LAJ CURRICULA AGENDA

December 6, 2017 – A&S Meeting

Part I--Items 1-2 require vote of the LAJ Currícula Committee and vote of the AS faculty.
Part II--Items 3-11 require vote of LAJ Currícula Committee only.

Part I
Item 1. New Course—International Relations—IR 0010
Item 2. New Course—Music—MUS 0007

Part II
Item 3. Course Change Title & Description—Earth & Ocean Sciences—EOS 0022
Item 4. Course Change Description—Earth & Ocean Sciences—EOS 0001
Item 5. Course Change Description—Earth & Ocean Sciences—EOS 0005
Item 6. Course Change Description—Earth & Ocean Sciences—EOS 0011
Item 7. Course Change Description—Earth & Ocean Sciences—EOS 0012
Item 8. Course Change Description—Earth & Ocean Sciences—EOS 0038
Item 9. Course Change Description—Earth & Ocean Sciences—EOS 0052
Item 10. Course Change Description—Earth & Ocean Sciences—EOS 0131
Item 11. Course Change Description—Mathematics—MATH 0123

Part I
Item 1. NEW COURSE - International Relations—IR 0010
From: Vickie B Sullivan, 7-2328, vickie.sullivan@tufts.edu
Department Chair: Kelly Greenhill, 7-5849, kelly_greenhill@hks.harvard.edu
IR 0010 College Intensive: International Relations
|Suggested Abbreviation for Title: CollegeIntensive:IR
Bulletin Description: Intensive, two-week introduction to the discipline of International Relations for rising high school juniors and seniors. Emphasis on the importance of language and cultural proficiency for the study of International Relations. Includes language study, lectures, discussion sections, skills sessions, and a simulation. Second summer session.
Next Anticipated Offering: The course will be taught for two weeks during the second summer session beginning in 2018.
Rationale. The course is a part of Tufts' initiative to build summer offerings and builds on the institution's considerable reputation in International Relations and globalism. It will furnish high school students an introduction to college and to the study of IR at Tufts. It will be academically rigorous as it will assign readings before the students arrive on campus and require the submission of a research paper after students have left campus. Students will study a foreign language while in residence. **We are requesting the course count for 3 SHUs.**
Overlap. There is no overlap. The program has done outreach to the chairs of Romance Languages and International Literary and Cultural Studies as well as the language coordinators of Arabic, Chinese, French, and Spanish. The program has also recruited faculty to offer
Resource Requirements/ Curricular Adjustments. The program will have a faculty coordinator (currently Vickie Sullivan) and staff support from the International Relations Program. Lecturers will serve as language instructors and faculty from A&S and Fletcher will present in the program. Advanced undergraduate majors in IR and graduate students in Fletcher will serve as teaching assistants.

Requirements. The course will not fulfill a major requirement or distribution requirement for any student who subsequently enrolls at Tufts. The credit offered is elective credit only.

Item 2. NEW COURSE – Music—MUS 0007
From: David Locke, 6176272419, david.locke@tufts.edu
Department Chair: David Locke, 6176272419, david.locke@tufts.edu
MUS 0007 Music Scholarship at Tufts
Suggested Abbreviation for Title: MusicScholarshipTufts
Bulletin Description: An overview of the musical humanities, i.e., the disciplines of cultural studies, ethnomusicology, musicology, and music theory, that introduces digital, physical, and human resources available for musical scholarship. Critical inquiry about research, analysis, and interpretation to encourage reflection about the practice and value of music scholarship in the twenty-first century. Topics to include research methods involving primary and secondary sources, fieldwork, archives, library collections, and digital databases. Practical techniques of scholarship including citations, formatting, and argumentation. One 2.5-hour classroom seminar session and one 50-minute lab.

