, 9 February 2016

3:00pm – 4:30pm

306 Lumbers

Agenda

1. Call to Order and Approval of Agenda
2. Chair's Remarks
3. Approval of Minutes from January 12, 2016 meeting
4. Business Arising
5. Dean's Remarks
 - 5.1 Endorsement of FSc Strategic Plan (item for action)
6. Associate Deans' and Bethune College Master's Remarks
7. Reports from Science Representatives on Senate Committees
 - 7.1 Vacancy: Senate Committee for Honorary Degrees and Ceremonials (item for action)
8. Reports from Standing Committees of Council
 - 8.1 Executive Committee: 2016 – 2017 Vacancies Report on Senate and FSc Committees (item for information)
 - 8.2 Science Curriculum Committee (consent item)
9. Inquiries and Communications
 - 9.1 Senate Synopsis: 622nd Meeting of Senate: January 28, 2016
10. Other Business
 - 10.1 Task Force report on Anomalous Grades (item for action)



COUNCIL OF THE FACULTY OF SCIENCE

Tuesday, 12 January 2016
3:00pm – 4:30pm
306 Lumbers

Minutes

Attendance: J. Amanatides, M. Bayfield, W. Booth, P. Cribb, M. Caplan, A. Chan, P. Delaney, R. Fournier, P. Gibson, D. Golemi-Kotra, J. Grigull, E. Hamm, D. Hossain, A. Huynh, R. Jayawardhana, D. Jackson, T. Kirchner, M. Kiumarsi, K. Kroker, J. Lazenby, P. Lakin-Thomas, M. McCall, R. McLaren, K. Maltman, S. Morin, R. Nariani, W. Taylor, R. Thai, T. Womelsdorf, L. Packer, T. Salisbury, V. Saridakis, S. Safi, J. Steprans, G. G. Lavoie, P. Potvin, D. J. Wilson, N. Madras, V. Tsoukanova (Chair), J. Sequeira (Recording Secretary)

Guests: H. Abraham, K. Angel, D. Bacinello, T. Da Silva, M. Jiang, D. Keramidas, H. McLellan, D. Markatas, B. Sheeler

1. Call to Order and Approval of Agenda

A motion was moved, seconded and carried to adopt the Agenda with the following changes:

- In order to accommodate the President's presentation, item 8 Other Business was moved to come up immediately and the rest of the agenda items would be considered after the presentation.

2. Other Business: University Update – President M. Shoukri

The President took the opportunity to express his pleasure to present to FSc Faculty Council and stated that Science is central to the development of York's ability to becoming a comprehensive, research intensive University. He stated that the Faculty of Science has done wonderful work and he is always proud to bring visitors to York to the Life Science Building to showcase the great work FSc Researchers are doing.

Dr. Shoukri spoke at length of the current economic environment and acknowledged that these are challenging times given the weaker Canadian dollar, however, he expressed confidence that given the culture of planning at York, the University is positioning itself for the next cycle of growth and more so with the completion of the Institutional Integrated Resource Plan.

The President commended the Dean, Paul Delaney and various faculty members for constantly being featured in the media thereby representing York and also raising the visibility of Science at York.

The President was pleased to note the four CRC hires currently underway in FSc.

Dr. Shoukri highlighted the transformational donation of \$ 20 million by a former York Alumnus Victor Dahdaleh for the expansion of the University's global health initiatives and also informed members that a new fundraising campaign will be announced in April 2016.

On the Markham campus front, the President informed members that the University in partnership with the Ministry of Training, Colleges and Universities is actively working on the details of the infrastructural plan that needs to be submitted to Infrastructure Ontario.

3. Chair's Remarks

The Chair wished all the members A Happy New Year!

4. Approval of Minutes from December 8, 2015 meeting

The minutes were approved.

5. Business Arising

There was no business arising.

6 Dean's Remarks

The Dean thanked President Shoukri for his update, and wished Council members A Happy New Year.

The Dean announced the launch of the Dean's Undergraduate Research Awards (DURA) which will be awarded to five undergraduate students for next summer. These awards are similar to NSERC USRA (but also open to international students) and are created to serve the dual goals of enhancing the research culture in the Faculty and providing experiential learning opportunities for our students. The awards for the coming year is made possible by the generous donation of Science alumnus Dr. Scott Tanner. The Dean encouraged members to share this information with prospective students.

On a sad note, the Dean announced the passing of Emeritus Professor Gerald Hebert on Christmas Eve. Prof. Hebert was one of the founding members of the Department of Physics (as it was then) arriving at York in 1965 and taught the first year calculus course which was offered through the Interdisciplinary Science Program. Prof. Hebert served the broader science community and was for many years the chief judge of the Toronto Science Olympics and book editor for Physics in Canada. Prof. Hebert will be remembered as being the heart and soul of the Department of Physics for organizing the annual Petrie Christmas luncheon and departmental dinners and many other celebrations.

The Dean also informed members that a number of faculty searches are underway with shortlisted candidates to be interviewed in the coming weeks.

7. Associate Dean's and Bethune College Master's Remarks

AD – S. Morin added to the Dean's information on NSERC USRA and informed members that a memo was issued stating that the departments have a deadline of Feb 19 to receive applications and in turn are required to submit their completed applications and transcripts, along with their rankings to the Faculty no later than Monday, March 7, 2016.

AD - Morin reminded members of the call that went out on January 11 about the SSHRC Impact Talent Awards 2016.

AD – Morin informed members of the Internal process for Royal Society of Canada College of New Scholars, Artists and Scientists (Institutional Nominations Only) for which York is

allowed to submit up to three nominations. Each Faculty is invited to submit one internal nomination in the competition no later than 11am, Monday, 18 January to the VPRI's office.

AD - Peter Cribb informed members that FSc enrolled 126 new admits for Winter 2016 compared to 99 new admits in W15 (a 20% increase). The department break down is 27 in Biology, 27 in Chemistry, 24 in the Math program and the rest for other programs.

8. Inquiries and Communications

Faculty Council noted the Senate Synopsis.

9. Other Business

Meeting adjourned.

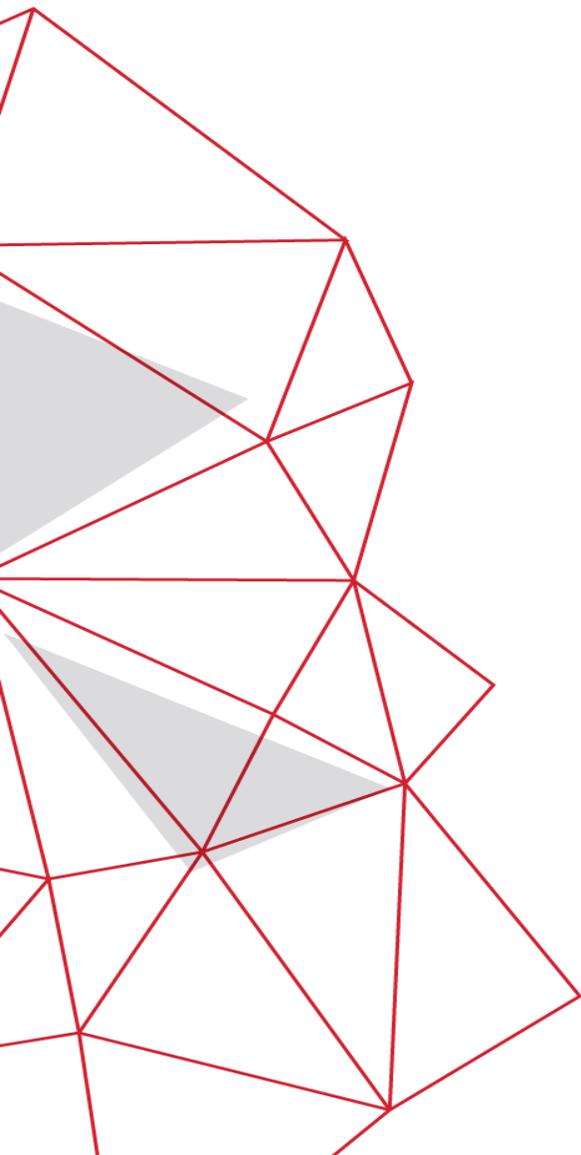
Chair of Council, V. Tsoukanova

Recording Secretary of Council, J. Sequeira

FACULTY OF SCIENCE

STRATEGIC PLAN

2015-2020

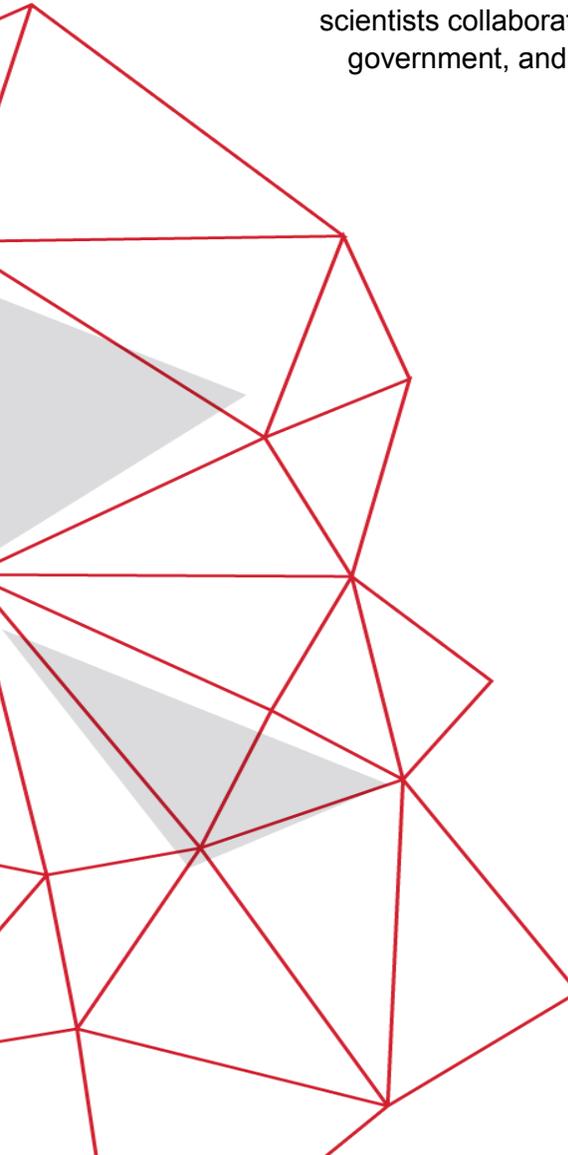


Vision

Fostering Discovery. Engaging Community. Inspiring Humanity.

Mission

The Faculty of Science is a hub of research and teaching excellence fostering scientific discovery and preparing global thinkers to advance knowledge and human progress. Our students learn from and work with outstanding faculty members, and benefit from excellent staff and leading-edge facilities. Our scientists collaborate with colleagues around the world in academia, industry and government, and also engage with the community at large through extensive outreach activities and media.



Strategic Priorities

Focus: Teaching & Learning

Goal: Offer distinctive and appealing programs delivered in a culture guided by the scholarship of teaching and learning

Priorities:

1. Develop innovative and appealing academic programs that reflect the aspirations of students, as corroborated by rising undergraduate enrollments, both domestic (by 15% in five years) and international (by 50% in five years), and rising admit averages of registrants
2. Promote alignment of course learning outcomes, teaching and learning activities, and assessments, to be confirmed in curriculum reviews
3. Improve tenure and promotion criteria for teaching excellence to recognise scholarship of teaching and learning, particularly for alternate stream faculty
4. Recognize teaching excellence through internal and external award nominations, with the aim of at least one faculty member winning a major external teaching award within the next five years

Strategic Priorities

Focus: Research

Goal: Foster research excellence through recruitment, recognition and support, thus making the Faculty a destination of choice for future scientists

Priorities:

1. Raise the number of research chair appointments (e.g., CRCs, YRCs, endowed chairs) and renew the professorial stream faculty complement, with a view to building 'critical mass' and strength
2. Increase the external funding for research by 50% within five years, from the 2014 level, from a diversity of sources including government, industry, foundations and philanthropy, in part by supporting strategic/team applications (e.g., CFI, ORF, CREATE, CFREF, Genome Canada)
3. Enable more faculty members across all ranks to receive major internal (e.g., President's Research Excellence Award) and external honours (e.g., FRSC, Steacie)
4. Make continuous improvements to keep research infrastructure competitive, and develop sustainable models for maintenance and support of major equipment

Strategic Priorities

Focus: Student Success

Goal: Boost the success of our students during their time at York and beyond

Priorities:

1. Enhance opportunities for research (e.g., summer research awards) and experiential learning (e.g., Mitacs placements, co-op programs) for students at all levels
2. Working with Bethune College, enhance and streamline undergraduate advising and support, with a view to improving retention and student satisfaction
3. Raise funds for undergraduate and graduate scholarships/awards, with a view to recruiting and supporting high-performing students
4. Provide professional development opportunities for postdoctoral fellows and graduate students (e.g., media workshops, career panels and networking)

Strategic Priorities

Focus: Investing in People

Goal: Recruit, support and promote top faculty and staff in a community that values individual contributions as well as collaboration and teamwork

Priorities:

1. Strengthen the sense of community, through Faculty-wide events/programs that promote intellectual and social interactions
2. Ensure success of new faculty and staff through 'on-boarding', mentoring and professional development opportunities
3. Promote recognition and visibility of Science faculty, staff, students and alumni through nominations for awards and honours

Strategic Priorities

Focus: Engagement and Outreach

Goal: Engage effectively with the broader community and offer innovative outreach programs for youth and the public, thus raising the profile and impact of Science at York

Priorities:

