6. Impacts on students already in the program (that could affect their ability to complete the program): NA

7. Impacts on students pursuing majors or minors in other programs or departments who are required to take courses in your department (that could affect their ability to complete those programs. Have the affected departments been consulted?): NA

8. Impacts on faculty resources in your program (including class sizes, ability to offer certain courses or their frequency, additional faculty or TA staffing needs, etc.): NA

9. Impacts on faculty resources in other programs or departments (including enrollments, cross-listings, etc. Have the other departments been consulted?): NA

10. Impacts on other university resources (staff, facilities, library, and computing resources, etc. Have the affected units been consulted?): NA
COURSE CHANGE FORM
Changes due November 15, 2006

Submitting department/program: Music

Contact person with e-mail/phone: Olga Jacoby  aj00  83835

1. Courses added: NA

2. Courses dropped: NA

3. Changes in course descriptions, titles, or numbers: All of the following courses are presently designed as "Department Permission." They should instead read "By Audition Only."

Those courses are:

Music 22. Wind Ensemble
Music 24. Jazz Ensemble
Music 25. Jazz Band
Music 31. University Choir
Music 33. Glee Club
Music 48. Chamber Music Collegium
Music 49. Small Jazz Ensembles
Music 51. LUVME
Music 61. Lehigh University Philharmonic
Music 62. Lehigh University Chamber Orchestra

4. Cross-listings with other programs or departments added or dropped (Have the other departments been consulted?): NA

5. Rationales for changes: There is some confusion among incoming students about
joining these groups. They assume they can automatically enroll in the course simply by asking for department permission. That is not quite accurate; they must audition. This change in prerequisite more clearly communicates that fact.

6. Impacts on students already in the program (that could affect their ability to complete the program): NA

7. Impacts on students pursuing majors or minors in other programs or departments who are required to take courses in your department (that could affect their ability to complete those programs. Have the affected departments been consulted?): NA

8. Impacts on faculty resources in your program (including class sizes, ability to offer certain courses or their frequency, additional faculty or TA staffing needs, etc): NA

9. Impacts on faculty resources in other programs or departments (including enrollments, cross-listings, etc. Have the other departments been consulted?): NA

10. Impacts on other university resources (staff, facilities, library and computing resources, etc. Have the affected units been consulted?): NA
CAS Program Change Proposal

Submitting department/program:

Peace Studies

Contact person with e-mail/phone:

1. Description of proposed program change (categories warranting submission of this form include new or dropped majors or minors, new or dropped tracks or options within a major, or changes in requirements for completion of a major or minor):

Change in requirements for minor; change in catalogue copy.

Minor in Peace Studies (Humanities)

Advisors: Addison Bross (English) and Chaim Kaufmann (International Relations).

The Minor in Peace Studies aims to educate students about the history, theory, and practice of peace advocacy, social justice movements, and nonviolent direct action as employed by such leaders as Gandhi and King among many others. It also investigates the political structures and processes which peace advocates must confront in order to be politically effective, including those that produce armed conflict as well as those that contribute to de-escalation of hostilities. The central course (Humanities 180) introduces key concepts by which practitioners using both these approaches, seek to create peace in a violent world. Guest lectures dealing with the second component will be offered by the program's Co-Advisor (Chaim Kaufmann, International Relations) as well as by other social science and humanities faculty who contribute on a volunteer basis.

Requirements for Completion of the Minor

Four 4-credit courses, including:
- Humanities 180, Introduction to Peace Advocacy.
- 3 courses from the two lists below, including at least one from the non-violence/peace advocacy list and at least one from the conflict/policy process list below;

Non-violence/peace advocacy/practice of advocacy

History 339, Managing Nonprofit Organizations.
Hum 181. LEPOCO Internship.
IR 346. Ethics in International Relations.
IR 391. U.N. or other IGO/NGO internship approved by program advisor.
MLL 124. Negotiating Across Cultures.
Religion 3. (Philosophy 3) Global Religion  Global Ethics
Religion 68. Practical Justice: From Social Systems to Responsible Community.
Religion 167. Engaged Buddhism.
POLS 100. Introduction to Political Thought.
POLS 230. Movements and Legacies of the 1960s.
POLS 326. Democracy Workshop.
POLS 370. The Citizen Versus the Administrative State.

2. Rationale:

Minor clarifications; slight changes in program definition (3 eligible courses added, 1 dropped) as we continue to think through the best design for this still very new program.

3. Impacts on students already in the program (that could affect their ability to complete the program):

None.

4. Impacts on students pursuing majors or minors in other programs or departments who are required to take courses in your department (that could affect their ability to complete those programs. Have the affected departments been consulted?):

None.

5. Impacts on faculty resources in your program (including class sizes, ability to offer certain courses, additional faculty or TA staffing needs etc.):

None.

6. Impacts on faculty resources in other programs or departments (including enrollments, cross-listings, etc. Have the other departments been consulted?):

None.

7. Impacts on other university resources (staff, facilities, library and computing resources etc. Have the affected units been consulted?):

None.
Conflict/policy process/foreign policy

Delete--History 110  American Military History.
History 349  Revolutions in Modern European History.
IR 34. Society, Technology and War
IR 36. International Terrorism
IR 74. American Foreign Policy.
IR 120. Globalization.
IR 132. Nationalism and Ethnic Conflict.
Add—IR 235. International Security
IR 242. International Law.
POLS 329. Propaganda, Media, and American Politics.
Add—POLS 331. Community Politics Internship.*
SSP 105. Social Origins of Terrorism.

*No more than one internship can be counted toward the minor.
COURSE CHANGE FORM
Changes due November 15, 2006

Submitting department/program: Philosophy

Contact person with e-mail/phone: Roslyn Weiss, rw03, 758-5325

1. Courses added:

   **Phil 214 (Math 214) - Topics in Philosophical Logic (4)**
   Topics may include the many systems of non-classical logic, truth theory, the impact of incompleteness and undecidability results on philosophy, and the foundational projects of various philosopher/mathematicians. Alternatively, the topic might be the work of an important figure in the history of philosophical logic. Prerequisite: Permission of instructor. (MA)

2. Courses dropped:
   None

3. Changes in course descriptions, titles, or numbers:

   A. Changes in Course Titles
   (i) Phil 114 - Formerly: "Fundamentals of Logic" (4)
       Now: "Symbolic Logic"

   (ii) Phil/Rel 124 - Formerly: "Reason and Religious Experience" (4)
       Now: "Philosophy of Religion"

   (iii) Phil 220 - Formerly: "Knowledge and Justification" (4)
       Now: "Theory of Knowledge"

   (iv) Phil 250 - Formerly: "The Minds of Robots and Other People" (4)
       Now: "Philosophy of Mind"

   B. Changes in Course Descriptions:
   Phil 114 - Symbolic Logic
   A first course in logical theory, introducing the notions of logical consequence and proof, as well as related concepts such as consistency and contingency. Formal systems taught may include: term logic, sentence logic, and predicate logic. (MA)
Phil 250 – Philosophy of Mind

An exploration of the mind-body problem. Are the body and mind distinct substances (dualism); or is there only body (materialism); or only mind (idealism)? Other views to be considered include behaviorism (the view that behavior can be explained without recourse to mental states), and the view that the mind is a complex computer. (HU)

Phil 303 (Math 303) – Mathematical Logic

Detailed proofs for the basic mathematical results relating the syntax and semantics of first-order logic (predicate logic); the Soundness and Completeness (and Compactness) Theorems, followed by a brief exposition of the celebrated limitative results of Gödel, Turing, and Church on incompleteness and undecidability. The material is conceptually rigorous and mathematically mature; the necessary background is a certain degree of mathematical sophistication or a basic knowledge of symbolic logic.

Prerequisite: Permission of instructor. (MA)

C. Changes in Course Numbers:

None

4. Cross-listings with other programs or departments added or dropped

(Have the other departments been consulted?): Yes

New Cross-listings: Phil/Math 214 (new course)

Phil/Math 304
Phil/Math 329

5. Rationales for changes:

For Title Changes: A (ii), A (iii), A (iv). We had rather idiosyncratic titles for these courses. In the case of iv the title was downright peculiar. We would like to replace these titles with standard titles that more accurately reflect the nature of the course and are consistent with the titles used at other universities. A. (i): New title represents more precisely the content of the course, which emphasizes the use of symbols and symbolic systems to translate ordinary language into a language that is more amenable to technical logical analysis.

For added course: Phil 214 (Math 214): Added course Phil/Math 214 will provide an additional 200-level (advanced) course for philosophy majors. It will also provide a new course that satisfies the Math distribution requirement. Furthermore, it will offer a more philosophically oriented course for students in the math program who are interested in logic.

For course description changes: All new course descriptions more accurately reflect the course content as currently taught.
6. Impacts on students already in the program (that could affect their ability to complete the program):

Changes in titles will have no impact on students already in the program.

Changes in course description for Phil/Math 114 will have no impact on students already in the program.

Addition of new course, Phil/Math 214, will provide another 200-level course for our majors and minors.

7. Impacts on students pursuing majors or minors in other programs or departments who are required to take courses in your department (that could affect their ability to complete those programs. Have the affected departments been consulted?):

No Impact

8. Impacts on faculty resources in your program (including class sizes, ability to offer certain courses or their frequency, additional faculty or TA staffing needs, etc.):

No Impact

New course (Phil/Math 214) will be taught by a member of the Philosophy Department. We will not require any new faculty.

New course (Phil/Math 214) will alternate with Phil/Math 265. (Philosophy of Mathematics) though neither course will be offered on a strictly regular schedule. Neither is required for the Philosophy major or the Math major. The new course will offer students who are mathematically inclined another choice besides Phil/Math 265 as a way of building upon the basic logic course.

9. Impacts on faculty resources in other programs or departments (including enrollments, cross-listings, etc. Have the other departments been consulted?):

No Impact
10. Impacts on other university resources (staff, facilities, library and computing resources, etc. Have the affected units been consulted?):

No Impact

10. Impacts on other university resources (staff, facilities, library and computing resources, etc. Have the affected units been consulted?):

No Impact
CAS Program Change Proposal


Submitting department/program: Physics

Contact person with e-mail/phone: H. Daniel Ou-Yang, hdo@lehigh.edu, x3-3920

1. Description of proposed program change (categories warranting submission of this form include new or dropped majors or minors, new or dropped tracks or options within a major, or changes in requirements for completion of a major or minor):

Course Added:


2. Rationale:

We would like to offer Phys xxx (formally 397) (cross-listed with BioE 397 in spring 2006) so physics students can take the course as an elective for their degrees. In addition, bioengineering and the Applied Life Science students who wish to take physics minors will be able to take this course to satisfy minor requirements.

3. Impacts on students already in the program (that could affect their ability to complete the program):

No impact on students’ ability to complete any program.

4. Impacts on students pursuing majors or minors in other programs or departments who are required to take courses in your department (that could affect their ability to complete those programs. Have the affected departments been consulted?):

No impact on students’ ability to complete any program.

5. Impacts on faculty resources in your program (including class sizes, ability to offer certain courses, additional faculty or TA staffing needs, etc.):

None since this course has already been taught as PHYS/BioE 397 in spring 2006.

6. Impacts on faculty resources in other programs or departments (including enrollments, cross-listings, etc. Have the other departments been consulted?):

Ou-Yang has consulted with Dr. Anand Jagota, director of bioengineering and co-teacher of the course. He and Ou-Yang have agreed to continue to cross-list the two courses as they become permanent.
No other impact

7. Impacts on other university resources (staff, facilities, library and computing resources, etc. Have the affected units been consulted?):

    No impact The course was taught as PHYS/BioE 397 in spring 2006.
COURSE CHANGE FORM
Changes due November 15, 2006

Submitting department/program: Political Science

Contact person with e-mail/phone: Ronnie Jurusits - 8-3340

I. Courses added:

**POLS 3XX (4)/4XX (3):** Land Use, Growth Management and the Politics of Sprawl (R. Freeman)
This course is designed to serve as an introduction to the issues of Land Use Planning, Community, Growth Management, and Sprawl. The course will be divided into three sections. The first section will examine the history of urban development in America in all its forms from the earliest settlements to the auto suburbs of today. This section will include the early formation of pedestrian oriented towns, the emergence of the industrial city of the Nineteenth Century, the influence of trolleys and railroads on the pattern of development, and the impact of the automobile suburb, shopping malls and Urban Renewal Policies on cities. Section two will examine such planning and development factors as comprehensive plans, zoning, and the influence of infrastructure on development. In addition, this section will also touch on the problems of sprawl development, covering its social, economic, political, and environmental effects on society. The third section of the course will examine the revival of city centers, alternatives to sprawl (such as those proposed by the New Urbanism), and comparisons to development patterns other countries (HU)

Rationale: This course has been taught repeatedly for several years

**POLS 3XX (4)/4XX (3):** The Market Society (B. Holland)
The exploration of the various ways in which markets shape cultural, social, ethical, and political practices in contemporary society. Normative justification for market as an institutional arrangement that is neutral between different views of “the good.” Ethical critique of this normative justification and implications of the critique for law and policy. (SS)

Rationale: New course being added by new faculty (B. Holland)

**POLS 106 / ES 106 (4):** Environmental Values and Ethics (B. Holland)
An introduction to the ethical perspectives and values that shape human relationships to the natural environment in contemporary society. What are the moral implications of these relationships for justice and human collective action? Given these implications, what policy responses to environmental problems are morally or politically justifiable? In answering these questions, the course explores ethical ideas developed in different schools of environmental thought, such as deep ecology and ecofeminism, in addition to ideas that emerge from
social movements, such as environmental justice and bioregionalism.  (SS)
Rationale: This course had been proposed to be added last year. Never added. It's to be cross-listed with ES 106. Already listed in catalog under Environmental Studies section as being cross listed with Political Science. (FYI, the description that is in the catalog (ES section) is not the correct one.. what I have listed above is the one to be put in the Catalog. The new description more accurately reflects the course content.

POLS 355 / ES 355 (4) Environmental Justice & The Law (B. Holland)
This course is an in-depth exploration of the various ways in which environmental law and policy can have discriminatory effects. It examines the rise and evolution of the environmental justice movement, and the impact of environmental justice claims on administrative rule-making at both the state and federal level. Reviewing the history of case law concerning environmental justice suits filed under the 1964 Civil rights Act, it also examines the future of environmental justice in environmental law and policy. (SS)

Rationale: This course already exists as ES 336. Asked by Environmental Studies Program to add to Political Science courses and cross list with ES

POLS 455 / ES 455 (3) Environmental Justice & The Law (B. Holland)
This course is an in-depth exploration of the various ways in which environmental law and policy can have discriminatory effects. It examines the rise and evolution of the environmental justice movement, and the impact of environmental justice claims on administrative rule-making at both the state and federal level. Reviewing the history of case law concerning environmental justice suits filed under the 1964 Civil rights Act, it also examines the future of environmental justice in environmental law and policy. (SS)

Rationale: Asked by Environmental Studies Program to add to Political Science courses and cross list with ES - Same as PolS / ES 355 but graduate level

2. Courses dropped:

None

3. Changes in course descriptions, titles, or numbers:

POLS 323/423 -- Change Title
From: Public Policy of the European Union
To: Politics of the European Union

Rationale: The new course title reflects changes to the content, organization and goals of the course. The new title will therefore more accurately communicate the nature of the course to students
POLS 323/423 — Add Distribution Requirement
This course should be labeled as a Social Science (SS) requirement

Rationale: Omitted from catalog

POLS 375 — Change Title
From: Seminar: Green Policy
To: Seminar: Green Polity

Rationale: Policy inadvertently put in catalog instead of Polity

4. Cross-listings with other programs or departments added or dropped (Have the other departments been consulted?): Yes. I have been in communication with Philosophy Department, Women’s Studies, and Environmental studies. All ES cross listed are a result of discussions between Political Science and ES program.