Next Anticipated Offering: Once per academic year, usually in spring semester.
Rationale. This course is central to the Music Department's proposed new major “Music, Sound, and Culture.” It will be one of two academic courses in what we term “Foundation.” One Foundation course will be within the sub-discipline of music theory. This, the other Foundation course, is intersectional among what we know as the “-ologies,” that is, musicology, ethnomusicology, and other disciplinary formations such as cultural studies and critical musicology. The rationale for this course may be understood through its objectives: Objectives:
1. Introduce students to styles of music scholarship through in-class contact with several Tufts faculty members from various disciplines 2. Develop critical reading skills in evaluating music scholarship 3. Develop skills in the craft of writing about music 4. Develop techniques in using library, technology, and human resources for music scholarship 5. Create community around the practice and value of music scholarship
Overlap. We do not think this is an issue. On the other hand, we hope that this course is something of a trailblazer at Tufts: lab section, skills development for humanistic scholarship on Music, and bringing students into contact with the scholarly work of members of the faculty.
Resource Requirements/ Curricular Adjustments. One member of the department's faculty will function as the “instructor of record.” Other members of the faculty will make presentations in the course. There is a resource needed: an instructor who would run the lab that is a required component of this course. The department anticipates filling this slot with an advanced graduate student. Both the course and its lab are new and will require support for course development. The Music Department is fully committed to putting its resources towards this development; we also expect to seek university funds through internal grant programs such as “Tufts Innovates.” The department is working with staff in Tisch Library to identify and utilize resources, including the Digital Humanities.
**Requirements.** One of three fixed requirements for the newly proposed major, “Music, Sound, and Culture.”

**ARB REVIEW PENDING: DISTRIBUTION HUMANITIES**

**Part II**

**Item 3. COURSE CHANGE TITLE & DESCRIPTION - Earth and Ocean Sciences—EOS 0022**

*From: Anne Gardulski, 72891, anne.gardulski@tufts.edu*

*Department Chair: Anne Gardulski, 72891, anne.gardulski@tufts.edu*

*Current Number/Title: EOS 0022 Structural Geo W/lab*

*New Number/Title: Structural Geology*

*Bulletin Description:* EOS-0022 Structural Geo W/lab Deformation of the earth's crust. Stress and strain analysis, plate tectonic theory, and description and interpretation of deformational structures in rocks. Kinematic analysis of structures, reinforced by fieldwork to study rock structures in their natural setting. Three lectures, one field trip or laboratory. Spring 2008 and alternate years. Recommendations: EOS 1 or 2

*New Description:* Deformation of the earth's crust. Stress and strain analysis, plate tectonic theory, and description and interpretation of deformational structures in rocks. Kinematic analysis of structures, reinforced by fieldwork to study rock structures in their natural setting. Recommendations: EOS 1 or 2

*Next Anticipated Offering:* Spring 2018

*Rationale.* The course has been taught with a recitation in recent years, rather than a lab, so this title and description change reflects the current practice. Removing reference to when course is offered is needed, as it is generally offered annually.

**Item 4. COURSE CHANGE DESCRIPTION- Earth and Ocean Sciences—EOS 0001**

*From: Anne Gardulski, 72891, anne.gardulski@tufts.edu*

*Department Chair: Anne Gardulski, 72891, anne.gardulski@tufts.edu*

*Current Number/Title: EOS 0001 The Dynamic Earth w/lab*

*Bulletin Description:* EOS-0001 The Dynamic Earth W/lab (Formerly GEO 1). Origin and occurrence of rocks and minerals of the earth's crust. Dynamic processes which form mountains, canyons, and ocean basins. Topics include volcanic eruptions, earthquakes, rock deformation, energy and mineral resources, plate tectonics, geologic time, and the geology of selected national parks. Three lectures, one field trip or laboratory. Fall.

*New Description:* Origin and occurrence of rocks and minerals of the earth's crust. Dynamic processes which form mountains, canyons, and ocean basins. Topics include volcanic eruptions, earthquakes, rock deformation, energy and mineral resources, plate tectonics, geologic time, and the geology of selected national parks. Three lectures, one field trip or laboratory. Fall.

*Next Anticipated Offering:* Fall 2018

*Rationale.* Omit “(Formerly GEO 1)” - no longer needed to specify; outdated. No impact.