1. Engage with alumni, supporters and friends of the Faculty effectively and consistently to enhance their connections with and support for Science at York
2. Offer exciting and innovative outreach programs for youth, high school teachers and the public, and establish a high-profile annual event (York Science Forum) that draws a large audience
3. Raise the visibility of Science at York through extensive media engagement, by promoting coverage for our research, teaching and outreach efforts and pitching our scientists as expert commentators for breaking stories

2015 - 2016 Executive Committee Report of Vacancies on Senate and Standing Committees of Council

FOR ACTION

Senate: Sub-Committee on Honorary Degrees and Ceremonials

FSc Nomination: Cody Storry, Department of Physics and Astronomy (Term: 2016 – 17)

2016 - 17 Report of Vacancies on Senate and FSc Committees

Outstanding vacancies are highlighted in red

*** Sabbatical**

Committee	Rules of Faculty Council - membership	Meeting time / Membership	Term	
			From	To
Senate	According to the York University Secretariat based on the Senate Rules and Procedures governing the size and composition of Senate, the Faculty of Science shall have 9 members, including a minimum of two Chairs. According to The Rules of Council (Science), Faculty representation shall include the Director of Natural Science, three Department Chairs, and terms shall be for three years.	As per Senate website		
	Dean	R. Jayawardhana	designated	
	Associate Dean - Faculty	EJ Janse van Rensburg	2015	2018
	Biology	L. Packer*	2014	2017
	Biology	S. Benchimol	2013	2016
	Chemistry	D. Golemi-Kotra	2013	2016
	Chemistry	D. Hastie	2015	2018
	Math & Stats	T. Salisbury	2015	2018
	Math & Stats	J. Steprans*	2013	2016
	Physics & Astronomy	M. McCall	2015	2018
Director of NATS	P. Delaney	designated		
FSc Reps on Senate Committees				
Senate Executive	1 member from FSc	P. Delaney	2013	2016
APPRC	1 member from FSc	L. Donaldson	2013	2016
Hon. Degrees & Ceremonials Subcommittee	1 member from FSc	Nomination Received	2016	2017

2016 - 17 Report of Vacancies on Senate and FSc Committees

Committee	Rules of Faculty Council - membership	Meeting time / Membership	Term	
			From	To
Executive Committee	The <u>Executive Committee</u> shall be chaired by the Chair of Council and include the Vice-Chair of Council, the Secretary of Council, and one member elected from each of Biology, Chemistry, Mathematics & Statistics, Physics & Astronomy, and Science and Technology Studies/Natural Science, the Dean of the Faculty of Science (<i>ex officio</i>), one student member of Council, and one of the staff members elected to Council.	The Executive Committee will normally meet the first Tuesday of each month (September to May) from 1:30 pm - 3:00 pm in LUM 305B		
	Chair	N. Madras	2016	2017
	Vice-Chair	Vacant	2016	2017
	Dean	Ex officio		
	Asst. Dean - SEM & SEP	Secretary of Council		
	Staff Rep	Elected	2016	2017
	Undergraduate Student Rep	Elected	2016	2017
	Biology	V. Saridakis	2015	2018
	Chemistry	R. McLaren	2015	2018
	Math & Stats	G. Monette	2014	2017
	Physics & Astronomy	S. Jerzak*/M.Horbatsch	2013	2016
	STS	E. Hamm	2013	2016
	APPC	The <u>Academic Policy and Planning Committee</u> shall include the Dean or designate (<i>ex officio</i>), the Master of Norman Bethune College and one member elected from each of Biology, Chemistry, Mathematics & Statistics, Physics & Astronomy, and Science and Technology Studies/Natural Science, one student member of Council, and one of the staff members elected to Council.	APPC will normally meet the last Thursday of each month (September to April) from 9:00 am - 10:30 am	
Associate Dean - Faculty		Designated		
Master - Bethune College		Designated		
Undergraduate Student Rep		Elected	2016	2017
Staff Rep		Elected	2016	2017
Biology		S. Benchimol	2013	2016
Chemistry		R. Fournier	2013	2016
Math & Stats		J. Steprans	2013	2016
Physics & Astronomy		E. Hessels	2013	2016
STS		P. Delaney	2013	2016

2016 - 17 Report of Vacancies on Senate and FSc Committees

Committee	Rules of Faculty Council - membership	Meeting time	Term	
			From	To
Curriculum Committee	The <u>Curriculum Committee</u> shall include the Dean and an Associate Dean (<i>ex officio</i>), the Chair or nominee from each teaching Division or Department, three members elected by Council and two student members of Council.	The Curriculum Committee will normally meet every last Tuesday of each month (September to April) from 1:30 pm - 3:00 pm		
	Member at Large	elected by Council		
	Member at Large	elected by Council		
	Member at Large	elected by Council		
	Associate Dean - Students	designated		
	Steacie Librarian	designated		
	Undergraduate Student Rep (two vacancies)	elected	2016	2017
	Biology	P. Wilson*	2013	2016
	Chemistry	P. Potvin	2013	2016
	Math & Stats	M. Haslam	2014	2017
	Physics & Astronomy	C. Storry	2013	2016
	STS	J. Lazenby	2015	2018
Geography	R. Bello	2013	2016	
CEAS	The <u>Committee on Examinations and Academic Standards</u> shall consist of an Associate Dean (<i>ex officio</i>), five members elected by Council from each of Biology, Chemistry, Mathematics & Statistics, Physics & Astronomy and Science and Technology Studies/Natural Science, and one student member of Council. In addition to the above membership of the committee, Council shall elect an alternate member from each of the Departments specified above. The alternate member shall be the person polling the next highest number of votes to those elected to the committee from each Department. An alternate can only vote in the event that first elected members are not in attendance.	CEAS will normally meet every alternate Wed / Thurs from 1:00 - 3:00 pm year round.		
	Associate Dean - Students	Designated		
	Undergraduate Student Rep	Elected	2016	2017
	Biology	E. Rosonina / JP Paluzzi	2013	2016
	Chemistry	G. Audette / J. Rudolph	2015	2018
	Math & Stats	A. Wu / J. Grigull	2015	2018
	Physics & Astronomy	B. Quine / N. Bartel	2014	2017
	STS	MH Armour* / J. Lazenby	2013/15	2016/18

2016 - 17 Report of Vacancies on Senate and FSc Committees

Committee	Rules of Faculty Council - membership	Meeting time / Membership	Term	
			From	To
Petitions	The <u>Petitions Committee</u> shall consist of an Associate Dean (<i>ex officio</i>), six members of Council, and two student members of Council. A quorum shall consist of either (a) three faculty members and one student member or (b) four faculty members.	The Petition's Committee has two panels. Each panel meets once a month on Tuesday from 2:30pm - 4:00pm or Thursday from 11:00am-1:00pm		
	Associate Dean -Students	Designated		
	Undergraduate Student Rep (two vacancies)	Elected	2016	2017
	Biology	P. Wilson*	2014	2017
	Biology	M. Scheider	2014	2017
	Chemistry	M. Hempstead*	2013	2016
	Physics & Astronomy	S. Tulin	2015	2018
	Math & Stats	A. Wong	2015	2018
STS	D. Lungu	2013	2016	
SRC T & P Committee	The <u>Committee on Tenure and Promotions</u> shall consist of one currently tenured member from each of Biology, Chemistry, Mathematics & Statistics, Physics & Astronomy and Science and Technology Studies/Natural Science elected by Council, and one student member of Council. No member of the Committee shall be a member of another Tenure and Promotions Committee at any time during their tenure on this committee. In addition to the above membership of the committee, Council shall elect an alternate member from each of the Units mandated above. The alternate member shall be the person polling the next highest number of votes to those elected to the committee from each Department. The alternate for the student member shall be selected by the Science Student Caucus from one of its Members-at-Large on an annual basis. An alternate can only vote in the event that existing members are not in attendance.	SRC T & P Committee will normally meet the last Friday of each month (September to March) from 9:00 am - 11:00 am in LUM 305B		
	Associate Dean - Faculty	Designated		
	Undergraduate Student Rep	Elected	2016	2017
	Biology	K. Schneider / G. Zoidl	2014	2017
	Chemistry	D. Golemi-Kotra / P. Potvin	2013	2016
	Physics & Astronomy	R. Lewis / P. Hall	2015/13	2018/16
	Math & Stats	A. Chan / VACANT	2015	2018
	STS	E. Jones-Imhotep* / D. Lungu	2013/15	2016/18

2016 - 17 Report of Vacancies on Senate and FSc Committees

Committee	Rules of Faculty Council - membership	Meeting time / Membership	Term	
			From	To
CoTL	Currently, the Committee on Teaching and Learning shall consist of a minimum of two Faculty members from each department, the Associate Dean – Students, one Librarian, one staff member, one undergraduate student, and two graduate students, in addition to other members invited as provided for by the Rules. Graduate students and staff nominees will indicate their interest in serving on the committee in writing to the committee, who will then approve by majority vote.	CoTL normally meets every third Thursday of each month (September to May) from 1:00 pm - 2:30 pm		
	Associate Dean - Students	designated		
	Steacie Librarian	designated		
	Information Technology Rep	designated		
	Teaching Common Rep	designated		
	Graduate Student Rep (two vacancies)	Elected	2016	2017
	Undergraduate Student Rep	Elected	2016	2017
	Staff Representative	Elected	2016	2017
	Biology	T. Kelly	2014	2017
	Biology	D. Bazely	2014	2017
	Biology	C. Bucking	2014	2017
	Chemistry	D. Jackson	2013	2016
	Chemistry	J. Chen	2015	2018
	Physics & Astronomy	S. Bhadra	2015	2018
	Physics & Astronomy	A. Kumarakrishnan	2015	2018
	Math & Stats	X. Gao* & W. Liu	2014/15	2017 / 18
	STS	D. Lungu	2014	2017
	STS	V. Pavri	2015	2018

2016 - 17 Report of Vacancies on Senate and FSc Committees

Committee	Rules of Faculty Council - membership	Meeting time / Membership	Term	
			From	To
Research & Awards	The <u>Committee on Research and Awards</u> shall consist of one member elected by Council from each of Biology, Chemistry, Mathematics and Statistics, Science and Technology Studies/Natural Science, and Physics and Astronomy, one student member of Council and an Associate Dean (<i>ex officio</i>) who will serve as the Chair.	The Research & Awards Committee will meet when grants and awards need to be adjudicated.		
	Associate Dean - Research & Graduate education	Designated		
	Undergraduate Student Rep	Elected	2016	2017
	Biology	B. Stutchbury	2014	2017
	Chemistry	V. Tsoukanova	2013	2016
	Physics & Astronomy	C. Bergevin	2015	2018
	Math & Stats	Y. Gao	2013	2016
	STS	R. Metcalfe	2013	2016
Appeals	The <u>Appeals Committee</u> for the purpose of hearing student appeals shall consist of four elected faculty members from Science units, an Associate Dean (<i>ex officio</i>) and two student members of Council. A quorum shall consist of either (a) two faculty members and one student member or (b) three faculty members.	Meetings are held at the call of the Chair.		
	Associate Dean - Research & Graduate education	Designated		
	Undergraduate Student Rep	Elected	2016	2017
	Biology	D. Bazely	2014	2017
	Chemistry	D. Ifa	2013	2016
	Physics & Astronomy	M. Johnson	2015	2018
	Math & Stats	A. Pietrowski	2015	2018
	STS	R. Metcalfe	2015	2018

COUNCIL OF THE FACULTY OF SCIENCE
Report of the Science Curriculum Committee

February 2016

The Faculty of Science Curriculum Committee has reviewed proposals for changes to course information and degree requirements and recommends to the Executive Committee that the following changes be submitted to Council for approval.

Details regarding these proposals (and regarding other minor changes to Calendar/Repository course descriptions and prerequisites which were approved by the Committee but are not reported here) are included in the working papers of January 26, 2016, meeting of the Curriculum Committee, which are on file for your inspection in the Office of the Dean, with all members of the Curriculum Committee or by contacting the Secretary of the Committee at jpearson@yorku.ca

1. New Courses

- 1.1 New course: SC/CHEM 2084 3.0 “Pharmaceutical Analysis”
- 1.2 New course: SC/CHEM 3072 3.0 “Environmental Impact of Industrial Processes”
- 1.3 New course: SC/CHEM 3083 3.0 “Chemical Instrumentation”
- 1.4 New course: SC/CHEM 3084 3.0 “Pharmaceutical Analysis – Advanced”
- 1.5 New Course: SC/BC 1800 3.0 “First Year Success Seminars in Science”

2. Course Changes

- 2.1 Change in calendar description: SC/CHEM 1500 4.0 “Introduction to Chemistry”
- 2.2 Change in retire/expire course: SC/CHEM 1509: “Compulsory Tutorial for SC/CHEM 1500 4.0
- 2.3 Change in course credit exclusion: SC/CHEM 2550 3.0 “Pharmacology for Health Sciences”
- 2.4 Change in degree credit exclusion: SC/CHEM 3080 4.0 “Instrumental Methods of Chemical Analysis”
- 2.5 Change in course number/level, credit value, in title, in calendar description, pre/co-requisites and course format/mode of delivery: SC/BPHS 4090 “Biophysics II”

COMMITTEE ON ACADEMIC STANDARDS, CURRICULUM AND PEDAGOGY TEMPLATE

NEW COURSE PROPOSAL FORM

Faculty:
Indicate all relevant Faculty(ies)

Science

Department:
Indicate department and course prefix (e.g. Languages, GER)

Chemistry SENE	Date of Submission: Nov. 17, 2015
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Course Number: Special Topics courses Include variance (e.g. HUMA 3000C 6.0, Variance is "C")	2084	Var:	Academic Credit Weight: Indicate both the fee, and MTCU weight if different from academic weight (e.g. AC=6, FEE=8, MET=6)	3
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Course Title:
The official name of the course as it will appear in the Undergraduate Calendar and on the Repository

Pharmaceutical Analysis

Short Title:
Appears on any documents where space is limited - e.g. transcripts and lecture schedules - **maximum 40 characters**

Pharmaceutical Analysis

With every new course proposal it is the Department's responsibility to ensure that new courses do not overlap with existing courses in other units. If similarities exist, consultation with the respective departments is necessary to determine degree credit exclusions and/or cross-listed courses.