POLS 100 (PHIL 100) Introduction to Political Thought (4) — Matthews (ND)
Cross list with Phil 100

Rationale: PolS 100 is in catalog but not cross listed with Philosophy.
Listed in catalog under Philosophy section as being cross listed with Political Science

POLS 101 (PHIL 101) Ancient Political Heritage (4) — Matthews (SS)
Cross list with Phil 101

Rationale: PolS 101 is in catalog but not cross listed with Philosophy.
Listed in catalog under Philosophy section as being cross listed with Political Science

POLS 328 / ES 328 (4) U.S. Politics and the Environment — Wurth (SS)
Cross list with ES 328

Rationale: PolS 328 is in catalog but not cross listed with ES

POLS 375 / ES 375 (4) Seminar: Green Polity — Wurth (SS)
Cross List with ES 375

Rationale: PolS 375 is in catalog but not cross listed with ES

POLS 442 (WS 442) Gender and Third World Development (3) — H. Stewart-Gambino
Cross list with WS 442
Rationale: PolS 342 is cross-listed with WS as an undergraduate course – PolS 442 is in catalog but not cross-listed with WS

5. Impacts on students already in the program (that could affect their ability to complete the program):

No impact

6. Impacts on students pursuing majors or minors in other programs or departments who are required to take courses in your department (that could affect their ability to complete those programs. Have the affected departments been consulted?)

No impact

7. Impacts on faculty resources in your program (including class sizes, ability to offer certain courses or their frequency, additional faculty or TA staffing needs, etc.):

No impact

8. Impacts on faculty resources in other programs or departments (including enrollments, cross-listings, etc. Have the other departments been consulted?):

No impact

9. Impacts on other university resources (staff, facilities, library and computing resources, etc. Have the affected units been consulted?):

No impact
CAS PROGRAM CHANGE FORM
Changes due November 15, 2006

Submitting department/program: Psychology

Contact person with e-mail/phone: Sue Barrett, sab6/84688

1. Description of proposed program change (categories warranting submission of this form include new or dropped majors or minors, new or dropped tracks or options within a major or changes in requirements for completion of a major or minor):

Add the following courses to the specified list of courses for the relevant concentration areas:

Cognitive Concentration
Psyc 377 – Attention and Attentional Failures
Psyc 362 – Cognition in Practice & Policy (new added course)

Developmental Concentration
Psyc 368 – Children, Psychology, and the Law
Psyc 383 – Attachment Theory & Research
Psyc 378 – Emotional Development (new added course)

Social Psychology Concentration
Psyc 325 – Theories in Social Psychology
Psyc 342 – Motivation
Psyc 3XX - Social Psychology and Social Issues (new added course)

Add Chem 95 and Chem 25 as options that fulfill the Natural Science collateral requirements for the B.S. Program in Psychology.

2. Rationale:

Updating seminar options within each concentration area to include recently added courses

3. Impacts on students already in the program (that could affect their ability to complete the program):

These changes will not have any adverse effect on students in the program.

4. Impacts on students pursuing majors or minors in other programs or departments who are required to take courses in your department (that could affect their ability to complete those programs. Have the affected departments been consulted?):

These changes will not have any adverse effect on students pursuing a minor in psychology or other majors on campus.
5. **Impacts on faculty resources in your program** (including class sizes, ability to offer certain courses, additional faculty or TA staffing needs, etc.):

Faculty regularly offer a range of courses. These changes have no impact on class size, our ability to offer seminars and do not require any additional staffing needs. We are simply updating the catalog to better reflect the courses that we offer within each concentration area.

6. **Impacts on faculty resources in other programs or departments** (including enrollments, cross-listings, etc. Have the other departments been consulted?):

These changes do not impact any other program or department.

7. **Impacts on other university resources** (staff, facilities, library and computing resources, etc. Have the affected units been consulted?):

None. We are simply expanding the designated list of courses for each B.S. concentration area.
COURSE CHANGE FORM
Changes due November 15, 2006

Submitting department/program: Psychology

Contact person with e-mail/phone: Sue Barrett, seb6/84688

1. Courses added:

   Psyc 3XX: Social Psychology and Social Issues (4) Gill
   This course examines the methods, concepts, and research findings associated with the effort to
   apply social psychology to the understanding and amelioration of social problems. Special
   attention will be paid to the topic of human conflict. (SS)
   (Advanced Psychology Seminar)

   Psyc 362: Cognition in Practice & Policy (4) Malin
   We will take the study of cognition from principle to practice by examining how basic research
   and theory has informed understanding of human performance in real-world settings. Topics will
   be chosen from domains such as aviation and automobile safety, environmental and medical
   decision-making, learning and education, and expert performance in chess or music. We will also
   consider public policy implications of these findings (SS)
   Prereq: Psyc 117 and Department permission required. (Advanced Psychology Seminar)

   Psyc 378: Emotional Development (4) Laible
   The course will cover selected topics in emotional development from infancy through adulthood.
   Topics will include: infant attachment (learning to love), romantic attachment (being in love),
   emotion regulation, sympathy/empathy, anger/aggression, temperament, etc. We will also discuss
   the ways in which significant relationships with peers and parents shape children's emotional
   development.
   Prereq: Psyc 107 and Department permission required. (Advanced Psychology Seminar)

   Psyc 495: Narrative & Psychology (3) Nicolopoulos
   This course explores the increasing significance of narrative analysis in psychology by delineating
   the conceptual foundations of a narrative perspective and considering arguments for narrative as
   an integrative paradigm in psychological research. Particular emphasis will be on the constitutive
   role of narrative in cognitive and socio-emotional development, the formation of identity, moral
   understanding, and other domains. Some specific topics will be narrative development,
   autobiographical memory, self-narrative, identity development, narratives of conflict and the role
   of narrative in socialization and education.
   Prereq: Psyc 402 or consent of instructor

2. Courses dropped:

   NONE
3. Changes in course descriptions, titles, or numbers:

- Psy 161 – remove “Restricted to pass-fail grading”
- Psy/SSP 121 – remove “Anth 11” as prerequisite
- Psy 359 – remove “Prerequisite: Psy 110 or consent of instructor”

4. Cross-listings with other programs or departments added or dropped (Have the other departments been consulted?):

Formerly listed as Psy 484 will now be cross-listed with WS (Psy/S 484)

5. Rationales for changes:

We have updated our seminar offerings to reflect the teaching and research interests of the faculty.

6. Impacts on students already in the program (that could affect their ability to complete the program):

The requirements for the B.A. Psychology major include four 300-level courses. Faculty members in the department regularly teach 300-level courses and the department will continue to offer the same number of 300-level courses each semester. The requirements for the B.S. included two 300-level courses in a particular concentration area. The proposed courses fit into concentration areas and the department will continue to offer the same number of courses in each concentration area.

**Psy 3xx – Social Cognition and Social Issues (4) Gill**
Under the proposed change, Prof. Gill will alternately teach two 300-level courses: an existing course (Psy 314) and the proposed course (Psy 3xx “Social Cognition and Social Issues”). Although Psy 314 may be offered somewhat less frequently, it will still be regularly taught. As both courses fulfill the same requirements, the addition of the proposed course will not adversely affect B.S. or B.A. students.

**Psy 352 – Cognition in Policy & Practice**
Prof. Malt is no longer chair of the department and is now free to offer a second 300-level course. The addition of the proposed course Psy 352 “Cognition in Policy & Practice” will give students another option for completing their major. The new course is an advanced seminar and will count toward the B.S. concentration in cognitive psychology; the addition of the proposed course will not adversely affect B.S. or B.A. students.

**Psy 378 – Emotional Development**
Prof. Liable is a new faculty member. With the addition of this course, she will offer two 300-level courses on a regular basis, Psy 378 “Emotional Development” and Psy 383 “Attachment Theory & Research.” Both courses count toward the B.S. concentration in developmental psychology; the addition of the proposed course will not adversely affect B.S. or B.A. students.

**Psy 495 – Narrative & Psychology**
Prof. Nicolitpoulou teaches this course as part of her regular graduate teaching load. Given faculty and student interests, she anticipates offering it on a regular basis and the department would like it listed in the catalog.
7. Impacts on students pursuing majors or minors in other programs or departments who are required to take courses in your department (that could affect their ability to complete those programs. Have the affected departments been consulted?):

These changes will not affect students pursuing a minor in psychology, as the minor program simply consists of credits in psychology – not designated courses. These courses will simply be included in the seminars regularly taught by faculty and do not have an impact on any other major programs.

8. Impacts on faculty resources in your program (including class sizes, ability to offer certain courses or their frequency, additional faculty or TA staffing needs, etc.):

No change in resources is associated with these additions. Faculty regularly teach an assortment of seminars and the addition of these courses simply increases the range of options for our students.

9. Impacts on faculty resources in other programs or departments (including enrollments, cross-listings, etc. Have the other departments been consulted?):

Women Studies would like to have Psy 484 cross-listed to serve the needs of their proposed certificate program. Psychology approves this change.

10. Impacts on other university resources (staff, facilities, library and computing resources, etc. Have the affected units been consulted?):

These courses do not demand any additional library, computing or staffing resources.
COURSE CHANGE FORM
Changes due November 15, 2006

Submitting department/program: Religion Studies
Contact person with e-mail/phone: Marian Gaumer, meg4/83353

1. Courses added:

2. Courses dropped:

3. Changes in course descriptions, titles, or numbers:

   Title change: REL/PHIL 124 Philosophy of Religion (was Reason and Religious Experience)

4. Cross-listings with other programs or departments added or dropped (Have the other departments been consulted?)

   Add cross-listing: REL/ASIA/ES 254 (all departments were contacted)

5. Rationales for changes:

   (3) We would like to replace the idiosyncratic title with a standard title that more accurately reflects the nature of the course which is consistent with titles used at other universities.

   (4) The cross-listing with ES will increase the course's visibility amongst students in the ES program.

6. Impacts on students already in the program (that could affect their ability to complete the program):

   No impact
7. Impacts on students pursuing majors or minors in other programs or departments who are required to take courses in your department (that could affect their ability to complete those programs. Have the affected departments been consulted?):

No impact

8. Impacts on faculty resources in your program (including class sizes, ability to offer certain courses or their frequency, additional faculty or TA staffing needs, etc.):

No impact

9. Impacts on faculty resources in other programs or departments (including enrollments, cross-listings, etc. Have the other departments been consulted?):

No impact

10. Impacts on other university resources (staff, facilities, library and computing resources, etc. Have the affected units been consulted?):

No impact
CAS PROGRAM CHANGE FORM
Changes due November 15, 2006

Submitting department/program: Sociology Anthropology

Contact person with e-mail/phone: Nicola Tannenbaum  nt01@lehigh.edu  8-3829

1. Description of proposed program change (categories warranting submission of this form include new or dropped majors or minors, new or dropped tracks or options within a major, or changes in requirements for completion of a major or minor):

Change SSP 452 Organizing Community, and Power for 4 credits to 3 credits.

2. Rationale:
It was listed as 4 credits by mistake; correcting it to 3 credits makes it consistent with the rest of our graduate offerings.

3. Impacts on students already in the program (that could affect their ability to complete the program):
none

4. Impacts on students pursuing majors or minors in other programs or departments who are required to take courses in your department (that could affect their ability to complete those programs. Have the affected departments been consulted?):
none

5. Impacts on faculty resources in your program (including class sizes, ability to offer certain courses, additional faculty or TA staffing needs, etc.):
none

6. Impacts on faculty resources in other programs or departments (including enrollments, cross-listings, etc. Have the other departments been consulted?):
none

7. Impacts on other university resources (staff, facilities, library and computing resources, etc. Have the affected units been consulted?):
none
COURSE CHANGE FORM
Changes due November 15, 2006

Submitting department/program: Sociology & Anthropology

Contact person with e-mail/phone: Nicola Tannenbaum, nt01 83829

1. Courses added:

SSP/WS 441 (3)
Relationships of women to the medical system. Influence of medicine on women’s lives and the impact of the women’s movement on health. Staff: SS

2. Courses dropped:

3. Changes in course descriptions, titles, or numbers:

4. Cross-listings with other programs or departments added or dropped (Have the other departments been consulted?):

5. Rationale for changes:
This course is offered now at the undergrad level as SSP/WS 341. We have been offering it at the grad level for years – time to put it in the catalog. Sociology and Women’s Studies support the cross-listing.

6. Impacts on students already in the program (that could affect their ability to complete the program): none

7. Impacts on students pursuing majors or minors in other programs or departments who are required to take courses in your department (that could affect their ability to complete those programs. Have the affected departments been consulted? - Yes. No impact.

8. Impacts on faculty resources in your program (including class sizes, ability to offer certain courses or their frequency, additional faculty or TA staffing needs, etc.): none

9. Impacts on faculty resources in other programs or departments (including enrollments, cross-listings, etc. Have the other departments been consulted? - Yes. No impact on resources.

10. Impacts on other university resources (staff, facilities, library and computing resources, etc. Have the affected units been consulted? - Yes. No impact.
COURSE CHANGE FORM
Changes due November 15, 2006

Submitting department/program: Sociology & Anthropology
Contact person with e-mail/phone: Nicola Tannenbaum nt01@lehigh.edu, 83829

1. Courses added:
   SSP/WS 465 Inequalities at Work (3)
   Primary focus is on race, gender, and class as axes of disadvantage and privilege in work and employment. We will explore both theories and empirical studies of inequality as well as their social, political and practical ramifications for the workplace. Krasas, SS.

2. Courses dropped:

3. Changes in course descriptions titles or numbers:

4. Cross-listings with other programs or departments added or dropped (Have the other departments been consulted)

5. Rationales for changes:
   To provide more grad level courses and to serve the needs of proposed new WS grad certificate. This will be the 400-level version of the existing SSP/WS 365 class. To be taught concurrently. Graduate enrollees will have different requirements and additional instruction.

6. Impacts on students already in the program (that could affect their ability to complete the program): Positive – more course choices.

7. Impacts on students pursuing majors or minors in other programs or departments who are required to take courses in your department (that could affect their ability to complete those programs. Have the affected departments been consulted?): None

8. Impacts on faculty resources in your program (including class sizes, ability to offer certain courses or their frequency, additional faculty or TA staffing needs, etc.): No negative impact.

9. Impacts on faculty resources in other programs or departments (including enrollments, cross-listings, etc. Have the other departments been consulted?): Women's Studies has been consulted.

10. Impacts on other university resources (staff, facilities, library and computing resources, etc. Have the affected units been consulted? - Yes. Women's Studies will provide any and all financial support.)
CAS PROGRAM CHANGE FORM
Changes due November 15, 2006

Submitting department/program: Sociology Anthropology

Contact person with e-mail/phone: Nicola Tennenbaum, nt01@lehigh.edu, 8-3829

1. Description of proposed program change (categories warranting submission of this form include new or dropped majors or minors, new or dropped tracks or options within a major, or changes in requirements for completion of a major or minor):
Change in Sociology and Anthropology Major Electives description to: "(Individualized study courses – 300 393 394 395, and 399 – can be taken as major electives but cannot be used to fulfill the 300 level course requirement.)"

2. Rationale:
Clarity, as it is worded now, is not clear that individualized study courses count as electives.

3. Impacts on students already in the program (that could affect their ability to complete the program):
Positive, it makes the requirements clearer.

4. Impacts on students pursuing majors or minors in other programs or departments who are required to take courses in your department (that could affect their ability to complete those programs. Have the affected departments been consulted?):
none

5. Impacts on faculty resources in your program (including class sizes, ability to offer certain courses, additional faculty or TA staffing needs, etc.):
none

6. Impacts on faculty resources in other programs or departments (including enrollments, cross-listings, etc. Have the other departments been consulted?):
none

7. Impacts on other university resources (staff, facilities, library and computing resources etc. Have the affected units been consulted?):
none
CAS PROGRAM CHANGE FORM
Changes due November 15, 2006

Submitting department/program: Sociology and Anthropology

Contact person with e-mail/phone: Nicola Tennenbaum nt01@lehigh.edu 8-3829

1. Description of proposed program change (categories warranting submission of this form include new or dropped majors or minors, new or dropped tracks or options within a major, or changes in requirements for completion of a major or minor):

Change in Sociology/Anthropology minor requirements to: Anth 001 or SSP 001 and two courses in sociology at the 100 level or above and two courses in anthropology at the 100 level or above.

