

WORCESTER POLYTECHNIC INSTITUTE
April 14, 2016

To: The WPI Faculty
From: M. W. Richman
Secretary of the Faculty

The eighth Faculty meeting of the 2015-2016 academic year will be held on **Thursday, April 14, 2016 at 3:15 pm in Olin Hall 107**, with refreshments at 3:00 pm.

1. Call to Order M. Richman
 - Consideration of the Minutes and the Consent Agenda
2. Opening Announcements M. Richman
3. Provost's Remarks B. Bursten
4. Committee Business
 - Committee on Governance (COG) T. Dominko
Committee on Administrative and Financial Policy (FAP) T. El-Korchi
- Motion to revise FAP's membership, charge, and name
 - Committee on Governance (COG) T. Dominko
Committee on Graduate Studies and Research (CGSR) M. Demetriou
- Motion to revise the membership of CGSR
(for discussion, only)
5. Committee Reports
 - Committee on Governance (COG) M. Richman
- Report on WPI's TTT/NTT Credit-Delivery Balance
(for open discussion)
 - Committee on Advising and Student Life (CASL) S. Olson
- Insight Faculty Advisors: Recognition and General Information
6. New Business
7. Old Business
8. Closing Announcements
 - Search Committee Updates:
 - - Dean of Engineering K. Billiar
- Vice Provost for Research E. Rundensteiner
- VP for Talent Development and Chief Diversity Officer A. Gericke
9. Adjournment

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WORCESTER POLYTECHNIC INSTITUTE
Faculty Meeting Minutes
March 17, 2016

Summary:

1. Call to Order
2. Opening Announcements
3. President's Remarks
4. Committee Business: COG/FAP
5. Committee Reports: FAP; CITP
6. Special Report: Dean Camesano and Mr. McGrade
7. Adjournment

Detail:

1. Call to Order

The seventh meeting of the 2015-2016 academic year was called to order at 3:20pm in OH 107 by **Prof. Richman** (ME). The minutes from Feb. 16, 2016 were approved with one minor type-O corrected. The consent agenda was approved as distributed.

2. Opening Announcements

Prof. Richman encouraged all faculty members interested in having their names appear on the upcoming ballot for faculty governance standing committees to contact him or Prof. Gaudette. Prof. Richman also indicated that the summaries of the Academic Planning Committee and the Budget and Finance Committee from the Trustees' Feb. 24-26 retreat will be sent out to the faculty very soon. Three other trustees' committees on which there are faculty appointees did not meet at the retreat. Prof. Richman also reminded those in attendance that the Faculty Honors Convocation will be held on April 22 at 11am and urged everyone to attend as a fitting tribute to the award winners. Finally, Prof. Richman congratulated Profs. Gaudette (BME), Johnson (BUS), Taylor (BUS), Wang (ECE), and Weekes (MA) for their promotions to (full) Professor; Profs. Lai (ECE), Medich (PH), Rahbar (CEE), Smith (SSPS), Troy (BME), and Wang (ME) for having been granted tenure and for their promotions to Associate Professor; Prof. McWeeney (HUA) for having been granted tenure (as an Associate Professor, already); and Profs. Boucher-Yip (HUA), Brodeur (CBC), Dick (PH), Rosbach (CEE), and Shockey (IGSD) for their promotions to Associate Teaching Professor.

3. President's Remarks

Pres. Leshin explained that the graduate and undergraduate commencements will be split this year into two separate ceremonies, with the graduate ceremony on Thursday evening May 12 and the undergraduate ceremony on Saturday morning May 14. This new arrangement makes it especially important for all faculty members to meet the D-term grade deadline for graduating students.

Pres. Leshin described the February Board of Trustees retreat. Significant time was spent at the retreat discussing risk management (which has been a recent focus for the WPI staff), exploring the educational landscapes of risks that WPI might face, and hearing from several trustees with experience in this area. The most recent design plans for the Foisie Innovation Studio were presented to the Board, as were the latest updates on the strategic plan. Preliminary budget parameters for next year were set. Simultaneously, the annual planning and budget process is coming to an end with the expectation that investments will soon be made in the strategic plan initiatives. Pres. Leshin expressed her appreciation to the faculty members who participated in the planning process.

Pres. Leshin indicated that she was disappointed by the FAP report on compensation for summer teaching that is included on today's Faculty meeting agenda. She explained that she felt very positive about the spirit of collaboration that has developed in the last two years in which problems are identified by faculty governance committees, solutions are determined, and afterward those involved move forward even if not everyone gets all that they would like. In this case, FAP did what it should have done by bringing the summer compensation issue to light, proposing a solution, and forwarding the proposal to the administration for its consideration. As part of this process, the Provost determined that 54 percent of the

faculty members who taught last summer would have been paid less under the FAP proposal. Seeing this, the Provost came up with a flat 10 percent increase for all summer teaching as an alternative solution that will be implemented instead. **Pres. Leshin** was disappointed that Prof. Hakim (interim Chair of FAP) doesn't see this result as a victory and feels the need to come forward and say that an important recommendation was not being implemented. By contrast, **Pres. Leshin** saw this case as a victory for shared governance - in which a faculty committee and the administration collaborate on an issue on which they have different perspectives, and she was disappointed in Prof. Hakim's desire to make it seem as though there is a disagreement.

Pres. Leshin announced that the second annual Trustee Celebration of Faculty Achievement will be held on April 8 to coincide with the executive committee meeting of the Board of Trustees. In addition to the Faculty Honors Convocation on April 22, it will serve as another opportunity to honor faculty members at WPI.

4. Committee Business

Committee on Governance (COG)/Committee on Administrative and Financial Policy (FAP):

Prof. Gaudette (BME), as Chair of COG, described a motion to change the membership, charge, and name of FAP. The proposed change in membership is to add one faculty member to FAP who will be appointed by COG for a one-year term renewable for up to three consecutive years and will be chosen to diversify the committee. The added member will ease the workload of the committee. The charge has been extended beyond "policy" to include informing the Faculty on all administrative and financial "matters" that affect WPI. Finally, FAP's name would be rearranged to the Committee on Financial and Administrative Policy. (See **Addendum #1** attached to these minutes.)

Prof. Hakim (ECE), as interim Chair of FAP, explained that the proposal was intended to repair problems that surfaced in FAP last year. **Prof. Hakim** acknowledged Pres. Leshin and COG for their support of the proposal to allow FAP to do more productive work. The proposal is to allow FAP to have discussions beyond policy. **Prof. Hakim** also cited difficulties he has encountered in obtaining data for FAP's summer compensation recommendation as an example of the type of problem addressed by the proposed language giving FAP "appropriate access to institutional data..."

Prof. Gericke (CBC) asked what was meant by "matters" and "appropriate access." He foresaw continued disagreements on the extent of FAP's reach and on what is meant by "appropriate" access to data. **Prof. Hakim** explained that the question of what is appropriate access to data, for example, could only be resolved if there were trust between the Faculty and the Administration.

Prof. Larsen (MA) addressed the broadening of FAP's charge and asked what matters would FAP want to look into (under the proposed charge) that had nothing to do with faculty and academic affairs (to which it was restricted under the old charge). **Prof. Hakim** suggested that under the new charge, FAP could look into matters suggested by and of interest to WPI staff.

Prof. Demetriou (ME) wanted to know to whom the "Administration" referred in the proposed charge. **Prof. Hakim** explained that the nature of the topic (i.e. whether it was academic, financial, etc.) would determine who in the administration would be involved in the discussions.

Prof. Richman pointed out that this was a preliminary discussion, and encouraged anyone with questions or comments to communicate them to FAP or COG.

5. Committee Reports

Committee on Administrative and Financial Policy (FAP):

Prof. Hakim (ECE) was sorry that Pres. Leshin was disappointed in him, but assured those in attendance that his efforts were on behalf of the Faculty. He clarified that this presentation was his and not FAP's, but that he felt it was his right to point out the issues that needed to be addressed with respect to the Provost's recommendation on compensation for summer teaching. He explained that the issue of compensation for summer teaching had been suggested to him by others who were concerned about it. (See **Addendum #2** attached to these minutes.)

Prof. Wills (CS) pointed out that Prof. Hakim's presentation was included on the agenda as a Committee Report. **Prof. Richman** explained that in classifying the item as a Committee Report, his understanding was that the report would describe FAP's recommendation concerning compensation for summer teaching.

Prof. Hakim (ECE) explained that, after one year (from Aug. 2014 to Aug. 2015), he obtained data that indicated that compensation for summer teaching had increased by three percent in ten years, which did not represent fair treatment.

Prof. Roberts (ChE) asked if there were any time limitations on the current report. In response, **Prof. Richman** asked Prof. Hakim to present the recommendation made by FAP so that those in attendance could compare it to what was eventually put in place, and asked if Prof. Hakim could make his presentation on behalf of FAP and stay within a 15-minute time limit. **Prof. Richman** expressed his appreciation for Prof. Hakim's hard work on this issue, but felt that it was important to ensure that there would be time for the other items on the agenda.

Prof. Hakim (ECE) identified two other issues related to compensation for summer teaching: compensation for teaching summer courses is much lower than compensation for teaching CPE courses, which makes summer teaching less desirable than teaching for CPE and undermines efforts to maintain the quality of summer courses; and the Provost's recommended policy does not correct these inconsistencies.

Prof. Larsen (MA) asked for a description of the FAP's proposed policy and the Provost's policy. **Prof. Hakim** (ECE) explained that, using compensation from summer 2015 as a base, the Provost approved an increase in summer compensation of 10 percent for 2016, after which summer compensation would be increased at the same rate as the annual salary pool. **Prof. Hakim** felt that it would be more fair to index increases in summer compensation to individual salary increases. He also expressed frustration that the Provost approved his own policy without consulting with FAP after he received its recommendation. **Pres. Leshin** expressed the view that faculty participants in the Annual Planning and Budget Process (APBP) had adequate opportunity to express their views of the Provost's approved summer compensation policy.

Prof. Hakim (ECE) described benchmarking with such schools as RPI, BU, and Northeastern, where tenured and tenure-track faculty members (TTTs) receive one month salary for teaching a summer course. Based on this model, FAP proposed that TTTs be paid 1/90 of their nine-month salary for each student in a course, with a cap of one month salary.

Prof. Datta (ChE) asked what the budget implications would be if FAP's proposal were implemented. **Prof. Hakim** indicated that last year the past VP of HR concluded that FAP's proposal would cost \$200K to \$300K, but this year the current Asst. VP of Academic Affairs concluded that it would be budget neutral. **Prof. Datta** pointed out that as far back as twenty years ago adjuncts were paid only \$5000 per course. He expressed his shock that in the intervening years – when the institution's budget and administrative salaries have increased by at least twofold – we were still paying the same \$5000, and used the example to question our institutional priorities. **Prof. Hakim** agreed that the current policy is not fair, and felt also that it has had some negative academic implications. **Pres. Leshin** argued that the FAP proposal was inequitable, and instead the choice was made by the administration to implement a more equitable across-the-board approach.

Prof. Fehribach (MA) identified himself as someone whose summer compensation would decrease if FAP's proposal were implemented, and pointed out that with additional compensation for on-line summer courses, very few people (at least in the MA Dept.) were being paid only \$5000 per course. **Prof. Fehribach** suggested that only those with the higher salaries on campus would earn more under the FAP proposal, while most others would earn less. **Prof. Hakim** explained that those problems could easily be fixed, but that it was not fair to penalize the higher earners on campus.

Prof. Clark (HUA) pointed out that it was not correct to assume that the high earners on campus are paid well because they are better teachers than those who are paid less.

Prof. Billiar (BME) pointed out that it is difficult to pay a lot in the summer for courses that typically have only around five students per class. **Prof. Hakim** explained that the FAP proposal would account for that occurrence by paying only half as much as for a class of ten, and that in this respect the FAP proposal was consistent with the CPE compensation model currently in use.

Committee on Information Technology Policy (CITP):

Prof. Shue (CS), for CITP, presented a report on planned upgrades to the myWPI system. The current version of Blackboard on the myWPI system will not be supported after June 2017. Based on feedback obtained through a survey of WPI faculty members, a task force of 18 faculty members, 5 staff members, and 4 students (convened in September 2015) has recommended that Blackboard be replaced by Instructure's Canvas software, which has a modern design, intuitive interface, support for bulk operations, and 24/7 support for instructors and students. The goal is to have the new system installed by summer 2016, have 50 to 75 percent usage by spring 2017, and have 100 percent usage by August 2017. Hands-on technical previews will be held throughout D-term 2016, with pedagogical opportunities with Canvas presented on April 4. The Canvas website announcing updates, sessions, migration processes, etc. is available at <http://wpi.edu/+canvas>. (See **Addendum #3** attached to these minutes.)