Brief Course Description:

Maximum 2000 characters

(approximately 300 words including spaces and punctuation).

The course description should be carefully written to convey what the course is about. It should be followed by a statement of prerequisites and co-requisites, if applicable. This description appears in the calendar.

For editorial consistency, and in consideration of the various uses of the Calendars, verbs should be in the present tense (i.e., "This course analyzes the nature and extent of...", rather than "This course will analyze...")

This is a one-semester laboratory oriented subject intended to introduce students to the world of pharmaceutical analysis. Selected physical and chemical techniques used in the control of raw materials and finished dosage forms are emphasized, especially USP and BP methods. Students should be aware that this course does not attempt to teach basic science but instead encourages students to apply their previously acquired knowledge, especially of chemistry and mathematics, in the pharmaceutical laboratory. Not open to students having completed Seneca College course PHA333.

Prerequisites: SC/CHEM 1000 3.0, SC/CHEM 1001 3.0 and SC/MATH 1014 3.0 (or Seneca courses CHM 273 and MTH 273).

Generic Course Description:

This is the description of the "Parent / Generic course" for Special Topics courses under which variances of the "Generic" course can be offered in different years (Max. 40 words). Generic course descriptions are published in the calendar.

List all degree credit exclusions, prerequisites, integrated courses, and notes below the course description.

Expanded Course Description:

Please provide a detailed course description, including topics / theories and learning objectives, as it will appear in supplemental calendars.

Learning Outcomes

Upon successful completion of this course, the student will be able to:

- demonstrate familiarity with Good Manufacturing Practice (GMP) regulations, as it relates to quality control laboratory data acquisition, record keeping and good documentation practices
- successfully carry out and complete various laboratory exercises emphasizing the analysis of pharmaceutical raw materials, in-process tests and finished product tests
- follow Standard Operating Procedures (SOPs) within the pharmaceutical laboratory
- write Certificate of Analysis (C of A), long term stability protocols and reports for drug substances and finished products
- apply knowledge from chemistry and mathematics towards interpreting the Pharmacopoeial compendia (e.g., BP and USP-NF, USP Supplements and on-line USP Reference Standard Catalogue)
- completely and correctly solve pharmaceutical calculations such as % purity and % label claim
- demonstrate use of chemical and pharmaceutical software/firmware such ChemStation UV-Vis software and VanKel Dissolution apparatus firmware.

Essential Employability Skills

- Communicate clearly, concisely and correctly in the written, spoken and visual form that fulfils the purpose and meets the needs of the audience.
- Respond to written, spoken, or visual messages in a manner that ensures effective communication.
- Execute mathematical operations accurately.
- Apply a systematic approach to solve problems.
- Use a variety of thinking skills to anticipate and solve problems.
- Locate, select, organize, and document information using appropriate technology and information systems.
- Analyze, evaluate, and apply relevant information from a variety of sources.
- Manage the use of time and other resources to complete projects.
- Take responsibility for one's own actions, decisions, and consequences.

Course Design:

Indicate how the course design supports students in achieving the learning objectives. For example, in the absence of scheduled contact hours what role does student-to-student and/or student-to-instructor communication play, and how is it encouraged?

Detail any aspects of the content, delivery, or learning goals that involve "face-to-face" communication, non-campus attendance or experiential education components.

Alternatively, explain how the course design encourages student engagement and supports student learning in the absence of substantial on-campus attendance.

Lecture and laboratory

Instruction:

1. Planned frequency of offering and number of sections anticipated (every year, alternate years, etc.).
2. Number of department members currently competent to teach the course.
3. Instructor(s) likely to teach the course in the coming year.
4. An indication of the number of contact hours (defined in terms of hours, weeks, etc.) involved, in order to indicate whether an effective length of term is being maintained **OR** in the absence of scheduled contact hours a detailed breakdown of the estimated time students are likely to spend engaged in learning activities

Offered as PHA333, administered and monitored by Seneca College. Made available to York students according to availability at Seneca College.
Instructors provided by Seneca College.

required by the course.

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Evaluation:

A detailed percentage breakdown of the basis of evaluation in the proposed course must be provided.

If the course is to be integrated, the additional requirements for graduate students are to be listed.

If the course is amenable to technologically mediated forms of delivery please identify how the integrity of learning evaluation will be maintained. (e.g. will "on-site" examinations be required, etc.)

30% midterm
40% final examination
30% laboratory work and assignments

Bibliography:

A READING LIST MUST BE INCLUDED FOR ALL NEW COURSES

The Library has requested that the reading list contain complete bibliographical information, such as full name of author, title, year of publication, etc., and that you distinguish between required and

Offered as PHA533, administered and monitored by Seneca College.
Supported by the Seneca College library.

Texts and laboratory manuals made available by Seneca College.

suggested readings. A statement is required from the bibliographer responsible for the discipline to indicate whether resources are adequate to support the course.

Also please list any online resources.

If the course is to be integrated (graduate/undergraduate), a list of the additional readings to be required of graduate students must be included. If no additional readings are to be required, a rationale should be supplied.

LIBRARY SUPPORT STATEMENT MUST BE INCLUDED.

Other Resources:

A statement regarding the adequacy of physical resources (equipment, space, etc.) must be appended. If other resources will be required to mount this course, please explain

COURSES WILL NOT BE APPROVED UNLESS IT IS CLEAR THAT ADEQUATE RESOURCES ARE AVAILABLE TO SUPPORT IT.

Space and equipment provided and maintained by Seneca College.

Course Rationale:

The following points should be addressed in the rationale:

How the course contributes to the learning objectives of the program / degree.

The relationship of the proposed course to other existing offerings, particularly in terms of overlap in objectives and/or content. If inter-Faculty overlap exists, some indication of consultation with the Faculty affected should be given.

The expected enrolment in the course.

This is one of a series of courses that Seneca College offers its Chemical Laboratory Technologist (Pharmaceutical) diploma students. It is therefore an existing course.

It is a course that offers extensive relevant hands-on experience in the subject matter for its students.

Through the Coregistration option, York students will be able to take this course as part of their York degree.

Faculty and Department Approval for Cross-listings:

If the course is to be cross-listed with another department, this section needs to be signed by all parties. In some cases there may be more than two signatures required (i.e. Mathematics, Women's Studies). In the majority of the cases either the Undergraduate Director or Chair of a unit approves the agreement to cross-list. All relevant signatures must be obtained prior to submission to the Faculty curriculum committee.

Dept: _____
Signature (Authorizing cross-listing) Department Date

Dept: _____
Signature (Authorizing cross-listing) Department Date

Dept: _____
Signature (Authorizing cross-listing) Department Date

Accessible format can be provided upon request.

COMMITTEE ON ACADEMIC STANDARDS, CURRICULUM AND PEDAGOGY TEMPLATE

NEW COURSE PROPOSAL FORM

Faculty:
Indicate all relevant Faculty(ies)

Science

Department:
Indicate department and course prefix (e.g. Languages, GER)

Chemistry SENE	Date of Submission: Nov. 17, 2015
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Course Number: Special Topics courses Include variance (e.g. HUMA 3000C 6.0, Variance is "C")	3072	Var:	Academic Credit Weight: Indicate both the fee, and MTCU weight if different from academic weight (e.g. AC=6, FEE=8, MET=6)	3
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Course Title:
The official name of the course as it will appear in the Undergraduate Calendar and on the Repository

Environmental Impact of Industrial Processes
--

Short Title:
Appears on any documents where space is limited - e.g. transcripts and lecture schedules - **maximum 40 characters**

Environmental Impact of Industrial Processes
--

With every new course proposal it is the Department's responsibility to ensure that new courses do not overlap with existing courses in other units. If similarities exist, consultation with the respective departments is necessary to determine degree credit exclusions and/or cross-listed courses.

Brief Course Description:

Maximum 2000 characters

(approximately 300 words including spaces and punctuation).

The course description should be carefully written to convey what the course is about. It should be followed by a statement of prerequisites and co-requisites, if applicable. This description appears in the calendar.

For editorial consistency, and in consideration of the various uses of the Calendars, verbs should be in the present tense (i.e., "This course analyzes the nature and extent of...", rather than "This course will analyze...")

This subject provides an overview of environmental pollution concepts as they apply to the treatment of wastewater for discharge to a receiving water body, and the treatment of source water for drinking water purposes. The laboratory component of this course will provide experience in the standard testing methodologies used to quantify the types of contaminants present (physical, chemical and bacterial), with emphasis on water and wastewater characterization. Not open to students having completed Seneca College course EII533. Prerequisites: SC/CHEM 1001 3.0, SC/MATH 1014 3.0 and one of SC/PHYS 1410 6.0, 1420 6.0 or 1010 6.0 (or Seneca courses OCC433, MTH173 and one of PHY273 or PHY353).

Generic Course Description:

This is the description of the "Parent / Generic course" for Special Topics courses under which variances of the "Generic" course can be offered in different years (Max. 40 words). Generic course descriptions are published in the calendar.

List all degree credit exclusions, prerequisites, integrated courses, and notes below the course description.

Expanded Course Description:

Please provide a detailed course description, including topics / theories and learning objectives, as it will appear in supplemental calendars.

Topics

Water and wastewater terminology (physical, chemical, biological and radiological characterization)

Wastewater collection (source characteristics, transport) and treatment (preliminary, primary, secondary, tertiary)

Water treatment (screening, coagulation, flocculation, filtration, sedimentation, disinfection) and distribution (transport, secondary disinfection, pressure control)

Learning Outcomes

Upon successful completion of this course, the student will:

- Have demonstrated an understanding of wastewater collection and conveyance to a wastewater treatment plant.
- Have demonstrated an understanding of water pollution sources, concepts, and conventional treatment methods for the removal of contaminants from wastewater.
- Have demonstrated an understanding of drinking water sources, concepts, and conventional treatment methods for the treatment of drinking water.
- Have demonstrated an understanding of water distribution principles and applications, with emphasis on the importance of secondary disinfection.
- Have gained familiarity in the standards methods and protocols of water and wastewater analysis.
- Be able to conduct analyses of Total Suspended Solids (TSS), Particle Size, Biochemical Oxygen Demand (BOD), Chlorides, Total Hardness, Total Alkalinity, Oil and Grease (O&G) and Total Phosphorus

Essential Employability Skills

- Communicate clearly, concisely and correctly in the written, spoken and visual form that fulfils the purpose and meets the needs of the audience.
- Respond to written, spoken, or visual messages in a manner that ensures effective communication.
- Execute mathematical operations accurately.
- Apply a systematic approach to solve problems.
- Use a variety of thinking skills to anticipate and solve problems.
- Locate, select, organize, and document information using appropriate technology and information systems.
- Show respect for diverse opinions, values, belief systems, and contributions of others.
- Interact with others in groups or teams in ways that contribute to effective working relationships and the achievement of goals.
- Manage the use of time and other resources to complete projects.
- Take responsibility for one's own actions, decisions, and consequences.

Course Design:

Indicate how the course design supports students in achieving the learning objectives. For example, in the absence of scheduled contact hours what role does student-to-student and/or student-to-instructor communication play, and how is it encouraged?

Detail any aspects of the content, delivery, or learning goals that involve "face-to-face" communication, non-campus attendance or experiential education components.

Alternatively, explain how the course design encourages student engagement and supports student learning in the absence of substantial on-campus attendance.

Lecture and laboratory

Instruction:

1. Planned frequency of offering and number of sections anticipated (every year, alternate years, etc.).
2. Number of department members currently competent to teach the course.
3. Instructor(s) likely to teach the course in the coming year.
4. An indication of the number of contact hours (defined in terms of hours, weeks, etc.) involved, in order to indicate whether an effective length of term is being maintained **OR** in the absence of scheduled contact hours a detailed breakdown of the estimated time students are likely to spend engaged in learning activities

Offered as EII533, administered and monitored by Seneca College. Made available to York students according to availability at Seneca College.
Instructors provided by Seneca College.

required by the course.

--

Evaluation:

A detailed percentage breakdown of the basis of evaluation in the proposed course must be provided.

If the course is to be integrated, the additional requirements for graduate students are to be listed.

If the course is amenable to technologically mediated forms of delivery please identify how the integrity of learning evaluation will be maintained. (e.g. will "on-site" examinations be required, etc.)

Term Test 20%
Assignment 10%
Laboratory Skills, Reports and Presentation 40%
Final Examination 30%

Bibliography:

A READING LIST MUST BE INCLUDED FOR ALL NEW COURSES

The Library has requested that the reading list contain complete bibliographical information, such as full name of author, title, year of publication, etc., and that you distinguish between required and

Offered as EII533, administered and monitored by Seneca College.
Supported by the Seneca College library.

Texts and laboratory manuals made available by Seneca College.

suggested readings. A statement is required from the bibliographer responsible for the discipline to indicate whether resources are adequate to support the course.

Also please list any online resources.

If the course is to be integrated (graduate/undergraduate), a list of the additional readings to be required of graduate students must be included. If no additional readings are to be required, a rationale should be supplied.

LIBRARY SUPPORT STATEMENT MUST BE INCLUDED.

Other Resources:

A statement regarding the adequacy of physical resources (equipment, space, etc.) must be appended. If other resources will be required to mount this course, please explain

COURSES WILL NOT BE APPROVED UNLESS IT IS CLEAR THAT ADEQUATE RESOURCES ARE AVAILABLE TO SUPPORT IT.

Space and equipment provided and maintained by Seneca College.

Course Rationale:

The following points should be addressed in the rationale:

How the course contributes to the learning objectives of the program / degree.