2. Rationale:
To force sociology/anthropology minors to have at least two courses in each discipline. The current requirements make it possible to have this joint minor with four courses in one discipline and only one course in the other.

3. Impacts on students already in the program (that could affect their ability to complete the program):
Limited, this doesn't increase the number of courses, only their distribution and we always offer 100 level or above courses in both disciplines.

4. Impacts on students pursuing majors or minors in other programs or departments who are required to take courses in your department (that could affect their ability to complete those programs. Have the affected departments been consulted?):
none

5. Impacts on faculty resources in your program (including class sizes, ability to offer certain courses, additional faculty or TA staffing needs, etc.):
none

6. Impacts on faculty resources in other programs or departments (including enrollments, cross-listings, etc. Have the other departments been consulted?):
none

7. Impacts on other university resources (staff, facilities, library and computing resources, etc. Have the affected units been consulted?):
None.
CAS Program Change Proposal

Submitting department/program: Urban Studies

Contact person with e-mail/phone: David Amidon

1. Description of proposed program change (categories warranting submission of this form include new or dropped majors or minors, new or dropped tracks or options within a major or changes in requirements for completion of a major or minor):

Drop Urban Studies major and minor.

2. Rationale:

David Amidon, who has been the program advisor and the instructor for all of the program's core courses, is retiring at the end of AY 2006-2007 and will not be replaced.

3. Impacts on students already in the program (that could affect their ability to complete the program):

The existing US Committee will have to remain in existence and continue to be staffed by the Departments that now staff it for at least three more years to advise any US majors and minors who matriculated at Lehigh during AY 2006-2007 or earlier and to provide course offerings or alternatives to allow them to complete the program. This includes any students who have already matriculated who have not declared US yet but wish to — if any such cases arise.

4. Impacts on students pursuing majors or minors in other programs or departments who are required to take courses in your department (that could affect their ability to complete those programs. Have the affected departments been consulted?):

None.

5. Impacts on faculty resources in your program (including class sizes, ability to offer certain courses, additional faculty or TA staffing needs, etc.):

NA

6. Impacts on faculty resources in other programs or departments (including enrollments, cross-listings, etc. Have the other departments been consulted?):

Probably none, but impossible to say with certainty what might be needed for 'legacy US majors or minors. Other depts. have not been consulted, but this outcome is required by R&P in any case.
7. Impacts on other university resources (staff, facilities, library and computing resources, etc. Have the affected units been consulted?):

None

CAS Course Change Proposal

Submitting department/program: US

Contact person with e-mail/phone: David Amidon

1. Courses added:

None.

2. Courses dropped:

US 61, 62, 75 61 65 66 125 363 371 372

3. Changes in course descriptions, titles, or numbers:

NA

4. Cross-listings with other programs or departments added or dropped (Have the other departments been consulted?):

NA

5. Rationales for changes:

Retirement of David Amidon the instructor for these courses.

6. Impacts on students already in the program (that could affect their ability to complete the program):

Professor Amidon will teach part time in AV 2007-2008 in order to offer some of the advanced courses thus assisting students already in the program to complete it. Beyond this, the US Committee will have to make any arrangements needed for any remaining students (see US Program Change form).
7. Impacts on students pursuing majors or minors in other programs or departments who are required to take courses in your department (that could affect their ability to complete those programs. Have the affected departments been consulted?):

None

8. Impacts on faculty resources in your program (including class sizes, ability to offer certain courses or their frequency, additional faculty or TA staffing needs etc.):

NA

9. Impacts on faculty resources in other programs or departments (including enrollments, cross-listings, etc. Have the other departments been consulted?):

None

10. Impacts on other university resources (staff, facilities, library and computing resources, etc. Have the affected units been consulted?):

None
CAS PROGRAM CHANGE FORM
Changes due November 15, 2006

Submitting department/program: Women's Studies Program

Contact person with e-mail/phone: Jackie Krasas khr205@lehigh.edu / (610) 758-5823

1. Description of proposed program change (categories warranting submission of this form include new or dropped majors or minors, new or dropped tracks or options within a major or changes in requirements for completion of a major or minor):

The Women's Studies BA will provide students an in-depth education in an interdisciplinary field of academic inquiry that critically examines the diverse realities of women's lives and the ways in which gender and power differentials shape human lives and human societies. Women's studies pursues a fundamental critique of knowledge by challenging the basic assumptions, methods of inquiry, theoretical frameworks, and knowledge claims of traditional fields of inquiry that have thought it unimportant to study women or gender. Women's studies seeks to create new paradigms of knowledge and inquiry, to develop more truthful and comprehensive understandings of humans and our world, and to explore non-sexist alternatives for more richly human lives and more fully human social orders.

The Women's Studies major requires 38-40 credits of coursework and is designed to complement other areas of study within CAS in order to facilitate double-majors for our students. WS majors can stand alone; however, many students find the major an invaluable asset as part of a double-major. The major will have a core curriculum, a concentration (social sciences or humanities), electives, and a senior experience.

WS Major (38-40 Credits)

I. Core Courses (16 credits)
Required: (12 credits)
__WS 101 (Introduction to Women's Studies)
__WS/HIST 124 (Women in America)
__WS 330 (Seminar in Feminist Theory)

Global/Diversity (choose 1 – cannot be double-counted in categories below) (4 credits)
__WS/SR 42 (Sexual Minorities)
__WS/ASIA/MLL 73 (Film Fiction and gender in Modern China)
__WS 98 (Women's Work in Global Perspective)
__WS/ANTH 123 (Cultural Construction of Gender)
__WS/REL 138 (Women in Jewish History)
__WS/AAS 145 (African American Women Writers)
__WS/REL 158 (Sex and Gender in Judaism: The Feminist Critique)
__WS/SPAN 310 (Gender, Race, and Sexuality: The Social Construction of Differences)
__WS/SPAN 326 (Tradition and Resistance: Women Writers of Latin America)
__WS/FREN 327 (Women Writing in French)
__WS/POLS 342 (Gender and Third World Development)
I. Concentration - students must concentrate in Social Science or Humanities (12 credits)

SOCIAL SCIENCE CONCENTRATION
Required Social Science Courses (8 credits - choose any 2 from social science list below)

HUMANITIES CONCENTRATION
Required Humanities Courses (8 credits - choose any 2 from humanities list below)

III. Non-concentration/breadth (4 credits of social science if humanities concentration; 4 credits of humanities if social sciences concentration)

IV. Electives (8 credits - can be social science and humanities, any combination)

V. Senior Experience (2-4 credits - choose internship, independent research, or senior thesis)

WOMEN'S STUDIES COURSE LISTINGS - SOCIAL SCIENCE/HUMANITIES/OTHER

Social Science Courses:
WS/SR 41 (Human Sexuality)
WS/SR 42 (Sexual Minorities)
WS 98 (Women's Work in Global Perspective)
WS/HIST 117 (Women, Science, and Technology)
WS/ANTH 123 (Cultural Construction of Gender)
WS/ECON 139 (Economics of Race and Gender)
WS/HIST 153 (Women in European History, 1500-Present)
WS/POLS 179 (Politics of Women)
WS/SSF/AAS 310 (Gender, Race, and Sexuality: The Social Construction of Differences)
WS/PSYCH 318 (Seminar in Gender and Psychology)
WS/HIST/SSP 325 (History of Sexuality and the Family in the U.S.)
WS/SOC 341 (Women and Health)
WS/POLS 342 (Gender and Third World Development)
WS/SOC 351 (Gender and Social Change)
WS/SOC 364 (Sociology of the Family)

Humanities Courses:
WS/REL 8 (Prehistoric Religion, Art and Technology)
WS/AASI/MLL 73 (Film Fiction and Gender in Modern China)
WS/ART/GCP 121 (Women in Art)
WS/REL 138 (Women in Jewish History)
WS/AASI 145 (African American Women Writers)
WS 152 (Women in Antiquity)
WS/REL 158 (Sex and Gender in Judaism: The Feminist Critique)
WS/REL 184 (Religion, Gender, and Power)
WS/PHIL 226 (Feminism and Philosophy)
WS/ENGL 311 (Literature of Women)
WS/SPAN 326 (Tradition and Resistance: Women Writers of Latin America)
WS/FREN 327 (Women Writing in French)

Other:
WS 271 (Independent Reading and Research) 1-4 credits
WS 330 (Internship in WS) 2-4 credits
WS 373 (Women's Center Internship)
Special Topics Courses (91 191, 272, 291, 371, 381, 382, 391, 392)
2. Rationale:
Over the years, there has been student demand for a Women's Studies major (we currently only offer a WS minor). Without a full-time director, creating such a major was not feasible. Now, with a full-time program director and sufficient office staff time, we can administer such a program. Creating the program moves us forward with our peer institutions that have long-standing Women's Studies majors (Cornell, Duke, Penn) and creates the opportunity for students and faculty to engage in interdisciplinary work in a field that has been doing so for over 30 years. Women's Studies currently offers approximately 20 courses each year and has 10 core faculty members to support the program.

3. Impacts on students already in the program (that could affect their ability to complete the program):

Not applicable – New program

4. Impacts on students pursuing majors or minors in other programs or departments who are required to take courses in your department (that could affect their ability to complete those programs. Have the affected departments been consulted?):

The Women's Studies BA is interdisciplinary and builds on the existing Women's Studies minor.

All of the courses in the Women's Studies Major are currently cross-listed. No new courses are being proposed for the major. Women's Studies maintains regular contact with departments that cross-list with us. The only additional effects of the proposed new program are that we require students to take the course “Women in America” currently cross-listed and regularly offered with history. In many cases students are likely to double-major and will utilize courses inside their other major program. The introduction of this major places no additional burden on other departments. History supports the use of WS/HIST 124 for the WS major.

5. Impacts on faculty resources in your program (including class sizes, ability to offer certain courses, additional faculty or TA staffing needs, etc.):

The Women's Studies major can be implemented using existing faculty resources for AY 2007-08. Women's Studies already offers approximately 20 courses enrolling more than 400 students in Fall and Spring semesters each year, with a few cross-listed courses each summer. The Director, who currently serves as the minor advisor, will serve as Women's Studies major advisor. The senior experience component currently exists as a requirement of the minor. We currently have a faculty member whose responsibility it is to oversee WS internships. We also partner with the Women's Center, where typically 2 or 3 students will intern each year.

6. Impacts on faculty resources in other programs or departments (including enrollments, cross-listings, etc. Have the other departments been consulted?):

In Summer 2006, History was consulted and supports the inclusion of their course as a requirement for the proposed WS major. All CAS departments affected or not, were provided a draft of the proposal to circulate to their faculty.

We received many statements of support from individuals and departments who are not affected as well. No changes are required in the affected programs.

7. Impacts on other university resources (staff, facilities, library and computing resources, etc. Have the affected units been consulted?):
Women's Studies already exists as a minor with significant library holdings in that area due to our many faculty who work in research and teaching related areas. No new courses are being developed for this major. No significant resources are expected for this degree. Rosanne Bowman from the Library was consulted.

No significant facilities impact is expected for this degree.

Women's Studies Program Catalog Changes – Fall 2007

Proposed Course Changes (Modify existing description)

1. Current course number and course description (from course catalog):

WS 350 Senior Seminar (3) An upper-level seminar that challenges students to systematize insights gained from introductory and elective courses by applying the interdisciplinary methodology of Women's Studies to a focused topic. Subject matter varies semester to semester. Offered by Women's Studies faculty on a rotating basis. May be repeated for elective credit. Prerequisite: WS 101 or consent of program director. (SS)

2. Proposed course number and course description (as it will appear in course catalog):

WS 350 Seminar in Feminist Theory (4) An upper-level seminar serving as a capstone experience that challenges students to systematize insights gained from introductory and elective courses through the more deeply analytical lens of feminist theory. Prerequisite: WS 101 or consent of program director. (SS)

3. Description of proposed change(s):

Title change, description change, change from 3 to 4 credits.

4. Rationale for proposed change(s):

New title more correctly reflects the content of the class. Regularizes content so that the class can serve as a requirement for the major. Changes course to 4 credits to reflect the courses position as a requirement for the major.

5. Impact Statement:

None. This course is offered now and will not be affected.
A Proposal for an Interdisciplinary Honors Program Leading to the Integrated Degree in Engineering, Arts, and Science (IDEAS)

The attached new honors degree program in IDEAS (Integrated Degree in Engineering, Arts, and Science) was passed by the P. C. Rossin College of Engineering and Applied Science, College of Arts and Science, and the Education Policy Committee on November 27, 2006, February 19, 2007, and February 28, 2007, respectively.

The Educational Policy Committee will offer the following motion to the University Faculty at the March 19, 2007 meeting:

Motion
We move that the University Faculty approve a new honors program leading to a Bachelor of Science degree called the Integrated Degree in Engineering, Arts and Science as described in the attachment. Faculty approval is based on the Deans of the College of Arts and Science and P. C. Rossin College of Engineering and Applied Science agree that sufficient resources will be available for the program. The proposal includes the shell, with the detailed requirements for each of two majors, one in arts and science and the other in engineering and applied science, to be developed at a later time.

Ed Pol Recommendation
It is noted that at the Ed Pol meeting, it was recommended that the previous name of IASE (Integrated Arts, Science, and Engineering) would be replaced everywhere in the proposal by IDEAS, and that in each college the designation of tracks would be replaced by majors.
Integrated Degree in Engineering, Arts and Science (IDEAS) Program
Shell Proposal for consideration by University Faculty

1. Executive Summary
Engineering education is of significant value to students who will pursue careers other than as professional engineers—in law, medicine, government, architecture, the fine and performing arts, journalism, business, and education. Professional engineers themselves profit enormously from being thoroughly grounded in the liberal arts and sciences. Indeed, the complex challenges and problems confronting us in the 21st century dramatically underscore the importance of individuals who are both liberally educated and technologically sophisticated, persons whose habits of thought are thoroughly, comfortably interdisciplinary. Moreover, Lehigh is one of a small number of universities possessing the resources necessary to provide such an education. The intention of all these programs is to attract the highly motivated and most talented students to Lehigh. The students in these programs will benefit from the integrated, strategic leveraging of strengths across college boundaries within the University.

These fundamental assumptions, taken collectively, supply the basic motivation and rationale for developing new programs to cultivate a new breed of cross-disciplinary innovators, in order to provide an education that produces students well versed in dual focus areas—in engineering and in a complementary area in the liberal arts, including humanities, social sciences, and mathematics and the natural sciences. Such an educational environment also cultivates a multitude of thinking styles...it’s Renaissance thinking for the technological era, an ideal preparation for students. The cornerstones of this thrust area are the interdisciplinary programs in IBE (Integrated Business and Engineering), CSB (Computer Science and Business) and now the proposed IDEAS (Integrated Degree in Engineering, Arts, & Science).

In May 2006, a task force was assembled and charged by Deans David Wu and Anne Meltzer to develop the IDEAS program. The first part of the charge is to obtain approval of a program "shell", similar to the procedure used to develop the Integrated Business and Engineering (IBE) program, and to subsequently develop detailed approved majors.

