ARTS, SCIENCES AND ENGINEERING
FACULTY MEETING
COOLIDGE ROOM, BALLOU HALL
WEDNESDAY, MARCH 28, 2018

Table of Contents

ANNOUNCEMENTS ......................................................................................................................... 2
Results of AS&E Faculty Committee Elections ............................................................................. 2
  Yannis Evrigenis, Member, Committee on Committees .............................................................. 2

NEW BUSINESS ............................................................................................................................... 3
Co-op Proposal and Vote: Biomedical Engineering ..................................................................... 3
  Anne Mahoney, Chair, Educational Policy Committee, and Qiaobing Xu, Associate Professor,
  Biomedical Engineering............................................................................................................... 3
EPC Proposal: Changes to Block Schedule .................................................................................... 6
  Anne Mahoney, Senior Lecturer, Classics, and Chair, Educational Policy Committee .......... 6
Petition on Divestment: Discussion and Vote ................................................................................ 6
  Sheldon Krimsky, Lenore Stern Professor in the Humanities and Social Sciences, UEP .......... 6
Updates: Data Science/Computational Science/Digital Arts and Humanities ............................ 8
  Joe Auner, Dean of Academic Affairs, School of Arts and Sciences, Marie-Claire Beaulieu,
  Associate Professor, Classics, and Director of Graduate Studies, Bob Cook, Dean of the
  Graduate School of Arts and Sciences, Alva Couch, Associate Professor of Computer Science,
  and Peter Love, Associate Professor, Physics and Astronomy.................................................... 8

MEETING ADJOURNED ..................................................................................................................... 10
ANNOUNCEMENTS

PROF COUCH: The chair recognizes Yannis Evrigenis of the Committee on Committees.

Results of AS&E Faculty Committee Elections
Yannis Evrigenis, Member, Committee on Committees

PROF EVRIGENIS: The Committee on Committees would like to thank all of the nominees who put their names on the respective ballots and to those of you who voted in this election. Our yield was 59.3% of all eligible voters, just shy of last year’s participation rate. The elected faculty members are:

For Budget and Priorities Committee
Gregory Crane Classics 2018-2023
Alisha Rankin History 2018-2023
Chantal Zakari SMFA, Graphic Arts 2018-2023

Budget and Priorities Committee
Tim Atherton Physics and Astronomy 2018-2019
Eric Miller Electrical and Computer Engineering 2018-2019

Committee on Committees
Elizabeth Foster History 2018-2023

Executive Committee
Andrew Ramsburg Civil and Environmental Engineering 2018-2021

Faculty Advisory Board
Lauren Black Biomedical Engineering 2018-2023

Grievance Panel
Kamran Rastegar International Literary and Cultural Studies 2018-2023

Grievance Panel
Fulton Gonzalez Mathematics 2018-2019

Tenure and Promotion Committee
Sergio Fantini Biomedical Engineering 2019-2022
David Gute Civil and Environmental Engineering 2019-2022
Christine McWayne Child Study and Human Development 2019-2022

Tenure and Promotion Committee
Roger Tobin Physics & Astronomy 2018-2019

University Faculty Senate – A&S Committee
Mitch McVey Biology 2018-2021
Mary Jane Shultz Chemistry 2018-2021
Thank you very much to all those who participated in this election. Please know that Engineering will hold the election for its University Senate representatives in April.

If you were not the winner in a particular election, runners-up may still be called on to fill in as vacancies come up during the academic year so thank you in advance if that does occur.

And as a reminder, the committee preference survey will be issued sometime in the next two weeks, so you are encouraged to complete that even if you are going on leave next year. If we do not receive a survey from you, the Committee on Committees reserves the right to assign you to a committee. Any questions or comments? Thank you.

NEW BUSINESS

PROF COUCH: The AS&E Executive Committee will postpone the discussion of FRAC due to concerns that arose over spring break.

The chair recognizes Anne Mahoney and Darryl Williams.