The relationship of the proposed course to other existing offerings, particularly in terms of overlap in objectives and/or content. If inter-Faculty overlap exists, some indication of consultation with the Faculty affected should be given.

The expected enrolment in the course.

This is one of a series of courses that Seneca College offers its Chemical Engineering Technologist diploma students. It is therefore an existing course. It is a course that offers extensive relevant hands-on experience in the subject matter for its students.

Through the Coregistration option, York students will be able to take this course as part of their York degree and would be exempted from the Seneca OCC433 pre-requisite.

Faculty and Department Approval for Cross-listings:

If the course is to be cross-listed with another department, this section needs to be signed by all parties. In some cases there may be more than two signatures required (i.e. Mathematics, Women's Studies). In the majority of the cases either the Undergraduate Director or Chair of a unit approves the agreement to cross-list. All relevant signatures must be obtained prior to submission to the Faculty curriculum committee.

Dept: _____
Signature (Authorizing cross-listing) Department Date

Dept: _____
Signature (Authorizing cross-listing) Department Date

Dept: _____
Signature (Authorizing cross-listing) Department Date

COMMITTEE ON ACADEMIC STANDARDS, CURRICULUM AND PEDAGOGY TEMPLATE

NEW COURSE PROPOSAL FORM

Faculty:
Indicate all relevant
Faculty(ies)

Science

Department:
Indicate department and
course prefix (e.g.
Languages, GER)

Chemistry SENE

Date of Submission:

Nov. 17, 2015

Course Number:
Special Topics courses
Include variance (e.g.
HUMA 3000C 6.0,
Variance is "C")

3083

Var:

Academic Credit Weight:
Indicate both the fee, and
MTCU weight if different from
academic weight (e.g. AC=6,
FEE=8, MET=6)

3

Course Title:
The official name of the
course as it will appear in
the Undergraduate
Calendar and on the
Repository

Chemical Instrumentation

Short Title:
Appears on any
documents where space
is limited - e.g.
transcripts and lecture
schedules - **maximum
40 characters**

Chemical Instrumentation

With every new course proposal it is the Department's responsibility to ensure that new courses do not overlap with existing courses in other units. If similarities exist, consultation with the respective departments is necessary to determine degree credit exclusions and/or cross-listed courses.

Brief Course Description:

Maximum 2000 characters

(approximately 300 words including spaces and punctuation).

The course description should be carefully written to convey what the course is about. It should be followed by a statement of prerequisites and co-requisites, if applicable. This description appears in the calendar.

For editorial consistency, and in consideration of the various uses of the Calendars, verbs should be in the present tense (i.e., "This course analyzes the nature and extent of..." rather than "This course will analyze...")

A continuation from SC/SENE 2083 3.0 (Seneca equivalent CMI333). Topics covered are atomic absorption spectrophotometry, electrode potentials, electrochemical cells, potentiometry, and mass spectrometry. If time permits, other topics will include: conductometry, polarography and anodic stripping voltammetry. Not open to students having completed Seneca College course CMI533.

Prerequisites: one of SC/CHEM 2021 3.0 or SC/CHEM 2050 4.0, and one of SC/CHEM 2080 4.0 or SC/SENE 2083 3.0, or Seneca courses CMI333 and one of ECI533, BIC433, BIC633 or CHO433.

Generic Course Description:

This is the description of the "Parent / Generic course" for Special Topics courses under which variances of the "Generic" course can be offered in different years (Max. 40 words). Generic course descriptions are published in the calendar.

List all degree credit exclusions, prerequisites, integrated courses, and notes below the course description.

Expanded Course Description:

Please provide a detailed course description, including topics / theories and learning objectives, as it will appear in supplemental calendars.

Topics

Lecture component

Atomic Absorption Spectrophotometry

Electrode Potentials

Potentiometry

Mass Spectrometry

Lab component

Atomic Absorption Spectrophotometry

Mercury Vapour Atomic Absorption Spectrophotometry

Selective Ion Electrodes

Redox Electrodes

Learning Outcomes

Upon successful completion of this course, the student will:

- have a fundamental understanding of the theory behind colorimetric, visible, ultraviolet, infrared, and fluorimetric instrumentation
- this will include an understanding of instrumental schematics and the function of the principal components in these instruments.
- have gained an understanding of the evolution of instrumentation and therefore understand the reasons for the next generation of instruments
- have an understanding of the advantages, disadvantages and applications for these instruments
- have hands-on laboratory experience with visible, ultraviolet, infrared and fluorimetric instruments
- have laboratory experience preparing one and two-component standards

Essential Employability Skills

- Communicate clearly, concisely and correctly in the written, spoken and visual form that fulfils the purpose and meets the needs of the audience.
- Respond to written, spoken, or visual messages in a manner that ensures effective communication.
- Execute mathematical operations accurately.
- Apply a systematic approach to solve problems.
- Use a variety of thinking skills to anticipate and solve problems.
- Locate, select, organize, and document information using appropriate technology and information systems.
- Show respect for diverse opinions, values, belief systems, and contributions of others.
- Interact with others in groups or teams in ways that contribute to effective working relationships and the achievement of goals.
- Manage the use of time and other resources to complete projects.
- Take responsibility for one's own actions, decisions, and consequences.

Course Design:

Indicate how the course design supports students in achieving the learning objectives. For example, in the absence of scheduled contact hours what role does student-to-student and/or student-to-instructor communication play, and how is it encouraged?

Detail any aspects of the content, delivery, or learning goals that involve "face-to-face" communication, non-campus attendance or experiential education components.

Alternatively, explain how the course design encourages student engagement and supports student learning in the absence of substantial on-campus attendance.

Lecture and laboratory

Instruction:

1. Planned frequency of offering and number of sections anticipated (every year, alternate years, etc.).
2. Number of department members currently competent to teach the course.
3. Instructor(s) likely to teach the course in the coming year.
4. An indication of the number of contact hours (defined in terms of hours, weeks, etc.) involved, in order to indicate whether an effective length of term is being maintained **OR** in the absence of scheduled contact hours a detailed breakdown of the estimated time students are likely to spend engaged in learning activities required by the course.

Offered as CMI533, administered and monitored by Seneca College. Made available to York students according to availability at Seneca College. Instructors provided by Seneca College.

Evaluation:

A detailed percentage breakdown of the basis of evaluation in the proposed course must be provided.

If the course is to be integrated, the additional requirements for graduate students are to be listed.

If the course is amenable to technologically mediated forms of delivery please identify how the integrity of learning evaluation will be maintained. (e.g. will "on-site" examinations be required, etc.)

2 Term Tests (15% each) 30%
Laboratory Reports 40%
Final Examination 30%

Bibliography:

A READING LIST MUST BE INCLUDED FOR ALL NEW COURSES

The Library has requested that the reading list contain complete bibliographical information, such as full name of author, title, year of publication, etc., and that you distinguish between required and suggested readings. A statement is required from the bibliographer responsible for the discipline to indicate whether resources are adequate to support the course.

Also please list any online resources.

If the course is to be integrated (graduate/ undergraduate), a list of the additional readings to be required of graduate students must be included. If no additional readings are to be required, a rationale should be supplied.

LIBRARY SUPPORT STATEMENT MUST BE INCLUDED.

Offered as CMI533, administered and monitored by Seneca College. Supported by the Seneca College library.

Texts and laboratory manuals made available by Seneca College.

Other Resources:

A statement regarding the adequacy of physical resources (equipment, space, etc.) must be appended. If other resources will be required to mount this course, please explain

COURSES WILL NOT BE APPROVED UNLESS IT IS CLEAR THAT ADEQUATE RESOURCES ARE AVAILABLE TO SUPPORT IT.

Space and equipment provided and maintained by Seneca College.

Course Rationale:

The following points should be addressed in the rationale:

How the course contributes to the learning objectives of the program / degree.

The relationship of the proposed course to other existing offerings, particularly in terms of overlap in objectives and/or content. If inter-Faculty overlap exists, some indication of consultation with the Faculty affected should be given.

The expected enrolment in the course.

This is one of a series of courses that Seneca College offers its Chemical Laboratory Technician (Pharmaceutical) and Chemical Engineering Technologist diploma students. It is therefore an existing course. It is a course that offers extensive relevant hands-on experience in the subject matter for its students. Through the Coregistration option, York students will be able to take this course as part of their York degree.

Faculty and Department Approval for Cross-listings:

If the course is to be cross-listed with another department, this section needs to be signed by all parties. In some cases there may be more than two signatures required (i.e. Mathematics, Women's Studies). In the majority of the cases either the Undergraduate Director or Chair of a unit approves the agreement to cross-list. All relevant signatures must be obtained prior to submission to the Faculty curriculum committee.

Dept: _____
Signature (Authorizing cross-listing) Department Date

Dept: _____
Signature (Authorizing cross-listing) Department Date

Dept: _____
Signature (Authorizing cross-listing) Department Date

Accessible format can be provided upon request.

COMMITTEE ON ACADEMIC STANDARDS, CURRICULUM AND PEDAGOGY TEMPLATE

NEW COURSE PROPOSAL FORM

Faculty:
Indicate all relevant Faculty(ies)

Science

Department:
Indicate department and course prefix (e.g. Languages, GER)

Chemistry SENE	Date of Submission: Nov. 17, 2015
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Course Number: Special Topics courses Include variance (e.g. HUMA 3000C 6.0, Variance is "C")	3084	Var:	Academic Credit Weight: Indicate both the fee, and MTCU weight if different from academic weight (e.g. AC=6, FEE=8, MET=6)	3
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Course Title:
The official name of the course as it will appear in the Undergraduate Calendar and on the Repository

Pharmaceutical Analysis – Advanced

Short Title:
Appears on any documents where space is limited - e.g. transcripts and lecture schedules - **maximum 40 characters**

Pharmaceutical Analysis – Advanced

With every new course proposal it is the Department's responsibility to ensure that new courses do not overlap with existing courses in other units. If similarities exist, consultation with the respective departments is necessary to determine degree credit exclusions and/or cross-listed courses.

Brief Course Description:

Maximum 2000 characters

(approximately 300 words including spaces and punctuation).

The course description should be carefully written to convey what the course is about. It should be followed by a statement of prerequisites and co-requisites, if applicable. This description appears in the calendar.

For editorial consistency, and in consideration of the various uses of the Calendars, verbs should be in the present tense (i.e., "This course analyzes the nature and extent of..." rather than "This course will analyze...")

This is a one semester laboratory oriented subject intended to introduce students to aspects of pharmaceutical analytical methods validation. Students are introduced to regulatory requirements and guidelines for validation as well as validation protocol, validation SOPs and specifications for validation. Also discussed are critical analytical and processing parameters or quality attributes. The laboratory practical focusses on the following experiments: USP active pharmaceutical ingredient (API) impurities analysis using HPLC, USP uniformity of dosage unit by Weight Variation using HPLC, USP uniformity of dosage unit by Content Uniformity using HPLC and USP residual solvent impurities analysis of drug products by Headspace-GC. Not open to students having completed Seneca College course PHA533. Prerequisites: SC/CHEM 2080 4.0 and SC/CHEM 3080 4.0 (or Seneca courses PHA 333, TAC 333 and STA 453).

Generic Course Description:

This is the description of the "Parent / Generic course" for Special Topics courses under which variances of the "Generic" course can be offered in different years (Max. 40 words). Generic course descriptions are published in the calendar.

List all degree credit exclusions, prerequisites, integrated courses, and notes below the course description.

Expanded Course Description:

Please provide a detailed course description, including topics / theories and learning objectives, as it will appear in supplemental calendars.

Learning Outcomes

Upon successful completion of this course, the student will be able to:

- calculate chromatographic attributes
- set-up and run HPLC and GC instruments to meet United States Pharmacopeia (USP) chromatographic system suitability requirements
- conduct GC analyses for residual solvent impurities to meet USP Chapter 467 requirements
- demonstrate knowledge of how the theory of Headspace GC is applied to enhance analyte detection and lower limits of quantitation
- conduct HPLC assay and analyze degradant impurities on drug substances and finished products (tablets, caplets)
- demonstrate familiarity with ICH validation requirements for analytical methods validation, including identification of critical validation parameters
- set validation specifications based on ICH, GMP guidelines
- write validation protocols/SOPs based on ICH, GMP guidelines
- derive pharmaceutical equations as well as calculate potency, % LC and % impurities
- operate the Chemstation software that controls the Agilent 1100 HPLC, 1200 HPLC, Agilent 6890 and 7890 Headspace GC for the purpose of method acquisition, data review, sequence reprocessing and data analysis
- write laboratory reports and draft responses to a laboratory deficiency

Essential Employability Skills

- Communicate clearly, concisely and correctly in the written, spoken and visual form that fulfills the purpose and meets the needs of the audience.
- Respond to written, spoken, or visual messages in a manner that ensures effective communication.
- Execute mathematical operations accurately.
- Apply a systematic approach to solve problems.
- Use a variety of thinking skills to anticipate and solve problems.
- Locate, select, organize, and document information using appropriate technology and information systems.
- Analyze, evaluate, and apply relevant information from a variety of sources.
- Manage the use of time and other resources to complete projects.
- Take responsibility for one's own actions, decisions, and consequences.

Course Design:

Indicate how the course design supports students in achieving the learning objectives. For example, in the absence of scheduled contact hours what role does student-to-student and/or student-to-instructor communication play, and how is it encouraged?

Detail any aspects of the content, delivery, or learning goals that involve "face-to-face" communication, non-campus attendance or experiential education components.

Alternatively, explain how the course design encourages student engagement and supports student learning in the absence of substantial on-campus attendance.