**Item 5. COURSE CHANGE DESCRIPTION - Earth and Ocean Sciences—EOS 0005**

*From: Anne Gardulski, 72891, anne.gardulski@tufts.edu*

*Department Chair: Anne Gardulski, 72891, anne.gardulski@tufts.edu*
Current Number/Title: EOS 0005 Intro to Oceanography


Next Anticipated Offering: Fall 2018

Rationale. No longer need to identify old abbreviation for course - outdated. The course currently is taught twice a week, but that could change; no reason to specify this. No impact on other programs.

Item 6. COURSE CHANGE DESCRIPTION - Earth and Ocean Sciences—EOS 0011

From: Anne Gardulski, 72891, anne.gardulski@tufts.edu
Department Chair: Anne Gardulski, 72891, anne.gardulski@tufts.edu

Current Number/Title: EOS 0011 Mineralogy W/lab

Bulletin Description: EOS-0011 Mineralogy W/lab (Formerly GEO 11). Physical and chemical properties, formation, and geologic occurrence of important economic and rock-forming minerals. Introduction to the use of the polarizing microscope. Laboratory emphasis on mineral identification and morphological crystallography. Three lectures, one laboratory. Fall 2008 and alternate years. Recommendations: EOS 1 formerly GEO 1 (may be taken concurrently) or permission of instructor.

New Description: Physical and chemical properties, formation, and geologic occurrence of important economic and rock-forming minerals. Introduction to the use of the polarizing microscope. Laboratory emphasis on mineral identification and morphological crystallography. Three lectures, one laboratory. Recommendations: EOS 1 (may be taken concurrently) or permission of instructor.

Next Anticipated Offering: Fall 2018

Rationale. Removing the old references to “GEO 11” and “GEO 1” updates the description. Removing the expected semesters for offering the course reflects our current scheduling - we hope to offer it regularly, once we have a replacement tenure line for teaching this course.

Item 7. COURSE CHANGE DESCRIPTION - Earth and Ocean Sciences—EOS 0012

From: Anne Gardulski, 72891, anne.gardulski@tufts.edu
Department Chair: Anne Gardulski, 72891, anne.gardulski@tufts.edu

Current Number/Title: EOS 0012 Ig/Met Petrology W/Lab

Bulletin Description: EOS-0012 Ig/met Petrology W/lab Classification, occurrence, and origin of igneous and metamorphic rocks. Laboratory emphasis on hand specimen and microscopic identification and interpretation. Three lectures, one laboratory or field trip. Spring 2009 and alternate years. Recommendations: EOS 11 or permission of instructor.

New Description: Classification, occurrence, and origin of igneous and metamorphic rocks. Laboratory emphasis on hand specimen and microscopic identification and interpretation. Three
lectures, one laboratory or field trip. Recommendations: EOS 11 or permission of instructor

**Next Anticipated Offering:** Spring 2018

**Rationale.** Remove reference to when course is offered - we hope to offer it annually, but it is likely to be biannually for a couple of years. Unnecessary to specify.

**Item 8. COURSE CHANGE DESCRIPTION - Earth and Ocean Sciences—EOS 0038**

*From:* Anne Gardulski, 72891, anne.gardulski@tufts.edu

*Department Chair:* Anne Gardulski, 72891, anne.gardulski@tufts.edu

**Current Number/Title:** EOS 0038 Paleontology

**Bulletin Description:** EOS-0038 Paleontology (Formerly GEO 38). Introduction to the origin, evolution, morphology, and paleoecology of life forms throughout the history of the earth. Laboratory emphasis on description, classification, and recognition of the most important index fossils of North America. Recommendations: EOS 1 and 2 (formerly GEO 1 and 2) or consent

**New Description:** Introduction to the origin, evolution, morphology, and paleoecology of life forms throughout the history of the earth. Laboratory emphasis on description, classification, and recognition of the most important index fossils of North America. Recommendations: EOS 1 and 2 or consent

**Next Anticipated Offering:** Fall 2018

**Rationale.** Omit references to old GEO abbreviation - outdated. No impact.

**Item 9. COURSE CHANGE DESCRIPTION - Earth and Ocean Sciences—EOS 0052**

*From:* Anne Gardulski, 72891, anne.gardulski@tufts.edu

*Department Chair:* Anne Gardulski, 72891, anne.gardulski@tufts.edu

**Current Number/Title:** EOS 0052 Paleoclimate

**Bulletin Description:** EOS-0052 Paleoclimate Examination of climate changes that took place on Earth during the last ~4 billion years with a focus on the proxy evidence for those changes and understanding of the mechanisms that caused them. This journey begins with the wrongly perceived “hell” of the Hadean and ends with Quaternary glaciations, the Holocene, the “Hockey Stick,” and a glimpse into the near future. Prerequisite: EOS 2, 5 or 51. May be taken by graduate students as EOS 152 with extra assignments.