Prof. Humi (MA) asked about the availability of recordings of lectures that are now archived. **Prof. Shue** indicated that the lecture capturing has been done in the past through Echo 360, and would be available through the Canvas system as well.

Prof. Rulfs (BB) asked about the availability of archived Blackboard files. **Ms. Beverage** (Assoc. Dir., ATC) explained that access to Blackboard would end as of July 1, 2017. However, zip file package archives will be stored on an IT server, so course file attachments will be retrievable, although grade books will not.

Prof. Gericke (CBC) suggested that during the transitional period next year, it would be wise to have all freshman courses use Canvas. **Prof. Shue** indicated that the opt-in process would be voluntary but highly recommended for use in freshman courses.

Prof. Prusty Rao (BBT) asked if Canvas would be available this summer while new courses are designed for the fall. **Ms. Beverage** was optimistic that Canvas would be available this summer but could not guarantee that would be the case. She hoped that those interested in using Canvas this fall would identify themselves in advance so that course content migration could begin this summer.

6. Special Report

Preparing for the Future of the Ph.D.:

Mr. McGrade (Dir., Grad. Adm.) reviewed the goals of the Ph.D. Plan in the strategic plan. The number of Ph.D. students at WPI has grown from just over 200 in 2009-10 to 340 in 2015-16. The goal of the Ph.D. Plan in the strategic plan is to get Ph.D. students to think about their futures very early in their graduate studies. The heart of the Plan is to have each student complete an Individual Development Plan (IDP), which will represent a choice by the students from among a set of core competencies, at the center of which lies the student's research. Similar models are being implemented at Cornell, Stanford, UC Davis, and Mich. St. The goals for 2018 are to establish IDP's for all Ph.D. students, launch a center for Graduate Professional Development for career counseling, have 20 percent of Ph.D. students obtain global or industrial experiences, and launch two interdisciplinary Ph.D. programs aligned with the strategic plan.

Dean Camesano (ChE) presented the results of a survey sent to PhD alumni that yielded 53 responses. In all, 84 percent of the respondents were interested in research and/or academic careers. Of the 253 Ph.D. students who began their Ph.D studies between 2001 and 2013, 93 had academic positions, 135 were currently in industry, and 16 were currently in government (9 were unknown). Alumni in academia suggested that WPI could provide more and better structured TA and teaching opportunities, better mentoring, and more collaboration with other universities. Alumni in industry suggested that WPI could provide more internship experiences, better preparation for industrial tasks, more project-based work, better connections to the business world, and better mentoring. Of those surveyed, 40 percent have collaborated on research outside their own department and research area. Dean Camesano hoped that

this percentage would grow as the research themes of the strategic plan are implemented. (See **Addendum #4** attached to these minutes.)

Prof. McNeill (ECE) asked if we had any measures indicating how satisfied our Ph.D. graduates are with their experiences at WPI. **Dean Camesano** did not know of any such data, but agreed that it would be interesting to study further. **Pres. Leshin** agreed that it would be worthwhile to conduct graduate student alumni satisfaction surveys similar to those that we conduct for undergraduate alumni. **Dean Clay** indicated that we do survey current graduate students, but not our graduate alumni.

Prof. Humi (MA) asked if there are any data gathered from employers concerning the quality of the work of our graduate alumni. **Dean Camesano** indicated that she would like to work with the Career Development Center to collect such information.

Prof. McNeill (ECE), referring to the Ph.D. Plan “wheel,” was skeptical that it would be possible for Ph.D. students to devote much time to so many other activities beyond their core research. **Dean Camesano** emphasized that the plan gave students many options, and that several of the options would actually enhance the students’ research productivity.

Prof. Orr (ECE) pointed out that care had to be taken in distinguishing careers in “academia” from careers in “teaching,” and in distinguishing careers in “industry” from careers in “research.” He suggested looking deeper into the survey questions before drawing conclusions. **Dean Camesano** explained that the IDP’s were designed precisely because each student has his or her own career goals. **Pres. Leshin** emphasized that the IDP’s will help WPI provide support for each Ph.D. student on his or her own path, and that the task would be manageable because of the relatively small number of Ph.D. students we have at WPI.

Prof. Demetriou (ME) pointed out that CGSR has prepared a motion to be presented at a future Faculty meeting (perhaps in April or May) establishing guiding principles for Ph.D. studies at WPI that describe the commitment made to WPI’s Ph.D. programs by the University, the Faculty, and the Ph.D. students themselves.

Prof. Weekes (ME) suggested including the development of faculty members as a part of the Ph.D. Plan because it would involve activities with which typical faculty members are not currently familiar.

Prof. Gericke (CBC) believed that the impact of the proposed Ph.D. Plan on efforts to attract external funding would be positive because funding agencies (including DOE, NSF, and NIH) are moving toward including student- and post-doctoral student-development as required parts of grants awarded. In his view, it is important to start such efforts now so that WPI would not have to catch up to other institutions later.

7. Adjournment

The meeting adjourned at 4:45pm.

Respectfully submitted,

Mark Richman
Secretary of the Faculty

Addenda on file with these minutes:

- 1. COG-FAP Modifications of FAP Membership, Charge, and Name – March 17, 2016**
- 2. FAP Proposal on Compensation for Summer Teaching, March 17, 2016**
- 3. CITP Report on Planned Updates to the myWPI System, March 17, 2016**
- 4. Preparing for the Future of the Ph.D., March 17, 2016**

(Note: This item was discussed at the March 17, 2016 Faculty meeting and will be brought for a vote at the April 14, 2016 meeting.)

Date: April 14, 2016

To: WPI Faculty

From: Committee on Governance (Prof. Gaudette, Chair)

Committee on Administrative and Financial Policy (Prof. Spanagel, Chair)

Re: Motion to revise FAP's membership, charge, and name

Motion: The Committee on Governance (COG) and the Committee on Administrative and Financial Policy (FAP) recommends and I move that the current language of Bylaw One, Section VIII of the Faculty Handbook describing FAP's membership, charge, and name be revised as described below.

Details of the motion: Proposed change to Bylaw One, Section VIII of the Faculty Handbook

Current language of Bylaw One, Section VIII :

The Committee on Administrative and Financial Policy (FAP) consists of three elected Faculty Members and, ex officio, the President, or a representative designated by the President, and the Chief Financial Officer or person serving in that capacity. FAP informs the Faculty on administrative and financial policies affecting the Faculty and the academic affairs of WPI. It ascertains the interests and views of the Faculty concerning such policies, and represents these interests and views to the Administration.

Proposed language of Bylaw One, Section VIII:

The Committee on Financial and Administrative Policy (FAP) consists of six members in total: three elected Faculty members (serving staggered three-year terms), the Chief Financial Officer, one additional administrative representative member designated by the President, and one additional Faculty member appointed by COG (for a one-year term, renewable for up to three consecutive years, in order to diversify the skills or perspectives needed by the committee, given the prospective composition of the committee that year). FAP informs the Faculty on administrative and financial matters that affect the Institute. FAP ascertains the interests and views of the Faculty concerning such matters, deliberates with appropriate access to institutional data, and works with the Administration to make recommendations that serve the best interests of the Institute.

Rationale:

Expanding FAP's size and composition:

FAP is a small committee. Smallness can be an advantage. Within the intimate confines of its conversations, highly sensitive matters can be discussed and frank exchanges of views can help FAP members to bridge the differences in experience and perspective that they bring from the constituencies that they represent; differences that might otherwise lead to needless conflict, misunderstandings, or miscalculations about the likely consequences of impending decisions. At its best, FAP mobilizes enough diversity and wisdom among its members to identify key issues before they reach a critical point, and helps to frame the analyses of institutional opportunities and challenges so that good decisions and policies result from the light that FAP casts on those issues.

Smallness can also be a vulnerability. With so few members, it is hard to ensure key elements of diversity (such as gender or breadth in years of experience at WPI), as well as a repertoire of relevant skills (e.g. having members who bring experience in finance, policy, and risk management matters, small group discussion leadership and facilitation capabilities, familiarity with consensus-building and other decision-making techniques, sophisticated communications and listening skills, etc.).

This particular small committee contends with another source of vulnerability. FAP's members tend to occupy other key roles in faculty governance and institutional leadership. According to current practice, multiple responsibilities cluster around any Faculty member who is elected to serve on FAP: one FAP member serves as the Committee Chair; one serves as the Secretary of FAP; one serves as Chair of the ad hoc Fringe Benefits Committee (FBC); one serves as the FAP representative to the Retirement Plan Committee (RPC).

To further exacerbate the situation, the assignment of any FAP member to serve as an off-campus project advisor (it has occurred three years in a row that whoever has served as FAP Chair has been off campus for one term!) means that these roles must be shared among just two Faculty members for that term. In recent years, one or more FAP members have played other key roles in institutional budget and planning discussions; and it has proven to be a valuable overlap of roles when a FAP member also serves as a Faculty representative to the Budget & Finance Trustee Committee. Altogether, these add up to a heavy load of responsibilities to divvy up among just three elected Faculty committee members.

The proposed expansion of the committee from 5 to 6 members is intended to provide FAP with more bodies to share in the important work that it undertakes, a way of expanding diversity among its members in ways that can help to recalibrate the committee's composition and skill profile every year, and the opportunity to work closely with another divisional representative from the Administration.

Revising the language of FAP's charge:

Given the recent positive changes in the relationships among the Faculty, the Administration, and the Trustees at WPI, members who serve on FAP see the existing language as being outdated. The new language is intended to provide clearer authorization of appropriate committee access to relevant data, to support effective expression of the principles of shared governance and transparency, and to enhance the possibilities of collaborative problem solving and (problem prevention!) with respect to administrative and financial matters that affect the Institute.

(Note: This item will be brought for discussion only at the April 14, 2016 Faculty meeting.)

Date: April 14, 2016

To: WPI Faculty

From: Committee on Governance (Prof. Gaudette, Chair)

Committee on Graduate Studies and Research (Prof. Demetriou, Chair)

Re: Motion to modify the membership of CGSR

Motion:

The Committee on Governance (COG) and the Committee on Graduate Studies and Research (CGSR) recommend and I move that the description pertaining to membership composition of CGSR as written in the Faculty Handbook, Part One, Section Three, Bylaw One, Section IV be modified, as described below.

Proposed Description of CGSR Membership (additions are in **bold**, deletions are ~~crossed-out~~):

The Committee on Graduate Studies and Research (CGSR) consists of six elected Faculty Members, one graduate student, ~~a representative of the Provost's Office, , and, ex officio, the Director of Continuing Education~~ **and two ex officio members: Vice Provost for Research and Dean of Graduate Studies.**

Proposed Description of CGSR Membership (clean version):

The Committee on Graduate Studies and Research (CGSR) consists of six elected Faculty Members, one graduate student, and two *ex officio* members: Vice Provost for Research and Dean of Graduate Studies.

Rationale:

The current description of CGSR membership within the Faculty Handbook is out-of-date. When the description was last updated, the Dean of Graduate Studies and Research was the *single* individual in the Provost Office responsible for overseeing *both* graduate studies and research at WPI. In that role, the Dean of Graduate Studies and Research typically served as the Provost's representative on CGSR. This single position in the Provost Office is now separated into two full-time positions: the Vice Provost for Research (VPR), and the Dean of Graduate Studies (DoGS). However, according to the Faculty Handbook, only one of the two could serve as a voting member of CGSR. In order to reflect this change in administrative responsibilities, the natural modification in CGSR's membership is to include both the VPR and the DoGS as voting members.

The current description of CGSR's responsibilities in the Faculty Handbook is as follows:

CGSR is concerned with all post-baccalaureate programs of the College, and reviews and recommends changes in WPI policies on goals, student recruitment, admissions, academic standards, teaching and research assistantships, scholarships, and fellowships. It also makes recommendations to the Faculty and Administration on new graduate programs and changes in programs and courses. The Committee acts on admission of graduate students to degree candidacy, dismissal for failure to meet academic standards, and

student petitions on academic matters. It brings to the Faculty for action the names of students who it has determined are eligible for post-baccalaureate degrees. The Committee reviews and recommends changes in policy on the funding, promotion, and conduct of research at WPI.

These issues continue to be central to the interests of the Faculty at WPI and should fall well within the responsibilities of the Dean of Graduate Studies and the VPR. The proposed modification to the CGSR composition is consistent with this portfolio, while it includes multiple important viewpoints on decisions and maintains the current committee size and balance between elected faculty committee-members and non-elected committee-members. Naturally, CGSR will continue its practice of inviting key stakeholders, including representatives from Corporate and Professional Education, to meetings when issues requiring their specific areas of expertise are discussed.

Implementation:

Effective Academic year 2016-2017.