Lecture and laboratory

Instruction:

1. Planned frequency of offering and number of sections anticipated (every year, alternate years, etc.).
2. Number of department members currently competent to teach the course.
3. Instructor(s) likely to teach the course in the coming year.
4. An indication of the number of contact hours (defined in terms of hours, weeks, etc.) involved, in order to indicate whether an effective length of term is being maintained **OR** in the absence of scheduled contact hours a detailed breakdown of the estimated time students are likely to spend engaged in learning activities

Offered as PHA533, administered and monitored by Seneca College. Made available to York students according to availability at Seneca College.
Instructors provided by Seneca College.

required by the course.

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Evaluation:

A detailed percentage breakdown of the basis of evaluation in the proposed course must be provided.

If the course is to be integrated, the additional requirements for graduate students are to be listed.

If the course is amenable to technologically mediated forms of delivery please identify how the integrity of learning evaluation will be maintained. (e.g. will "on-site" examinations be required, etc.)

30% Midterm
40% Final examination
30% Laboratory reports, assignments, oral quiz and presentations

Bibliography:

A READING LIST MUST BE INCLUDED FOR ALL NEW COURSES

The Library has requested that the reading list contain complete bibliographical information, such as full name of author, title, year of publication, etc., and that you distinguish between required and

Offered as PHA533, administered and monitored by Seneca College.
Supported by the Seneca College library.

Texts and laboratory manuals made available by Seneca College.

suggested readings. A statement is required from the bibliographer responsible for the discipline to indicate whether resources are adequate to support the course.

Also please list any online resources.

If the course is to be integrated (graduate/undergraduate), a list of the additional readings to be required of graduate students must be included. If no additional readings are to be required, a rationale should be supplied.

LIBRARY SUPPORT STATEMENT MUST BE INCLUDED.

Other Resources:

A statement regarding the adequacy of physical resources (equipment, space, etc.) must be appended. If other resources will be required to mount this course, please explain

COURSES WILL NOT BE APPROVED UNLESS IT IS CLEAR THAT ADEQUATE RESOURCES ARE AVAILABLE TO SUPPORT IT.

Space and equipment provided and maintained by Seneca College.

Course Rationale:

The following points should be addressed in the rationale:

How the course contributes to the learning objectives of the program / degree.

The relationship of the proposed course to other existing offerings, particularly in terms of overlap in objectives and/or content. If inter-Faculty overlap exists, some indication of consultation with the Faculty affected should be given.

The expected enrolment in the course.

This is one of a series of courses that Seneca College offers its Chemical Laboratory Technologist (Pharmaceutical) diploma students. It is therefore an existing course.

It is a course that offers extensive relevant hands-on experience in the subject matter for its students.

Through the Coregistration option, York students will be able to take this course as part of their York degree and would be exempted from the Seneca PHA333 pre-requisite.

Faculty and Department Approval for Cross-listings:

If the course is to be cross-listed with another department, this section needs to be signed by all parties. In some cases there may be more than two signatures required (i.e. Mathematics, Women's Studies). In the majority of the cases either the Undergraduate Director or Chair of a unit approves the agreement to cross-list. All relevant signatures must be obtained prior to submission to the Faculty curriculum committee.

Dept: _____
Signature (Authorizing cross-listing) Department Date

Dept: _____
Signature (Authorizing cross-listing) Department Date

Dept: _____
Signature (Authorizing cross-listing) Department Date

COMMITTEE ON ACADEMIC STANDARDS, CURRICULUM AND PEDAGOGY TEMPLATE

NEW COURSE PROPOSAL FORM

Faculty:
Indicate all relevant Faculty(ies)

Science

Department: Indicate department and course prefix (e.g. Languages, GER)	Bethune College, BC	Date of Submission:	December 7, 2105
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Course Number: Special Topics courses Include variance (e.g. HUMA 3000C 6.0, Variance is "C")	BC1800	Var: B	Academic Credit Weight: Indicate both the fee, and MTCU weight if different from academic weight (e.g. AC=6, FEE=8, MET=6)	3
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Course Title:
The official name of the course as it will appear in the Undergraduate Calendar and on the Repository

First Year Success Seminars in Science
--

Short Title:
Appears on any documents where space is limited - e.g. transcripts and lecture schedules - **maximum 40 characters**

First Year Success Seminars in Science
--

With every new course proposal it is the Department's responsibility to ensure that new courses do not overlap with existing courses in other units. If similarities exist, consultation with the respective departments is necessary to determine degree credit exclusions and/or cross-listed courses.

Brief Course Description:

Maximum 2000 characters

(approximately 300 words including spaces and punctuation).

The course description should be carefully written to convey what the course is about. It should be followed by a statement of prerequisites and co-requisites, if applicable. This description appears in the calendar.

For editorial consistency, and in consideration of the various uses of the Calendars, verbs should be in the present tense (i.e., "This course analyzes the nature and extent of...", rather than "This course will analyze...")

First Year Success Seminars in Science is designed to help students gain the knowledge, skills, and resourcefulness they will need to be successful Science students at York University. The course will help students adapt to their faculty and university by providing academic skills training, peer-peer connections and a sense of faculty culture. Students will develop skills and individualized learning plans that will help them be successful throughout their time as a student at York. Using the in-class and online environment, students will apply their knowledge through activities, discussions and interactions with staff faculty and peers.

Generic Course Description:

This is the description of the "Parent / Generic course" for Special Topics courses under which variances of the "Generic" course can be offered in different years (Max. 40 words). Generic course descriptions are published in the calendar.

List all degree credit exclusions, prerequisites, integrated courses, and notes below the course description.

[Empty box for Generic Course Description]

Expanded Course Description:

Please provide a detailed course description, including topics / theories and learning objectives, as it will appear in supplemental calendars.

First Year Success Seminars in Science is designed to help students gain the knowledge, skills, and resourcefulness they will need to be successful Science students at York University. The course will help students adapt to their faculty and university by providing academic skills training, peer-peer connections and a sense of faculty culture. Students will develop skills and individualized learning plans that will help them be successful throughout their time as a student at York.

Overall Course Learning Objectives:

Upon successful completion of the course, students will be able to:

- Identify their personal learning goals and develop the strategies and plans necessary to reach those goals
- Adapt and apply academic strategies and learning skills to science and non-science courses at York.
- Apply critical thinking, research and writing skills in the completion of course assignments and other on- and off-campus pursuits.
- Demonstrate the math skills needed for university math courses relevant to their major.
- Utilize university resources and information systems for completing academic courses and in their personal betterment.
- Apply their knowledge of faculty and university procedures and support systems to successfully navigate their course and degree requirements.

This course is divided into eight modules plus completion of an individualized learning plan (ILP), which help draw connections between the information learnt in different modules. Participation online and in-class is a core requirement of each module and is mandatory.

Module 1: University/Faculty Culture

This module will: familiarize students with the administrative structure of York and the Faculty, introduce key procedures and deadlines, and help students connect with people and resources that will support them in navigating the above.

Module 2: Campus Resources

This module will help students identify and network with key curricular and co-curricular resources on campus.

Module 3: Learning and Study Skills

This module will improve student success and efficiency in studying and completing course tasks. In addition, students will become familiar with and utilize Learning Skills Services at York University.

Module 4: Academic Research and Writing Skills

This module will help students effectively complete written assignments. Students will be introduced to the types of writing that they are likely to encounter in their discipline and become familiar with the York University libraries.

Module 5: Resilience

This module will help students plan for adversity and care for their

mental and physical health while completing their degree.

Module 6: Numeracy

In this module students will assess their numeracy (math) skills and create a plan to address any numeracy needs.

Module 7: Financial Literacy

In this module students will be provided additional information on financial services at York and budgeting skills.

Module 8: Life after graduation

In this module students will receive specialized career information based on their department and develop a career plan.

Course Design:

Indicate how the course design supports students in achieving the learning objectives. For example, in the absence of scheduled contact hours what role does student-to-student and/or student-to-instructor communication play, and how is it encouraged?

Detail any aspects of the content, delivery, or learning goals that involve "face-to-face" communication, non-campus attendance or experiential education components.

Alternatively, explain how the course design encourages student engagement and supports student learning in the absence of substantial on-campus attendance.

This course is designed as a blended experience that is both incorporates both active learning and experiential education components.

Most in-class time will be spent on applying knowledge through activities and interacting with staff, faculty and peers. Therefore material necessary to support active participation will be provided online before in-class meetings. It is expected that students prepare for class by reading and completing all assigned course material/activities.

To qualify as blended at least 1/3 of in-class meetings must be replaced with online instruction. Moodle will also be used to facilitate this instruction – including online discussions, lectures and submission of some assignments. Students will be provided with a customized schedule at the start of term indicating which in-class meetings will be replaced by online/out of class components. To build connectedness to peers and university culture the remaining in-class meetings will be active and focused on interactions and discussions with staff, faculty and peers.

Some in-class meetings will also be canceled to free up student time for individual appointments with the course director and/or an academic advisor. To help personalize the student experience and build helping relationships with faculty/staff that can help students stay on track for academic success.

Experiential education helps students apply theory to an experience either in- or out- of class and requires students to reflect upon their learning. Through numerous in-class workshops students will be exposed to the basics of student development theory as well as best practices in student learning, especially as it pertains to the first year experience and transition to university. Students must apply these theories in building their own individualized learning plan which must include interactions with on-campus service providers. Students will also be guided in reflections to build connections between their course learning and on and off-campus success.

Instruction:

1. Planned frequency of offering and number of sections anticipated (every year, alternate years, etc.).
2. Number of department members currently competent to teach the course.
3. Instructor(s) likely to teach the course in the coming year.
4. An indication of the number of contact hours (defined in terms of hours, weeks, etc.) involved, in order to indicate whether an effective length of term is being maintained **OR** in the absence of scheduled contact hours a detailed breakdown of the estimated time students are likely to spend engaged in learning activities required by the course.

1. Two sections per year, every year with approximately 20-30 students per section.
2. The course would ideally be taught by the College Academic Life Coordinator, a faculty member associated with Bethune College however the Master of Bethune College and other Faculty members with training in the first year experience may also be competent to teach the course. Therefore a minimum of 2 faculty members are competent and there are likely 10 -12 in the Faculty of Science that could fulfill this role.
3. Tanya R. Da Sylva, College Academic Life Coordinator
4. Students will spend 18 – 21 hours in-class, with an additional 12 hours dedicated to online lectures, discussions and activities. The remainder 3 – 6 hours of contact time will be spent in individual advising appointments or at campus workshops (e.g., learning skills) at the direction of the course instructor.

Evaluation:

A detailed percentage breakdown of the basis of evaluation in the proposed course must be provided.

If the course is to be integrated, the additional requirements for graduate students are to be listed.

If the course is amenable to technologically mediated forms of delivery please identify how the integrity of learning evaluation will be maintained. (e.g. will "on-site" examinations be required, etc.)

Activity/Assignment	% of Final Grade
Participation	15%
<ul style="list-style-type: none"> • Including <ul style="list-style-type: none"> ○ Information, Research and Literacy Goals Reflection (in-class and online components) ○ Financial Literacy Reflection (in-class and online components) ○ Campus Services in-class workshop attendance (Library, PCS, Math, Writing Center) 	
Course Syllabus Activity (online)	3%
Campus Resources Activity (online)	2%
Looking Ahead Degree Progress Activity (in-class and online components)	10%
Time Management Plan (in-class)	5%
Self Care Plan (in-class)	5%
Numeracy Plan (in-class and online components)	5%
Career Goal Plan (in and out of class components)	10%
Passport to Success Certificate Completion (through Learning Skills Services)	10%
Individualized Learning Plan (due in 3 parts throughout the year)	35%

Bibliography:

A READING LIST MUST BE INCLUDED FOR ALL NEW COURSES

The Library has requested that the reading list contain complete bibliographical information, such as full name of author, title, year of publication, etc., and that you distinguish between required and suggested readings. A statement is required from the bibliographer responsible for the discipline to indicate whether resources are adequate to support the course.

Also please list any online resources.

If the course is to be integrated (graduate/undergraduate), a list of

We will be reading select chapters from *How to Succeed in University (and Get a Great Job!): Mastering the Critical Skills You Need for School, Work and Life.* by T.R. Klassen and J.A. Dwyer. UBCPress 2015

Readings will be required.

How to Succeed in University is available to students as a free [eBook](#)

the additional readings to be required of graduate students must be included. If no additional readings are to be required, a rationale should be supplied.

LIBRARY SUPPORT STATEMENT MUST BE INCLUDED.

Other Resources:

A statement regarding the adequacy of physical resources (equipment, space, etc.) must be appended. If other resources will be required to mount this course, please explain

COURSES WILL NOT BE APPROVED UNLESS IT IS CLEAR THAT ADEQUATE RESOURCES ARE AVAILABLE TO SUPPORT IT.

The only physical resources needed are classroom space. Spaces that support collaborative work and group discussion would be appreciated. These spaces exist in the Life Sciences Building, TEL and other locations.

Course Rationale:

The following points should be addressed in the rationale:

How the course contributes to the learning objectives of the program / degree.

The relationship of the proposed course to other existing offerings, particularly in terms of overlap in objectives and/or content. If inter-Faculty overlap exists, some indication of consultation with the Faculty affected should be given.

The expected enrolment in the course.

Enrolment in First Year Success Seminars would help Faculty of Science students develop the skills necessary to succeed in their degree, and be connected members of the Faculty and University. Program specific modules within the course structure would provide further opportunities to focus on skills necessary for core courses.

First Year Success Seminars in Science is based on best practices in student transitions, engagement, first year experience and foundational skills development..

Alf Lizzio's Five Senses framework is a common set of themes and language that has been useful in designing first-year strategies across the globe. At York University the Five Senses of Success model has been used to help build orientation and first-year programming. Successful student programming will increase student engagement, retention, and academic achievement. To build successful programming Lizzio suggests programming that increases students' "Senses of Success".