This document is the proposed program "shell" consisting of an executive summary, proposed shell (Table 1), list of objectives, and program components. Also provided are a tentative timetable, impact/resource statement and sample majors. IDEAS is proposed to be a four-year Bachelor of Science honors program of 136 credits (see Table 1), attracting outstanding students to Lehigh, requiring 12 credits in IDEAS core courses designed especially for students in the program across all four years; 36 credits of a math/natural science core, 36 in each of an engineering major and a liberal arts major, and finally, 16 credits of electives.
Table 1. IDEAS Program Shell

<table>
<thead>
<tr>
<th>Program Component</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDEAS core</td>
<td>12 credits(^1)</td>
</tr>
<tr>
<td>Math/Science core</td>
<td>36 credits(^2)</td>
</tr>
<tr>
<td>Engineering major</td>
<td>36 credits(^3)</td>
</tr>
<tr>
<td>Liberal arts major</td>
<td>36 credits(^4)</td>
</tr>
<tr>
<td>Free electives</td>
<td>16 credits(^5)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>136 credits(^6)</strong></td>
</tr>
</tbody>
</table>

Table 1 notes:

1. The IDEAS core courses will consist of a first year core course, stepping-stone courses, and a capstone course: all will be writing intensive. They will replace Engineering 5, English 1 & 2, and the CAS college seminar/A&S 1 requirements for students in the IDEAS program.

2. The math/science core will consist of Math 211, 221, 233, 205; Chem 25; Physics 11, 12; plus 11 credits drawn from the following: Bios 41, 42; Chem 51, 53; EES gateway courses; Physics 211, 222; Math 231.

3. This major will consist of a selection of engineering courses drawn either from one of the traditional engineering disciplines (e.g., civil engineering) or from an approved interdisciplinary engineering program especially designed to coordinate with a specific liberal arts theme (e.g., legal studies).

4. This major will consist either of a traditional major (e.g., architecture) or of an interdisciplinary liberal arts program (e.g., the STS major, resulting in a new BS degree in STS to complement the already-existing BA, or a program organized around a specific theme, like legal studies or ethical issues).

5. Some IDEAS majors (e.g., those involving architecture) will require using some of these elective credits on coursework required for that particular major. Also, students are strongly encouraged to take Eco 1 as an elective if it is not already required as part of the program that they are pursuing. Finally, these elective courses might be used to supplement the engineering core, in order to bring a student within one year of fulfilling requirements for a traditional engineering BS, or to fulfill the requirements of another program such as Global Citizenship or a Business Minor.

6. All students in the IDEAS program will automatically fulfill the CAS math and natural science distribution requirements. Many students will also easily fulfill the humanities and social science distribution (CAS) or breadth/depth (RCEAS) requirements as they pursue a program of study in the liberal arts major. But for the student who chooses to study natural science or mathematics within the liberal arts major, it would be necessary to use free electives in order for those students to complete a required minimum of 8 credits in the humanities and 8 credits in the social sciences.

A more detailed version of the shell originally presented to the RCEAS faculty is included in Appendix 3.
2. Objectives
   a. Provide an engineering education for students with broader interests beyond the
      traditional path for engineering students who are likely to choose non-engineering
      careers.
   b. Create a four-year program that attracts academic high achievers who have broad
      interests and aspirations; if positioned properly, the program will attract high caliber
      students just as the IBE and Arts-Engineering programs do.
   c. The program must provide sufficient flexibility for students to transfer out or in at the end
      of the first year.
   d. The program should allow flexibility for students to obtain dual degrees in IDEAS and
      another (arts & science or fully accredited engineering) degree within five years, if so
      desired. However, IDEAS itself is a four year program.
   e. The program should allow a cohort of students to go through a common experience.
   f. The program should be administered by co-directors from RCEAS and CAS
   g. Faculty from appropriate disciplines should provide excellent curriculum advising

3. Program Components
   a. The tentative title is the Integrated Degree in Arts, Science & Engineering (IDEAS)
   b. The degree awarded will be a Bachelor of Science with two designated majors e.g.
      English/Mechanical Engineering
   c. IDEAS is recommended to be an Honors Program,
      o Being an Honors Program will help attract top candidates in a manner similar to the
         IBE program with higher Academic Indices.
      o The same rules for IBE will be applied, e.g. a GPA of 3.25 is the required
         demonstrated academic excellence for continuing on in the program. A student
         would be placed on probation if the starting at the end of the freshman year, with
         two semesters given to bring the GPA up to 3.25; otherwise the student would then
         transfer to a different program.
      o The GPA requirement will maintain the high quality of the program and help
         prevent the program from being viewed as “engineering light” or as an alternative
         when having difficulty in a traditional engineering program.
   d. Marketing will include statement that it does not lead to an accredited engineering degree
      but that by proper choice of a discipline-specific engineering major, can lead to
      accredited engineering degree in one additional year.
   e. In addition to the common core, the math/science core which provides necessary
      foundations, and the elective core, there are two balanced main majors: liberal arts
      (humanities, social sciences, and mathematics/natural sciences) and engineering (See
      Table 1 on page 2).
   f. The natural science-math core has 36 credits of mostly prescribed courses, so that a
      theme does not readily fit, but such majors can be chosen as the liberal arts core. Note
      students can choose other programs with a strong natural science-math theme such as:
      o The biology area which already has the 4-year Bioengineering program
      o Chemistry which has a 4-year program in both CAS and RCEAS
      o The Engineering Physics program.
      o Environmental science and environmental engineering currently has a 5-yr dual degree
         program.
g. In the liberal arts and engineering major, students make a choice between two alternative majors:
   - **Alternative A:** An approved interdisciplinary theme that can be coordinated in the two majors
   - **Alternative B:** In a discipline that will satisfy most or all of the requirements of a CAS major and within one year of finishing the requirements of an RCEAS major

h. A minimum of 36 credits is required in the liberal arts major. If students choose a major that requires less than 36 credits total, or a major that requires less than 36 credits in addition to those taken as part of the math/natural science core, the additional credits must be selected in the CAS.

i. Many students will use the liberal arts major for Humanities or Social Science themes such as STS, legal studies, ethics, architectural studies, etc., and they will fulfill the CAS distribution requirements automatically.

j. Students may use the liberal arts major for mathematics or natural science themes. However, the ISSS (Humanities and Social Science) distribution requirements would not be waived, and these students would need to use the 16 credits in the elective core to satisfy the CAS requirement (8 credits of Humanities and 8 credits of Social Science) which is also acceptable criteria for RCEAS.

k. The four Common Core Courses, one per year will be:
   - IDEA 10: First semester core course
   - IDEA 110: Sophomore stepping-stone course
   - IDEA 150: Junior stepping-stone course
   - IDEA 250: Senior thesis capstone course

All IDEAS core courses will be writing intensive. IDEA 10 and 110 will be co-taught by program faculty members who will provide the coordination of the cohort theme. Support will be provided for a senior graduate student in English with interest in writing across the curriculum. This student will work in partnership with the Faculty Development unit of LTS (especially Greg Skutches), as well as with IDEAS faculty and students, to assist with the writing intensive portions of these core seminars. Moreover, we will consult with the directors of the Global Citizenship and the Eckhardt Scholars programs, both of which substitute for English 1 & 2 with alternative approaches to writing pedagogy.

The cohort theme will continue to be the focus of the IDEA 150 team-based investigation in the junior year, and the IDEA 250 capstone thesis on an individual aspect in the senior year. The senior year will culminate in a mini-symposium day with presentation by each student.

See Section 4.d for a discussion of the instruction of the common core courses.

4. **Draft Impact/Resources Statement**

   The specific resources required to implement the IDEAS program are:
   a. **Program Director(s):** 1 minimum, 2 recommended
   b. **Advising:** Program advisors in each of the affiliated departments will be required
   c. **Facilities:** Additional students in classes and laboratories
   d. **Instruction:** for four IDEAS Common Core Courses and other courses with increased enrollment

   a. **Program Director:** The IBE model of having one director from each college appears to be the most reasonable approach. However, an alternate model is to have one director, and an associate director or a committee that represents the other college. If the latter model is
adopted, a director could alternately be appointed from each college for 3 or longer year terms.

b. Advising
Preliminarily we are suggesting that the program would be capped at about 40 students per year, about the same as the IBE program. The advising impact is expected to be similar to the IBE Program, e.g., a small number of students per department on average, with at least one department with a higher number of advisees. However, great care must be given to proper advising students in the program. Some issues are:

1. The program must be sufficiently flexible so students can decide at the end of the first year whether they wish to do an interdisciplinary or discipline-specific major and transfer into or out of the program at the end of the first year and still be able to complete a degree in a four years.
2. Students must be advised that to complete an BS engineering degree in one additional year is possible for a discipline-specific major but unlikely for an interdisciplinary theme.
3. Students must be made aware that the IDEAS program will not be accredited by ABET.
4. Proper advising may be a challenge especially because of the greater flexibility and non-technical nature of the liberal studies core.
5. Students who pursue a second program must satisfy the requirements for both programs using the 16 elective credits. For Global Citizenship, the four courses (GC 6, 7, 85, and 385) consisting of 711 credits are required and easily fit into the 16 elective credit.

c. Facilities
If the program is capped at about 40 students per year, the impact on facilities is expected to be similar to the IBE Program, e.g., a small number of students for most departments, with at least one department with a higher number of students. However, if the overall total number of students in RCEAS and inter-college programs remains constant, the overall impact on facilities will be about the same as it is currently.

d. Instruction of Common Core Courses
IDEA 10 and 110 will be co-taught by program faculty members who will provide the coordination of the cohort theme, and instructor(s) in the English department who will provide the emphasis on the writing process. Because of the heavy writing focus, when designing these courses, we will seek guidance from Greg Skutches, the Writing Across The Curriculum Coordinator. the English department, and directors of other programs who may have a good perspective on substitutes for English 1 & 2: (e.g. Hannah Stewart-Gambino, Global Citizenship; Ian Duffy, Eckardt Scholar Program).

1. Instruction of IDEA 10 and 110
The preferred model, and resource need, is an English department graduate student co-teaching with a program faculty member. Dean Wu has agreed to fund a partial or full English Department PhD student to assist with the instruction. Assuming the total university class size remains constant, when the program has matured, we expect one or two fewer sections of English 1 & 2, at least partially balancing the need for the English instructor.

2. Instruction of IDEA 150
IDEA 150 is still under discussion. One model is that it is a team-based course co-taught by faculty in both CAS and RCEAS, which would have a similar resource need as the first IBE or IPD capstone design course. For a cap of 40 students 5 students per team.
would require supervision of 8 teams. Another model would be the junior year Eck 281 Eckardt Scholars course (p. 214 of 2006-07 catalog).

(3) Instruction of IDEA 250
IDEA 250 will require supervision similar to CAS senior thesis, or special programs in the 2006-07 catalog like the Eckardt scholars 389 course or Global Citizenship GC 385. Global Citizenship Capstone Course. We will consult further with these programs to establish the impact.

(4) Increased load in other courses
A concern was expressed that even if the enrollment in the university stays constant, even if there are only 40 students in this program across the university, if more students are attracted to one area, say Art or Architecture; it is possible that enrollments of courses such as Art 3 might feel the impact. It is likely that one or two sections or courses per year will need to be added to certain programs. The directors should coordinate with the departments or programs and the deans to address this issue.

The Deans will arrange for the required resources as needed. In their charge letter, Deans Wu and Meltzer indicated they are excited about, endorse, and will be responsible for identifying the resources for this innovative undergraduate program.

5. Tentative Timetable (entries in italics are yet to be completed)

- May-Sept. 2006: Conceptual Discussion and Program Structure Design
- September 2006: Finalize Program Shell
- Oct-Nov. 2006: Submit Program Shell to College Academic Policy Committees
- Nov. 06-Feb '07: RCEAS/CAS College Faculty Approval of Program Shell
- Feb 28, 2007: University Ed Pol Approval of Program Shell
- March 19, 2007: University Faculty Meeting Approval of Program Shell
- Spring 2007: Develop 2-3 pilot Areas of Concentration w/ participating departments
- Spring 2007: Admissions Recruiting the first Class from Lehigh Applicant Pool
- Fall 2007: First cohort admitted as freshmen
- AY 2007-2008: Further develop specific areas of concentration with Departments

6. Current Task Force Discussion Items
   a. The draft catalog descriptions are being developed.
   b. The Computer Science and Business and Computer Science degrees in both CAS RCEAS may already provide broad enough programs in those areas.
   c. If completing the fifth year engineering program and the student already has credit for English 1 and 2, he or she can use IDEA 10 and 110 toward the 13 credits of HSS Advanced Elective.
   d. After consultation with directors of the Eckardt and Global Citizenship program, we may recommend a departmental numbering system in place of IDEA 250 (senior year), e.g. [Dept xxx] so that students can earn approved or technical elective credit in a discipline-specific major in a manner similar to the Eckardt Scholars Program [Dept] 389 course.
   e. Cohort themes would be created and the cohort would be allowed some flexibility in choosing between them. "Historic buildings" is one example of a cohort theme of historic buildings; students would explore a variety of issues such as history, literature, architecture, design, construction, and engineering.

Submitted by the Integrated Degree in Engineering, Arts & Science (IDEAS) Task Force.
Gerard Lennon (RCEAS Associate Dean), Task Force Co-Chair
Michael Raposa (CAS Associate Dean), Task Force Co-Chair
Henry Baird (Computer Science and Engineering)
Brian Pinaire (Political Science)
J. Bruce Thomas (Art & Architecture)
Richard Vince (Material Science & Engineering)
APPENDIX 1. Illustrative Examples of Majors

Table A1-1. Coordinated Program-Wide Themes (Type A): Arts Theme is Legal Studies; Engineering Themes are Product Liability & Reliability and Environmental Issues

<table>
<thead>
<tr>
<th>Liberal Arts: Interdisciplinary Theme (Type A)</th>
<th>Engineering Interdisciplinary Theme (Type A) coordinated with Liberal Arts Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme: Legal Studies is specifically geared toward students interested in: product liability, law &amp; technology, intellectual property, environmental/urban planning/construction, legislation, forensics, the security industry, energy analysis and discovery, and general litigation</td>
<td>Relevant Course Options: Obviously, depending on the more particular curiosity within this theme, the student would choose his/her courses to reflect that interest. Suggested CAS courses are listed as primary (bold) and secondary below representing options most likely to complement the RCEAS sub-themes of product liability &amp; reliability and Environmental Issues. Generally listed by most to least relevant</td>
</tr>
<tr>
<td>Relevant Course Options: Obviously, depending on the more particular curiosity within this theme, the student would choose his/her courses to reflect that interest. Suggested CAS courses are listed as primary (bold) and secondary below representing options most likely to complement the RCEAS sub-themes of product liability &amp; reliability and Environmental Issues. Generally listed by most to least relevant</td>
<td></td>
</tr>
<tr>
<td><strong>Primary</strong></td>
<td><strong>PHIL 114</strong> Fundamentals of Logic (4)</td>
</tr>
<tr>
<td>POLS 11</td>
<td></td>
</tr>
<tr>
<td>POLS 111</td>
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<td>POLS 115</td>
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<td>POLS 306</td>
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<tr>
<td>POLS 323</td>
<td></td>
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<tr>
<td>JOUR/ST 116</td>
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<tr>
<td>JOUR/ST 124</td>
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<tr>
<td>JOUR 111</td>
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<tr>
<td>STS 11</td>
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<td>STS 12</td>
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<td>STS 323</td>
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<td>PHIL 105</td>
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<td>PHIL 122</td>
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<td>SSP 367</td>
<td></td>
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<td>COMM 331</td>
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<tr>
<td>PSYC 359</td>
<td></td>
</tr>
<tr>
<td>ECO 231</td>
<td></td>
</tr>
<tr>
<td><strong>Secondary</strong></td>
<td><strong>MECH 2</strong> Elementary Engineering Mechanics (3)</td>
</tr>
<tr>
<td>POLS 351</td>
<td></td>
</tr>
<tr>
<td>POLS 368</td>
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<td>HIST 350</td>
<td></td>
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<tr>
<td>JOUR 122</td>
<td></td>
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<tr>
<td>JOUR 127</td>
<td></td>
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<tr>
<td>SSP 169</td>
<td></td>
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<tr>
<td>STS/CSC 252</td>
<td></td>
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<tr>
<td>POLS 240</td>
<td></td>
</tr>
<tr>
<td><strong>Product Liability &amp; Reliability sub-theme (18 cr)</strong></td>
<td><strong>CEE 272</strong> Environmental Risk Assessment (2)</td>
</tr>
<tr>
<td><strong>Environmental Case Studies (3)</strong></td>
<td><strong>CEE/EES 276</strong> Environmental Engr. Processes (3)</td>
</tr>
<tr>
<td><strong>Environmental Biotechnology (3)</strong></td>
<td><strong>CEE 378</strong> Hazardous Waste Treatment &amp; Management (3)</td>
</tr>
<tr>
<td><strong>Engineering Fluid Mechanics (3)</strong></td>
<td><strong>CEE/EES 323</strong> Environmental Groundwater Hydrology (3)</td>
</tr>
</tbody>
</table>
Table A1-2. Liberal Arts Interdisciplinary Theme (Type A): CSI – Lehigh: “Forensics” (and Behavioral Sciences?)