Appendix:

Consent Agenda Items

(Continued on next page)

Date: April 14, 2016
To: WPI Faculty
From: Committee on Academic Operations (Prof. Sturm, Chair)
Re: Motion to add ME 2312 Introduction to Computational Solutions for Engineering

Motion: On behalf of the Mechanical Engineering Department, the Committee on Academic Operation recommends and I move that ME2312 Introduction to Computational Solutions for Engineering Problems be added, as described below.

Proposed Course Description:

ME2312 Introduction to Computational Solutions for Engineering Problems (Cat. I)

The purpose of this course is to introduce concepts of programming and numerical methods using Matlab within an engineering framework. The course will review basic linear algebra, statics, stress analysis, and engineering governing equations with solution pathways developed and presented as numerical programming problems. The fundamental programming techniques cover a variety of input and output formats typically encountered in engineering situations. Control and conditional loops, recognizing and controlling numerical error, numerical integration and differentiation will be introduced and developed within an engineering framework.

Recommended background: Statics (ES 2501), Stress Analysis (ES 2502), General Physics-Mechanics (PH 1110), Differential and Integral Calculus (MA 1021, MA 1022) or equivalents.

Anticipated Instructor: Prof. John Sullivan

Rationale:

The last two annual ME department retreats stressed the need for the ME department to offer a programming course that would specifically address engineering programming requirements for ME undergraduates. ABET requires that ME students be knowledgeable in numerical techniques and computer usage. However, a programming course that directly satisfies this requirement is not available for engineering credit. The CS department programming courses do not satisfy either engineering or math/science electives for ME students. If a ME student does a minor in another discipline (other than CS) the availability of additional open course slots has been virtually eliminated. This proposed course due to its focus on solving engineering problems satisfies the engineering category and ME students can fulfill an engineering elective with it.

The CS department offers CS 1004 Introduction to Programming for Non-Majors. This course option is another viable alternative to have engineering students gain programming experience. It addresses computer programming very well. However, it does not focus on Engineering nor does it give a student either engineering or math/science credit.

Implementation Date: Implementation date for this action is B-term 2016.

Resource Needs: The engineering experimentation laboratory (HL031) was newly refurbished in summer 2013. The room is equipped to handle 30+ students at workstations for combined lecture and laboratory implementation. If the popularity of the course increases, multiple sections would need to be offered. The IT department has stated that there is ample availability of Matlab programming seats to accommodate the course.

Assessment: The student evaluations of the course were used as an important component of the course assessment. Additionally, instructor feedback and assessment of the ABET requirements relative to programming knowledge of ME students were used. Outcomes from questions 1, 2, 9, and 26 (a,b) were reported in the recent ME ABET review. Subsequent ABET reviews will use data from this course. The students viewed the course favorably during both experimental offerings of it. In the 2014-2015 student evaluations all questions 1, 2, and 9 exceeded 4+ levels of agreement.

Date: April 14, 2016
To: WPI Faculty
From: Committee on Academic Operations (Prof. Sturm, Chair)
Re: Motion to change MIS 4741 from *Cat. II* to *Cat I*

Motion: On behalf of the Foisie School of Business, the Committee on Academic Operation recommends and I move that the course MIS 4741 *User Experience and Design* be changed from Category II to Category I.

Rationale: Although approved as a Category II course, the Foisie School of Business has been offering MIS 4741 *User Experience and Design* every C term, beginning with AY 2013-14. It has been well subscribed with 13 students in the first offering and 19 registrations in each of the next two offerings.

Impacts on students: Since the course is currently offered every year, this change will have no impact on students other than the clarification in the Undergraduate Course Catalog denoting the frequency of the course offering.

Resource Needs: Prof. Soussan Djamassbi already teaches MIS 4741 *User Experience and Design* annually within her regular load. This is merely codifying the status quo. No additional resources will be required.

Implementation Date: MIS 4741 *User Experience and Design* will be listed in the AY 2017-18 Undergraduate Course Catalog as a Category I course and will continue to be offered once every year.

Date: April 14, 2016
To: WPI Faculty
From: Committee on Academic Operations (Prof. Sturm, Chair)
Re: Motion to add MKT 3650 *Consumer Behavior*

Motion:

On behalf of the Robert A. Foisie School of Business, the Committee on Academic Operations recommends and I move that MKT 3650 *Consumer Behavior*, as described below, be added.

Proposed Course Description:

MKT 3650 *Consumer Behavior* (Category I)

Knowing how to manage and interact with customers is a key component for business success. Today, customer needs are continuously evolving as well as how products and services are purchased and consumed. Understanding consumer behavior concepts allows firms to investigate consumption habits and make better informed managerial decisions. The goal of this course is to provide an introduction to various theories and dimensions of consumer behavior, such as the consumer decision-making process, the influence of attitude towards the product, brand, and/or firm, and the impact of culture and subculture. Students will be exposed to how these concepts are linked and applied to marketing, to our roles as consumers, and to everyday decisions.

Recommended background: None.

Note: Course number MKT 3650 was approved by Director, Academic Programs (Kristin McAdams).

Anticipated Instructor: Professor Adrienne Hall-Phillips

Rationale:

The main purpose of this course is to better understand the importance of the study of consumer behavior and the impact it has on managerial decision-making. The topics reviewed in the course will add to the body of knowledge provided by other courses within the Foisie School of Business (FSB) curriculum that focus on how to develop successful business strategies in industries such as technology, health care, and retail markets. It is important for businesses to understand consumers and there currently is no course at the undergraduate level that focuses solely on understanding the consumer. Adding this course fills a gap in the undergraduate business curriculum. The course is applicable for students with entrepreneurial goals, as well as for those who will be working for traditional companies.

The course was successfully offered as MKT 365X to a class of 14 students in B 2014 and 16 students in B 2015. Based on these two offerings, Prof. Hall-Phillips believes the course has met the stated objectives and learning outcomes. Students have offered the following feedback:

- “Nice change from technical courses. Well paced and gives a great overview of consumer behavior. Brings up a lot of questions you wouldn't think to ask.”
- “Professor HP was just so engaging and the material was super interesting, this was probably one of my favorite classes I've taken”

The course evaluations demonstrate further satisfaction with the course:

- 4.9 (B14); 4.8 (B15) average rating of the quality of the course (Question 1)

- 5 (B14); 5 (B15) average rating of the instructor's teaching (Question 2)
- 4.6 (B14); 4.7 (B15) average value of the work assigned (Question 4)
- 4.5 (B14); 4.4 (B15) average amount learned from the course (Question 9)
- 4.9 (B14); 4.8 (B15) average interest in the subject matter stimulated by the instructor (Question 12)
- On average, students attended at least four hours of the formally scheduled class hours each week. The course is offered twice a week, for two hours each day. (Question 26A)
- 10 out of 21 respondents spent between 1- 5 hours per week on the course outside the class. Another nine respondents spent 6-10 hours per week, one spent 11-15 hours per week, and one spent 16-20 hours per week. (Question 26B)

Implementation Date: Implementation date for this action is the 2016-2017 academic year.

Resource Needs: Prof. Adrienne Hall Phillips already teaches MKT 365X each year as part of her regular load. No additional resources will be required.

Impact on Distribution Requirements and Other Courses: The course will be an elective. It will be accepted as breadth electives for Management (renamed BS in Business), Management Engineering, and Management Information Systems (renamed BS in Information Technology) majors or as the 3000- or 4000-level business electives for these majors. There is no impact on other programs' distribution requirements.

Date: April 14, 2016
To: WPI Faculty
From: Committee on Academic Operations (Prof. Sturm, Chair)
Re: Motion to drop MKT 3651 *Industrial Marketing*

Motion:

On behalf of the Robert A. Foisie School of Business, the Committee on Academic Operations recommends and I move that MKT 3651 *Industrial Marketing*, as described below, be dropped.

Description of Course to be Dropped:

MKT3651 Industrial Marketing (Cat. II)

Provides an understanding of the industrial marketing process and practices. It presents the latest concepts, tools and techniques for marketing complex products and services to industrial and institutional users. Topics include: product innovation strategies; purchasing management and buyer behavior; major intelligence; pricing strategies and tactics; developing markets for new industrial products; bid proposals; industrial distribution; managing the industrial sales force; marketing controls.

Rationale:

MKT 3651 *Industrial Marketing* has been offered for many years, but the most recent offerings have had low enrollment, with just three students in A13. MKT 3650 *Consumer Behavior* was initiated in B14, with the intended purpose of being a Category II course that would alternate with MKT 3651. Given the successful offering of MKT 365X *Consumer Behavior* in B14, when it came time to offer MKT 3651 *Industrial Marketing* in A15, we decided instead to offer MKT 365X because Professor Hall-Phillips was available to teach it and because MKT 3651 had very low enrollments in its A13 offering. As a result of the successful second offering of MKT 365X *Consumer Behavior*, we decided that MKT 365X should be a Category I course and that we should drop MKT 3651 *Industrial Marketing* due to lack of student interest and lack of faculty interested in teaching it.

Impact on Distribution Requirements and Other Courses: MKT 3651 is an elective so it will have some, but limited, effect on business distribution requirements. There is no impact on other programs' distribution requirements. Specifically, replacing MKT 3651 with MKT 3650 will have the following effects on distribution requirements:

1. Existing BS in Management (renamed BS in Business) distribution requirements (for the concentration): Replace MKT 3651 with MKT 3650 in the Marketing choices.
 - Complete six courses in no more than three of the following areas:
 - Accounting & Finance (3): ACC 4200, FIN 2250, FIN 2260
 - Entrepreneurship (4): ETR 3633, ETR 3910, ETR 3920, ETR 4930
 - Marketing (2): MKT 3640, MKT 3651
 - Organizational Behavior (3): BUS 4300, OBC 3354, OBC 4366
 - Economics (6): ECON 1130, ECON 2110, ECON 2117, ECON 2120, ECON 2125, ECON 2135
 - Law (6): GOV 1310, GOV 2310, GOV 2311, GOV 2312, GOV 2313, GOV 2314
 - Psychology (4): PSY 1401, PSY 1402, PSY 1504, PSY 2406
 - Complete an MQP related to the chosen set of six courses.

3. Existing concentrations within the Management Engineering major: Replace MKT 3651 with MKT 3650.

Biomedical Engineering Concentration – 2 units

Complete at least one course, but no more than two, from among:	ETR 3910 ETR 3920 ETR 4930 MKT 3640 MKT 3651 OIE 3410 OIE 3420 OIE 3510 OBC 3354 OBC 4366	and	Select at least four courses, but no more than five, from among:	BME 1001 BME 2210 BME 2511 BME 2811 BME 3300 BB 3101 BB 3102
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The MQP must have a business focus related to Biomedical Engineering.

Chemistry Concentration – 2 units

Complete at least one course, but no more than two, from among:	ETR 3910 ETR 3920 ETR 4930 MKT 3640 MKT 3651 OIE 3410 OIE 3420 OIE 3510 OBC 3354 OBC 4366	and	Select at least four courses, but no more than five, from among:	CH1030 CH1040 CH2310 CH2320 CH2330 CH2360 CH2640 CH3510
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The MQP must have a business focus related to Chemistry.

Civil Engineering Concentration – 2 units

Complete at least one course, but no more than two, from among:	ETR 3910 ETR 3920 ETR 4930 MKT 3640 MKT 3651 OIE 3410 OIE 3420 OIE 3510 OBC 3354 OBC 4366	and	Select at least four courses, but no more than five, from among:	AREN 2023 CE 1030 CE 2000 CE 2001 CE 2020 CE 3020 CE 3022 CE 3025 CE 3030 CE 3031 CE 3041 ES 3004
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The MQP must have a business focus related to Civil Engineering.

Electrical and Computer Engineering Concentration – 2 units

Complete at least one course, but no more than two, from among:	ETR 3910 ETR 3920 ETR 4930 MKT 3640 MKT 3651 OIE 3410 OIE 3420 OIE 3510 OBC 3354 OBC 4366	and	Select at least four courses, but no more than five, from among:	ECE 2010 ECE 2019 ECE 2029 ECE 2049 ECE 2112 ECE 2311 ECE 2312 ECE 2799
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The MQP must have a business focus related to Electrical and Computer Engineering.

Mechanical Engineering Concentration – 2 units

Complete at least one course, but no more than two, from among:	ETR 3910 ETR 3920 ETR 4930 MKT 3640 MKT 3651 OIE 3410 OIE 3420 OIE 3510 OBC 3354 OBC 4366	and	Select at least four courses, but no more than five, from among:	ES 2001 ES 2501 ES 2502 ES 2503 ES 3001 ES 3003 ES 3004 ME 1800 ME 2300 ME 2820 ME 3820 ME 3901 ME 4320 ME 4429 ME 4430
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The MQP must have a business focus related to Mechanical Engineering.