Co-op Proposal and Vote: Biomedical Engineering
Anne Mahoney, Chair, Educational Policy Committee, and Qiaobing Xu, Associate Professor, Biomedical Engineering

PROF MAHONEY: Darryl will be sitting this out in favor of Qiaobing Xu. EPC will be asking you to vote on a pilot program for the co-op for a year or so to see how it works before we’ve settled all of the policies because we didn’t want to create policies in a vacuum. This has gone through Engineering Curricula. A student on co-op will be a full-time student even though they aren’t taking any classes. This is to create a new class of student and that’s why the faculty have to vote on it.

PROF XU: I’m very glad to introduce this exciting program to give students the option of doing a six month co-op and give them the opportunity to see what the industry looks like and use their knowledge from the classrooms in the real world. It’s brand new to Tufts. Northeastern has over 100 programs and they are very successful. Our students feel like other students have the edge when they go into the job market because of the practical experience they’ve had.

In the past few years, I’ve been in charge of the BME internship program. Companies prefer to take the co-op students because it’s longer than just a few months over the summer. Yesterday, I attended a career fair in Anderson Hall and Tufts Alumni came and discussed their job opportunities and their companies and I have their contact information so we can integrate this into the program. For a student who wants to do a co-op, they have to take a preparation course run by me. The students still have to meet all the requirements before they graduate and might extend their graduation year. We’ve collected a lot of information from other programs when we formed our program. After two years for the pilot study, the committee will review the program.
and maybe we can expand it to other departments and schools. I’d like to answer any questions if you have any.

PROF ORIANS: I like that you’re not charging another semester’s tuition, but I’m not sure how students can finish their degree in four years. I wonder if we’ll see this come up in A&S.

PROF MAHONEY: EPC thought the idea is interesting and although there aren’t any planned, we speculated we could do something with, like, the Boston Symphony and send students to work behind the scenes, for example. As for the nuts and bolts of how long it will take the student to finish their degree, they’re going to need acceleration like how they do now and finish in 3.5 years. We haven’t worked out the residence requirement yet and it’s too complicated to get into right now with this small program.

PROF ORIANS: Option one is hard for me to interrupt and why it starts at 9 and then later at 1 in the row. I’m not reading it well.

PROF XU: For the options, it will be case by case. They have to meet 8 semesters at Tufts. For students who have many AP credits and summer courses, that will count as one residency. For other students, they will do a one or two semester extension depending on how fast they do this.

PRESIDENT MONACO: There’s a form for international students, but what happens when students are undocumented?

PROF XU: We’ll have to work with the international office, but honestly, I haven’t thought about that.

PROF SAJINA: I wanted to make a suggestion on the options. You can say, “For students participating in this option, they can postpone their graduation by up to two semesters.”

PROF XU: That’s a great suggestion.

PROVOST HARRIS: What about students on financial aid? It says companies can pay them, but they don’t have to.

PROF XU: For this program, students have to enroll as full-time students so we are working with Patty to figure this out. When they are doing the co-op, they are getting paid. The employers cannot take volunteers because of these legal issues.

PROF MAHONEY: Further questions or comments?

DEAN GLASER: To clarify what we’re voting for, we’re voting for approval for full-time status for someone who is being paid.

PROF MAHONEY: Precisely. We’re not voting on the merits of the program, we’re just voting on whether on the idea of co-op education seems like a good thing.
MS REILLY: So you know exactly what you’re voting for, for students to be eligible for loans and aid, the co-op must be the equivalent of a full-time load.

PROF XU: The students have to give a report to the co-op coordinator, who will be me initially, so we will have those reports, and when they come back they will give a presentation so we know they met the requirement.

PROF KRIMSKY: Is there any data that co-op students are more likely to get jobs or get jobs faster?

PROF XU: Yes, there are benefits of doing a co-op, and one article in the Tufts Daily, students push for a co-op program and one student said, “I’ve seen [the Northeastern students] come out of the co-op process and the amount of confidence they have in their work and their ability … is something that you don’t see as widely spread in the Tufts population.” If you read the article, there are comments in favor of this.