This course would use the framework of Lizzio's Five Senses by providing students with:

- An increased sense of connectedness by
 - Providing an enjoyable, interactive, non-threatening learning environment that encourages students to see their department, faculty and university as a community they belong in.
 - Providing purposeful peer-connections and helping students access institutional help and support
- An increased sense of capability and resourcefulness by
 - Providing an individually tailored experience that meets student needs as learners
 - Providing flexibility in access and pace, within a framework that demonstrates to students how they can become self-directed learners
 - Providing challenges that enhance their academic skills base while providing consistent feedback on learning gains and facilitating connections to support providers
 - Providing connection to advising
- An increased sense of purpose by
 - Providing students with a stimulating learning environment where they can see the relevance of their degree path and skill development to future life/career goals and to off-campus pursuits
 - Providing opportunities to explore topics of current scientific interest within their discipline
- An increased sense of culture by
 - Providing an environment that supports and demonstrates the core values of a university: critical thinking and inquiry, academic integrity, collegiality and independence.

Faculty and Department Approval for Cross-listings:

If the course is to be cross-listed with another department, this section needs to be signed by all parties. In some cases there may be more than two signatures required (i.e. Mathematics, Women's Studies). In the majority of the cases either the Undergraduate Director or Chair of a unit approves the agreement to cross-list. All relevant signatures must be obtained prior to submission to the Faculty curriculum committee.

Dept:	_____	_____	_____
	Signature (Authorizing cross-listing)	Department	Date
Dept:	_____	_____	_____
	Signature (Authorizing cross-listing)	Department	Date
Dept:	_____	_____	_____
	Signature (Authorizing cross-listing)	Department	Date

Accessible format can be provided upon request.

**STEACIE SCIENCE & ENGINEERING LIBRARY
YORK UNIVERSITY**

MEMORANDUM

To: Tanya Da Sylva, Bethune College
From: John Dupuis, Science Librarian
Re: BC 1800 – Bethune College First Year Success Seminars in Science
Date: December 3, 2015

I have reviewed the course proposal and attached bibliography for **BC 1800 – Bethune College First Year Success Seminars in Science** and can state that the York University Libraries have the required resources to support this undergraduate level course.

Please be aware that the library offers the following services to help students with research assignments:

- A librarian can introduce students to research techniques, including how to evaluate Internet sources for use in scholarly research.
- Individual students can set up consultations with a subject expert to kickstart his or her research project.
- Links to online journal and conference articles can be added to the course's Library Reserves listing

The following electronic resources licensed by the library may be of help to the students in this course:

- **Scholars Portal Journals** is a comprehensive database of articles covering all disciplinary areas. The articles can be helpful across a broad range of the reflection activities that students will be participating in.
- **Books 24x7, Springer eBooks, Scholars Portal eBooks** are representative of the range of ebook offering at the library which cover science, mathematics, technology, career topics, personal growth and reflection, education, business and which will be useful to students in the various activities in the course.

The Steacie, Scott and Bronfman libraries will all have print book collections that will be able to support this course.

If you have any questions, please do not hesitate to contact me.

Changes to Existing Course

Faculty:**Department:**

Chemistry

Date of Submission:**Course Number:**

CHEM 1500 4.00

Effective Session:**Course Title:**

Introduction to Chemistry

Type of Change:

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

Change From:

An introductory course in chemistry for students needing an adequate preparation for SC/CHEM 1000 3.00 and SC/CHEM 1001 3.00. Topics include basic atomic theory, stoichiometry, the periodic table, chemical bonding, equilibria, acids and bases, oxidation-reduction and organic chemistry. Each student is counselled by a faculty adviser to enrol either in this course or in SC/CHEM 1000 3.00 and SC/CHEM 1001 3.00 depending on previous chemistry experience. Three lecture hours per week, ^ three laboratory hours ~~and mandatory enrolment in the SC/CHEM 1500 0.00 tutorial.~~ One term. Four credits. Note: May not be taken by any student who has taken or is currently taking another university course in chemistry.

To:

An introductory course in chemistry for students needing an adequate preparation for SC/CHEM 1000 3.00 and SC/CHEM 1001 3.00. Topics include basic atomic theory, stoichiometry, the periodic table, chemical bonding, equilibria, acids and bases, oxidation-reduction and organic chemistry. Each student is counselled by a faculty adviser to enrol either in this course or in SC/CHEM 1000 3.00 and SC/CHEM 1001 3.00 depending on previous chemistry experience. Three lecture hours per week, **two tutorial hours and three laboratory hours every two weeks.** One term. Four credits. Note: May not be taken by any student who has taken or is currently taking another university course in chemistry.

Rationale:

This proposal accompanies a proposal to delete SC/CHEM 1509 0.00 ("Compulsory Tutorial for SC/CHEM 1500 4.00").

The goal is to replace the tutorial sections of SC/CHEM 1509 0.00 with a single tutorial session within SC/CHEM 1500 4.0 proper, and thus to delete SC/CHEM 1509 0.00. SC/CHEM 1509 0.00 is a relic of history. It presumably enabled the division of the class into more than one tutorial section while independently maintaining several lab sections within the main course but without needing to create separate course sections, each with its own lecture and tutorial meetings and each with their own lab sections. There is now no need or desire to conduct separate tutorial sessions.

The new description also recognizes and specifies that both tutorial and lab sessions occur every two weeks.

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:

Department:

Date of Submission:

Course Number:

Effective Session:

Course Title:

Type of Change:

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

Change From:

To:

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Rationale:

This proposal is contingent on the accompanying change to the description of SC/CHEM 1500 4.00.

The goal is to replace the tutorial sections of SC/CHEM 1509 0.00 with a single tutorial session within SC/CHEM 1500 4.0 proper, and thus to delete SC/CHEM 1509 0.00. SC/CHEM 1509 0.00 is a relic of history. It presumably enabled the division of the class into more than one tutorial section while independently maintaining several lab sections within the main course but without needing to create separate course sections, each with its own lecture and tutorial meetings and each with their own lab sections. There is now no need or desire to conduct separate tutorial sessions.

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:

Date of Submission:

Course Number:

Effective Session:

Course Title:

Type of Change:

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

Change From:

To:

<p>An introduction to the general principles of pharmacotherapeutics, pharmacokinetics and pharmacodynamics. Prerequisites: SC/CHEM 1550 3.00 or SC/BIOL 2020 4.00 or SC/BCHM 2020 4.00. Note: Preference in enrolment will be given to students in the Second Entry Nursing Program.</p>	<p>An introduction to the general principles of pharmacotherapeutics, pharmacokinetics and pharmacodynamics. Prerequisites: SC/CHEM 1550 3.00 or SC/BIOL 2020 4.00 or SC/BCHM 2020 4.00. Note: Preference in enrolment will be given to students in the Second Entry Nursing Program. Course credit exclusion: SC/SENE 3073 3.0.</p>
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Rationale:

This change results from and is contingent upon the approval of the creation of SC/SENE 3073 3.0, with which there is sufficient overlap to warrant a course credit exclusion.

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:

Date of Submission:

Course Number:

Effective Session:

Course Title:

Type of Change:

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

Change From:

To:

<p>The theory and application of a variety of modern instrumental methods. Topics include basic electronics, signal processing, electroanalytical methods, optical spectroscopy, atomic absorption and emission spectroscopy, chromatography and mass spectrometry. This course covers applications relevant to modern chemical analysis. Three lecture hours, three laboratory hours. One term. Four credits. Prerequisites: SC/CHEM 2080 4.00; SC/PHYS 1010 6.00 or SC/PHYS 1410 6.00..</p>	<p>The theory and application of a variety of modern instrumental methods. Topics include basic electronics, signal processing, electroanalytical methods, optical spectroscopy, atomic absorption and emission spectroscopy, chromatography and mass spectrometry. This course covers applications relevant to modern chemical analysis. Three lecture hours, three laboratory hours. One term. Four credits. Prerequisites: SC/CHEM 2080 4.00; SC/PHYS 1010 6.00 or SC/PHYS 1410 6.00. Course credit exclusions: SC/SENE 2081 3.0 and SC/SENE 2082 3.0.</p>
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Rationale:

This change results from the creation of SC/SENE 2081 3.0 and SC/SENE 2082 3.0, with which there is sufficient overlap to warrant course credit exclusions.

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 Courses & Degree Programs

Department:

Date of Submission:

Course Number:

Effective Session:

Course Title:

Type of Change:

- | | | | |
|-------------------------------------|---|-------------------------------------|---|
| <input type="checkbox"/> | in degree requirements | <input type="checkbox"/> | in cross-listing |
| <input checked="" type="checkbox"/> | in course number/level | <input type="checkbox"/> | in degree credit exclusion(s) |
| <input checked="" type="checkbox"/> | in credit value | <input type="checkbox"/> | regularize course (from Special Topics) |
| <input checked="" type="checkbox"/> | in title (max. 40 characters for short title) | <input checked="" type="checkbox"/> | in course format/mode of delivery * |
| <input checked="" type="checkbox"/> | in Calendar description (max. 40 words or 200 characters) | <input type="checkbox"/> | retire/expire course |
| <input checked="" type="checkbox"/> | in pre/co-requisite(s) | <input type="checkbox"/> | other (please specify): |

Change From:**To:**~~4090 4.00 Biophysics II~~

~~This course will focus on applications of atomic, nuclear, and quantum physics in biology and medicine. Topics will include interactions between radiation and matter (including spectroscopy), principles of ~~imaging and~~ radiation therapy in medicine, and micro/nano-fluidics. An array of modern experimental techniques will also be covered, including ~~these such as~~: optical tweezers, atomic force microscopy (AFM), x-ray crystallography, and nuclear magnetic resonance (NMR, MRI). Relevant signal processing strategies such as spectral analysis (e.g., Fourier transforms) and image analysis (e.g., convolutions, tomography) will be covered in detail.~~

~~A regular three-hour laboratory is an integral part of the course. Students will undertake several experiments covering topics such as the following: diffusion of bio-molecules (including electro-diffusion across membranes), action potentials, absorption of radiation and fluorescence of bio-molecules, NMR spectroscopy, X-ray crystallography to determine protein structure, and bioacoustics. The objective of the course is to help students to integrate the knowledge gained in third and fourth year biology and physics courses and to use methods and techniques of physics to study biological processes. The course is designed to be a capstone to the Biophysics Program.~~

~~Prerequisites~~

~~SC/BPHS 4080 3.0; SC/PHYS 3040 6.0.~~

4090 3.00 Biophysical Techniques

This course will focus on applications of atomic, nuclear, and quantum physics in biology and medicine. Topics will include interactions between radiation and matter (including spectroscopy), principles of **biological and medical imaging**, radiation therapy in medicine, and micro/nano-fluidics. An array of modern experimental techniques will also be covered, including: optical tweezers, atomic force microscopy (AFM), x-ray crystallography, and nuclear magnetic resonance (NMR, MRI). Relevant signal processing strategies such as spectral analysis (e.g., Fourier transforms) and image analysis (e.g., convolutions, tomography) will be covered in detail.

A regular one-hour tutorial will serve to provide background training and hands-on support for student lab work.

Prerequisites

SC/BPHS 2090 3.0; SC/PHYS 2020 3.0; SC/PHYS 2060 3.0

Corequisites

SC/PHYS 3040 6.0.

Rationale:

BPBS 4080 and BPBS 4090 will be offered only every other year in the future. We wish to rename both these courses to have titles reflecting their existing content because they will no longer necessarily be taken in sequence. The offering of these upper-division courses in alternate years is an approach used successfully in the Astronomy stream for many years, and will free up a half-course of teaching resources.

To adapt BPBS 4090 to be taught to students in either their third or fourth year, rather than to students in their fourth year exclusively, the prerequisites for BPBS 4080 have been transferred to it, and it is being moved to the Winter Term. That move will ensure that students have taken the first half of PHYS 3040 6.0 (introductory quantum mechanics) before starting BPBS 4090 3.0.

Judicious scheduling of course topics in BPBS 4090 will ensure that they follow the introduction of necessary background concepts in PHYS 3040 6.0. Lastly, the laboratory component of BPBS 4090 4.0 will be reduced to a single lab assignment in BPBS 4090 3.0, in line with its lower credit value. BPBS 4310 3.0 (Biophysics Research Project) offers further opportunity for practical work.

The Senate of York University

Synopsis

The 622nd Meeting of Senate held on Thursday, January 28, 2016

Remarks

The President, Dr Mamdouh Shoukri, commented on a successful Inclusion Day Conference held on January 27, and called on the University community to uphold core values in a respectful, inclusive manner without intimidation or marginalization. An advisory committee will be struck to review the University's policies to ensure that they promote and sustain free and open exchanges in a positive atmosphere. President Shoukri expressed confidence that the new federal government is sensitive to the special role of universities, and he continues to work with others in championing postsecondary causes. A funding recommendation has not yet been submitted to the Treasury Board for the new campus, but the University is enhancing its presence in Markham under the leadership of Professor Angelo Belcastro, Advisor and Executive Director for the project. On the eve of a trip to India as a member of an Ontario government delegation, Dr Shoukri looked forward to visiting York's campus in Hyderabad and further solidifying ties with partners in that country.

The President's monthly "Kudos Report" can be accessed from the agenda package.

Reports

Under the auspices of the Academic Policy, Planning and Research Committee (APPRC), Vice-President Research and Innovation Robert Haché presented his annual report on research. The main topics covered were:

- recognition accorded to York faculty members and graduate student researchers
- York's publications and citations record in comparative perspective
- individual and aggregated sponsored income (which has grown over a five-year period)
- notable achievements in collaborative research
- the University's standing in national indicators of research intensity
- growth in the number, kind and value of research interactions facilitated by Innovation York and the Knowledge Mobilization unit
- major initiatives for the year, included the VPRI's active participation in the UAP renewal exercise, action arising from a forthcoming report of the Task Force on Sustainability Research, and the developing consensus around priorities and strategies to be identified in the Plan for the Intensification and Enhancement of Research (PIER)

The report can be accessed from the Senate meeting Website with other material for the meeting.