Relevant Course Options

POLS 240 Law & Order (4)
POLS 351 Constitutional Law (4)
POLS 352 Civil Rights & Civil Liberties (4)

JOUR 124 Politics of Science (4)
JOUR 311 Science and Tech Writing (4)

STS 11 Technology and Human Values (4)
STS 12 Engineering and Society (4)
STS 323 Controversies (4)

PHIL 105 The Social Origins of Terrorism (4)
PHIL 106 Ethics (4)

SSP 105 Social Deviance and Social Control (4)
SSP 367 Sociology of Science (4)

SR 395 Methods in Observation (4)

PSYC 121 Social Psychology (4)
PSYC 305 Abnormal Psychology (4)
PSYC 317 Psychology of Emotion (4)
PSYC 359 Psychological Issues in the Legal System (4)

ANTH 1 Introduction to Anthropology (4)
ANTH 377 The Archaeology of Death (4)

CHM 353 Organic Analysis Laboratory (3)
CHM 336 Clinical Chemistry (3)

BIOS 41 Biology Core I: Cellular and Molecular (3)
BIOS 115: Biology Core II: Genetics
BIOS 130: Biostatistics (4)
A number of Illustrative Examples of Interdisciplinary (Type A) and Discipline-Specific Majors (Type B) will be included here, along with corresponding completion reports provided in Appendix 2.

**Some Interdisciplinary Themes (Type A) that are currently being discussed:**

1. Leadership Theme
2. Computer Science and Algebra & Logic
3. Probability & Statistics
4. Science, Technology and Society (SIS)
5. Education Theme for Future Teachers (joint 5-year program)

**Some Suggested Discipline-Specific Majors (Type B) currently being discussed:**

1. Art
2. Architecture
3. Civil Engineering
4. Environmental Engineering
5. Computer Science
6. Materials Science and Engineering
7. Mathematics
APPENDIX 2. Illustrative Example Completion Requirement Reports

One feature of the IDEAS program is to be able to complete the full Engineering B.S. degree requirements for any of the discipline-specific engineering majors.

The tables in Appendix 2 list which of the engineering degree requirement are satisfied by each of the IDEAS core component. Also, a column indicates the courses are not a part of the IDEAS Program and must be completed separately in an additional semester or two.

For the four illustrative discipline-specific majors included in Appendix 1 (see Tables A1-4 to A1-7), corresponding Completion Requirement Reports are presented on the following Tables:

Table A2-1. Civil Engineering
Table A2-2. Computer Science (under development, not included here)
Table A2-3. Environmental Engineering
Table A2-4. Materials Science and Engineering

The following footnotes are used on the IDEAS Majors Tables in Appendix 2:

1. CC = IDEAS Common Core
2. LAT = Liberal Arts Major
3. M-NSC = Math-Natural Science Core
4. EngT = Engineering Major
5. Elco = 16 Elective credits
6. WA = Candidate course to be waived by Associate Dean of College
7. It is assumed that the HSS courses (designated as HU or SS in the catalog) satisfy the RCEAS HSS Advanced HSS requirements. If some or all are not, these courses must be taken as part of the additional requirements for the second degree.
Table A2-1. Completion requirements for Civil Engineering BS identifying categories that are included in IDEAS Program.

<table>
<thead>
<tr>
<th>Categories of Courses Required for BS Civil Engineering Degree</th>
<th>Program</th>
<th>Courses in Topic</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities &amp; Social Science (23 cr of 36 total)</td>
<td>CCE (12 cr)</td>
<td>Engl 1 Composition &amp; Literature</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>IATe (4 cr)</td>
<td>Engl 2 Composition &amp; Literature</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>M-NSC (36 cr)</td>
<td>Ece 1 Principles of Economics</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Eng 1 (16 cr)</td>
<td>HSS 1 Humanities/Social Sciences Elec</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>WA</td>
<td>HSS 2 Humanities/Social Sci. Elec</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>HSS 3 Humanities/Soc. Sciences Elec</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>HSS 4 Humanities/Soc. Sciences Elec</td>
<td>3</td>
</tr>
<tr>
<td>Math &amp; Natural Science Core (31 cr of 36 total)</td>
<td>Math 21 Analytic Geometry and Calculus</td>
<td>4</td>
<td></td>
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<td></td>
<td>Math 22 Calculus II</td>
<td>Math 23 Calculus III</td>
<td>4</td>
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<tr>
<td></td>
<td>Math 205 Linear Methods</td>
<td>CEE 12 CE Probability &amp; Statistics</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Chem 25 Intro. Chemistry I w/Lab</td>
<td>Phys 11 Introductory Physics I</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Phys 12 Introductory Physics I Lab</td>
<td>Phys 21 Introductory Physics II</td>
<td>1</td>
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<tr>
<td></td>
<td>Phys 22 Introductory Physics II Lab</td>
<td>Phys 22 Introductory Physics II Lab</td>
<td>1</td>
</tr>
<tr>
<td>Engineering Courses allocated to Eng Major (36 cr)</td>
<td>Engr 1 Engineering Computations</td>
<td>3</td>
<td></td>
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<tr>
<td></td>
<td>Mat 33 Engr. Materials &amp; Processes</td>
<td>3</td>
<td></td>
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<td></td>
<td>Mech 12 Strength of Materials</td>
<td>3</td>
<td></td>
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<td></td>
<td>CEE 10 Eng/Arch. Graphics &amp; Design</td>
<td>3</td>
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<td></td>
<td>CEE 117 Numerical Methods in CE</td>
<td>2</td>
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<td></td>
<td>CEE 121 Mechanics of Fluids</td>
<td>3</td>
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<td></td>
<td>CEE 159 Structural Analysis I</td>
<td>4</td>
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<td></td>
<td>CEE 170 Intro. Env. Engineering</td>
<td>4</td>
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<tr>
<td></td>
<td>CEE 202 Planning &amp; Eng. Eco</td>
<td>3</td>
<td></td>
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<tr>
<td></td>
<td>CEE 203 Professional Development</td>
<td>2</td>
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<td></td>
<td>CEE 222 Hydraulic Engineering</td>
<td>3</td>
<td></td>
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<tr>
<td></td>
<td>CEE 142 Fund. Soil Mechanics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Free Elect. (6 cr)</td>
<td>X</td>
<td>Free Electives</td>
<td>6</td>
</tr>
<tr>
<td>Waived (3 cr)</td>
<td>X</td>
<td>Engr 5 Introduction to Engineering</td>
<td>3</td>
</tr>
</tbody>
</table>

**Discipline Courses Not included in IDEAS program (28 cr)**

| CEE 11 Surveying | 1 |
| CEE 123 Civil Eng Materials | 1 |
| CEE 262 or 264 Struct. Anly. Steel or Concrete | 3 |
| CEE 290 Capstone Design | 3 |
| Approved Electives | 17 |

Total: 133
Table A2-3. Completion requirements for Environmental Engineering BS identifying categories that are included in IDEAS Program.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Program</th>
<th>Courses in Topic</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities &amp; Social Science</td>
<td></td>
<td>Engl 1 Composition &amp; Literature</td>
<td>3</td>
</tr>
<tr>
<td>25 credits</td>
<td></td>
<td>Engl 2 Composition &amp; Literature</td>
<td>3</td>
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<tr>
<td></td>
<td></td>
<td>Eco 1 Principles of Economics</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HSS 1 Humanities/Social Sci. Elect</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HSS 2 Humanities/Social Sci. Elect</td>
<td>3</td>
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<tr>
<td></td>
<td></td>
<td>HSS 3 Humanities/Soc. Sciences Elect</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HSS 4 POLS 111 Politics of Env.</td>
<td>4</td>
</tr>
<tr>
<td>Math &amp; Natural Science (36 cr)</td>
<td></td>
<td>Math 21 Analytic Geometry &amp; Calculus</td>
<td>4</td>
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<tr>
<td></td>
<td></td>
<td>Math 22 Calculus II</td>
<td>4</td>
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<td></td>
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<td>Math 23 Calculus III</td>
<td>4</td>
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<td></td>
<td></td>
<td>Math 205 Linear Methods</td>
<td>3</td>
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<td></td>
<td></td>
<td>CE 12 CE Probability &amp; Statistics</td>
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<td></td>
<td></td>
<td>EES xx Nat.Sci. Gateway Lab Course</td>
<td>4</td>
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<td></td>
<td></td>
<td>Chem 25 Intro. Chemistry I w/Lab</td>
<td>4</td>
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<td></td>
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<td>Chem 51 Organic Chem I</td>
<td>3</td>
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<td></td>
<td></td>
<td>Chem 53 Organic Chem Lab</td>
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<td>Phys 11 Introductory Physics I</td>
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<tr>
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<td>Phys 22 Introductory Physics II Lab</td>
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<td>Engineering Courses</td>
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<td>Eng 1 Engineering Computations</td>
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<td>allocated to Eng Major</td>
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<td>Mech 2 Elementary Eng. Mechanics</td>
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<td>(36 cr)</td>
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<td>ChE 31 Mat. &amp; Energy Bal. Ch Process</td>
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<td></td>
<td>CEE 121 Mechanics of Fluids</td>
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<td>CEE 170 Intro. Env. Engineering</td>
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<td>CEE 272 Env. Risk Assessment</td>
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<td>CEE 276 Env. Engr. Processes</td>
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<td>CEE 274 Env. Water Chem</td>
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<td>CEE 379 Environmental Care Studies</td>
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<td>CEE 202 Planning &amp; Eng. Eco</td>
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<td>CEE 222 Hydraulic Engineering</td>
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<td>Eng 5 Intro. to Engineering</td>
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<td>Discipline Courses Not included in IDEAS program (20 cr)</td>
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<td>ChE 60 Unit Ops Survey</td>
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<td>CEE 203 Professional Development</td>
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<td>EES 31 Intro. Env/Organismal Bio.</td>
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<td>Total</td>
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<td>Topic</td>
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<td>Courses in Topic</td>
<td>Credits</td>
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<td>LAc^b (36 cr)</td>
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<td>M-NSc^c (36 cr)</td>
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<td>Eng^d (16 cr)</td>
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<tr>
<td>Math &amp; Natural Science (32 cr)</td>
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<td>Math 21 Analytic Geometry &amp; Calculus</td>
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<td>Math 23 Calculus III</td>
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<td>Math 305 Linear Methods</td>
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<td>Math 231 Probability &amp; Statistics</td>
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<td>Chem 25 Intro. Chemistry I w/ Lab</td>
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<td>Courses allocated to Eng. Major</td>
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<td>Mat 33</td>
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<tr>
<td>(Materials Science &amp; Engineering)</td>
<td>X</td>
<td>Mat 10</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>Mat 20</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>Mat 101</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>Mat 203</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>Mat 205</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>Mat 216</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>Mat 218</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>Mat 201</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>Mech 2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>ChemE 60</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>ECE 81</td>
<td>4</td>
</tr>
<tr>
<td>Electives</td>
<td>X</td>
<td>Free Electives</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>Approved Electives</td>
<td>3</td>
</tr>
<tr>
<td>Waived (3 cr)</td>
<td>X</td>
<td>Engr 5 Introduction to Engineering</td>
<td>3</td>
</tr>
<tr>
<td>Discipline Courses</td>
<td>X</td>
<td>Mat 210</td>
<td>2</td>
</tr>
<tr>
<td>Not included in IDEAS program (25 cr or 26 or possible w/ other elective choices)</td>
<td>X</td>
<td>Mat 226</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>Mat 338</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>EPD #1 and #2</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>Mat 204, 206, 214, and 302</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>Engr Sci Electives</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>6</td>
<td>13</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>32</td>
<td>36</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>28</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>134</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Component</td>
<td>Credits</td>
<td>Courses</td>
<td>Notes</td>
</tr>
<tr>
<td>------------------------</td>
<td>---------</td>
<td>-------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>IDEAS Common Core</td>
<td>12</td>
<td><strong>Tentative Courses</strong></td>
<td>These courses replace:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IDEA 10: 1st semester core course</td>
<td>English 1 &amp; 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IDEA 110: stepping-stone course</td>
<td>Engr 5</td>
</tr>
<tr>
<td>Math &amp; Natural Science (NS) Core</td>
<td>36</td>
<td>Includes following 36</td>
<td>CAS college seminar</td>
</tr>
<tr>
<td>Core</td>
<td></td>
<td>Math 21, 22, 23, 205 (15 cr)</td>
<td>A&amp;S 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chem 25, 26 (5 cr)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Physics 11, 12 (5 cr)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Select 11 credits from w/assoc. labs from Approved NS List</td>
<td></td>
</tr>
<tr>
<td>Liberal Arts Major</td>
<td>36</td>
<td>Choose either an approved</td>
<td>Approved NS List (need 11 cr):</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A. Interdisciplinary Theme or</td>
<td>Math 231 (3 cr)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B. Discipline Specific in <em>Liberal Arts</em></td>
<td>Bios 41/42 (4 cr)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Examples:</td>
<td>Chem 51/53 (4 cr)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A. <em>Legal Studies</em> (Table A1-1)</td>
<td>Phys 21/22 (5 cr)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Science: Technology &amp; Society</em> (STS Table A1-3) to</td>
<td>EES Gateway Course w/lab (4 cr):</td>
</tr>
<tr>
<td></td>
<td></td>
<td>complement existing STS BA*)</td>
<td>EES 2, 11, 12, 14, 15, 16, 21, 24, 25, 26, 27, 31, 89</td>
</tr>
<tr>
<td>Engineering Major</td>
<td>36</td>
<td>Choose either an approved</td>
<td>Examples:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A. Interdisciplinary Theme or</td>
<td>A. <em>Product Liability &amp; Reliability,</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>B. Discipline Specific in <em>Engineering</em></td>
<td><em>Environmental Issues</em> (complements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Examples:</td>
<td>Liberal Arts Legal Studies theme, see Table A1-1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A. <em>Product Liability &amp; Reliability,</em></td>
<td>B. <em>Materials Science &amp; Engineering</em> see</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Environmental Issues</em> (complements Liberal Arts Legal Studies theme, see</td>
<td>Table A1-9)</td>
</tr>
<tr>
<td>Electives</td>
<td>16</td>
<td>These electives allow students to tailor their program to meet their</td>
<td>These electives can be used as:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>academic goals</td>
<td>As truly free electives</td>
</tr>
<tr>
<td></td>
<td></td>
<td>These electives can be used as:</td>
<td>Supplement <em>arts core to complete a BA</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>As truly free electives</td>
<td>Supplement engineering core to bring</td>
</tr>
<tr>
<td></td>
<td></td>
<td>These electives can be used as:</td>
<td>within 1 year of full engineering BS</td>
</tr>
<tr>
<td>Total</td>
<td>136</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX 4. IDEAS Program showing employment possibilities, employers for paired CAS/RCEAS majors (provided by Donna Goldfeder, Career Services*)