PROF KRIMSKY: I was thinking sociological data. People who have done studies on this and we can see the advantage.

PROF XU: For the co-op, Northeastern is not the earliest one, it’s the University of Cincinnati and it’s a hundred years old and they have done a lot of research comparing students who have and have not done co-ops. I can send you this later.

PROF SWAN: We are voting for a pilot opportunity to evaluate if this will work for Tufts. How long is this going to run and what are the metrics of success?

PROF MAHONEY: One to two years, and we’ll look at what the students do – stay in school, graduate on time, or extend graduation – see if they do as well academically as they would have without the co-op, and see if they have a job or an offer. The big question is whether this counts as a full-time semester, and there are logistical questions, like if they live in a fraternity. I’m sure my colleagues in engineering have data points they want to gather and I’m prepared to verify this within the BME program, and for EPC, I want to know if this is beneficial to the undergraduate program.

PROF XU: I think after two years we will evaluate everything collected from students, employers, and the results of their academics.

MR VICTORY: There is data about co-ops and some employers won’t hire our students because we don’t have a co-op program. Large companies like to hire from co-ops, like Johnson & Johnson, and that could be from STEM or marketing or other fields.

MS REILLY: If we want students to have financial aid, we are voting on this today.

PROF COUCH: All those in favor? (51) Opposed? (2) Abstentions? (2) Thank you.

The chair recognizes Anne Mahoney.
EPC Proposal: Changes to Block Schedule
Anne Mahoney, Senior Lecturer, Classics, and Chair, Educational Policy Committee

PROF MAHONEY: This is short and technical, not a big deal. We were informed about two new blocks that materialized in the schedule that we didn’t know about it. We like it, but it should have gone through committees, and we sent a polite note to the deans. Members of EPC felt strongly that it should come to the faculty for a vote. They used an outside consultant and it would have been cheaper if they had just come to us.

PROF JOHNSON: I wanted to note that the language departments were never consulted because a large number of courses are taught in the three-block days and these blocks intersect multiple blocks. There was a reason partly because of some big classrooms and it may be too late to do anything about it, and it may create havoc because hundreds of classes are taught then.

PROF MAHONEY: It’s not obvious that it does damage; we’ve always had overlapping blocks. Faculty have always had the right to teach in an arranged block or use the block schedule, and it’s not obvious how we can add more blocks to the schedule without making them overlap. Students will choose different sections and have to make choices.

MR STANTON: To say for clarification, I am a member of the Learning Spaces Group, and there was a study done four and a half years ago and it looked at all aspects of how we use classes and labs and what furniture we use and how we use the spaces. They also did an analysis of classroom utilization and they said from that 8-10 AM we are underutilizing the available classrooms. There was no consultant hired to look specifically at the block schedule, but it was part of that analysis.


PROF COUCH: The chair recognizes Sheldon Krimsky from UEP.

Petition on Divestment: Discussion and Vote
Sheldon Krimsky, Lenore Stern Professor in the Humanities and Social Sciences, UEP

PROF KRIMSKY: Thank you for setting aside time for this discussion. Since the petition was presented, several things occurred. High school students have rallied throughout the country for effective gun control measures. New Jersey legislators said they plan to introduce bills to bar state pension funds from investing in gun manufacturers. A new bill would prohibit the state from investing assets of any pension or annuity fund in companies that manufacture firearms or ammunition. Citigroup is setting restrictions on the sale of firearms by its business customers. Its credit cards or other cards backed by Citigroup cannot be used to purchase bump stocks or high capacity magazines. Dicks sporting goods stated it will not sell assault rifles. California State Treasurer John Chiang urged the nation's largest institutional investors – including CalPERS and CalSTRS – to divest holdings from wholesale or retail sellers of military-style assault weapons, ammunition and other devices such as “bump stocks” that are banned in California. BlackRock and State Street, the world’s largest and third-largest asset managers, said they would speak with
the gunmakers in their portfolios. The most radical idea floated so far, in the New York Times, is that banks and payment systems could block transactions for assault weapons, even if the federal government brings in no new restrictions. BlackRock says it is working with customers who want to keep gun companies out of their portfolios. Now Tufts has an opportunity to set a precedent. The top 22 endowed universities have $223 billion to invest. It is the right time for faculty to make its voices heard on divestment. I leave it open for discussion now.

