



**THE UNIVERSITY OF MICHIGAN
Joint Curriculum Committee Meeting
Colleges of Engineering
College of Literature, Science, & the Arts**

Tuesday, February 20, 2007
*** 3:10-5:00 PM ***

4152 UNDERGRADUATE SCIENCE BUILDING

- I. Minutes of February 13, 2007
- II. Introductory Biology Sequence: Diarmaid Ó Foighil
- III. Practicum for Project-Based Learning: Peter Washabaugh and Brian Gilchrist
- IV. Humanities and Social Science Courses for Engineering
- V. Race & Ethnicity Requirement for Engineering
- VI. Matters Arising
- VII. Tour of the Undergraduate Science Building

ENCLOSED FOR YOUR INFORMATION

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DRAFT

LSA CURRICULUM COMMITTEE Minutes of February 13, 2007

Present: Evans Young (Acting Chair), William Baxter, Justin Benson, Tim Chupp, Derek Collins, Phil Gorman, George Hoffmann, Greg Markus, Hannah Madoff, Jennifer Myers, Esrold Nurse, Martin Pernick, Chris Peterson, Susan Ridder, Pam Rinker, Janet Soave, Greg Tarle, Liina Wallin, Robert Wallin.

The meeting came to order at 3:10 pm.

MINUTES

Minutes of January 30, 2007 were approved.

RACE & ETHNICITY COURSE APPROVALS

As recommended on the attached R&E Subcommittee Report, six courses were ***approved or recertified*** to fulfill the R&E Requirement for a five-year period effective **Winter 2007** (1-3 blanket, 4-5 topic-specific):

1. **HISTORY 371/WOMENSTD 371. Women in American History Since 1870.** Regina Morantz-Sanchez.
2. **CAAS 327/PSYCH 315. Psychological Aspects of the Black Experience.** Elizabeth Cole.
3. **CAAS 457/ECON 476. Political Economy of Black America.** Warren Whatley.
4. **SLAVIC 270. Contact and Conflict: Jewish Experience in Eastern and Central Europe.** Mikhail Krutikov.
5. **CAAS 103. First Year Social Science Seminar: Psychology and the Study of Racial Differences.** Elizabeth Cole.
6. **PSYCH 120. First-Year Seminar in Psychology as a Social Science: I, Too, Sing America: A Psychology of Race & Racism.** Charles Behling.

ROTC COURSE APPROVALS

As recommended by the ROTC Subcommittee, cross-listing with the University Courses Division, and thus LSA credit, was ***approved*** for two courses: **MILSCI 401/UC 401** and **NAVSCI 401** as modified to **NAVSCI 203/UC 205** (see ***Appendix I*** for summary). In discussing the background of this policy and process, some on the committee advocated the approval of ROTC courses as counting toward an LSA degree but as non-LSA courses. Since the LSA Faculty Code as copied below expressly prohibits this approach, the committee agreed to form an ad hoc group to discuss possible steps toward a general review of the current policy.

Section B 5.12

Credit for Military Training

The College does not grant credit for those R.O.T.C., N.R.O.T.C., or A.F.R.O.T.C. courses which are not cross-listed with courses offered by LS&A departments or by other Schools and Colleges of the Ann Arbor Campus.

BIOPHYSICS CURRICULUM

Ten new courses in **BIOPHYSICS** were approved by the LSA Curriculum Committee on November 7, 2006, contingent on the creation of a Biophysics concentration and department: This larger issue remains under discussion with regard to the availability of resources. Based on the rationale in the attached memo from Bob Megginson, however, the committee ***approved*** removing this contingency from the course approvals (see ***Appendix II*** for summary).