Manufacturing Engineering Concentration – 2 units

Complete at least one course, but no more than two, from among:	ETR 3910 ETR 3920 ETR 4930 MKT 3640 MKT 3651 OIE 3410 OIE 3420 OIE 3460 OIE 3510 OBC 3354 OBC 4366	and	Select at least four courses, but no more than five, from among:	ES 2001 ME 1800 ME 2820 ME 3320 ME 3820 ME 4718 ME 4810 ME 4813 ME 4814 ME 4815 ME 4821 ME 4875
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The MQP must have a business focus related to Manufacturing Engineering.

Date: April 14, 2016
To: WPI Faculty
From: Committee on Academic Operations (Prof. Sturm, Chair)
Re: Motion to add FIN 3250 *Finance, Technology & Risk Analysis*

Motion:

On behalf of the Robert A. Foisie School of Business, the Committee on Academic Operations recommends and I move that FIN 3250 *Finance, Technology & Risk Analysis*, as described below, be added.

Proposed Course Description:

FIN 3250 *Finance, Technology & Risk Analysis* (Category I).

This course will focus on the intersection of finance and technology. Students will learn about risk analysis in the context of the financial services sector including liquidity risk, regulation risk, operations risk, country risk, credit risk, enterprise risk, and market risk. In addition, students will learn about asset valuations including credit derivatives, structures, and financial products. Students will design models of risk assessment. Financial reporting using such technologies as visual dashboards and mobile devices will be included in order to provide real time information such as actual costs vs. budgets, and estimated targets vs. actual production and sales targets. The course will feature guest speakers from Wall Street firms as well as recent journal articles and case studies. Recommended background: An understanding of introductory economics and statistics principles.

Note: Course number FIN 3250 was approved by Director, Academic Programs (Kristin McAdams).

Anticipated Instructor: Assistant Professor Dimitrios Koutmos

Rationale:

Financial institutions are continuing to invest in technology infrastructure to manage their risks and to identify profitable opportunities in the stock market. As a result, financial risk managers are increasingly required to have specific knowledge of, and skills in, technology and to be able to understand how technology can be used to solve financial problems. In addition, to fulfill the mandates of Basel I, II and III accords set by the Basel Committee on Bank Supervision, financial institutions want to employ risk managers who have an understanding of how technology can be used to gather and examine large sets of risk-related internal and external data.

This course provides students with skills and knowledge at the intersection of finance, technology, and risk analysis. In doing so, it prepares students for projects, internships, and jobs in the financial sector. In particular, this course will be offered in A term so that students going to the Wall Street Project Center in B term can take it just prior to leaving for their projects. The course, however, is not limited to Wall Street students, but should

appeal to any student interested in technology solutions in the financial sector. It is expected to enroll approximately 20 students in each offering.

This course was successfully offered as FIN 325X in A '14 to a class of 20 students and in A '15 to 11 students. It was well received by students in these two experimental offerings.

Student Feedback. Students were very enthusiastic about the class. During office hours, students provided Prof. Koutmos with positive feedback about the material, structure, and what they got out of the class. A summary of their learning experience in this course:

1. Motivate students throughout the course: Throughout the course students receive written and verbal feedback on their progress. They regularly present their group findings in class and receive feedback and encouragement.
2. Interact with the professor and fellow classmates: Class discussion centered around lecture topics and current events is a major component of this class. Current events in finance, technology, and risk management are dissected every week.
3. Build confidence: Students begin the class with little or no background in finance, trading, and risk management. Towards the end of class, they are more confident with what they have learned and are more able to provide critical analyses of current events in the financial press. Guest speakers from the industry are also invited to speak during the class and to answer students' questions pertaining to the finance industry and employment prospects.
4. Understand the strengths and weaknesses of existing theories: Many of the celebrated theories in finance (such as the Capital Asset Pricing Model) are taught to students. Throughout the course, students conduct empirical work, applying each of the theories in order to understand their strengths and limitations.
5. Some quotes by students, reflecting their learning experience:
 - "Professor makes class learning fun and stimulating"
 - "Professor has a lot of real world experience and transfers this knowledge to students"
 - "I liked the class discussions and the application of theories"
 - "This course prepares you for practitioner and risk management exams"
 - "Professors spent a lot of time getting to know us. They even took us out for lunch together"
 - "The material is stimulating and gives us a strong background into trading and investing"
 - "The research project was fun and gave us the chance to work with real-world data"

Student Feedback on Course Evaluations.

Outcomes from questions 1, 2, 9, and 26 of Course Evals.

	A'14	A'15
Responses (Enrollment)	18 (20)	8 (11)
Q1	4.56	4.63
Q2	4.56	4.75
Q9 (Amount I learned)	4.22	4.25
Q26B (Hours outside class)		
1-5 hrs/wk	12	6
6-10 hrs/wk	6	2

Implementation Date: AY 2016-2017.

Resource Needs: Prof. Dimitrios Koutmos already teaches FIN 325X, *Finance, Technology & Risk Analysis* annually as part of his regular load. No additional resources will be required.

Impact on Distribution Requirements: This course applies in several ways to students in the Foisie School of Business:

- Existing BS in Management (renamed BS in Business) distribution requirements (for the concentration): Add FIN 3250 as an option in the "Accounting & Finance" area.
 - Complete six courses in no more than three of the following areas:
 - Accounting & Finance (3): ACC 4200, FIN 2250, FIN 2260
 - Entrepreneurship (4): ETR 3633, ETR 3910, ETR 3920, ETR 4930
 - Marketing (2): MKT 3640, MKT 3651
 - Organizational Behavior (3): BUS 4300, OBC 3354, OBC 4366
 - Economics (6): ECON 1130, ECON 2110, ECON 2117, ECON 2120, ECON 2125, ECON 2135
 - Law (6): GOV 1310, GOV 2310, GOV 2311, GOV 2312, GOV 2313, GOV 2314
 - Psychology (4): PSY 1401, PSY 1402, PSY 1504, PSY 2406
- Proposed Financial Technology concentration within a BS in Business: Add FIN 3250 as one of the finance options.
 - Two finance courses, chosen from:
 - FIN 2250 Financial System of the United States
 - FIN 2260 Investment and Security Analysis

- FIN 325X Finance, Technology, and Risk Analysis (recommended)
(are seeking CAO approval as a permanent course)
3. For students in the BS in Management (renamed BS in Business), the BS in Management Engineering, and the BS in Management Information Systems (renamed Information Technology), students may select this course as a business breadth elective or as the business 3000- or 4000-level breadth elective (provided it is not part of their concentration).

The course will be open to all students to take as an elective. There is no impact on other programs' distribution requirements.

Date: April 14, 2016
To: WPI Faculty
From: Committee on Academic Operations (Prof. Sturm, Chair)
Re: Motion to drop ETR 3910 and ETR 3920, and to add ETR 3915 and ETR 2900

Motion:

On behalf of the Robert A. Foisie School of Business, the Committee on Academic Operations recommends, and I move, that ETR 3910 *Recognizing and Evaluating New Venture Opportunities* and ETR 3920 *Planning and Launching New Ventures* be dropped, and that ETR 3915 *Entrepreneurial Business Models* and ETR 2900 *Social Entrepreneurship*, as described below, be added.

Course descriptions to be dropped:

ETR 3910 *Recognizing and Evaluating New Venture Opportunities* (Cat. I)

This course focuses on identifying ideas for new businesses and learning how to evaluate those ideas to determine if they are feasible. Using various opportunity recognition models, students will be expected to come up with a business idea and conduct an analysis of the feasibility of the venture and its fit with the founder. Recommended background for this course consists of OIE 2850 and two of the following: BUS 2020, BUS 2060, BUS 3010, BUS 3020, BUS 4030.

ETR 3920 *Planning and Launching New Ventures* (Cat. I)

This course focuses on business plan development, especially the financial aspects of the plan. The intent is that students will use a feasibility analysis, such as the one completed in ETR 3910, and turn that into a complete business plan. Additionally, students will learn about seed capital, venture, and other means of financing new ventures. Recommended background for this course consists of ETR 3910, OIE 2850 and two of the following: BUS 2020, BUS 2060, BUS 3010, BUS 3020, BUS 4030.

Term/Cat.: ETR 3910 is a Cat. I course, typically offered in A term.

ETR 3920 is a Cat. I course, typically offered in B term.

Proposed Course Descriptions:

ETR 3915 *Entrepreneurial Business Models* (Cat. I)

This course is designed to foster an understanding of entrepreneurship in the context of innovation and the global economy. It also provides the theoretical and practical knowledge for the preparation of business models. The course includes opportunity identification, team formation, capital and other resource acquisition, exit strategies and other aspects of new venture creation.

Suggested background: Basic knowledge of economics (OIE 2850), business law (BUS 2020), accounting (BUS 2060), innovation (BUS 3010), and operations management (BUS 3020).

Students may not receive credit for both ETR 3910 and ETR 3915.

Students may not receive credit for both ETR 3920 and ETR 3915.

Note: Course number ETR 3915 was approved by Director, Academic Programs (Kristin McAdams).

Anticipated Instructor: Prof. Jerry Schaufeld

ETR 2900 *Social Entrepreneurship* (Cat I).

This course will introduce students to the concept of social entrepreneurship and the ways in which social entrepreneurs are addressing complex social problems with their entrepreneurial ventures. Students will be exposed to the challenges and rewards of running a social enterprise. They will learn valuable business and entrepreneurial tools that can be applied to the design of sustainable social business models. Topics include social opportunity recognition and evaluation, business models in the social sector, social impact assessment, the double-bottom line, scalability of solutions, organizational forms and structures, and social venture financing.

Suggested background: Familiarity with concepts of creativity, innovation, entrepreneurial and critical thinking, ethics, cross-cultural relations, and social problems (BUS 1010, BUS 1020, BUS 2060 or equivalent).

Anticipated Instructor: Prof. Karla Mendoza Abarca

Rationales:

Rationale for dropping ETR 3910 and ETR 3920:

These two courses will be replaced by the new proposed course ETR 3915 *Entrepreneurial Business Models*.

Changes to catalog: ETR 3910 and ETR 3920 will be replaced by proposed course ETR 3915 wherever those course designations appear in the Undergraduate Course Catalog: As a Management Major elective; in six of the Management Engineering concentrations, in the Entrepreneurship and Social Entrepreneurship Minors, as recommended background for ETR 4930, and as an elective for the BA in Liberal Arts and Engineering with a Liberal Arts Cornerstone. We have confirmed with Prof. Schachterle that this proposed change will have no effect on the students in the BA in Liberal Arts and Engineering program.

Replacement Course: The new proposed course ETR 3915 *Entrepreneurial Business Models* will replace ETR 3910 and ETR 3920.

Implementation Date: AY 2016-2017.

Resource requirements: No change to resource requirements.

Rationale for adding ETR 3915:

Business models have been supplanting business plans in entrepreneurship education. This evolves from the recognition that an initial idea for a new venture is likely to change rapidly and significantly upon the launch of the enterprise. Business plans are often developed later when the venture team needs to seek external capital for growth. Thus, the business plan component of ETR 3920 is reduced in importance for a course that addresses business formation, whether the venture is independent or within a larger organization. Additionally, the National Science Foundation and the National Institutes of Health have adopted the business model approach in assessing commercialization prospects for commercializing intellectual property. Because WPI focuses on critical challenges in science and technology and because the Foisie School of Business aims to develop innovative and entrepreneurial leaders for a global technological world, we see the direction taken by NSF and NIH as appropriate for introducing WPI students to the practice of

entrepreneurship. The new content can be covered in one course. Thus, we propose replacing ETR 3910 and ETR 3920 with a single course, ETR 3915 Entrepreneurial Business Models.

Implementation Date: Implementation date for this action is the 2016-17 academic year, with ETR 3915 expected to be offered in B term.

Resource Needs:

No additional resources required because these two motions transition from offering two courses, ETR 3910 and ETR 3920, to a single course, ETR 3915. Given the growth in demand for ETR 1100 and the success of some of our experimental ETR offerings, this reduction will eliminate the need to increase the teaching load in the Foisie School of Business. Current faculty capable of and experienced in teaching the subject matter in ETR 3915 include Professors Frank Hoy, Chickery Kasouf, Karla Mendoza-Abarca, Mark Rice, and Jerry Schaufeld. Prof. Jerry Schaufeld, the anticipated instructor, will teach this course as part of his normal teaching load.

Rationale for adding ETR 2900:

Current trends emphasize the role of entrepreneurship in solving pressing societal issues. Consumers increasingly demand that companies are not only socially responsible, but that they adopt an overarching social mission. With the advent of new legal forms supporting social entrepreneurship (L3Cs, B-Corporations), demand for socially conscious employees is on the rise. This poses the opportunity to introduce an undergraduate social entrepreneurship course at WPI. The undergraduate curriculum already emphasizes the need for addressing societal issues through the Great Problems Seminar and the Interactive Qualifying Projects. A social entrepreneurship course would not only complement the programs in place, but would also capitalize on the strong entrepreneurship and innovation focus at WPI. Additionally, it will reinforce the course offering for the current Social Entrepreneurship minor. It is expected that this course will enroll between 20 to 30 students.