<table>
<thead>
<tr>
<th>Majors</th>
<th>Employment Possibilities</th>
<th>Employers who have expressed interest in this combination of majors/skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture/Civil Engineering</td>
<td>Construction Industry</td>
<td>Whiting-Turner</td>
</tr>
<tr>
<td>Environmental Science/Civil Engineering</td>
<td>Environmental Consultants, Non-profit Conservation Orgs.</td>
<td></td>
</tr>
<tr>
<td>Design Arts/Mechanical Engineering</td>
<td>Manufacturing Corporations with products that rely on design</td>
<td>General Motors</td>
</tr>
<tr>
<td>International Relations or especially Global Studies/Almost any all Engineering</td>
<td>International Corporations</td>
<td>Aesculap</td>
</tr>
<tr>
<td>Economics/Industrial or Computer Engineering</td>
<td>Consulting</td>
<td>Accenture, IBM</td>
</tr>
<tr>
<td>English/(Science Writing)/Any/all Engineering</td>
<td>A bonus to all employers in specific Engineering major</td>
<td></td>
</tr>
<tr>
<td>Urban Studies, Political Science/Environmental Engineering, Civil Engineering, etc</td>
<td>Engineering Consulting, Environmental Consulting, Legal Rel., Political/Government Associations, City Management</td>
<td>Navigant</td>
</tr>
<tr>
<td>Biology/Chemistry Bioengineering</td>
<td>Pharmaceutical &amp; Medical Tech Corps.</td>
<td>Olympus, B. Braun, HSBC, Towers Perrin</td>
</tr>
<tr>
<td>Mtlb/IE</td>
<td>Wall Street Actuarial</td>
<td></td>
</tr>
</tbody>
</table>
RCEAS Course & Curriculum Changes passed by ED POL, 2-28-07

1. BioEngineering Program
2. Computer Science & Engineering Department
3. Chemical Engineering Department
4. Environmental Engineering Program
5. Industrial & Systems Engineering Department
6. Mechanical Engineering & Mechanics Department
7. Materials Science & Engineering Department
8. Engineering -- co-op Communications course

packet page #2
packet page #10
packet page #24
packet page #29
packet page #33
packet page #51
packet page #79
packet page #88
Proposed Program Changes

1. Name and summary of current Program: Bioengineering Program

2. Proposed program changes (as they will appear in the catalog):

   1. Under "Integrated Bioengineering" add
      Engr 211 Integrated Product Development I (3)
      Engr 212 Integrated Product Development II (2)
   2. Students must take at least six credits from the following:
      ChemE 341 – Biotechnology I
      ChemE 342 – Biotechnology II
      BicE 395 – Inorganic Biomaterials
      BicE 396 – Molecular Bioengineering
      BicE 321 – Biomolecular and Cellular Mechanics
      BicE 380 – Molecular & Cellular Biophysics
      BicE 335 – BioFluid Mechanics of Physiological Systems
   3. BioE 132, 142, 242, CSE 308 will be added to the list of Bioengineering electives for each track.
   4. Remove BioE 290 as a requirement.
   5. Remove Mech 2 as a requirement and replace it with Mech 3

3. Description of proposed change(s):

   a) These changes have come about due to our decision to make Integrated Product Development (IPD) courses a requirement for Bioengineering students. When the program started in 2002, all students were required to complete a 3-semester research sequence (BioE 132/142/242) followed by a thesis (BioE 290). The major design experience requirement (ABET criterion IV) was to be met by BioE 225. We subsequently found that requiring all students to do research was less than optimal. Moreover, IPD has proven to provide the major design experience and additionally meets other program requirements such as working on multidisciplinary teams. This judgement is based on feedback from two batches of students who have gone through research and IPD, feedback from instructors, and from industrial IPD mentors.

   b) Because IPD will be a requirement, we are re-defining BioE 225 (Design course) to cover only regulatory affairs (important for BioE students and not covered elsewhere) and to reduce it from 3 to 1 credit.
   c) Also, BioE 290, a 2-credit requirement for IPD students, is no longer required. It will be available for students who are doing research for credit. Based on
feedback from students and our own assessment, we feel that it we need to
add exposure to advanced bioengineering applications. For this reason we are
adding a requirement that students should take at least 6 credits from a set of
Bioengineering elective courses.

d) Credit Balance: Reducing BioE 225 (-2) and removing BioE 290 (-2) reduces
the overall credit requirements for the degree by 4 credits. Last year we lost
another credit when Chemistry 25 removed the 1-credit sidebar. Addition of
the advanced bioengineering applications requirement will increase the overall
degree credit requirement by 6. There is a net increase of 1 credit, bringing
the net credit requirement to a maximum of 133.

e) BioE 132, 142, and 242. CSE 308 are added to the list of BioE electives for
each track.

f) BioE 290 (Thesis) is no longer required.

g) Mech 3 replaces Mech 2 as a requirement.

4. Rationale for proposed change(s):
(see description, previous section, for details)

The Bioengineering Program Committee has decided to make the Integrated
Product Development (IPD) sequence a requirement for their students. Based on faculty
experience and feedback from students, we feel that this change will best meet program
objectives and satisfy outcomes. The IPD program has provided good opportunities for
multidisciplinary teamwork, design experience and communications, which we are
required to satisfy. Removal of thesis and change in the design course releases 5 credits
In evaluating student assessments we have also found a need to strengthen senior-level
exposure to advanced applications in bioengineering. We will use the extra credits to
meet this need via this requirement. We would like to encourage independent student
research strongly. This allows students to take research for credit and the BioE faculty
believe it is a good substitute for BioE elective credits. The thesis requirement is no
longer needed since all students will do IPD, which requires considerable report writing.
It will still be available for students who need it, however we don’t feel it needs to be
required. Mech 3 gives a more in-depth study of engineering mechanics needed to be
successful in BioE 120/121.

5. Academic Impact Statement:
a. Is this proposed program change interdisciplinary? Yes

b. Identify any known effects of the proposed program change on other programs in
the University:
IPD will need to recruit additional bioengineering companies.
Additional faculty group advisors

c. If there are known effects, individuals in charge of the affected programs must be
consulted about the proposed program change and the following information
provided:
(1) Who was consulted: The Bioengineering Program Committee considered this over several meetings last year and this fall (2006). We have consulted extensively with Prof. John Ochs over the last few years and the IPD program already handles nearly all BioE students. We have consulted with department chairs of Chemical Engineering, Mechanical Engineering and Mechanics, and Electrical and Computer Engineering to ensure there will be sufficient faculty group advisors. We have solicited and found sufficient IPD projects and companies to support our students. We have assessed and evaluated input from students and IPD industry sponsors on the efficacy of the program.

(2) Is the proposed program change acceptable to the affected Program: Yes

(3) Will any changes be required in the affected programs: No

Identify any known effects of the proposed program change on the University's commitment to diversity: None known

6. Resource Impact Statement:

(a) Provide each of the following:

(1) Library impact statement: No impact

(2) Computer impact statement: None

(3) Faculty impact statement: There is minimal overall impact. There will be an increase in faculty load due to additional IPD teams but that is offset by changes in our Bioengineering design course, which will be reduced in scope to cover only regulatory affairs. As requested by the APC, a planning document for faculty resources needed for the Bioengineering program has been provided.

(4) Facilities impact statement: No known effects

(b) Provide a statement indicating who will assume financial responsibility for any new resources required: Bioengineering Program
Biomedical Program

Proposed New Course

1. Proposed new course number and course description (as it will appear in course catalog)

BioE 321 (Phys 321) Biomolecular and Cellular Mechanics (3) Senior, spring
Mechanics and physics of the components of the cell, ranging in length scale from fundamental biomolecules to the entire cell. The course covers the mechanics of proteins and other biopolymers in 1-D, 2-D, and 3-D structures. Cell membrane structure and dynamics, and the mechanics of the whole cell. Pre-requisites: Math 205 and Phys 13/22 or 21/22. or permission of the instructor(s)

2. Instructional mode (i.e. lecture, recitation, laboratory, seminar, independent study, or other)
And number of contact hours per week:
Two 1.5 hours lectures/week

3. Rationale for proposed new course:
We would like to add this course as a senior elective for Biomedical undergraduates and for graduate students in various disciplines. We would like to cross-list it with Phys 321 so Physiology students can take it as an elective. In addition, bioscience and the Applied Life Science students who wish to take the physics minors will be able to take this course to satisfy minor requirements.

4. Academic impact on programs affected by new course:

A. Is this proposed new course cross-listed? Yes. The Physics department is sending through paperwork through CAS. I was asked for written confirmation, which I will forward when it is received.

B. Identify any known effects of the proposed new course on other programs at the University. This new course will be taught by A. Jagota (ChemE) and H-D. Ou-Yang (Phys). It affects these departments.

C. If there are known effects, individuals in charge of the affected programs must be consulted about the proposed new program and the following information provided:
   1. Who was consulted? Physics and Chemical Engineering Department chairs
   2. Is the proposed new course acceptable to all other programs affected? Yes
   3. Will any changes be required in the affected programs? If so, describe.

D. Does the proposed new program affect the University's commitment to diversity in any way? If so, describe below: None known

5. Resource Impact:

A. Provide each of the following:
   1. Library impact statement: None
   2. Computer impact statement: None
   3. Faculty impact statement: This course was offered in fall 2005 as a provisional course. Teaching faculty: H-D. Ou-Yang, Physics Department and Anand Jagota, Chemical Engineering Department.
   4. Facilities impact statement: None per Registrar

B. Provide a statement indicating who will assume financial responsibility for any new resources required:
Biomedical Program
Bioengineering Program

Proposed New Course

1 Proposed new course number and course description (as it will appear in course catalog):

BioE 380 (BioS 380) Biomolecular and Cellular Biophysics (3) Senior, spring
Physical principles of biomolecular and cellular organization. Biomolecular interactions and recognition, molecular motors, physical organization and functioning of cellular membranes, electrical signaling in live cells. Modern techniques in biophysics: X-ray analysis, molecular spectroscopy, molecular modeling, fluorescence imaging, electrophysiology, electron microscopy
Prerequisites: BioS 115 and Phys 13/22 or 21/22 or equivalent.

2 Instructional mode (i.e. lecture, recitation, laboratory, seminar, independent study or other)
And number of contact hours per week:

Two 1.5 hours lectures/week

3 Rationale for proposed new course:
This course has been developed as a Bioengineering and Biology elective. In addition, bioscience and the Applied Life Science students who wish to take physics minors will be able to take this course to satisfy minor requirements.

4 Academic impact on programs affected by new course:

A. Is this proposed new course cross-listed? Yes. The Biology department is sending through paperwork through CAS. I have verbal confirmation and have asked for a written confirmation, which I will forward when I get it.
B. Identify any known effects of the proposed new course on other programs at the University. The course will be taught by Maria Bykhovskaya and it thus affects the Biology department.
C. If there are known effects, individuals in charge of the affected programs must be consulted about the proposed new program and the following information provided:
   1. Who was consulted? Biology Department and teaching faculty
   2. Is the proposed new program acceptable to all other programs affected? Yes
   3. Will any changes be required in the affected programs? If so, describe. No
D. Does the proposed new program affect the University’s commitment to diversity in any way? If so, Please describe below. None known

5 Resource Impact
A. Provide each of the following:
   (1) Library impact statement: None
   (2) Computer impact statement: None
   (3) Faculty impact statement: This course was offered in fall 2005 as a provisional course. Teaching faculty - Maria Bykhovskaya, Biology Department
   (4) Facilities Impact statement: None per Registrar
B. Provide a statement indicating who will assume financial responsibility for any new resources required: Bioengineering Program
Bioengineering Program

Proposed New Course

1. Proposed new course number and course description (as it will appear in course catalog):

Application of advanced fluid dynamic principles to physiological systems with emphasis on micron-sized structures such as pulmonary alveoli, small blood vessels and biological cells. Introduction to advanced topics relevant to the human body including a) Oscillatory and transient flows in the cardiovascular and pulmonary systems b) Non-newtonian flows c) Surface tension driven flows d) Fluid-structure interactions and e) Cellular fluid mechanics. Prerequisites: Math 205, ME 231 or an equivalent introductory fluid mechanics course, or instructor permission.

2. Instructional mode (e.g.: lecture, recitation, laboratory, seminar, independent study, or other)

Two 1.5 hours lectures/week.

3. Rationale for proposed new course:

We would like to add this course as a senior elective for Bioengineering undergraduates and for graduate students in various disciplines. Although this is a senior undergraduate course, a 400 graduate-level version of this course will be offered concurrently. In addition to the assignments and exams used in the 300 level course, graduate students in the 400 level course will be required to complete an independent project on a topic relevant to their research.

4. Academic impact on programs affected by new course:

A. Is this proposed new course cross-listed? No
B. Identify any known effects of the proposed new course on other programs at the University. This course will be taught by Samir Ghadiali and it thus affects the mechanical engineering department.
C. If there are known effects, individuals in charge of the affected programs must be consulted about the changes and the following information provided:
   1. Who was consulted? Mechanical and Mechanics Department chair
   2. Is the proposed new course acceptable to all other programs affected? Yes
   3. Will any changes be required in the affected programs? If so, describe. No

D. Identify any known effects of the proposed new course on the University's commitment to diversity. No known effects.

5. Resource Impact

A. Provide each of the following:
   (1) Library impact statement: None
   (2) Computer impact statement: None
   (3) Faculty impact statement: This course was offered in fall 2005 as a provisional course. Teaching faculty: Samir Ghadiali, Mechanical and Mechanics Department
   (4) Facilities impact statement: None per Registrar

B. Provide a statement indicating who will assume financial responsibility for any new resources required: Bioengineering Program.
Bioengineering

Proposed Course Changes

1. Current course number and course descriptions (from course catalog)
   
   BioE 331 – Integrated Bioelectronics Laboratory (2) spring
   Experiments in design and analysis of bioelectronic circuits, micropatterning of biological cells, micromanipulation of biological cells using electric fields, analysis of pacemakers, instrumentation and computer interfaces, ultrasound, optic, laser tweezers and advanced imaging and optical microscopy techniques for biological applications, prerequisites Phy 13/22 or Phy 21/22 and ECE 81 or Phy 190, or permission of instructor.

2. Proposed course number and course description) as it will appear in course catalog

   BioE 331(Phys 331) – Integrated Bioelectronics/Biophotonics Laboratory (2)
   Experiments in design and analysis of bioelectronic circuits, micropatterning of biological cells, micromanipulation of biological cells using electric fields, analysis of pacemakers, instrumentation and computer interfaces, ultrasound, optic, laser tweezers and advanced imaging and optical microscopy techniques for biological applications, Prerequisites Phy 13/22 or Phy 21/22 and ECE 81 or Phy 190, or permission of instructor

3. Description of proposed changes(s):
   
   By adding Biophotonics to course name it will further define course content. We propose to cross list it with Phys 331. The Physics department is sending through paperwork through CAS. I will forward confirmation when I get it.

4. Rationale for proposed change(s):
   
   We would like to offer BioE 331 as a cross-listed course to the new Phys 331 so physics students can take the course as an elective for their degree.

5. Impact Statement:
   
   This course is being taught by faculty members associated with the Bioengineering Program. We do not anticipate the need for any additional resources.
Bioengineering

Proposed Course Changes

1. Current course number and course descriptions (from course catalog)
   BioE 225 – Bioengineering Design (3) spring
   Bioengineering design, including examples of engineering analysis and design applied to representative topics in biomechanics, bioinstrumentation, biomaterials, biotechnology and related areas. Technological needs, design methodology, testing procedures, statistical analysis, governmental regulation, evaluation of costs and benefits quality of life and ethical issues. Prerequisite BioE 110.