Approvals

Senate approved recommendations made by the Academic Standards, Curriculum and Pedagogy Committee to

The Senate of York University

Synopsis

- establish an Honours Minor Degree Option in Cognitive Science, Department of Philosophy, Faculty of Liberal Arts & Professional Studies
- change degree and admission requirements for the Honours Minor in Business, School of Administrative Studies, Faculty of Liberal Arts & Professional Studies
- close the Specialized Honours BA and Honours Double Major Interdisciplinary (Linked) BA degree options, Italian Studies, Department of Languages, Literatures & Linguistics, Faculty of Liberal Arts & Professional Studies and revise degree requirements for the Honours BA program
- merge the *General Certificate in Gender & Women's Studies* and the *Advanced Certificate in Gender & Women's Studies* under the name of *Certificate in Gender and Women's Studies* and requirements, School of Women's Studies , Faculty of Liberal Arts & Professional Studies and Glendon
- change the name of the program in Computer Engineering to *Electrical & Computer Engineering* while adding Electrical Engineering as a field of specialization and revising certain other degree and admission requirements, Lassonde School of Engineering
- close three streams within the BA and BSc Programs in Computer Science, Department of Electrical Engineering & Computer Science, Lassonde School of Engineering
- change requirements for the Dispute Resolution Specialization of the Professional LLM Program, Osgoode Hall Law School / Faculty of Graduate Studies
- change the name of the Earth Science Stream within the BSc Program in Earth & Atmospheric Science to *Geomatics Science*, Earth & Space Science Engineering, Lassonde School of Engineering

Notices of Motions

ASCP gave notice of its intention to recommend at a future meeting the establishment of a new degree type of Master of Management, Schulich School of Business / Faculty of Graduate Studies (at the same meeting it will recommend approval of a related degree program).

APPRC gave notice of its intention to recommend approval of University Academic Plan 2015-2020.

The Executive Committee gave notice of its intention to recommend approval of amendments to Senate's rules and procedures.

Facilitated Discussion

Academic Standards, Curriculum and Pedagogy facilitated a discussion of a series of related initiatives in progress which together comprised an "academic forgiveness" framework:

- establishment of a *Senate Policy and Guidelines on Withdrawn from Course (W) Option*

The Senate of York University

Synopsis

- amendments to the *Senate Policy on Repeating Passed or Failed Courses for Credit*
- establishment of a *Senate Policy on Course Relief*

Committee Information Reports

Senate Executive informed Senators that it had approved the addition of four individuals to the pool of prospective honorary degree candidates as recommended for approval by the Sub-Committee on Honorary Degrees and Ceremonial. The Committee also called on the community to nominate worthy candidates that will make the pool as diverse as possible.

Academic Standards, Curriculum and Pedagogy reported that it had approved minor modifications for the following:

Arts, Media, Performance and Design

- Specialized Honours Bachelor of Design program

Graduate Studies

- PhD program in Social Work

Lassonde School of Engineering

- BEng program in Computer Engineering
- BEng program in Geomatics Engineering
- BEng degree programs in Computer Engineering, Electrical Engineering and Software Engineering
- BEng degree program in Electrical Engineering
- BSc programs in Earth and Atmospheric Science

Liberal Arts & Professional Studies

- BA program in Health & Society
- Professional Certificate in Accounting (SAS)
- Specialized Honours BAS Program, Accounting Stream
- Sexuality Studies Certificate

In a memorandum addressed to the Executive Committee, APPRC described its role on behalf of Senate concerning the Markham Centre campus as academic planning unfolds.

Please refer to the full Senate agenda posted online for additional information.

<http://secretariat.info.yorku.ca/files/senate-agenda-20160128.pdf>

Senate next meets at 3:00 p.m. on Thursday, February 25, 2016.

**York University Faculty of Science
Task Force on Anomalous Grades
Final Report**

Submitted to Faculty Council January 2016

Preamble

In March 2015, Science Faculty Council passed the following motion:

"That a Task Force be struck by the Chair of Council to undertake a review and to propose changes in the Faculty of Science current anomalous grades policy (and final grade approval process) and report back to Council by September 2015."

This motion was in response to a motion to Council (Appendix A), outlining several concerns regarding the current policy on anomalous grades.

The Chair of Council set up a Task Force to review the current policy and propose revisions as appropriate. Task force members:

Don Hastie – Former Interim Dean of Science, Chair of Chemistry

Mary Helen Armour – member of Faculty-level Committee on Examinations and Academic Standards (CEAS)

Tamara Kelly – Former Chair of COTL

Paula Wilson – UPD Biology

The task force met, reviewed grades policies in other Faculties at York and at science faculties at twelve other major institutions from across Canada. It also reviewed 2013 grade distributions in all courses in the Faculty of Science. The task force developed a draft policy (Appendix B) and circulated it for feedback. It then met to review the feedback on the draft policy and determine final recommendations for its report. At that meeting it was decided that, rather than try to craft a final policy for approval, it would be more in keeping with its mandate to report general recommendations to Council.

Recommendations

- Replace the current policy on “Anomalous Grades” with a policy that provides “Guidelines for Grade Distributions” to faculty members and departments.
- Guidelines should consider year level as well as class size.
- Shift responsibility for grade approval from CEAS to the departments.
- Retain Faculty oversight in the form of an annual review of all grades once a year (by CEAS, who may choose to delegate it to a special subcommittee or the Assoc. Dean Students), which can result in feedback to departments as appropriate.
- Departments should regularly review grade distributions over a three (or more) year period to identify areas of concern and to stimulate reflection on how units can improve the quality of its courses and the learning experience of its students.

Rationale and Additional Comments

The term “anomalous” appears to be anomalous. It was not encountered in documentation from any other Faculty or institution for which information was available. “Guidelines” is a more positive and accurate term.

Setting different distribution guidelines by year level reflects typical differences in class size, student make-up, and purpose. Most 1000-level and several 2000-level courses in the Faculty are larger and serve both majors and non-majors. These courses tend to have students with varying backgrounds, interests and academic readiness. More senior courses (3000/4000 level) tend to be smaller and populated by majors who have completed at least two years of the program, have the prerequisites for the course and have made the commitment to complete their degree. In fourth year courses, most students are likely to be honours majors and thus serious, high achieving and highly motivated. Thus it is reasonable to expect more A/A+ grades and fewer failures as we move to more senior courses, and indeed this trend is obvious when one examines past course grade distributions. What should the distribution guidelines look like? Three of the four member task force felt that the University of Toronto Guidelines are the most sensible of those reviewed:

For a larger first- or second-year course, the proportion of As in any given offering of the course might reasonably vary from 15% to 35%. Courses with marks consistently at the lower or upper end of this range should be reviewed to determine whether changes are needed to the course content, prerequisites, or assessment mechanisms. At the other end of the scale, the proportion of Fs in a first- or second-year course should generally not exceed 10%.

These guidelines can help instructors gauge the fairness and consistency of their proposed marks in a course. Instructors proposing a percentage of As outside the range of 15-35% in first- and second-year courses should review the marks to ensure that the assessments used in the course were fair and consistent with disciplinary practice. Similarly, instructors proposing a percentage of Fs greater than 10% should consider those grades carefully. An individual instructor should reflect on whether the assessments have been scaled appropriately. A unit head seeing a consistently higher percentage of Fs in a course over time might conclude that the course has inappropriate prerequisites or requires some restructuring, or that additional student supports need to be put into place.

Since courses with fewer than 40 students, as well as courses in upper years, show much greater variation due to individual factors, detailed expectations of distributions of grades are less useful. However, we can state some general guidelines on third- and fourth-year courses. Specifically, we expect student marks in upper year courses to shift towards the higher end of the scale (with more As and many fewer failures) as students adjust to university-level work and as they pursue courses in their chosen areas of interest. Distributions with 30-40% As (or even more) would not be unusual in 300- and 400-level courses, while even 5-10% Fs at these levels would be worthy of attention.

(Tri-Campus Deans' memo August 2009)

We suggested a more conservative change in our draft policy, one that is closer to the current policy and others at York, and reflects the current grade distributions across the Faculty:

For courses with enrolments above 40 (excluding specialized courses such as practicum, thesis and laboratory-based courses) that do not meet the guidelines below, course directors will report their grade distributions and a rationale to the UPD/Chair for approval prior to grade upload to GAM.*

1000/2000 level courses:

10-35% A/A+; 5-25% E/F

3000/4000 level courses:

25-50% A/A+; 0-20% E/F

Courses at all levels: multi-section courses where the difference in the final course grade point average exceeds 1 grade point.

Feedback on these guidelines from colleagues was generally positive. The guideline of 5-25% E/F in first year was identified as a concern by some colleagues as they interpreted it to mean they would be “forced” to fail 5%. Such was not the intent of the authors, as the numbers are guidelines only and simply reflect the reality that most first and second year courses include some failures. However, given the feedback, 0-25 may be better. The minimum class size for consideration of 40 also elicited comments. Some felt it was too high and others too low. From a statistical point of view, one colleague felt it should be 80 or higher.

Primary responsibility for grade review and oversight at the unit level would streamline the approval/reporting process and place authority of approval where disciplinary expertise and knowledge is greatest. It would also align with current practice in other Faculties within the University as well as other institutions. The authority to approve grades should rest with the Chair or UPD to ensure rapid approval. If a committee decision is required the process will be delayed as it is now by the need for a meeting.

The role of CEAS: Feedback from CEAS on the draft policy indicated concern regarding the loss of their role in providing grade oversight for the Faculty. We recommend maintaining the role of CEAS in oversight and review of the Faculty’s grades, but not tied to the grade reporting process. This change would permit rapid approval and reporting. This approach also better reflects the current practise of CEAS, which normally approves grades but sends comments to faculty or departments if there are concerns. In addition and most importantly, we recommend CEAS review ALL grades, not just those who exceed the arbitrary limits of 30% fails or A/A+. These limits do not in any way capture all grade concerns. For example, having **no** A/A+ grades, or having all students receive a grade of D, would not be captured by current policy though they are arguably of far more concern. Involving the Committee on Teaching and Learning (CoTL) might also be

appropriate. Finally, we suggest that departments regularly review all grades with an eye to identifying courses of concern and supporting faculty in improving their course delivery and student success.

Feedback from CEAS and administrators indicated disappointment that the draft did not focus more on how the policy would improve teaching and learning and enhance the reputation of the Faculty. Other comments spoke to a desire for stronger language regarding what to do with professors who are consistently anomalous, “are unwilling or unable to address ongoing problems” or “do not wish to explore changing teaching and evaluation options”. These are very important issues, and the points generated strong discussion among task force members. In the end, the majority of members on the task force felt that no policy on grade distributions is capable of addressing these issues. Certainly the current policy does not – any amount of poor teaching can be invisible within non-anomalous grade distributions. Further, the policy could arguably hinder progress. For example, some faculty members may be less inclined to experiment with new pedagogical approaches and innovation that could improve student success significantly, as success is likely to result in anomalous grades – creating added workload, delaying grades and resulting in censure. Should the Faculty feel departments and colleagues cannot be trusted with the task of overseeing their own grades, it could include a clause authorizing CEAS to intervene in cases of egregious and persistent non-conformity to guidelines (ie to revoke departmental approval for specific courses until the perceived problem is rectified).

The task force feels that good teaching should be encouraged and celebrated using collegial approaches, with leadership coming from CoTL, the Dean’s office, departmental Chairs and program directors. Good teaching and research will enhance our reputation, not a grade distribution policy.

APPENDIX A

From: the Department of Biology Teaching Committee

Motion to Faculty Council: That the Faculty of Science review the current anomalous grades policy (and final grade approval process) with a mind to updating it, basing it on sound pedagogical evidence, aligning it with other Faculties within York and across Canada, and reflecting the Faculty's commitment to improving teaching and student success.

Rationale:

1. The current anomalous grades policy is anomalous. We conducted an informal survey of other Faculties within and outside of York University, to determine whether our current policy and approval process is within existing "norms" for other Faculties. The results are presented in Table 1. Based on the information received we found no other Faculty that treats first and fourth year courses the same regarding expected grade distributions and no other Faculty that appears to hold back grade reporting until Faculty-level approval has been granted. Further, of those who responded, no Faculty outside York has a policy for defining anomalous grades at all, though some provide guidelines. In Faculties that do approve grades, in most cases approval seems to occur at the unit level.

2. The current policy is administratively burdensome given modern grade submission processes. Over the past decade at York the grade approval and submission process has changed dramatically. To improve student service, grade deadlines have become increasingly compressed. Course instructors upload grades to SIS directly and they are immediately available to students. The Faculty's procedures, however, were established when grades were submitted by hand, there was ample time to review and approve grades at both the department and Faculty level, and all grades were released by the University several weeks after the exam period.

The current approval process can delay grade upload for affected courses by weeks and generates added workload for instructors, administrators and staff. Instructors must fill out forms and generate rationales, department and Faculty staff must monitor and collect this paperwork, department and Faculty committees must meet to review and approve them (or not approve them, which escalates the time involved). Grades are approved after the online grade submission has closed, and thus they must be sent from department to Registrar, creating work for administrative staff at both ends and further extending the delay.

3. The current process is not in the best interests of students.

- Students awaiting grades for transcripts (typically our best students who are applying to graduate schools and professional schools) are delayed and stressed out by missing grades. In our department this problem is most common at the fourth year level as most of the anomalously high grades occur in fourth year courses, which is not surprising as the fourth year courses are filled with our best

senior undergraduates (see University of Toronto guidelines in Table 1). These delays hurt our best students and create added administrative work dealing with worried students and providing special letters explaining the delay and/or missing grade.