PRESIDENT MONACO: We’ve received a similar petition from faculty on the Boston campus, mostly from the School of Public Health.

PROF RICHARDS: I’m not completely clear – are we asking the Trustees to vote to divest immediately?

PROF KRIMSKY: This is a vote of this faculty to be on record for its approval of a petition. We don’t have the power to affect the change, but to be on record to be in favor of the university’s divestment insofar as it is possible.

PROF RICHARDS: You and I’ve already communicated about this, and it would be more helpful in terms of voting on this to get more information. The petition sounds like past investors are implicit in the murders that have taken place, and most people have small investments in gun manufacturing companies, and it’s not helpful to say this in the petition. We don’t know the benefits or know the costs of doing this. Within the portfolio, approximately $1M is invested in gun manufacturing companies or general gun companies. Half of 1/10 of 1% — we are almost gun-free right now. It’s a small number. I’m not sure of the benefits and the cost; we don’t know what the costs are, but it could be substantial shifting funds around, $50-100M, or it could be less. It’s hard to vote without knowing the costs, and it could mean a lot to undergraduate financial aid or graduate stipends. I would like the Trustees to give us the information before we vote. I would suggest, it’s hard to get enthusiastic reactions to your typical economics slogans, but it’s part of the academic mission to examine these thoughtfully. At this juncture in American history, I don’t think there has been a greater need for careful analysis and cost balance.

PROF KRIMSKY: Thank you. I integrated one of your suggestions in the proposal: “unintentionally complicit.” Waiting for all the data of coming in – I wasn’t in favor of waiting. The vote is for the administration, and if they come back that this can’t be done, all we can do is express our moral intention, and maybe another committee will investigate it.

PROF LOVE: I agree with many of the previous points raised. We don’t control the endowment, and we can’t expect the Trustees to act in recklessly moral way, so we can rely on them doing what’s right. Students who are the most vocal now about the gun issue will be applying to colleges in one to two years, and they might take into account a divestment because the money for their financial aid comes from the university’s endowment.

PROF KRIMSKY: It has a moral, symbolic impact.

PROF RICHARDS: If the proposal is just to ask the Trustees to look at this, that’s hard to argue with, but if it’s for an outright call to divest, we have to look at that.
PROF COUCH: All in favor of the proposal? (50) Opposed (0) Abstentions? (4)

Updates: Data Science/Computational Science/Digital Arts and Humanities
Joe Auner, Dean of Academic Affairs, School of Arts and Sciences, Marie-Claire Beaulieu, Associate Professor, Classics, and Director of Graduate Studies, Bob Cook, Dean of the Graduate School of Arts and Sciences, Alva Couch, Associate Professor of Computer Science, and Peter Love, Associate Professor, Physics and Astronomy

DEAN AUNER: The point of this is to let people know about things that have been going on around Data Intensive Studies. This is mostly happening in AS&E, but it will have impacts across the university. This covers a whole range of things. We were doing digital humanities way before other people. There has been an explosion of work in the GIS data lab. These efforts intensified last fall with the bachelor’s in data science. Tony and David and Kevin and Jim asked what we wanted to do in response to that, and so we organized a series of roundtables. You’ll hear from your colleagues about what has been developed so far. We are mainly talking about curricular issues, but it has resonance in work and bringing faculty together.

This is a map of what has happened and what is going on. We’re consistent with best practices and suggested models. There is a lot underway. What we’re looking at, where engineering has the B.S., A&S has come up with a series of minors that students can attach to their majors and develop the skills to attach to that content. We’re working on how to bring these together. There’s a successful master’s program in data science and data analytics. The DISC initiative and the events have brought together people across the university and disciplines. The discussion emphasizes the need for skills, but I think a big emphasis is a need for ethics. When we think to the Facebook news last week, philosophical and ethical inputs are needed, the politics of data, and the need to communicate clearly and rationally. Our thinking is that you make the broader liberal arts issues the core of data.