Social Entrepreneurship was previously offered as an experimental course (ETR 290X). It was offered first in B '14 and will be offered again in D '16. The following is a summary of results from the B '14 offering:

1. Student feedback for the experimental course was positive. All students enrolled were interested in making a positive impact in the world through entrepreneurship and innovation. They found the class helpful in initiating their efforts or reinforcing previous social impact projects. Some students from the class have continued to seek the instructor for advice regarding their social entrepreneurial endeavors.
2. Feedback from course evaluation was positive as well. When asked if they what they liked about the course, some students made the following comments:
 - "I love that it is project based and that we have the opportunity to do something REAL and make a difference. Also, I like how small the class is. It would be difficult to spend as much time presenting in class with any more people. I love the workshop style class."
 - "-This course taught me so much about social entrepreneurship. -The discussions gave me the chance to learn and understand how others view different subjects. -The theoretical lessons on how to launch a social business."
 - "More interesting than a straight business class would be. Discussions allowed deeper exploration of topics. Social and business aspects together weren't something I'd considered in depth before, but it was cool."

- “I really liked the content, touching upon the foundation of social entrepreneurship. I liked the class discussions, readings, and videos.”

When asked if they would recommend taking a course with the instructor, students commented:

- “Definitely. Even with some entrepreneurial experience, this course was insightful and opened me to a whole new face of entrepreneurship.”
- “Yes, definitely! The subject is not only very interesting but also very important. And the course is a lot of fun.”

3. Outcomes from student course evaluations are as follows:

- Question 1: 4.5
- Question 2: 4.5
- Question 9: 4.2
- Question 26A: 3 hours or less per week—2 students
4 hours per week—8 students
- Question 26B: 1-5 hours per week—7 students
6-10 hours per week—3 students

4. Instructor feedback and reflections: The course met the learning objectives. Students learned the theoretical foundations of social entrepreneurship and were able to apply the concepts in the development of a social business model. The small size of the class definitely helped students interact with each other and share meaningful ideas and comment; it also allowed for a good amount of hands-on work. The challenge as enrollment increases will be to offer the same supportive and collaborative environment. I was very satisfied with the outcomes of the course. Many students that enrolled already had an interest in solving pressing social issues and wanted to learn how they could combine their engineering work with entrepreneurship in order to make a difference in the world. Students with no business experience found value in learning basic entrepreneurship concepts in a social context. Whereas, students with some business background learned to apply their knowledge to the development of solutions to social problems. In addition, some students were simply curious about taking an entrepreneurship course and enrolled in social entrepreneurship not knowing what the concept meant. After a few weeks in the course, they mentioned that they were not expecting to learn about how business could help alleviate social problems, and that these types of social businesses were of more interest to them than purely commercial enterprises. Lastly, I have continued to work with some students from the class. We meet regularly to talk about their plans related to social entrepreneurship. One of them is in the process of designing her own social business. Another student is looking to get more involved and to increase awareness about social entrepreneurship across campus, while others have integrated social impact aspects in their MQPs, regardless of their major. I also teach an entrepreneurship course that focuses in commercial entrepreneurship. In this course student teams develop a commercialization plan for an innovation of their choice. I have gladly found that each term I have taught this course about half of the students chose to develop an innovation that would generate social impact. They have done so without being explicitly encouraged by me to think about social issues. Some of those innovations include healthcare solutions for least developed countries, alternative energy, and promotion of STEM education. I believe that this highlights the importance that WPI students place in solving society’s most pressing issues. I also believe that many

WPI students would be interested in the social entrepreneurship course if it became a permanent offering.

5. Include population numbers: 13 students in B '14. As of 02/08/16, 21 students have enrolled for D '16.

Implementation Date: Implementation date for this action is the 2016-2017 Academic Year.

Resource Needs:

- Prof. Karla Mendoza Abarca is qualified and available to teach this course as part of her normal teaching load. Prof. Michael Elmes is also qualified to teach this course if needed.
- Traditional classroom with capacity of 30.
- No additional resources are required.

Impact on Distribution Requirements and Other Courses (Combined impact):

The combined effect of adding the proposed ETR 3915 in place of ETR 3910 and ETR 3920 and adding ETR 2900 (making ETR 290X permanent) gives students the same number of ETR options as before. In the distribution requirements and catalog options listing ETR choices, we are replacing the choice of two ETR courses (ETR 3910 and ETR 3920) with two other ETR courses (ETR 3915 and ETR 2900). Specifically, these motions have the following effects on distribution requirements:

1. Existing BS in Management distribution requirements (for the concentration): Replace ETR 3910 and ETR 3920 with ETR 2900 and ETR 3915 in the Entrepreneurship choices.

- Complete six courses in no more than three of the following areas:
 - Accounting & Finance (3): ACC 4200, FIN 2250, FIN 2260
 - Entrepreneurship (4): ETR 3633, ETR 3910, ETR 3920, ETR 4930
 - Marketing (2): MKT 3640, MKT 3651
 - Organizational Behavior (3): BUS 4300, OBC 3354, OBC 4366
 - Economics (6): ECON 1130, ECON 2110, ECON 2117, ECON 2120, ECON 2125, ECON 2135
 - Law (6): GOV 1310, GOV 2310, GOV 2311, GOV 2312, GOV 2313, GOV 2314
 - Psychology (4): PSY 1401, PSY 1402, PSY 1504, PSY 2406
- Complete an MQP related to the chosen set of six courses.

2. Existing concentrations within the Management Engineering major: Replace ETR 3910 and ETR 3920 with ETR 2900 and ETR 3915.

Biomedical Engineering Concentration – 2 units

Complete at least one course, but no more than two, from among:	ETR 3910 ETR 3920 ETR 4930 MKT 3640 MKT 3651 OIE 3410 OIE 3420 OIE 3510 OBC 3354 OBC 4366	and	Select at least four courses, but no more than five, from among:	BME 1001 BME 2210 BME 2511 BME 2811 BME 3300 BB 3101 BB 3102
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The MQP must have a business focus related to Biomedical Engineering.

Chemistry Concentration – 2 units

Complete at least one course, but no more than two, from among:	ETR 3910 ETR 3920 ETR 4930 MKT 3640 MKT 3651 OIE 3410 OIE 3420 OIE 3510 OBC 3354 OBC 4366	and	Select at least four courses, but no more than five, from among:	CH1030 CH1040 CH2310 CH2320 CH2330 CH2360 CH2640 CH3510
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The MQP must have a business focus related to Chemistry.

Civil Engineering Concentration – 2 units

Complete at least one course, but no more than two, from among:	ETR 3910 ETR 3920 ETR 4930 MKT 3640 MKT 3651 OIE 3410 OIE 3420 OIE 3510 OBC 3354 OBC 4366	and	Select at least four courses, but no more than five, from among:	AREN 2023 CE 1030 CE 2000 CE 2001 CE 2020 CE 3020 CE 3022 CE 3025 CE 3030 CE 3031 CE 3041 ES 3004
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The MQP must have a business focus related to Civil Engineering.

Electrical and Computer Engineering Concentration – 2 units

Complete at least one course, but no more than two, from among:	ETR 3910 ETR 3920 ETR 4930 MKT 3640 MKT 3651 OIE 3410 OIE 3420 OIE 3510 OBC 3354 OBC 4366	and	Select at least four courses, but no more than five, from among:	ECE 2010 ECE 2019 ECE 2029 ECE 2049 ECE 2112 ECE 2311 ECE 2312 ECE 2799
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The MQP must have a business focus related to Electrical and Computer Engineering.

Manufacturing Engineering Concentration – 2 units

Complete at least one course, but no more than two, from among:	ETR 3910 ETR 3920 ETR 4930 MKT 3640 MKT 3651 OIE 3410 OIE 3420 OIE 3460 OIE 3510 OBC 3354 OBC 4366	and	Select at least four courses, but no more than five, from among:	ES 2001 ME 1800 ME 2820 ME 3320 ME 3820 ME 4718 ME 4810 ME 4813 ME 4814 ME 4815 ME 4821 ME 4875
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The MQP must have a business focus related to Manufacturing Engineering.

Mechanical Engineering Concentration – 2 units

Complete at least one course, but no more than two, from among:	ETR 3910 ETR 3920 ETR 4930 MKT 3640 MKT 3651 OIE 3410 OIE 3420 OIE 3510 OBC 3354 OBC 4366	and	Select at least four courses, but no more than five, from among:	ES 2001 ES 2501 ES 2502 ES 2503 ES 3001 ES 3003 ES 3004 ME 1800 ME 2300 ME 2820 ME 3820 ME 3901 ME 4320 ME 4429 ME 4430
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The MQP must have a business focus related to Mechanical Engineering.

3. Existing requirements for the Entrepreneurship minor include completing two of the following courses:

ETR 1100 Engineering Innovation and Entrepreneurship

ETR 3633 Entrepreneurial Selling

ETR 3910 Recognizing and Evaluating New Venture Opportunities

ETR 3920 Planning & Launching New Ventures

In the above, replace ETR 3910 and ETR 3920 with ETR 2900 and ETR 3915.

4. Existing requirements for the Social Entrepreneurship minor include completing two of the following courses:

ETR 3633 Entrepreneurial Selling

ETR 3910 Recognizing and Evaluating New Venture Opportunities

ETR 3920 Planning & Launching New Ventures

ETR 4930 Growing and Managing New Ventures

In the above, replace ETR 3910 and ETR 3920 with ETR 2900 and ETR 3915.

Both courses – ETR 2900 and ETR 3915 – will be accepted as breadth electives for Management, Management Engineering, and Management Information Systems majors. All students will be able to use the courses as Free Electives and they will be valid options wherever an ETR course is required. There is no impact on other programs' distribution requirements.

Date: April 14, 2016

To: WPI Faculty

From: Committee on Academic Operations (Prof. Stur, Chair)

Re: Motion to rename the BS in Management as the BS in Business

Motion: On behalf of the Robert A. Foisie School of Business, the Committee on Academic Operations recommends, and I move that the BS in Management (MG) be renamed as the BS in Business (BUS).

Rationale:

- We became a School of Business, not a School of Management, when we changed from the Department of Management.
 - Both “Management” and “Business” exist at top schools, e.g.,
 - Sloan School of Management (MIT)
 - Weatherhead School of Management (Case Western)
 - Lally School of Management (RPI)
 - Harvard Business School
 - Stanford Graduate School of Business
 - Tepper School of Business (Carnegie Mellon), renamed in 2004 from Graduate School of Industrial Administration with the Tepper donation
 - Scheller College of Business (GA Tech), renamed in 2009 from College of Management with the Scheller donation
 - We chose School of Business because high school students understand the word “business” but less so “management.” For those searching for graduate education opportunities, either name will work.
- Changing the Management minor to a Business minor (with no change in requirements) doubled the number of minors (from 21 in 2012 to 42 in 2014).
 - Undergraduates often recognize the need to understand some business, even if they are not thinking about the possibility of becoming managers.
- BS in Management Engineering (MGE) will remain the same, because
 - MGE serves a clear purpose of attracting internal transfers of engineering and science students who want to combine their coursework in their previous major with business. Our addition of well-defined concentrations using the names of those previous majors has also helped students understand the MGE major.
 - It is unclear what a better name would be.
- The proposed change in the name of the BS in Management is part of the Strategic Plan of the Foisie School of Business, developed with the leadership of Dean Michael Ginzberg, which seeks to moderately grow the FSB undergraduate student population by providing business degrees that are attractive to high school seniors.
 - President Leshin has stated her support for moderately growing the FSB undergraduate population so that the FSB does its fair share of teaching undergraduates. Currently, FSB has many more graduate students than undergraduates.

- WPI Undergraduate Admissions supports the FSB strategic plan for growing the number of high school students that choose WPI's business school. They tell us that there are students who want to attend WPI and earn a business degree, but that these potential students do not see familiar business majors and degrees in our current undergraduate business curriculum. They will recruit these students if we develop familiar degrees and attractive concentrations.

Anticipated Impact:

This change should have no impact on other departments or students other than perhaps increased visibility of our course offerings as a result of the more recognizable wording.

Resource Requirements: No additional resources required. This proposal is simply a renaming of a degree. Additional resources may be required in the future if the anticipated growth occurs, but currently FSB has some additional capacity in its existing undergraduate course offerings.

Implementation Date: AY 2016 – 2017

Note: The earliest that these changes could appear in the undergraduate catalog is Fall 2017, but we can make these new degree names available to students graduating in Spring 2017.