FEBRUARY REGULAR COURSE APPROVAL REQUESTS

1. The committee *approved* a total of **134** regular course approval requests: **31 deletions, 88 modifications, and 15 new proposals** (see *Appendix III* for summary).
2. The committee *deferred* **1 modification** and **3 new proposals** (see *Appendix IV* for summary):
 - a. **POLSCI 499, Quantitative Methods of Political Analysis**, was *deferred* pending resolution of questions about the appropriate course level and advisory prerequisites, the expected enrollment, and whether credit exclusions are needed with other Statistics courses.
 - b. **SWC 400, Advanced Rhetoric and Research**, was *deferred* pending further discussion about the Sweetland Writing Center's role in the college and how this proposed course would be taught in order to fulfill the **ULWR**.
 - c. **WOMENSTD 322, Putting Women's Bodies at the Center of Science**, was *deferred* pending additional information about the course title and content.
 - d. **WOMENSTD 368/AMCULT 368, Women and War in the Middle East**, was *deferred* since the committee did not have time to conclude its discussion of the course.
3. The committee *approved* **area distribution/college requirements** for **1 modification** and **7 new proposals**: **CLCIV 101** (FYWR and removal of HU); **ANTHRBIO 265, ENVIRON 113**, and **GEOSCI 210** (NS/BS-eligible); **ANTHRBIO 465** (BS-eligible); **HISTORY 257** and **WOMENSTD 254/HISTART 254** (HU); and **HISTORY 343** (SS).

CONCENTRATIONS

The committee *approved* the attached **concentration** changes for **LSA Computer Science and The Environment**.

The committee *approved* **STATS 449** as an additional elective for the **Statistics concentration** effective **Fall 2007**.

ACADEMIC MINORS

The committee *approved* **STATS 449** as an additional elective for the **Academic Minor in Applied Statistics** effective **Fall 2007**.

The meeting was adjourned at 5:10 pm.

NEXT MEETING: FEBRUARY 20, 3-5 PM

Joint Discussion with the School of Engineering Curriculum Committee

New Introductory Biology Courses

New Introductory Biology Offerings

Majors Points:

- The new biology courses will begin Fall term 2007
 - BIO 171: Ecology and Evolution
 - BIO 172: Cellular, and Molecular, Developmental
 - BIO 173: Laboratory
- BIO 162 will be taught for the last time Spring term 2007
- Beginning Fall term 2007, AP credit for introductory biology will transfer directly into U-M as BIO 195

Course Numbers, titles, credits and prerequisites

COURSE NO.	COURSE TITLE	CREDITS	PREREQUISITES
BIO 171	Ecology and Evolution	4	none
BIO 172	Cellular, Molecular and Developmental	4	Chem 130 is an advisory prerequisite
BIO 173	Introductory Biology Laboratory	2	Completion of one of the lecture courses and enrollment in the second lecture course, or BIO 195

* The lecture courses may be taken in any order

Syllabi, prerequisites, and course combinations

- Syllabi
- Course sequencing and combinations:
 - lecture courses may be taken in any order.
 - The prerequisites for BIO 173 are:
 - (i) completion of one of the lectures (BIO 171 or 172) and current enrollment in the other; OR
 - (ii) Students who have completed both lectures; OR
 - (iii) Students with AP credit (BIO 195)
- gaps between the courses
- AP Credit and Chem 125/126

Terms courses will be offered and course load considerations

- All three courses will be taught fall and winter. We do not know whether or not one or more of these courses will be offered in the spring or summer as of yet.
- Course load considerations:
 - Study hours outside of class (e.g., for a 4 credit class ~ 8-12 hours of study time)
 - Reasonable course load expectations for a science concentrator.

Transfer Credit procedures:

- Students who complete introductory biology at another institution before September 4th, 2007, and wish to have it evaluated for equivalency, will have their transferred course(s) evaluated under the BIO 162 syllabus.
- Students who complete an introductory course at another institution after September 4th, 2007, and wish to have the course evaluated for equivalency, will have their transferred course(s) evaluated under the new biology series syllabi.