2. Proposed course number and course description as it will appear in course catalog
   BioE 225 – cGMP Good manufacturing practice and regulatory affairs for bioengineers (1)
   Review of the principles of the Food and Drug Administration including its history, mission and applied regulations. Understanding of how the FDA works with industry and is integral to the development of new products and technologies. Review and critique of case studies in various parts of the biomedical industry to see how FDA regulations are applied. Validation and analysis of products using failure mode analysis.

3. Description of proposed changes(s):
   Reduce the scope of Bioengineering design to regulatory affairs

4. Rationale for proposed change(s):
   Because we are making IPD a requirement, our own design course is rendered redundant. We will reduce its scope to cover regulatory affairs, which are important for bioengineers and not taught elsewhere. The extra credits will be used to add senior-level elective course requirements to enhance depth in bioengineering applications.

5. Impact Statement:
   This reduces the teaching load, but is compensated by somewhat greater load in IPD advising.
Proposed Course Changes
Change in Credit

1. Current course number, title, course description, and credits (from present course catalogue):

CSE 17. Structured Programming and Data Structures (4)

Algorithmic design and implementation in a high level, object-oriented language such as C++. Recursion, lexical programs, pointers, data structures, and their applications. Prerequisites: CSE 15, or ENGR 1, or permission of the instructor.

2. Proposed course number, title, course description, and credits (as it will appear in course catalogue):

CSE 17. Structured Programming and Data Structures (3)

Algorithmic design and implementation in a high level, object-oriented language such as C++. Recursion, lexical programs, pointers, data structures, and their applications. Prerequisites: CSE 15, or ENGR 1, or permission of the instructor.

3. Nature of proposed change(s)

A. Course title change? If so, provide rationale below:

B. Course number change? If so, provide rationale below:

C. Change in course credits? If so, provide rationale below:

The depth of coverage of the material in CSE 17 has been reduced and emphasized more heavily in CSE 109 instead.

D. Change in course description? If so provide rationale below:

E. Other change(s)? If so, please describe below and provide rationale for each change.

4. Resource Impact

A. Provide impact statements in the four areas listed below:

(1) Library impact statement (attach statement. If provided by LTS)

(2) Computer impact statement (attach statement. If provided by LTS)

(3) Faculty impact statement (how proposed program affects load on existing faculty or requires new faculty)

(4) Facilities impact statement (how proposed program affects load on existing facilities or requires new facilities)

B. Provide a statement indicating who will assume financial responsibility for any new resources required:
## Proposed Course Changes

### Change in Credit

1. **Current course number, title, course description, and credits**

   **CSE 109. Systems Software (3)**

   Advanced programming and data structures including dynamic structures, memory allocation, data organization, symbol tables, hash tables, B-trees, data files. Object-oriented design and implementation of simple assemblers, loaders, interpreters, compilers, and translators. Practical methods for implementing medium-scale programs.
   Prerequisite: CSE 17.

2. **Proposed course number, title, course description, and credits (as it will appear in course catalogue)**

   **CSE 109. Systems Software (4)**

   Advanced programming and data structures, including dynamic structures, memory allocation, data organization, symbol tables, hash tables, B-trees, data files. Object-oriented design and implementation of simple assemblers, loaders, interpreters, compilers, and translators. Practical methods for implementing medium-scale programs.
   Prerequisite: CSE 17.

### 3. Nature of proposed change(s)

- **A. Course title change? If so, provide rationale below:**

- **B. Course number change? If so, provide rationale below:**

- **C. Change in course credits? If so, provide rationale below:**
  The depth of coverage of the material in CSE 17 has been reduced and emphasized more heavily in CSE 109 instead.

- **D. Change in course description? If so, provide rationale below:**

- **E. Other change(s)? If so, please describe below and provide rationale for each change:**
4. Resource Impact

A. Provide impact statements in the four areas listed below:

(1) Library impact statement

(2) Computer impact statement

(3) Faculty impact statement

(4) Facilities impact statement

B. Provide a statement indicating who will assume financial responsibility for any new resources required:
Proposed Course Changes

Change in Prerequisite

1. Current course number, title, course description, and credits from present

CSE 130. Technical Presentation (1)
Oral and written communication of information in computer science. Technical writing; structure, style, and delivery of oral presentations; use of visual aids. Prerequisite: CSE 17.

2. Proposed course number, title, course description, and credits (if will change in course catalogue)

CSE 130. Technical Presentation (1)
Oral and written communication of information in computer science. Technical writing; structure, style, and delivery of oral presentations; use of visual aids. Prerequisite: CSE 12 or CSE 15 or Engr 1.

3. Nature of proposed change(s)

A. Course title change? If so, provide rationale below:

B. Course number change? If so, provide rationale below:

C. Change in course credits? If so, provide rationale below:

D. Change in course description? If so, provide rationale below:
Change the prerequisite from CSE 17 to CSE 12 or CSE 15 or Engr 1. We aim to restrict the course to students with some background related to computer science. We found the former prerequisite too restrictive.

E. Other change(s)? If so, please describe below and provide rationale for each change:
Proposed Course Changes

Change in Credit

1. Current course number, title, course description, and credits

CSE 342. Fundamentals of Internetworking (3)

Architecture and protocols of computer networks. Protocol layers; network topology; data-communication principles, including circuit switching, packet switching and error control techniques; sliding window protocols, protocol analysis and verification; routing and flow control; local and wide area networks; network interconnection; client-server interaction; emerging networking trends and technologies; topics in security and privacy. Prerequisite: CSE 109.

2. Proposed course number, title, course description, and credits

CSE 342. Fundamentals of Internetworking (4)

Architecture and protocols of computer networks. Protocol layers; network topology; data-communication principles, including circuit switching, packet switching and error control techniques; sliding window protocols, protocol analysis and verification; routing and flow control; local and wide area networks; network interconnection; client-server interaction; emerging networking trends and technologies; topics in security and privacy. Prerequisite: CSE 109.

3. Nature of proposed change(s)

A. Course title change? If so, provide rationale below:

B. Course number change? If so, provide rationale below:

C. Change in course credits? If so, provide rationale below:

D. Change in course description? If so, provide rationale below:

E. Other change(s)? If so, please describe below and provide rationale for each change.
4. Resource Impact

A. Provide impact statements in the four areas listed below:

(1) Library impact statement
(2) Computer impact statement
(3) Faculty impact statement
(4) Facilities impact statement

B. Provide a statement indicating who will assume financial responsibility for any new resources required:
Proposed Course Changes

DROP

1. Current course number, title, course description, and credits

CSE 414. Expert Systems (3)

The design and development of knowledge-based expert systems. Rule-based protocols.
Knowledge engineering. Programming applications. Prerequisite: CSE 368

2. Proposed course number, title, course description, and credits

3. Nature of proposed change(s)

A. Course title change? If so, provide rationale below:

B. Course number change? If so, provide rationale below:

C. Change in course credits? If so, provide rationale below:

D. Change in course description? If so, provide rationale below:

E. Other change(s)? If so, please describe below and provide rationale for each change.

DROP THE COURSE. We have not taught the course in a number of years and do not intend to teach it again.

4. Resource Impact

A. Provide impact statements in the four areas listed below:

   (1) Library impact statement
   (2) Computer impact statement
   (3) Faculty impact statement
   (4) Facilities impact statement

B. Provide a statement indicating who will assume financial responsibility for any new resources required:
Proposed Course Changes

DROP

1. Current course number, title, course description, and credits

CSE 422. Advanced Topics in Compiling (3)

Topics from general parsers, attributed translation, attribute grammars, two-level grammars, expression optimization, data flow, code optimization, compiler compilers, implementation languages, multi-tasking languages. Prerequisite: CSE 302 or consent of the department head.

2. Proposed course number, title, course description, and credits

3. Nature of proposed change(s)
   A. Course title change? If so, provide rationale below:
   B. Course number change? If so, provide rationale below:
   C. Change in course credits? If so, provide rationale below:
   D. Change in course description? If so, provide rationale below:
   E. Other change(s)? If so, please describe below and provide rationale for each change.

DROP THE COURSE. The course instructor has passed away and we no longer will be teaching the course.

4. Resource Impact

A. Provide impact statements in the four areas listed below:

(1) Library impact statement
(2) Computer Impact statement
(3) Faculty impact statement (new proposed program efforts lead a teaching faculty or requires new faculty)
(4) Facilities impact statement (new proposed program efforts lead an existing facility or requires new facilities)

B. Provide a statement indicating who will assume financial responsibility for any new resources required:
Proposed Course Changes

DROP

1. Current course number, title, course description, and credits (This course does not appear on the student's record.)

CSE 437. Program Semantics (3)

Theories and techniques of program semantics and program verification. Topics may be chosen from denotational semantics, operational semantics, Floyd-Hoare semantics, temporal logic, dynamic logic, algebraic semantics, continuous semantics, recursive function theory or a current semantic theory.

2. Proposed course number, title, course description, and credits (as it will appear in course catalogue)

3. Nature of proposed change(s)
   A. Course title change? If so, provide rationale below:
   B. Course number change? If so, provide rationale below:
   C. Change in course credits? If so, provide rationale below:
   D. Change in course description? If so, provide rationale below:
   E. Other change(s)? If so, please describe below and provide rationale for each change.

   DROP THE COURSE. We have not taught the course in a number of years and do not intend to teach it again.

4. Resource Impact

   A. Provide impact statements in the four areas listed below:

      (1) Library impact statement (library statement if provided by LTS)

      (2) Computer impact statement (library statement if provided by LTS)

      (3) Faculty impact statement (new proposed program affects an existing faculty or requires new faculty)

      (4) Facilities impact statement (new proposed program affects an existing facility or requires new facilities)

   B. Provide a statement indicating who will assume financial responsibility for any new resources required:
Proposed Course Changes

DROP

1. Current course number, title, course description, and credits that appear in course catalogue.

CSE 465. Seminar in Natural Language Processing (3)

Writing and presenting reviews of research issues in natural language, knowledge representation, speech processing and other applications. Requires concurrent attendance in CSE 365 Natural Language Processing.

2. Proposed course number, title, course description, and credits (as they will appear in course catalogue).

3. Nature of proposed change(s)
   A. Course title change? If so, provide rationale below:
   B. Course number change? If so, provide rationale below:
   C. Change in course credits? If so, provide rationale below:
   D. Change in course description? If so, provide rationale below:
   E. Other change(s)? If so, please describe below and provide rationale for each change.

   DROP THE COURSE. We have not taught the course in a number of years and do not intend to teach it again.

4. Resource Impact

   A. Provide impact statements in the four areas listed below:

      (1) Library impact statement (if applicable, as provided by LTS)

      (2) Computer impact statement (if applicable, as provided by LTS)

      (3) Faculty impact statement (if proposed program affects workload or existing faculty or requires new faculty)

      (4) Facilities impact statement (if proposed program affects facilities or requires new facilities)

   B. Provide a statement indicating who will assume financial responsibility for any new resources required:
Proposed New Course

1. Proposed new course number and course description (as it will appear in course catalogue):
   CSE 424 Advanced Communication Networks (3)
   Current and emerging research topics in communication networks: network protocols, network measurement, internet routing, network security, ad-hoc and sensor networks, disruption tolerant networks. Lecture, readings, and discussion, plus a project
   Prerequisites: CSE 342 or CSE 404, and Math 231, or permission of instructor.

2. Instructional mode (lecture, recitation, laboratory, seminar, independent study, or other) and number of contact hours per week:
   Lecture+Seminar Discussion, three hours/week.

3. Rationale for proposed new course:
   Currently, there is no advanced networking courses for students who are interested in doing research in networking area after they have taken CSE 342 or CSE 404 which do not provide sufficient background to do research in networking.

4. Academic impact on programs affected by new course:
   
   A. Is the proposed course to be cross-listed?
   NO.
   
   B. Identify any known effects of the proposed new program on other programs at the University.
   NONE
   
   C. If there are known effects, individuals in charge of the affected programs must be consulted about the proposed new program and the following information provided:

   (1) Who was consulted?

   (2) Is the proposed new program acceptable to all other programs affected?

   (3) Will any changes be required in the affected programs? If so, please describe below:

   D. Does the proposed new program affect the University's commitment to diversity in any way? If so, please describe below:

5. Resource Impact

   A. Provide impact statements in the four areas listed below:

   (1) Library impact statement (must return if not provided by LTSE)
   NONE
(2) Computer impact statement (if provided by IT)

NONE

(3) Faculty impact statement (If new proposed program requires additional or existing faculty)

NONE. This course has been taught twice by Professor Chuah as a part of her regular course load.

(4) Facilities impact statement (If new proposed program requires new facilities or a change in existing facilities)

NONE. The course will make extensive use of our "sandbox" lab which was created for just such a purpose.

B. Provide a statement indicating who will assume financial responsibility for any new resources required:
CSE DEPARTMENT: Proposed Change in Minor for APC

Name and summary of current program:
Minor in Computer Science

Proposed program changes (as they will appear in the catalog):
Proposed catalog entry:
The minor requires 17 credit hours, consisting of the following:
CSE 15 Introduction to Computing (4)
CSE 17 Structured Programming and Data Structures (4)
plus any three CSE courses, except CSE 130 (Technical Presentation)

Proposed catalog entry:
The minor requires 16 credit hours, consisting of the following:
CSE 15 Introduction to Computing (4)
CSE 17 Structured Programming and Data Structures (3)
plus any three CSE courses, except CSE 130 (Technical Presentation)

Description of proposed change(s):
Reduce credit requirement by 1 hour reflecting the reduction in credit for CSE 17 from 4 to 3

Rationale for proposed change(s):
CSE 17 will be changed from a 4-credit to a 3-credit course.

Academic Impact Statement:
Is this proposed program change interdisciplinary? NO

Identify any known effects of the proposed program change on other programs at the University.
NONE

If there are known effects, individuals in charge of the affected programs must be consulted about the proposed program change and the following information provided: NONE

Who was consulted?
CSE, and Cognitive Science, whose curricula require CSE 17.

Is the proposed program change acceptable to the affected programs?
Will any changes be required in the affected programs? If so, describe.
Identify any known effects of the proposed program change on the University's commitment to diversity.

NO KNOWN EFFECTS

Resource Impact Statement:
Provide each of the following:

Library impact statement NONE
Computer impact statement NONE

Faculty impact statement NONE
Facilities impact statement NONE

Provide a statement indicating who will assume financial responsibility for any new resources required: None required
CSE DEPARTMENT: Proposed Change in CSB Major for APC

Name and summary of current program:
Computer Science and Business

Proposed program changes (as they will appear in the catalog):
Currently: Junior year first semester
MGT 280 Management of People and Operations (4)

Proposed: Junior year first semester
MGT 186 Supply Chain Operation Management (3)

Description of proposed change(s):
Substitute MGT 186 for Management 280

Rationale for proposed change(s):
MGT 280 will no longer be offered. MGT 186 covers much of the material that used to be covered in MGT 280. The remainder of the material is covered in CSB 312 and CSB 313. Note that the number of credits in the program does not change, because the required course CSE 342 Fundamentals of Networking will change from the three credits to four.

Academic Impact Statement:
Is this proposed program change interdisciplinary? NO

Identify any known effects of the proposed program change on other programs at the University.
NONE

If there are known effects, individuals in charge of the affected programs must be consulted about the proposed program change and the following information provided: NONE

Who was consulted:
Is the proposed program change acceptable to the affected programs?
Will any changes be required in the affected programs? If so, describe.
Identify any known effects of the proposed program change on the University’s commitment to diversity.

NO KNOWN EFFECTS

Resource Impact Statement:
Provide each of the following:
Library impact statement: NONE
Computer impact statement: NONE
Faculty impact statement: NONE
Facilities impact statement: NONE

Provide a statement indicating who will assume financial responsibility for any new resources required: None required
Chemical Engineering Department
Proposed Course Changes

1. Current course number and course description (from course catalog):

ChE 44. Fluid Mechanics (4) spring

2. Proposed course number and course description (as it will appear in course catalog):

ChE 44. Fluid Mechanics (3) spring

3. Description of proposed change(s):

Change the number of credit hours for CHE 44 Fluid Mechanics from 4 to 3.