Date: April 14, 2016

To: WPI Faculty

From: Committee on Academic Operations (Prof. Sturm, Chair)

Re: Motions to add three new concentrations to the renamed BS in Business

Motion: On behalf of the Robert A. Foisie School of Business, the Committee on Academic Operations recommends, and I move, that three new concentrations (in Financial Technology, Business Analytics, and Innovation for Social Change) be added to the renamed BS in Business major.

Details of the motion:

Note: All students completing a BS in Management (renamed Business), BS in Management Engineering, or a BS in Management Information Systems (renamed Information Technology) complete the business core courses. In addition, they complete a six-course concentration plus an associated MQP, which differs by degree. Currently, only the Management Engineering degree has named concentrations.

Existing MG distribution requirements (for the concentration):

- Complete six courses in no more than three of the following areas:
 - Accounting & Finance (3): ACC 4200, FIN 2250, FIN 2260
 - Entrepreneurship (4): ETR 3633, ETR 3910, ETR 3920, ETR 4930
 - Marketing (2): MKT 3640, MKT 3651
 - Organizational Behavior (3): BUS 4300, OBC 3354, OBC 4366
 - Economics (6): ECON 1130, ECON 2110, ECON 2117, ECON 2120, ECON 2125, ECON 2135
 - Law (6): GOV 1310, GOV 2310, GOV 2311, GOV 2312, GOV 2313, GOV 2314
 - Psychology (4): PSY 1401, PSY 1402, PSY 1504, PSY 2406
- Complete an MQP related to the chosen set of six courses.

Proposed BS in Business distribution requirements (for the concentration):

Select one of the following choices:

1. BS in Business with no designated concentration. Students select six courses and a related MQP. This follows the current specification for MG requirements.
2. BS in Business with a custom concentration. We will retain the option for students to propose a different set of six courses and related MQP, subject to approval by their advisor and the FSB Undergraduate Policy and Curriculum Committee.
3. BS in Business with one of the concentrations listed below in Motions 1, 2, and 3.

Note: As with the concentration options in the MGE degree, students may select only one concentration (one set of six courses plus an MQP) within the BS in Business.

Proposed distribution requirements for the concentration in Financial Technology:

Financial Technology concentration within a BS in Business: Complete six courses as specified below and an MQP in Financial Technology with a Financial Technology advisor.

- Two finance courses, chosen from:
 - FIN 2250 Financial System of the United States
 - FIN 2260 Investment and Security Analysis
 - FIN 3250 Finance, Technology, and Risk Analysis (recommended) (was FIN 325X)
- Three technology courses, selected from:
 - CS 2119 Application Building with Object-Oriented Design Concepts (recommended) OR
CS 2102 Object-Oriented Design Concepts (available to those who have taken CS 1101 or CS 1102)
 - MIS 3720 Business Data Management (recommended)
 - MIS 3740 Organizational Applications of Telecommunications
 - MIS 4720 Systems Analysis and Design
 - MIS 4741 User Experience and Design
- One elective selected from any of:
 - Courses with a ACC, ECON, or FIN prefix at the 2000-level or higher
 - Courses with an MIS (renamed to IT) or OIE prefix at the 2000-level or higher
 - Courses with a CS prefix at the 2000-level or higher (excluding CS 2022 and CS 3043)
 - Actuarial math courses (MA 2211, MA 2212, MA 2621)
- An MQP in Financial Technology with a Financial Technology advisor.
 - Faculty sponsors/MQP advisors: Professors Huong Higgins, Dimitrios Koutmos, Fabienne Miller, Kevin Sweeney, Justin Wang

Proposed distribution requirements for the concentration in Business Analytics:

Business Analytics concentration within a BS in Business: Complete six courses as specified below and an MQP in Business Analytics with a Business Analytics advisor.

- One programming course, selected from:
 - CS 2119 Application Building with Object-Oriented Design Concepts (recommended)
 - CS 2102 Object-Oriented Design Concepts (available to those who have taken CS 1101 or CS 1102)
- MIS 3720 Business Data Management (or CS 3431 Database Systems I)
- Math elective, select one of:
 - MA 2071 Matrices and Linear Algebra I
 - MA 2621 Probability of Applications
 - MA 3231 Linear Programming
 - MA 3627 Introduction to the Design and Analysis of Experiments

- Select three business-domain, analytics electives, at least two at the 4000 level.
Recommended courses include:
 - ACC 4200 Managing Performance: Internal and Inter-Organizational Perspectives
 - MIS 4741 User Experience and Design
 - MKT 3650 Consumer Behavior (was MKT 365X)
 - OIE 3420 Quality Planning: Design and Control
 - OIE 3460 Simulation Modeling and Analysis
 - OIE 4420 Practical Optimization: Methods and Applications
- An MQP in Business Analytics with a Business Analytics advisor
 - Faculty sponsors/MQP advisors: Professors Eleanor Loiacono, Diane Strong, Andrew Trapp

Proposed distribution requirements for the concentration in Innovation for Social Change:

Innovation for Social Change (ISC) concentration within a BS in Business: Complete six courses as specified below and an MQP in ISC with an ISC advisor.

- ETR 2900 Social Entrepreneurship (was ETR 290X)
- Three ETR/OBC courses, chosen from:
 - ETR 3633 Entrepreneurial Selling
 - ETR 3915 Entrepreneurial Business Models (was ETR 3910 and ETR 3920)
 - ETR 4930 Growing and Managing New Ventures
 - OBC 4366 Leadership, Ethics, and Social Entrepreneurship
- Two courses (from HUA and/or SSPS), chosen from:
 - EN 2251 Moral Issues in the Modern Novel
 - ENV 2201 Planning for Sustainable Communities
 - ENV 2310 Case Studies in Environmental Governance, Technology and Innovation (was ENV 230X)
 - ENV 2400 Environmental Problems and Human Behavior
 - ENV 2600 Environmental Problems in the Developing World
 - GOV 2311 Environmental Policy and Law
 - GOV 2312 International Environmental Policy
 - GOV 2319 Global Environmental Politics
 - HI 2341 Contemporary World Issues in Historical Perspective
 - HI 2403 Global Environmental History
 - INTL 2100 Approaches to Global Studies
 - PSY 1402 Social Psychology
 - PY/RE 2731 Introductory Ethics
 - PY/RE 2732 Suffering, Healing, and Values
 - SD 1510 Introduction to System Dynamic Modeling
 - SD 1520 System Dynamics Modeling
 - SOC 1202 Introduction to Sociology and Cultural Diversity

- An MQP in ISC with an ISC advisor
 - Faculty sponsors/MQP advisors: Professors Michael Elmes, Eleanor Loiacono, Karla Mendoza-Abarca, Andrew Trapp

Students concentrating in ISC may not also complete a minor in Social Entrepreneurship.

Rationale:

- Our current BS in Management (to become our BS in Business) does not have named concentrations, and has few graduates (two projected in 2016; eight in 2015, 2014 and 2013; six in 2012; three in 2011).
- The addition of concentrations to the MGE degree (e.g., BS in Management Engineering with a concentration in Biomedical Engineering) significantly increased the number of MGE students.
- Adding named concentrations to the new Business major should make it more recognizable to high school students (e.g., BS in Business with a concentration in Financial Technology). Undergraduate Admissions reports that potential students do not recognize standard business majors/concentrations in the current course options for the MG degree. They are quite certain that they would be able to promote and attract high school students to WPI for a BS in Business if there were some well-recognized business concentrations, especially related to Finance and Business Analytics.

Rationale for the Concentration in Financial Technology:

- This concentration should help make the BS in Business appealing to high school students.
- This concentration captures what is already implicitly in place. The Wall St. Project Center, in operation for over 15 years, already focuses on MQPs in financial technology. The desired students for this project center have some background in finance and some in information technology. Currently, the missing expertise is provided by a combination of independent studies and PQPs. This concentration provides the necessary background for the Wall St. Project Center, as well as for MQPs in other financial organizations.

Rationale for the Concentration in Business Analytics:

- This concentration should help make the BS in Business appealing to high school students.
- This concentration captures what a number of students in business are already doing to prepare themselves for the many available business analytics jobs.
- Business students already must take a programming course, two statistics courses, a business data analysis course and a complete suite of business domain courses (accounting, finance, marketing, operations, IT, leadership, innovation, strategy, business law and ethics, global business). This concentration builds on the courses

they already take to better prepare them for the business analytics jobs they are currently seeking and obtaining.

- Within the current MIS (renamed to IT) and IE majors, we are already offering MQPs focused on business analytics.
- This concentration draws on computing, statistics, and business, and thus will prepare the best of these students for applying for an M.S. in Data Science if they have sufficient interest in computing and statistics.
- FSB already offers a highly popular Business Intelligence course at the graduate level, which uses business cases to study how analytics can support business decision making. We are planning a similar course at the undergraduate level that would provide another 4000-level business-domain, analytics elective.

Rationale for the Concentration in Innovation for Social Change:

- This concentration will appeal to students who come to WPI to understand and solve complex social problems using innovative technologies and business skills.
- It will appeal to students who have had strongly positive experiences with a Great Problem Seminar and/or a Global IQP.
- The program is aligned with WPI's emphasis on theory, practice, and impact, particularly with respect to global problems using technological innovation and entrepreneurship.
- We have in place already a strong set of courses in entrepreneurship and innovation in the FSB and faculty sponsors who are committed to growing student numbers in the concentration.
- In recent years, social entrepreneurship academic offerings have been gaining traction at different universities in the U.S. and abroad. These include, Harvard Business School, Yale, Columbia, UPenn and UC Berkeley. The growth of SE education is also evident in the number of HBS case studies produced, which reached 607 in 2011 compared to 45 in 1996¹.
- Younger generations (millennials) are increasingly interested in pursuing careers that allow them to generate social impact. "Millennials who are applying to business school are interested in social enterprise and 'doing well by doing good'," says EssaySnark, an MBA admissions consultancy².

Implementation Date: AY 2016 – 2017

¹ <https://hbr.org/2013/02/the-rise-of-social-entrepreneu>

² <http://www.businessbecause.com/news/mba-careers/2908/millennial-mbas-shift-focus-to-social-impact-tech-entrepreneurship>

Date: April 14, 2016
To: WPI Faculty
From: Committee on Academic Operations (Prof. Sturm, Chair)
Re: Motion to add STS 1200 Fundamentals of Global Health

Motion: On behalf of the Department of Social Sciences and Policy Studies, the Committee on Academic Operation recommends and I move that STS 1200 Fundamentals of Global Health as described below, be added.

Proposed Course Description:

STS 1200 Fundamentals of Global Health (Cat I)

The focus of global health research and practice is improving the overall health and health equity of all people worldwide. In this course, we will use an interdisciplinary approach to explore the major biological, social, political, environmental and economic determinants of health. We will analyze the dual burden of communicable and non-communicable disease facing the world's populations including study of current health systems, global health practices and priorities as well as major organization and institutional players. Class sessions will consist of lecture, intensive small group discussion, and global health case analyses. After successful completion of this course, students will be able to explain the basic principles of public health; discuss the determinants of health; describe how globalization has changed the patterns of the spread of disease and the methods needed to control disease; evaluate the complex, multi-faceted links between health, social and economic factors; and identify critical issues in the delivery of health care services, with a particular emphasis on challenges faced with regard to different cultural and economic settings.

Anticipated Instructor: This course will be taught by Dean Karen Oates, Biology and Biotechnology and Social Science and Policy Studies; and, Kymberlee O'Brien, Social Science and Policy Studies.

Rationale:

This course will serve as one of three required foundation courses in the GPH minor, the proposal for which is currently under review. In addition, this course fills a need in the SSPS Department for an applied course in the health domain. Students who complete the course successfully will be awarded SSPS credit for the course. The course is particularly important for students looking to complete their Social Science Requirement with an applied health course, particularly Pre-Health students. We expect enrollment of 30-40 students.

Learning objectives and outcomes: Students participating in the minor will be able to understand and discuss the determinants of global health and global responses to health problems, including health systems and productive interventions. Students completing a minor in Global Public Health will be able to:

- Explain the basic principles of public health, community health and global health.
- Discuss and identify the determinants of health

- Analyze how globalization has changed the patterns of the spread of disease and the methods needed to control disease.
- Evaluate the complex, multi-faceted links between health, social, economic factors and climate.
- Identify critical issues in the delivery of health care services with a particular emphasis on challenges faced with regard to different cultural and economic settings.

Student feedback: Feedback on the experimental course, was offered in C Term, 2015. The evaluation was completed by a total of 16 students. The following were the responses:

Q1: mean = 4.06 (overall rating of the course)

Q2: Mean = 4.00 (overall rating of the instructor)

Q9: mean = 3.69 (amount learned)

Q26B: 8 said they spent 1-5 hours per week, 6 said 6-10 hours, and 1 said 11-15.