Transfer credit procedures:

- Reviewing courses for equivalency
- Transfer student orientation this summer
- Long term goals

Concentration level consequences

- The new introductory courses will begin Fall term 2007.
- Changes to existing concentrations, minors, course names, renumbering, and course credit hours will commence Fall term 2008

Concentration level consequences

- To offset the increase in the number of prerequisite credit hours, there will be a credit decrease in the mid-level required courses in Genetics, Biochemistry, and Evolution from 4 to 3 credits.
- The net change in credits required to complete a concentration (prerequisites + concentration courses) is an increase of only 2 credits.
- The maximum credits for 100 level biology courses is changing from 12 to 17 credits

Course or Requirement	Course No. of Old Course	"Current" Credits	New Course No.	"New" Credits
Prerequisites:				
Intro Biology	BIO 162	5	BIO 171, 172, 173	10
Chemistry	CHEM 210/211	5	CHEM 210/211	5
	CHEM 215/216	5	CHEM 215/216	5
Physics	PHYSICS 125/128, or 140/141, or 135/141	5	PHYSICS 125/128, or 140/141, or 135/141	5
	PHYSICS 126/128, or 240/241, or 235/241	5	PHYSICS 126/128, or 240/241, or 235/241	5
Math	MATH 115	4	MATH 115	4
	MATH 116	4	MATH 116	4
Total prerequisite credits:		33		38

Concentration Courses		"Current" Credits	"new" Credits
Genetics	BIO 305	4	3
Biochemistry	BIO 310 or 311 (or Biolchem 415)	4	3
Evolution	BIO 390	4	3
	Take one course from: • Group I • Group II • One EEB or MCDB course at the 300-level or higher • Lab courses (3) • Additional elective courses to reach a concentration total of:	21	21
Total credits for the concentration		33	30

Reduction in credits hours of the mid level core courses

- Reduction in credit hours and renumbering for Genetics, Biochemistry and Evolution beginning Fall term 2008

"Current Course"	"New Course"	Prerequisite
BIO 305 Genetics	BIO 205	BIO 171 & 172 and prior or concurrent enrollment in Chem 210
BIO 310 and 311 Biochemistry	MCDB 310 and 311	BIO 172 and Chem 210; or BIO 195 and 173 and Chem 210
BIO 390 Evolution	EEB 390	BIO 171 & 172 and prior or concurrent enrollment in Chem 210

Advising recommendations: Entering freshman Fall 2007

- Students without AP credit for intro biology should sign up for BIO 171 or 172
- Students with AP credit for intro bio (BIO 195) and have passed out of the Chem 130, series should sign up for BIO 173 (lab)
- Students who have AP credit for intro bio (BIO 195) but have not placed out of the Chem 130/125/126 should take Chem 125/126 before taking BIO 173. They need basic chemistry skills to handle the work in BIO 173

Advising recommendations: Transfer Students Fall '07

- Students who have BIO 162 equivalency (should enroll in one or more of the following: BIO 305 (Genetics), or BIO 311 (or Biolchem 415) (Biochemistry), or BIO 390 (Evolution).

Advising recommendations: Students who have completed BIO 162

- Students who have completed BIO 162 this academic year (2006-2007) are strongly encouraged to take BIO 305, BIO 310 or 311, and BIO 390 next academic year (2007-2008) before the course changes to Genetics, Biochemistry, and Evolution Fall term 2008.
- If a student does not take these three courses next year and waits until Fall 2008, they will not have the same background as the students who have taken the new biology series.
- Students who have taken BIO 162 are required to take 33 upper level credits.

College of Engineering Distribution Requirements

<http://www.engin.umich.edu/students/bulletin/uged/reqs.html#hums>

Humanities and Social Sciences

The Humanities and Social Sciences Requirements offer a variety of academic choices for all students working toward an undergraduate Engineering degree. It is designed to provide the students with social, cultural, political and economic background crucial to fulfilling the College of Engineering's purpose of "preparing our graduates to begin a lifetime of technical and professional creativity and leadership in their chosen field".

To provide a breadth of education, each program in the College identifies a certain number of credit hours of elective courses (a minimum of 16) concerned with cultures and relationships--generally identified as humanities and social sciences. Students are encouraged to select a cluster theme for their humanities/social science electives. This is a unifying theme (such as psychology, economics, or history) that focuses the student's HU/SS electives.