There are big differences between what minors will look like in different fields. We have workshops this semester under the digital humanities frame. Even though all these areas are different, the toolset is shared, and students can use what they learn in one field in another. I have a pre-major advisee in physics & astronomy and computer science and a minor in music who wants to do artificial intelligence. Misha Kilmer couldn’t be here, but we had an outstanding hire in math. A&S will be sending out another call for digital approaches to knowledge. There have been staff and HR hires – Annie Swafford is our new digital humanities specialist. So there has been some investment in new resources. Carmen started a list of the courses that could be conceived in this space and there’s a huge number – not just in math, engineering, and economics, but also political science, UEP, the SMFA, child study and human development… The goal of this is to pull it together in a coherent way so students and parents know there are many ways to develop the data science skillset here.

PROF COUCH: About two or three years ago we decided to build a data science major in engineering. It’s not for liberal arts students because it has intense math and technology and machine learning and statistics requirements. It has a disciplinary distribution requirement in statistics and machine learning. We have tentative programs with A&S and engineering departments, and we can send some of our students to you. It’s only 10-20 students per year. We
have a distribution requirement in data systems, data analytics and interfaces, and theory of data science. Contact me to participate. Also, we have a master’s in data science, which is a one-year professional degree for students outside of Tufts who want to change their career path and we are thinking about a data science certificate to prepare them for the master’s.

DEAN AUNER: We’re trying to develop courses so students can see if they are interested in it. This summer, we have coding boot camp modules that teach R, MATLAB, and Python.

PROF BEAULIEU: This M.A. in digital tools for pre-modern studies will have 5 students this year. The program is an 11 course-M.A. and they have a background in humanities and pre-modern studies so there is a clear disciplinary focus and we equip them with these skills. They take two computer science classes, five electives, and two advanced offerings in Greek, Latin, Sanskrit, or another approved historical language, and finally, they do a project in scope to master’s thesis. Computational Methods for the Humanities – the idea here is to introduce students to the analysis of data: management, cleaning up data, what a data set is and isn’t. The students pursue projects that ask humanities questions with humanities data. There are also preliminary discussions of a minor.

PROF LOVE: The use of computational science goes back to WWII. The object of it is to study the computer. People have been doing it for years, but pedagogically, how do we prepare students to do this? What we need is parts of computer science and parts of natural science. There are three initial tracks depending on the student’s background, either physical and natural science, computer science, or math and other majors. We are working through the support process with the other departments and it will go to Curricula next week.

DEAN COOK: GSAS has been busily trying to regenerate its programming, and one part of that is its Interdisciplinary Program in Data Analytics. Thanks to Ellen Murphy who has been doing the lion’s share of this work. We’ve had meetings about this and agreed that being a data scientist is different than being a data analyst, and they will attract different people. In our analysis of the job market, it was clear that people needed theory to go with the data. They will be able to study within a particular discipline. Employers also want people who can effectively communicate data. Many of our new programs have a capstone, which will be an internship or other experiential learning. We have a board of advisors to give us feedback on our program so that we can be sure we are doing the right thing for our students. There’s still lots of capacity out there for this field.

DEAN AUNER: All these programs are putting a lot of pressure on classes, like math and computer science, and we’re looking at our support and facilities. We have the opportunity to do something distinctive with the Tufts image.

PROF ORIANS: I’m so pleased about these programs. I wanted to encourage the committee to add an elective about how you pull all the data together. I know the engineers take an SMFA class, and we can add something to the major to give them that breadth.

DEAN AUNER: Thanks very much.
MEETING ADJOURNED

Respectfully Submitted,

Erin Sullivan
Secretary of the Faculty for Arts, Sciences & Engineering

Minutes taken by Lindsay Riordan
Administrative Assistant to the Secretary of the Faculty for Arts, Sciences & Engineering