Instructor feedback and reflections: We were very pleased with the size of the course and the diversity, especially in light of the late addition of the course to the schedule. We had 33 students from 12 different majors. BME (7 students) was a the largest major by a small margin with IMGD, ME, CS and CE tying for the second highest number of majors represented, with 4 each. In addition, we had great gender diversity of 33% female as well as ethnic diversity with 33% students of color. The students also spanned the range of classes with freshman through seniors represented. The diversity of the group made for very rich discussions. In addition, we had a number of faculty share their experience with the classes with instructors from BBT, HUA, and SSPS.

It was wonderful to see the students progress through the semester in terms of the complexity of their thinking and their ability to analyze a global health challenge from many different angles and perspectives. I particularly like to see them bringing their majors into the discussion or their written work (As a BME major I would approach the problem....). I believe the course provided a broad introduction to the topic and helped make connections to their other coursework.

Looking forward, I would provide more structure for our writing assignments including more time for the students to develop their final project, which was a letter of advocacy written in support of a global health solution. The students were asked to have the letter reviewed by an expert in the field and I believe they need more time to prepare the letter and receive feedback for revision before reaching out to an expert for feedback in preparation of a final letter sent to their target audience (someone that could make an impact). The students need more instruction on developing a strong letter, reaching out to community members and to creating an actionable letter of advocacy.

Finally, 6 students in the class reported spending only 1-5 hours per week on the class. This was below our expectations and the expectations of WPI. In order to increase the time students spend on class, I would require weekly readings and greater integration of these readings into weekly writing assignments.

Overall I believe the course to be a solid introduction for students engaging them along with other faculty and community members with current issues of public health with global impacts.

Implementation Date: Implementation date for this action is the 2016-2017 Academic year.

Resource Needs: Resources required to offer this course are instructors, a classroom for 1:50 hours, twice per week, and standard classroom technology (ie: computer and projector). Dr. Kymberlee O'Brien was hired in SSPS to assist with the delivery of the GPH minor. Dean Karen Oates will co-teach the course with Kymberlee, placing no additional instructional burden on the SSPS department or the university.

Impact on Distribution Requirements and Other Courses: This course is required of students seeking a minor in GPH, and will be counted for SSPS credit for GPH minors and other students.

Date: April 14, 2016
To: WPI Faculty
From: Committee on Academic Operations (Prof. Sturm, Chair)
Re: Motion to add ID 2100 Disease Detectives: An Introduction to Epidemiology

Motion: On behalf of the Departments of Social Sciences and Policy Studies, and Humanities & Arts and Biology & Biotechnology, the Committee on Academic Operation recommends and I move, that ID 2100 Disease Detectives: An Introduction to Epidemiology as described below, be added.

Proposed Course Description:

ID 2100 Disease Detectives: An Introduction to Epidemiology (Cat II)

In this course, we will learn about the principles of epidemiology and the role epidemiologist play in responding to disease outbreaks and promoting public health through exploration of a series of real life cases studies. We will analyze the burden of communicable diseases today and emerging disease. We will discuss the role of current health practices and priorities as well as global organization and institutional players. Students will be introduced to the basic principles and methods used in epidemiology to study the distribution and determinants of disease in human populations and in the development of prevention and intervention strategies. The course will take an interdisciplinary approach as epidemiologist relay on many different disciplines such as biology for understanding disease processes, statistics for making efficient and appropriate use of data, social science for understanding behavior, and engineering for analysis and assessment tools. Class sessions will consist of lecture, intensive small group discussion, and case analyses.

Rationale:

This course will fulfill a distribution requirement for the GPH minor, the proposal for which is currently under review. The course is particularly important for Pre-Health students.

Learning objectives and outcomes:

Students participating in this course will be able to understand and discuss the determinants of global health and global responses to health problems, including health systems and productive interventions. Students completing this course will be able to:

- _Explain the basic principles of public health, community health and global health.
- _Discuss and identify the determinants of health
- _Analyze how globalization has changed the patterns of the spread of disease and the methods needed to control disease.
- _Evaluate the complex, multi-faceted links between health, social, economic factors and climate.
- _Identify critical issues in the delivery of health care services with a particular emphasis on challenges faced with regard to different cultural and economic settings.

Assessment: This course will undergo the typical assessment procedures (instructor self-evaluation, student course evaluations). The Biology and Biotechnology Undergraduate Curriculum Committee will meet with the instructors after the first offering to review the success of the course in achieving its objectives.

Resource Needs: Resources required to offer this course are instructors, a classroom and standard classroom technology (ie: computer and projector). There are multiple instructors including Reeta Rao and Scarlet Shell (both Biology and Biotechnology), and Nicola Bulled (IGSD) who will be able to teach this course.

Impact on Distribution Requirements and Other Courses: This course is required of students seeking a minor in GPH.

Implementation Date: Implementation date for this action is the 2016-2017 Academic year

Date: April 14, 2016
To: WPI Faculty
From: Committee on Academic Operations (Prof. Sturm, Chair)
Re: Motion to add STS 4000 Senior Seminar in Global Public Health

Motion: On behalf of the Departments of Social Sciences and Policy Studies, and Humanities & Arts and Biology & Biotechnology, the Committee on Academic Operation recommends and I move that STS 4000 Senior Seminar in Global Public Health as described below, be added.

Proposed Course Description

STS 4000 Senior Seminar in Global Public Health (Cat II)

The course is designed to integrate each student's educational experience and interests in Global Public Health, (e.g., core global public health courses, specializations, and experience). Through seminar discussions and writing assignments students will critically reflect on what they learned in their previous courses and project experiences. In teams, students will prepare a final capstone paper and presentation that critically engages their educational experience in global public health and anticipates how their courses and experiences will translate into their future personal and professional. The course is especially designed as the capstone seminar for Global Public Health minors, but is also open to non-minors. Recommended background: previous courses in global public health, and completion or concurrent registration with a global public health-related MQP, IQP or ISP.

Anticipated Instructor: Karen Oates

Rationale:

This course will serve as one of three required courses in the GPH minor, the proposal for which is currently under review. The course is particularly important for students looking to complete their Social Science Requirement with an applied health course, particularly Pre-Health students.

Learning objectives and outcomes:

Students participating in the minor will be able to understand and discuss the determinants of global health and global responses to health problems, including health systems and productive interventions. Students completing a minor in Global Public Health will be able to:

- Explain the basic principles of public health, community health and global health.
- Discuss and identify the determinants of health
- Analyze how globalization has changed the patterns of the spread of disease and the methods needed to control disease.
- Evaluate the complex, multi-faceted links between health, social, economic factors and climate.
- Identify critical issues in the delivery of health care services with a particular emphasis on challenges faced with regard to different cultural and economic settings.

Resource Needs: Resources required to offer this course are instructors, a classroom and standard classroom technology (ie: computer and projector). Dr. Kimberlee O'Brien has been hired as teaching faculty to support the development and implementation of the Global Public Health minor. Further, as she steps down from her current position as Dean of Arts and Science, Karen Oates will also be available to teach the course. Thus, offering this course will not increase the instructional burden on the SSPS department or the university.

Impact on Distribution Requirements and Other Courses: This course is required of students seeking a minor in GPH.

Implementation Date: Implementation date for this action is the 2017-2018 Academic year.

Date: April 14, 2016
To: WPI Faculty
From: Committee on Academic Operations (Prof. Sturm, Chair)
Re: Motion to add a Minor in Global Public Health

Motion: On behalf of the Departments of Biology & Biotechnology, Humanities & Arts and Social Sciences & Policy Studies, the Committee on Academic Operation recommends and I move that a minor in Global Public Health be added, as described below.

Proposed Catalog description:

The minor in Global Public Health offers WPI students an opportunity to explore factors that impact the health of populations around the world. Students interested in the minor should meet with faculty associated with Global Public Health as early as possible in their academic career. They will be assigned a minor advisor after completing a minor declaration form.

The Global Public Health minor consists of two units of work distributed in the following way:

1. 2/3 unit Global Public Health Core courses from this list:
 - STS 1200 Fundamentals of Global Health
 - ID 2100 Disease Detectives: An Introduction to Epidemiology
 - Or an Independent Study/Project (ISP) approved by the Global Public Health Steering Committee
2. 3/3 unit Global Public Health Electives. 2/3 unit of these electives must be at the 2000 level or higher. These may be selected from among global public health related courses in humanities, social sciences, life sciences, engineering or business (see below). These may include:
 - 1/3 unit Great Problems Seminar course (FY 1100) that has a Global Public Health focus and the approval of the Global Public Health Steering Committee
 - any course listed below among Global Public Health electives or courses approved by the Global Public Health Steering Committee.
3. 1/3 unit Senior Seminar in Global Public Health (STS 4000). This seminar may be taken concurrently, or any time after a Global Public Health Experience (for example, a Global Public Health -focused IQP or MQP (see below)). With the approval of the Global Public Health Steering Committee, the seminar may be completed as an independent study.
4. Global Public Health Experience. All Global Public Health minors require an 'experience' in global public health that is educational in nature and equivalent in length to at least one WPI term. Example experiences include global public health related IQPs and MQPs, or activities such as internships, service learning or significant volunteer work accompanied by a reflective writing assignment. The Program Steering Committee Chair must approve this experience, prior to the student undertaking it, by signing the 'Global Public Health Experience Approval' at the bottom of the Application for the Global Public Health Minor.

WPI policy require that no more than one unit of course work can be double counted toward other degree requirements. Thus, students may count three courses for the minor to fulfill other degree requirements as long as one unit of the minor does not double count. In other words, students must take STS 4000 and two other courses for this minor that do not count for another degree requirement.

Global Public Health Minor Electives: Below is a list of examples of relevant courses, which students can choose from to fulfill their Global Public Health elective requirements. Students will take 1 Unit (at least 2 of the 3 courses must be at or above the 2000 level) from the list below or courses approved by the Global Public Health Steering Committee.

- Social Science and Policy Study
 - GOV 2312 International Environmental Policy
 - GOV 2319 Global Environmental Politics
 - GOV 2302 Science, Technology, and Policy
 - GOV 1320 Topics in International Politics
 - SOC 1202 Introduction to Sociology and Cultural Diversity
 - ECON 2125 Development Economics
 - PSY1400 Introduction to Psychological Sciences
 - PSY 1402 Social Psychology
 - PSY 2407 Psychology of Gender
 - PSY 2406 Cross Cultural Psychology: Human Behavior in a Global Perspective

- Life Sciences
 - BB 1025 Human Biology
 - BB 2003 Microbiology
 - BB 3003 Medical Microbiology
 - BB 3920 Immunology
 - BB 4065 Virology

- Humanities and Arts
 - HI 2401 U.S. Environmental History
 - HI 2403 Global Environmental History
 - INTL 1100 Introduction to International and Global Studies
 - PY 2712 Social And Political Philosophy
 - PY 2713 Bioethics
 - PY 2716 Philosophy of Difference
 - PY 2717 Philosophy and the Environment
 - PY 3731 Problems in Ethics and Social Philosophy
 - PY 2732 Suffering, Healing and Values
 - WR 1011 Writing about Science and Technology
 - WR 2210 Business Writing and Communication
 - WR 3214 Writing about Disease and Public Health

- Business
 - BUS 1010 Global Environment of Business Decisions
 - BUS 1020 Leadership Practice

- Other
 - CE 3060 Water Treatment
 - CE 3061 Wastewater Treatment
 - CE 3070 Urban and Environmental Planning
 - MA 2610 Applied Statistics for the Life Sciences

Affiliated Faculty:

Nichola Bulled (IGSD)
Beth Eddy (HUA)
Laureen Elgert (SSPS)
Brent Faber (HUA)
Peter Hansen (HUA)
Rob Krueger (SSPS)
Karen Oates (BBT)
Kimberly O'Brien (SSPS)
Reeta Rao (BBT)
Thomas Robertson (HUA)
Liz Ryder (BBT)
Scarlet Shell (BBT)
Tricia Stapleton (SSPS)
Amy Zeng (SOB)
Pam Weathers (BBT)
Jennifer deWinter (HUA)
Lorraine Higgins (HUA)
Geoff Pfeifer (HUA)
Kristin Wobbe (CBC)
Nichola Bulled (IGSD)

Steering Committee Members:

Reeta Rao (BBT) Co-Chair
Laureen Elgert (SSPS) Co-Chair
Beth Eddy (HUA)
Brent Faber (HUA)
Tricia Stapleton (SSPS)
Karen Oates (BBT)

Role of the Affiliated Faculty:

The role of affiliated faculty will primarily be to act as contact points for students who are interested in doing the minor, who then may be put in touch by affiliated faculty with the steering committee chairs. The affiliated faculty will also be able to advise independent studies for the minor (at their own discretion and approval of the steering committee), or the 'experience' (ie: recommend that a student's experience be counted toward the minor, or advise an IQP/MQP that would ultimately count towards the 'experience requirement'). Most immediately the purpose of recognizing affiliated faculty is to make interested and relevant staff across campus aware that the minor exists, and to thus form somewhat of a network of promotion and information about the minor.