Requirements:

The specific requirements for all students are listed below:

- I. Humanities (6 credit hours):
At least two courses totaling at least six credit hours.
- II. Sequence of humanities or social sciences courses (six credit hours):
A sequence of at least two courses in either the humanities or social sciences (or both) totaling six or more credit hours, must be taken from the same department or division (e.g., History), at least one of which must be an upper level (numbered 300 or above). This requirement may, of course, overlap requirement 1.
- III. The remaining credit hours may be satisfied with elective courses in either humanities or social sciences.

Definitions and Exceptions:

These requirements can often be satisfied by a number of courses from the College of Literature, Science and the Arts (LSA), or in part by Advanced Placement, A levels or IB credit or by courses taken at another university. For purposes of this College of Engineering requirement a course is defined as being a humanities or social science as follows:

1. Any course that is designated as "HU" or "SS" by the College of Literature, Science and Arts meets this requirement as humanities or a social science, respectively.
2. Language courses, those designated as "LR" are counted as humanities. However, advanced placement credit, A levels, IB or University of Michigan placement credit for language courses at the 100-level and below are not to be used to satisfy this requirement. These may be counted instead as Unrestricted Electives.
3. Courses that are designated as "BS", "CE", "MSA", "NS", "QR", "experiential", "directed reading or independent study", or course titles that include the terms or partial phrases "composition", "conversations:", "intro composition", "math", "outreach", "performance", "physics", "practice", "practicum", "statistics", "studio", "tutor" may not be used to satisfy this requirement.

4. For the purposes of this requirement, courses not covered by items 1, 2 & 3 above will be defined as *humanities* courses if they are offered by the following departments or divisions:
- American Culture
 - Architecture (non-studio)
 - Art (non-studio)
 - Classical Archaeology
 - Classical Studies
 - Comparative Literature
 - Dance (non-performance)
 - Film and Video Studies
 - Great Books
 - History of Art
 - Asian, English, Germanic, Romance (French, Italian, Portuguese, Spanish) and Slavic Languages and Literatures
 - Music (non-performance)
 - Music History and Musicology
 - Philosophy
 - Religion
 - Theatre and Drama (non-performance)

Similarly, courses not covered by items 1, 2 & 3 above will be defined as *social sciences* if they are offered by the following departments:

- Afro-American and African Studies
- Cultural Anthropology
- Communication Studies
- Armenian, Judaic, Latin American and Caribbean, Latina/Latino, Middle Eastern and North African, Native American, Near Eastern, Russian and East European Studies
- Economics
- History
- Linguistics
- Political Science
- Psychology
- Sociology
- Women's Studies

General Area Distribution Guidelines for College of LSA

LSA area distribution categories are as follows: Humanities (**HU**); Social Sciences (**SS**); Natural Sciences (**NS**); Mathematical & Symbolic Analysis (**MSA**); Creative Expression (**CE**); and Interdisciplinary (**ID**). **Requests for Area Distribution credit must be submitted to the LSA Curriculum Committee as part of a new course proposal or modification request with an explanation of how the course meets the following guidelines:**