- In cases where a course is a prerequisite to the next term's courses, the delay in grade reporting results in students not knowing what course they should be in (and administrative staff being unable to complete de-enrolment exercises) until courses have already begun. This hurts our weakest students the most, as they have the greatest need for stability, clarity and direction.
- Students who have their grades lowered to meet defined distributions feel angry and cheated, reflecting negatively on the student experience.

4. The current policy sends the wrong message to faculty and students and impedes rather than supports institutional goals to improve teaching and learning.

The institution and the Faculty have identified enhanced teaching and greater student success as overarching goals. A logical indicator of better learning and higher student success is higher grades. (Here we are not referring to “grade inflation” but rather better grades that reflect improved learning produced by more effective teaching and learning support). Yet the message instructors receive via the current policy (>30% A/A+ = anomalous) and how it is being applied is that high levels of student success are frowned on, deemed “anomalous” and should be avoided. This is particularly true for our newer teaching colleagues, some of whom experience enormous apprehension when students appear to be doing well in their courses and grades are high. We have had colleagues fearing it will hurt them in the T&P process; postdoctoral fellows worry that strong student performance will lead to their being passed over for future courses, etc. Underpinning the entire process is a message of distrust – that faculty members are incompetent to set and assess learning outcomes within their courses; that departments are not to be trusted to set and oversee academic standards for their units. The policy appears to discourage rather than celebrate high achieving instructors and students. At a time when the university and our Faculty are concerned about retention and reputation, this approach may be counterproductive.

5. The goal of the policy can be achieved without the current disadvantages. Table 1 indicates that there are many ways to oversee grades. Policy can be designed to be constructive and facilitate rapid grade reporting. Some suggestions for consideration:

- Conduct a comprehensive review of policy and process at other institutions and the literature in order to determine best practices and identify evidence-based approaches that would be effective at encouraging high quality teaching and greater student success.
- Move grades approval to the unit level, with process to be determined by the unit and permitting fast upload by instructors (for example approval by Chair or UPD or post-upload review by committee rather than approval per se). Oversight at the Faculty level, if desired, could continue but in a different format. For example, a subcommittee of CEAS and COTL could continue to review grades

year over year, with an eye to identifying courses that may require support to improve student success, and sharing successful strategies from courses that have sustained high rates of student success.

- Replace policy with guidelines, tailored to course level and class size.
- Exempt all fourth year courses (this could happen immediately within the current policy) and courses smaller than 40.

Table 1. Grade Distribution Policies and Procedures at other Canadian Institutions.

Colleagues at other institutions were contacted and asked to provide information regarding the process for final grades approval within their Faculty as well as any existing policy with respect to acceptable grade distribution profiles. This information comes from colleagues rather than directly from administrative offices, and thus there may be some errors/omissions.

Institution	Policy	Approval Process
York Faculty of Science	A course is considered anomalous if the grades profile at either A+/A or E/F (excluding DNWs) exceeds 30% and the enrolment is >15. A statement of explanation for any anomalous grade distribution in your course must be submitted to CEAS.	Grades cannot be uploaded until approval by the Faculty is granted at the end of the grades exercise.
York Faculty LAPS	<p>The following are characteristics of courses with profiles considered to be anomalous for grade review purposes:</p> <ol style="list-style-type: none"> 1. Courses with a grade point average above 6.5; or 2. Courses with 75% or more grades of B or better; or 3. Courses with 50% or more grades of A or better; or 4. Courses with a grade point average below 3.5; or 5. Courses with 20% or more failing grades (Note: this includes grades of E and F; for the purpose of calculating the percentage of failing grades, no distinction is made between “earned” failures and “did not withdraw” failures); or 6. Courses with large differentials in grade point averages across sections/tutorials (refer to Note 2) of the same course (i.e., a difference of 1.0 grade point or more). <p>Courses at the 4000-level and courses with 30 or fewer students enrolled are exempt from this legislation.</p>	
York Faculty Health	Responsibility and policy is at the department level. The Faculty does review	Departmental level -designated

	<p>the anomalous grades rationales, but not for approval (post upload).</p> <p>4000-level courses smaller than 25 are exempt.</p>	<p>signatory will: review all grade distributions during the incremental release of grades, due to online GAM</p> <ul style="list-style-type: none"> • _identify significant grade distribution anomalies, and request rationales • _forward completed anomalous grade distribution rationales to CEAS concurrent with, or following, the sign-off process
York Former Faculty of Fine Arts	none	none
York Glendon Campus	none	none
University of Toronto, Faculty of Arts and Science	<p>Guidelines only:</p> <p>For a larger first- or second-year course, the proportion of As in any given offering of the course might reasonably vary from 15% to 35%. Courses with marks consistently at the lower or upper end of this range should be reviewed to determine whether changes are needed to the course content, prerequisites, or assessment mechanisms. At the other end of the scale, the proportion of Fs in a first- or second-year course should generally not exceed 10%.</p> <p>These guidelines can help instructors gauge the fairness and consistency of their proposed marks in a course. Instructors proposing a percentage of As outside the range of 15-35% in first- and second-year courses should review the marks to ensure that the assessments used in the course were fair and consistent with disciplinary practice. Similarly, instructors proposing a percentage of Fs greater than 10% should consider those grades carefully. An individual instructor should reflect on</p>	<p>None – Grades may be reviewed by Chair or Associate Chair.</p>

	<p>whether the assessments have been scaled appropriately. A unit head seeing a consistently higher percentage of Fs in a course over time might conclude that the course has inappropriate prerequisites or requires some restructuring, or that additional student supports need to be put into place.</p> <p>Since courses with fewer than 40 students, as well as courses in upper years, show much greater variation due to individual factors, detailed expectations of distributions of grades are less useful. However, we can state some general guidelines on third- and fourth-year courses. Specifically, we expect student marks in upper year courses to shift towards the higher end of the scale (with more As and many fewer failures) as students adjust to university-level work and as they pursue courses in their chosen areas of interest. Distributions with 30-40% As (or even more) would not be unusual in 300- and 400-level courses, while even 5-10% Fs at these levels would be worthy of attention.</p> <p>(Tri-Campus Deans' memo August 2009)</p>	
Ryerson, Faculty of Science	none	none
Wilfrid Laurier	none	none
McMaster (Biology)	At McMaster, we do not have an anomalous grades policy for our Biology courses, the mark earned by the students is calculated according to that stipulated in the course outlines (no bell-curving, the mark they get is the mark they achieve)	
U Ottawa (Science)	<p>Faculties must take appropriate measures to ensure that members of the teaching staff assign marks which accurately reflect the definitions of student performance established in the official grading system.</p> <p>When a faculty deems that the assignment of marks in one or several courses is not</p>	

	in accordance with the official grading system or with the faculty guidelines for its implementation, the faculty can take any corrective action required, provided however that no such measure result in a mark lower to that previously communicated to a student.	
University of British Columbia (Science)	No formal policy, but courses with consistent high failure rates do receive attention and support to improved student outcomes.	
University of Manitoba, Faculty of Science	none – though grade profile is submitted to department head	none
University of Calgary, Faculty of Science	None: typically, Department Heads (or delegates) will just look at the class, the level and compare it to what historically has happened in the class. If they feel that the grades are too high or too low, they will talk with the faculty member directly.	none
Simon Fraser University (Science)	Informal guidelines provided to Assoc. Chair	Associate Chair
Mount Royal University (Science)	none	none
MacEwan University (Science)	none	none

APPENDIX B

Consultation Document: Proposed Changes to the Faculty of Science Anomalous Grades Policy

From: Task Force on Anomalous Grades

The Task Force is requesting constructive feedback on its proposal to replace the Faculty's policy on anomalous grades with a Policy for the Faculty of Science Grades Review and Approval Process. Please provide feedback by Monday June 1, 2015.

Preamble

In March 2015, Science Faculty Council passed the following motion:

"That a Task Force be struck by the Chair of Council to undertake a review and to propose changes in the Faculty of Science current anomalous grades policy (and final grade approval process) and report back to Council by September 2015."

The Chair of Council set up a Task Force to review the current policy and propose revisions as appropriate. Task force members:

Don Hastie – Former Interim Dean of Science
Mary Helen Armour – current member of CEAS
Tamara Kelly – Former Chair of COTL
Paula Wilson – UPD Biology

The task force met, reviewed anomalous grades policies in other Faculties at York and at science faculties at other institutions. It also reviewed 2013 grade distributions in all courses in the Faculty of Science. The task force recommends that the current policy be replaced with a new policy that is modeled on those in the Faculties of LAPS and Health, providing guidance to units with respect to grade distributions and articulating the responsibilities of units and Faculty Council committees with respect to grade oversight and approval for undergraduate courses.

The existing system of grade approval is cumbersome, is too lengthy given the current tight grade reporting timelines set by the University, and delays grades unreasonably. It is silent on one of the most important aspects of grade reviews: providing productive feedback and support for improving student success to teaching faculty and units.

The proposed policy places primary responsibility for grade review and oversight at the unit level. This change allows for streamlining grade approval and reporting processes, and places authority of approval where disciplinary expertise and knowledge is greatest. It also aligns our policy with current practice in other Faculties within the University as well as other institutions. However, it also maintains important roles for the Faculty-level Committee on Examinations and Academic Standards (CEAS) in oversight and

review of the Faculty's grades. Further, it defines an important role for the Committee on Teaching and Learning (COTL) for assisting units in improving courses and outcomes for the students we serve.

The policy proposes setting different distribution guidelines for courses at different year levels because of differences in class size, student make-up, and purpose. Most 1000-level and several 2000-level courses in the Faculty are large and serve both majors and non-majors. These courses tend to have students with varying backgrounds, interests and academic readiness. More senior courses (3000/4000 level) tend to be smaller and be populated by majors who have completed two years of the program, have the prerequisites for the course and have made the commitment to complete their degree. In fourth year courses, most students are likely to be honours majors and thus are serious, high achieving and highly motivated. Given the differences described above, we can expect grade distributions to shift to more A/A+ grades and fewer failures as we move to more senior courses, and indeed this trend is obvious when one examines the course grade distributions.

Finally, the Task Force recommends that all units regularly (at least every 5 years) review grade distributions over a three year period to identify areas of concern and to stimulate reflection on how units can improve the quality of its courses and the learning experience of its students. Improving student success should be a goal of everyone associated with the teaching mission of the Faculty.

Proposed Policy for the Faculty of Science Grades Review and Approval Process

The Faculty of Science recognizes the diversity of its course offerings, from large first year service courses (including those for non-science majors, for science or engineering majors only, or for a mix of both) to small, highly specialized fourth year courses for majors, populated primarily by honours students. This diversity can be expected to result in a range of grade distributions that reflect the level and nature of the course, and the students who take it.

Some principles associated with grading and assessment are universal: course directors should set clear, achievable learning outcomes and develop assessments that are well aligned to measure those outcomes. Assessment and grading should reflect the grading system outlined by the University's Common Grading Scheme for Undergraduate Faculties (<http://secretariat-policies.info.yorku.ca/policies/common-grading-scheme-for-undergraduate-faculties/>).

This policy provides guidance to units and course directors regarding course grade distributions. It clearly identifies and makes explicit the responsibilities of the Faculty Committee on Examinations and Academic Standards and the academic units/departments with respect to the grades review and approval process in the Faculty of Science.

Primary responsibility for oversight and approval of grades rests with the academic unit/department. The Faculty of Science Committee on Examinations and Academic Standards maintains an oversight role in the process, and provides assistance to units as required.

The Faculty of Science Committee on Examinations and Academic Standards shall

- Review policy pertaining to grades review and approval at least once every 5 years, updating it as needed in consultation with Faculty Council and units.
- Identify, collect and review grade distributions and rationales for courses that do not meet the Faculty/unit distribution guidelines.
- Support units to address systemic grade distribution anomalies that are deemed to be of concern, either by the unit or the committee.
- Assist units that, for self-assessment purposes, wish to develop unit-specific grade distribution guidelines.

The Faculty of Science Committee on Teaching and Learning shall

- Assist and advise units (and course directors) that wish to explore ways to improve the student learning experience and student success.

Academic Units (Undergraduate Program Director, Chair or unit signatory) shall

- Establish and/or maintain internal grade reporting processes that address consistency and fairness in grading.

- Communicate grade distribution guidelines to all teaching members of their unit within the first 4 weeks of the term.
- Communicate grade reporting processes and reporting deadlines to all teaching members of their unit at least 1 month before the start of exams.
- Ensure that course directors with final grade distributions that do not fall within the guidelines report the distribution and a rationale to the UPD/Chair for approval prior to grade upload in GAM.
- Review and approve grades during the grade reporting exercise, ensuring timely approval prior to uploading to GAM.
- At the end of the grade reporting process, report to CEAS the distribution and rationale information for courses that fail to meet distribution guidelines; this report should include a discussion of any courses that, over a three year period, consistently fail to meet Faculty distribution guidelines, indicating what steps the unit is taking to address the issue and to request the assistance of CEAS and/or COTL as required.

Faculty-level Guidelines

For courses with enrolments above 40 (excluding specialized courses such as practicum, thesis and laboratory-based courses)* that do not meet the guidelines below, course directors will report their grade distributions and a rationale to the UPD/Chair for approval prior to grade upload to GAM.

1000/2000 level courses:
10-35% A/A+; 5-25% E/F

3000/4000 level courses:
25-50% A/A+; 0-20% E/F

Courses at all levels: multi-section courses where the difference in the final course grade point average exceeds 1 grade point.

** While some courses are exempt from reporting grade distributions that do not fall within the guidelines, course directors and units should monitor grades in all courses on an annual basis and be mindful of anomalies and unusual trends.*

Unit-specific Guidelines

Units may develop unit-specific guidelines as long as they fall within the Faculty-level parameters and are approved by CEAS.