**New Description:** Examination of climate changes that took place on Earth during the last ~4 billion years with a focus on the proxy evidence for those changes and understanding of the mechanisms that caused them. This journey begins with the wrongly perceived “hell” of the Hadean and ends with Quaternary glaciations, the Holocene, the “Hockey Stick,” and a glimpse into the near future. Prerequisite: EOS 51 or consent. May be taken by graduate students as EOS 152 with extra assignments.

**Next Anticipated Offering:** Spring 2018

**Rationale.** Students will be most prepared if they have had EOS 51, but consultation with the instructor may provide Consent, if the student has sufficient background. This will ensure that students have been uniformly prepared for the course content, rather than having background through 2 introductory courses. No impact.

**Item 10. COURSE CHANGE DESCRIPTION - Earth and Ocean Sciences—EOS 0131**

*From:* Anne Gardulski, 72891, anne.gardulski@tufts.edu
**Department Chair:** Anne Gardulski, 72891, anne.gardulski@tufts.edu

**Current Number/Title:** EOS 0131 Groundwater

**Bulletin Description:** EOS-0131 Groundwater (Formerly GEO 131). (Cross-listed as CEE 113 and ENV 113). The geology and hydrology of groundwater. Topics include: hydraulic properties of soils, sediments, and rocks; physics of groundwater flow; flow nets, modeling groundwater systems; geology of regional flow; aquifer exploration and water well construction methods; well hydraulics and aquifer testing; applications in the geosciences and in civil/geotechnical/environmental engineering. Recommendations: EOS 1 or 2 (formerly GEO 1 or GEO 2), and MATH 32 (formerly MATH 11).

**New Description:** The geology and hydrology of groundwater. Topics include: hydraulic properties of soils, sediments, and rocks; physics of groundwater flow; flow nets, modeling groundwater systems; geology of regional flow; aquifer exploration and water well construction methods; well hydraulics and aquifer testing; applications in the geosciences and in civil/geotechnical/environmental engineering. Recommendations: EOS 1 or 2, and MATH 32. (Cross-listed as CEE 113 and ENV 113)

**Next Anticipated Offering:** Fall 2018

**Rationale.** Omit references to old GEO abbreviations and old MATH number. Needed for updating description. No impact.

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**Item 11. COURSE CHANGE DESCRIPTION – Mathematics—MATH 0123**

*From:* Christoph Borgers, 617-627-2366, cborgers@tufts.edu

**Department Chair:** Misha Kilmer, 617-627-2005, misha.kilmer@tufts.edu

**Current Number/Title:** MATH 0123 Mathematical Aspects of Data Analysis

**Bulletin Description:** Dimension reduction and data compression via principal component analysis, and the singular value decomposition; k-means clustering; clustering via diffusion on weighted graphs; support vector machines; tensor data analysis; kernel trick. Homework includes programming. Prerequisite: MATH 70 or MATH 72. Some prior programming experience desirable, but not required. Only one of COMP 136 and MATH 123 can be taken for credit

**New Description:** Dimension reduction and data compression via principal component analysis, and the singular value decomposition; k-means clustering; clustering via diffusion on weighted graphs; support vector machines; tensor data analysis; kernel trick. Homework includes programming. Prerequisite: MATH 42, and MATH 70 or MATH 72. Some prior programming experience desirable, but not required. Only one of COMP 136 and MATH 123 can be taken for credit.

**Next Anticipated Offering:** Spring 2018.

**Rationale.** Several concepts from Math 42 (Calculus 3) are used in the course: Gradients, Jacobi matrices, the multi-dimensional chain rule, Lagrange multipliers.