1. For a course to qualify for distribution credit, it should introduce the student to a broad field of study or to a broad sub-area within a much larger field of inquiry.
2. For a course to qualify for distribution credit, it should cover material in a way that introduces the student to the important paradigms, principles, ideas, accomplishments, and modes of analysis characteristic of the field.
3. A distribution course should be one in which all students from the College would be welcome and none would be at a considerable academic disadvantage vis-à-vis concentrators in that field.
4. A distribution course should be one that is likely to be of general educational value to students who do not intend to take any additional courses in that area.
5. In general a distribution course should have no more than one prerequisite, although it is possible to imagine exceptions to this rule (e.g. a literature course that requires fourth-term proficiency in a foreign language, or the second term of an introductory-level natural science or social science course that also carries a math prerequisite).
6. Courses at all levels can qualify for distribution credit, provided they meet the above criteria, *except those eligible to be taken by graduate students for credit* (i.e. all courses numbered 400 and above and all courses with which they are crosslisted). To be consistent with LSA Faculty Code guidelines on course numbering, departments are urged to consider offering broad introductory distribution courses at the 100 or 200 level.
7. An entry-level sequence for concentrators can qualify for distribution credit if it meets the above criteria.
8. Courses designed to develop or hone specific skills (e.g., most introductory composition and language courses) do not qualify for distribution credit.
9. Courses designed to provide detailed knowledge about specialized topics or narrow sub-disciplines within a field, which are primarily of interest to concentrators or to students in closely related fields, do not qualify for distribution credit.
10. Internships, experiential courses, independent study courses, and upper-level seminar courses do not qualify for distribution credit.
11. Courses that qualify for the Interdisciplinary (**ID**) distribution requirement should meet the above criteria while combining perspectives from more than one broad academic discipline. Typically, ID courses will combine two of the College's five area categories--Humanities (**HU**), Social Sciences (**SS**), Natural Sciences (**NS**), Mathematical & Symbolic Analysis (**MSA**), and Creative Expression (**CE**). Courses that are *interdepartmental* but not *interdisciplinary* in the above sense, for example courses integrating the approaches of sociology and psychology, do not qualify for ID distribution credit but may be appropriate for area distribution credit.

Race and Ethnicity: A College Requirement

Effective as of Fall 1991, each student entering the College of LS&A is required to take at least one course approved for the **Race and Ethnicity (R&E) Requirement** intended to address issues arising from racial and ethnic intolerance. When appropriate these courses also may be used to satisfy a general distribution or concentration requirement.

1. **Required focus**

R&E courses must devote substantial but not necessarily exclusive attention to the required content. They may meet this requirement by various means consistent with disciplines or fields of study. Faculty members from all departments are urged to think creatively about how their field might contribute to the requirement. Although it is hoped that many of these courses will focus on the United States, it is not required that they do so. Courses that deal with these issues in other societies, or that study them comparatively, may also meet the **R&E** requirement.

2. **Certification of courses**

The Curriculum Committee of the College will determine which courses meet the **R&E** requirement. Faculty members wishing to offer a course that satisfies the **R&E** Requirement must submit an **R&E Course Proposal Form** along with a syllabus and a one- to two-page explanation of how the course will provide substantial discussion of the following issues:

- a. the meaning of race, ethnicity and racism;
- b. racial and ethnic intolerance and resulting inequality as it occurs in the United States or elsewhere;
- c. comparisons of discrimination based on race, ethnicity, religion, social class or gender.

3. **Facilitation of new courses**

The Curriculum Committee will annually collect and make available to interested faculty the syllabi from all courses approved for the program.

Links to Information Online

[Race and Ethnicity: A College Requirement](http://www.lsa.umich.edu/lsa/detail/0,2034,1762%5Farticle%5F188,00.html)

<http://www.lsa.umich.edu/lsa/detail/0,2034,1762%5Farticle%5F188,00.html>

[Race & Ethnicity Courses Currently Offered](http://www.lsa.umich.edu/lsa/cg_results/0,2025,8,00.html?termArray=w_06_1570&cgtype=ug&allsections=true&keyword=&show=20&reqs=RE&x=32&y=11)

http://www.lsa.umich.edu/lsa/cg_results/0,2025,8,00.html?termArray=w_06_1570&cgtype=ug&allsections=true&keyword=&show=20&reqs=RE&x=32&y=11

[All Courses Current Approved for Race & Ethnicity](http://www.lsa.umich.edu/UofM/Content/lsa/document/RE_courses_for_the_web.doc) (Word file)

http://www.lsa.umich.edu/UofM/Content/lsa/document/RE_courses_for_the_web.doc

[R&E Proposal Form](http://www.lsa.umich.edu/UofM/Content/lsa/document/re_proposal_form.doc) (Word file)

http://www.lsa.umich.edu/UofM/Content/lsa/document/re_proposal_form.doc

[Teaching Questionnaire Items for Evaluating R&E Courses](http://www.lsa.umich.edu/UofM/Content/lsa/document/RE.IDQ.questions.doc) (download file)

<http://www.lsa.umich.edu/UofM/Content/lsa/document/RE.IDQ.questions.doc>