Description of core courses that are being concurrently submitted for approval as permanent courses:**STS 1200 Fundamentals of Global Health**

The focus of global health research and practice is improving the overall health and health equity of all people worldwide. In this course, we will use an interdisciplinary approach to explore the major underlying biological determinants of health including the contributions of social, political, environmental, and economic factors. We will analyze the dual burden of communicable and non-communicable diseases facing the world's populations including study of current health systems, global health practices and priorities as well as major organization and institutional players. Class sessions will consist of lecture, intensive small group discussion, and global health case analyses. After successful completion of this course, students will be able to explain the basic principles of public health; discuss the determinants of health; describe how globalization has changed the patterns of the spread of disease and the methods needed to control disease; evaluate the complex, multi-faceted links between health, social and economic factors; and identify critical issues in the delivery of health care services, with a particular emphasis on challenges faced with regard to

different cultural and economic settings.

ID 2100 Disease Detectives: An Introduction to Epidemiology

Epidemiology is a cornerstone of public health and involves the study of the incidence, distribution and control of diseases and factors affecting the health of populations. In this course, we will learn about the principles of epidemiology and the role epidemiologist play in responding to disease outbreaks and promoting public health through exploration of a series of real life cases studies. Students are introduced to the basic principles and methods used in epidemiology to study the distribution and determinants of disease in human populations and in the development of prevention and intervention strategies. The course will take an interdisciplinary approach as epidemiologist relay on many different disciplines such as biology for understanding disease processes, statistics for making efficient and appropriate use of data, social science for understanding behavior, and engineering for analysis and assessment tools. Class sessions will consist of lecture, intensive small group discussion, and case analyses.

STS 4000 Senior Seminar in Global Public Health

This course is intended for Global Public Health minors. The course is designed to integrate each student's educational experience (e.g., core global public health courses, specializations, and projects) in a capstone seminar in Global Public Health. Through seminar discussions and writing assignments students will critically reflect on what they learned in their previous courses and project experiences. In teams, students will prepare a final capstone paper and presentation that critically engages their educational experience in global public health and anticipates how their courses and experiences will translate into their future personal and professional environmental experiences. Recommended background: previous courses in global public health and completion of health related IQP or ISP.

Rationale:

STEM majors are, and WPI students especially, well suited for careers in public health, in general, and global public health, in particular. This minor will provide a framework for students to explore opportunities in this vibrant and growing professional field that offers domestic and international employment opportunities. The purpose of the minor in Global Public Health is to give students an opportunity to become familiar with the major problems and policy issues in global health. With the addition of two fundamental courses that complement a wide range of already available courses that cover important and relevant topics in global public health, this minor will provide a framework and context for the work our STEM students are already doing in the arena of health. The Global Public Health minor will help students focus on a chosen area of global public health through designated classes designed to pull concepts from the life sciences, social sciences, engineering and the humanities. For example, students with a major in biology, or bioinformatics or data science, psychology, or business could be a good candidate for a public health profession and/or an advanced degree in this broad area. The Global Public Health minor offers a flexible set of requirements that will allow students to design a minor that strikes the balance between depth and breadth that is appropriate for their particular educational and professional objectives. Global Public Health programs are especially attractive to groups who are underrepresented in STEM. Having a presence in this broad field could help WPI attract these students to our campus.

Program Goals: The focus of community and global health research and practice is to improve the overall health and health equity of all people worldwide. This minor will use an interdisciplinary approach to explore the major underlying biological determinants of health as well as aspects of social, political, environmental and economic influences. Through the included coursework students will analyze the dual burden of communicable and non-communicable diseases facing the world's population including the study of current health systems, global health practices and priorities as well as major organization and institutional players.

Students participating in the minor will be able to understand and discuss the determinants of global health and global responses to health problems, including health systems and productive interventions. Students completing a minor in Global Public Health will be able to demonstrate a basic understanding of:

- The major causes of poor health outcomes domestically and globally
- The burden of the most important health problems contributing to excess morbidity and mortality in developing and developed countries
- Major historical, political, social, environmental, and economic determinants of adverse health in the developing and developed worlds.
- Ways in which health promotion and productive intervention strategies can protect and enhance the well-being of populations around the world
- How to analyze critically relevant global public health topics in the popular press and research literature.

Program Objectives: After successful completion of this minor, students will be able to:

- Explain the basic principles of public health, community health and global health.
- Discuss the determinants of health.
- Describe how globalization has changed the patterns of the spread of disease and the methods needed to control disease.
- Evaluate the complex, multi-faceted links between health, social, economic factors and climate.
- Identify critical issues in the delivery of health care services with a particular emphasis on challenges faced with regard to different cultural and economic settings.
- Compare different career paths and opportunities in the areas of Global Public Health

Resources: Faculty for the core courses of the Global Public Health minor have been identified. All elective courses are already being offered.

Impact on Students: The Minor in Global Public Health enables students to augment their major studies demonstrating to prospective graduate schools and employers an extension of their major disciplines that provides perspective on human health and the factors that influence the health of populations. Because health affects almost every aspect of human life, a minor in global public health is useful preparation for careers in almost any field including government, business, communications, education, engineering, science, medicine, psychology, and other health professions. The form “Application for a Minor in Global Public Health” is attached below.

Program Leadership: Students complete the “Application for a Minor in Global Public Health” and present it to the Global Public Health Steering Committee that includes at least one representative from Social Sciences & Policy Studies, Biology & Biotechnology and Humanities & Arts. The Application is available in the Social Sciences & Policy Studies Department Office. The Steering Committee will be responsible for the review and approval of all requests for the Minor. The Committee will be co-chaired by one representative from Biology & Biotechnology and one representative from Social Sciences & Policy Studies. Reeta Rao (BBT) and Lauren Elgert (SSPS) will serve as the first co-chairs of the Steering Committee, and will be the primary contacts listed in the undergraduate catalog.

Implementation Date: Upon approval, the catalog description will be made available via the WPI Social Sciences & Policy Studies, Biology & Biotechnology and Humanities & Arts websites. Students who meet the requirements will be able to obtain the Minor in Global Public Health beginning with academic year 2016-2017.

Application for a MINOR IN GLOBAL HEALTH

Last Name: _____ First Name: _____

Student ID: _____ Major: _____

Anticipated Graduation Date: _____ Email: _____ @ wpi.edu

Instructions:

1. In the table below, list the three courses satisfying the requirement for one units of work in the core areas Global Public Health.
2. Check to indicate which courses are being double-counted for other degree requirements. Note that WPI policy requires that no more than 3/3 unit of course work for the minor can be double counted.
3. Verify that you have consulted with your academic advisor regarding the Global Public Health Minor.
4. Indicate (briefly) how you gained Global Public Health Experience.
5. Obtain approvals from the Global Public Health steering committee.

COURSE NUMBER	COURSE TITLE	TERM	GRADE	DOUBLE COUNTED
Core Courses				
Electives				
Senior Seminar				
Global Health Experience				

Have you discussed your application for the Global Public Health Minor with your academic advisor? Yes / No

Global Health Experience Approval: _____ Date: _____
Chair of the Global Public Health Steering Committee

Minor Approval: _____ Date: _____
Chair of the Global Public Health Steering Committee

Date: April 14, 2016
To: WPI Faculty
From: Committee on Academic Operations (Prof. Sturm, Chair)
Re: Motion to add EN 3262/BUS2013 Theatrical Production Management

Motion: On behalf of the Department of Humanities and Arts and the Foisie School of Business, the Committee on Academic Operation recommends and I move that EN 3262/BUS2013 Theatrical Production Management, as described below, be added.

Proposed Course Description:

EN 3262/BUS2013 Theatrical Production Management (Cat. I)

This course explores the managerial aspects of theatrical production, in both the WPI campus and the professional theatre world. Students will investigate the challenges involved with the process of bringing a script to the stage through reading, discussion, and exploration of the current term's production(s). Topics covered may include study of the structure of theatrical organizations, recognizing planning techniques for the production process, discovery of organizational dynamics within the theatre environment, and detailed exploration of various managerial tasks within theatrical productions. Students will use knowledge of previous experiences within the theatre, along with readings and assignments, to aid in the discussion that comprises the majority of the course. Students may not receive credit for both EN326X and EN3262/BUS2013.

Recommended background: Theatre Workshop (EN 2222, or equivalent) or appropriate Drama/Theatre independent studies.

Anticipated Instructor: Erika Hanlan

Rationale:

This course will provide an opportunity for students to develop a deeper understanding of how all of the pieces of theatrical production come together throughout the production process to create a successful performance on stage. Some courses and ISPs currently offered by the Drama/Theatre Program touch on these topics, but none offer a focused investigation on the managerial aspects of theatrical production. Building a production team means bringing together specialists from different areas. To bring all these people together into a cohesive team, there must be an understanding of how the pieces fit together and what these jobs entail.

The skills developed through work on theatrical productions have benefits beyond the theatre walls. Theatre production management attends to needs such as inflexible publication deadlines, creative problem solving, budget restraints, and working with people of various abilities and backgrounds. Students will be able to apply what they learn through the study of theatrical production management to any group work or project they do, whether at WPI or in the workplace after graduation.

Cross-listing: As stated above, the reach of the topics covered in this course extend beyond the walls of the stage. Support of the motion to cross-list this course as a business

course has been expressed by the Foisie School of Business Undergraduate Policy and Curriculum Committee after reviewing the draft proposal on January 13th, 2016.

Enrollment projections: Enrollment projected between 12 and 20 students. Numbers on the higher end are expected with the approval of cross-listing.

Impact on Distribution Requirements and Other Courses: This course will provide an additional option for students looking to focus on Drama/Theatre for their Humanities and Arts Requirement, as well as provide an additional option for the breadth component of the MG, MGA, or MIS majors within the Foisie School of Business.

Assessment: Student feedback has been positive. Comments on evaluations have indicated appreciation for a gained knowledge that can be put to use beyond the classroom and the theatre. Feedback has indicated ability to find connections with technical and managerial work on projects and in other coursework. Feedback on material and course structure has been mainly positive with constructive advice offered.

In 2014, 12 of 13 students completed the course evaluation. In 2015, 21 of 22 students completed the course evaluation.

In 2014, the average score for question 1, re: the quality of this course, was 4.8 out of 5 from the 12 students who responded. In 2015, the average score for question 1, re: the quality of this course, was 4.6 out of 5 from the 21 students who responded.

In 2014, the average score for question 2, re: the instructor's teaching, was 4.8 out of 5 from the 12 students who responded. In 2015, the average score for question 2, re: the instructor's teaching, was 4.8 out of 5 from the 21 students who responded.

In 2014, the average score for question 9, re: the amount learned from the course, was 4.3 out of 5 from the 12 students who responded. In 2015, the average score for question 9, re: the amount learned from the course, was 4 out of 5 from the 21 students who responded.

In 2014, for question 26b, 7 of the 12 respondents said they spent 1-5 hr/wk on course activities outside scheduled class time; and 5 responded 6-10 hr/wk. In 2015, for question 26B, 16 of the 21 respondents said they spent 1-5 hr/wk working on course activities outside of the scheduled class time; and 5 responded 6-10 hr/wk.

Over the experimental period of this course, the outcomes and learning objectives have been met by the course and the enrolled students. The instructor found student engagement to be higher than expected. The fast paced, student driven, discussion based nature of the course has been a point of adjustment for students, though, has been adjusted to best fit each session. Overall, the energy brought into the classroom by the students provided an environment to explore the topics in a way that is in line with the teaching approach. Students have moved on to continued theatrical production work, most with management roles within production. Enrollment and focus areas within the Theatre

Technology Practicum have also increased since the introduction of this course as experimental.

Population numbers: When offered originally as an ISP in 2013, announced after general course registration was already complete and with a term change after the announcement, enrollment reached 9. When offered in the first year as experimental, 13 enrolled. When offered second year experimental, 22 enrolled, two student above the cap.

Resource Needs:

- Instructor information: No new resources needed. Proposed instructor will reallocate some of her administrative office duties to current student employees, shifting her load to create an opening for the additional work of this course.
- Classroom needs: No new resources needed. 20 person capacity with projector and white/chalk boards, movable tables/seating for flexible configurations. Room such as Salisbury Labs 011 would be sufficient.

Implementation Date: Implementation date for this action is the 2016-2017 academic year.