4. Rationale for proposed change(s):

The decrease in credits is due to the elimination of a small laboratory project that was part of the course and it is a repetition of more detailed experiments currently done in our senior Unit Operations Laboratory.

5. Impact Statement:

No impact.
ChE Department

Proposed Course Changes

1. Current course number and course description (from course catalog):

ChE 242. Introduction to Process Control and Simulation (3) spring
Dynamic simulation of chemical processes. Transfer functions and block diagrams.
Introduction to process control equipment. Open-loop and closed-loop stability
analysis using root locus and Nyquist techniques. Design of control systems.
Prerequisites: CHE 201, CHE 151, and ENGR 1.

2. Proposed course number and course description (as it will appear in course catalog):

ChE 242. Introduction to Process Control and Simulation (3) fall
Dynamic simulation of chemical processes. Transfer functions and block diagrams.
Introduction to process control equipment. Open-loop and closed-loop stability
analysis using root locus and Nyquist techniques. Design of control systems.
Prerequisites: CHE 201, CHE 151, and ENGR 1.

3. Description of proposed change(s):

Move CHE 242 Introduction to Process Control and Simulation (3) from the spring
semester junior year to the fall semester senior year.

4. Rationale for proposed change(s):

This move will be more beneficial to the students to apply process control material
learned in this course in the second capstone design course offered in the second semester
of the senior year. This change will also make the semester equivalent in load to the
other semesters in the curriculum.

5. Impact Statement:

No impact.
Chemical Engineering

Proposed Program Changes

Name and summary of new program: B.S. in Chemical Engineering

Proposed program changes (as they will appear in the catalog);
Undergraduate curriculum in Chemical Engineering

Requirements of the Major – 133 credit hours are required for graduation with the degree of bachelor of science in chemical engineering

**Freshman year, first semester (14-15 credits)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 1</td>
<td>Composition and Literature</td>
<td>3</td>
</tr>
<tr>
<td>CHM 25</td>
<td>Introductory Chemical Principals and Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>PHY 11, 12</td>
<td>Introductory Physics I and Laboratory</td>
<td>5</td>
</tr>
<tr>
<td>MATH 21</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 1</td>
<td>Engineering Computations</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 5</td>
<td>Introduction to Engineering Practice</td>
<td>3</td>
</tr>
</tbody>
</table>

**Freshman Year, second semester (14-15 credits)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 2</td>
<td>Composition and Literature Fiction, Drama, Poetry</td>
<td>3</td>
</tr>
<tr>
<td>PHY 11, 12</td>
<td>Introductory Physics I and Laboratory</td>
<td>5</td>
</tr>
<tr>
<td>CHM 25</td>
<td>Introductory Chemical Principals and Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>MATH 22</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 5</td>
<td>Introduction to Engineering Practice</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 1</td>
<td>Engineering Computations</td>
<td>3</td>
</tr>
</tbody>
</table>

**Sophomore Year, first semester (16-19 credit hours)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 31</td>
<td>Material and Energy Balances of Chemical Processes</td>
<td>3</td>
</tr>
<tr>
<td>CHM 31</td>
<td>Chemical Equilibria in Aqueous Systems</td>
<td>4</td>
</tr>
<tr>
<td>PHY 21</td>
<td>Introductory Physics II</td>
<td>4</td>
</tr>
<tr>
<td>PHY 22</td>
<td>Introductory Physics Laboratory II</td>
<td>1</td>
</tr>
<tr>
<td>MATH 23</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>elective</td>
<td></td>
<td>0-3</td>
</tr>
</tbody>
</table>

**Sophomore Year, second semester (17 credit hours)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 44</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>CHE 210</td>
<td>Chemical Engineering Thermodynamics</td>
<td>4</td>
</tr>
<tr>
<td>CHE 179</td>
<td>Professional Development</td>
<td>1</td>
</tr>
<tr>
<td>BIOS 41</td>
<td>Introduction to Cell and Molecular Biology</td>
<td>3</td>
</tr>
<tr>
<td>MATH 205</td>
<td>Linear Methods</td>
<td>3</td>
</tr>
<tr>
<td>elective</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Junior Year, first semester (18 credit hours)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 151</td>
<td>Introduction to Heat Transfer</td>
<td>3</td>
</tr>
</tbody>
</table>
CHE 201 Methods of Analysis in Chemical Engineering (3)
CHM 51 Organic Chemistry I (3)
CHM 53 Organic Chemistry Laboratory I (1)
CHM 192 Physical Chemistry Laboratory (2)
electives (6)

_Junior Year, second semester (18 credit hours)_
CHE 244 Mass Transfer and Separation Processes (3)
CHE 211 Chemical Reactor Design (3)
CHM 52 Organic Chemistry II (3)
electives (9)

_Senior Year, first semester (14-17 credit hours)_
CHM 189 Physical Chemistry II (3)
CHE 202 Chemical Engineering Laboratory I (2)
CHE 233 Process Design I (3)
CHE 242 Introduction to Process Control and Simulation (3)
electives (3-6)

_Senior Year, second semester (15 credit hours)_
CHE 203 Chemical Engineering Laboratory II (2)
ECE 81 Principles of Electrical Engineering (4)
CHE 234 Process Design II (3)
electives (5)

There are five types of electives:

(1) Humanities/Social Services: See the requirements set by the P.C. Rossin College of Engineering and Applied Science (Section 3). Note that ECO 1 is required as well as Freshman English.

(2) Three credit hours from approved courses in other engineering departments (CEE, EECi, IMSE, MEM, MSE).

(3) Chemistry: 3 credit hours of 300 – level or higher.

(4) Chemical Engineering: A total of 3 credit hours is required from among CHE 186, or 3xy, or 4xy. CHE 185 does not qualify.

(5) Free electives: 6 credit hours in any subject area.

Electives in (2) to (5) above can be combined with any technical minor in RCEAS.

Description of Proposed changes:

(i) Change the number of credit hours for CHM 31 Chemical Equilibria in Aqueous Systems from 3 to 4.

(ii) Change the number of credit hours for CHE 44 Fluid Mechanics from 4 to 3.
(iii) Move CHE 242 Introduction to Process Control and Simulation (3) from the second semester junior year to the first semester senior year.
(iv) Change the number of elective hours in the first semester of the sophomore year from 3 to 0-3.
(v) Change the number of elective hours in the second semester junior year from 6 to 9.
(vi) Change the number of elective hours in the first semester senior year from 6 to 3-6.

Rationale for proposed changes:
(i) The chemistry department has decided to increase the number of credits of Chm 31.
(ii) The decrease in credits is due to the elimination of a small laboratory project that was part of the course and it is a repetition of more detailed experiment currently done in our senior Unit Operations Laboratory.
(iii) This move will be more beneficial to the students to apply these concepts in the second capstone design course offered in the second semester of the senior year. This change will also make the semester equivalent in load to the other semesters in the curriculum.
(iv) This change will allow more flexibility in balancing the semester load.
(v) This increase in the number of elective hours in the second semester junior is necessary because of the move of ChE 242 into the senior year. It will also help the students who are interested in a minor to be able to complete those requirements.
(vi) This change will allow more flexibility in balancing the semester load.

Academic Impact:
Is this proposed new program interdisciplinary? No
Identify any known effects of the proposed new program on other programs at the University. There are no known effects.
If there are known effects, individuals in charge of the affected programs must be consulted about the new program and the following information provided:
Who was consulted? N/A
Is the proposed new program acceptable to all programs affected? N/A
Will any changes be required in the affected programs? If so, describe. N/A
Identify any known effects of the proposed new program on the University’s commitment to diversity. No known effects on diversity.

Resource Impact:
Provide each of the following:
Library impact statement: No impact on library
Computer impact statement: No known effects on computing
Faculty impact statement: No impact on faculty
Facilities impact statement: No impact on facilities
Provide a statement indicating who will assume financial responsibility for any new resources required:
Department of Chemical Engineering
Proposed Program Changes

1. **Name and summary of current program:**
   B.S. Environmental Engineering

   The mission of our Environmental Engineering Bachelor of Science degree program is to educate students in the principles and methods essential to the practice and advancement of the emerging interdisciplinary field of environmental engineering. The program is proactive and will continue to incorporate new and emerging paradigms in all aspects of teaching and education while maintaining rigorous standards in traditional approaches to engineered solutions of environmental problems. Graduates of the program will possess technical expertise to maintain a healthy balance between societal welfare, economic growth, and the environment surrounding us.

2. **Proposed program changes (as they will appear in the catalog):**
   See Attachment A (proposed changes) and Attachment B (current catalog entry)

3. **Description of proposed change(s):**
   a. POLS 111, Politics of the Environment (4), will be removed as a required course and the students will be required to choose one course from a list of approved environmental studies courses.
   b. EES 21 will be removed as a required earth sciences course and the students will be required to choose one course from a list of approved earth science courses. Due to restructuring in the EES curriculum, this course has been reduced to three credits from four.
   c. Addition of EES 22 as a required course. Due to restructuring in the EES curriculum, the lab course, which was originally part of both EES 21 and EES 31, is now a separate one-credit course.
   d. Change EES 31 from four credits to three. This is due to restructuring in the EES curriculum. This results in the total credits second semester junior year to be reduced to 17 from 18 and the total credits of the program to be reduced from 133 to 132.
   e. Change MECH 2 to MECH 3.

4. **Rationale for proposed change(s):**
   a. When the Environmental Engineering program was initiated there was only a single environmental policy course offered here at Lehigh (POL 111). Due to the introduction of the new B.A. in Environmental Studies, there is now a number of courses available including environmental policy, environmental ethics, environmental economics, and environmental communication. The rationale for this proposed change is to offer the students an option as to which environmental studies course they would like to take.
   b. The Earth and Environmental Sciences Department altered their course offerings starting Fall 2006. They restructured their introductory (gateway) courses and changed them from four credits to three credits, and added a one-credit laboratory course, which was originally a component of both EES 21 and EES 31. The proposed catalog changes account for these curricular changes.
   c. The change from MECH 2 to MECH 3 has been implemented by RCEAS and the catalog change reflects this. Note that MECH 3 is temporarily numbered MECH 195 in AY 2006-2007.
5. **Academic Impact Statement:**
   a. Is this proposed program change interdisciplinary? Yes in that it includes courses outside of CEE.
   b. Identify any known effects of the proposed program change on other programs at the University.
      It may add students to the various environmental courses in the Environmental Studies program, with a concomitant drop in enrollment in FOLS 111. Similar changes may be seen if students opt to take courses other than EES 21 for the earth sciences elective.
   c. If there are known effects, individuals in charge of the affected programs must be consulted about the proposed program change and the following information provided:
      
      (1) **Who was consulted?**
          Environmental Studies Program – Sharon Friedman, Associate Dean, CAS; Dork Sahagian, Director of the Environmental Studies program and Director of the Environmental Initiative; and Al Worth, current instructor for FOLS 111.
          Earth and Environmental Sciences – Dave Anastasio, Zicheng Yu and Dork Sahagian.
      
      (2) **Is the proposed program change acceptable to the affected programs?**
          Yes.
      
      (3) **Will any changes be required in the affected programs? If so, describe.**
          No.
      
   d. Identify any known effects of the proposed program change on the University's commitment to diversity.
      No effects

6. **Resource Impact Statement:**
   a. Provide each of the following:
      
      (1) Library impact statement – No impact
      (2) Computer impact statement – No impact
      (3) Faculty impact statement – No impact
      (4) Facilities impact statement – No impact
   
b. Provide a statement indicating who will assume financial responsibility for any new resources required:
      No new resources are required.
**Recommended Sequence of Courses, B.S. in Environmental Engineering**

The normal freshman engineering year is 30 credits (see Section III).

**Sophomore year, first semester (17 credit hours)**
- MATH 23: Calculus III (4)
- CHEM 51: Organic Chemistry I (3)
- CHEM 53: Organic Chem Lab (1)
- MECI 3: Elementary Engineering Mechanics (3)
- CEE 12: Civil ENGR. Statistics (2)
- FCO 1: Principles of Economics (4)

**Sophomore year, second semester (18 credit hours)**
- MATH 205: Linear Methods (3)
- PHYS 21: Intro Physics I (4)
- PHYS 22: Intro Physics II Laboratory (1)
- CEE 178: Intro. Environmental ENGR (4)
- CEE 272: Environmental Risk Assessment (2)
- HSS*: Humanities/Soc. Sciences Elective (4)

**Junior year, first semester (16 credit hours)**
- CEE 121: Mechanics of Fluids (3)
- CEE 142: Fund. Soil Mechanics (3)
- CEE 276: Env. ENGR. Processes (3)
- CHE 31: Matl. & Energy 2al of CHE Process (3)
- EE electives**: Earth Science Elective (3)
- ENS 22: Exploring Earth (1)

**Junior year, second semester (17 credit hours)**
- CEE 222: Hydraulic Engineering (3)
- CEE 274: Environmental Water Chemistry (3)
- CHE 60: Unit Ops Survey (3)
- CEE 275: Environ-Geo-Hydraulics Lab (2)
- HSS**: Humanities/Soc. Sciences Elective (3)
- ENS 31: Intro Ecol/Environmental Biology (3)

**Senior year, first semester (17 credit hours)**
- CEE 202: CEE Planning and Engr. Economics (3)
- CEE 293: Professional Development (2)
- CEE 378: Solid & Huz. Waste Management (3)
- CEE 379: Environmental Case Studies (2)
- TE**: Technical Elective (3)
- FE: Free Elective (3)

**Senior year, second semester (18 credit hours)**
- CEE 377: Environmental Engr. Project (3)
- TE**: Technical Electives (6)
- HSS*: Humanities/Social Sci. Elective (6)
- FE: Free Elective (3)

* HSS: Advanced Requirement is 13 credits, four credits of which must be an approved environmental studies course; list of approved courses available from CEE department.

** Technical (approved) elective credits approved by the academic advisor to satisfy proficiency in four focus areas of water supply and resources, environmental chemistry, waste management and biological processes; approved list available from CEE department.

*** Earth Science Elective; list of approved courses available from CEE department.

A total of 132 credits is required for the bachelors degree in Environmental Engineering.
Recommended Sequence of Courses. B.S. in Environmental Engineering

The normal freshman engineering year is 30 credits (see Section III). Using the 4 credits of FOLS 111 leaves 9 credits to complete required HSS Advanced Requirement of 13 credits shown below to be three 3-credit courses.

**Sophomore year, first semester (17 credit hours)**
- MATH 23: Calculus III (4)
- CHEM 51: Organic Chemistry I (3)
- CHEM 55: Organic Chem Lab (1)
- MECH 2: Elementary Engineering Mechanics (3)
- CEE 12: Civil ENGR. Statistics (2)
- ECO 1: Principles of Economics (4)

**Sophomore year, second semester (18 credit hours)**
- MATH 205: Linear Methods (3)
- PHY 21: Intro Physics II (4)
- PHY 22: Intro Physics II Laboratory (1)
- CEE 170: Intro. Environmental ENGR (4)
- CEE 272: Environmental Risk Assessment (2)
- POLS 111: Politics of Environment (4)

**Junior year, first semester (16 credit hours)**
- CHE 171: Mechanics of Fluids (3)
- CEE 142: Fund. Soil Mechanics (3)
- CEE 276: Env. ENGR. Processes (3)
- CHE 321: Matl. & Energy Bal. of CHEn processes (3)
- EES 21: Intro. to Plan Earth (4)

**Junior year, second semester (18 credit hours)**
- CEE 222: Hydraulic Engineering (3)
- CEE 274: Environmental Water Chemistry (3)
- CHE 60: Unit Ops Survey (3)
- CEE 275: Enviro-Geo-Hydraulics Lab (2)
- HSS: Humanities/Soc. Sciences Elective (3)
- EES 31: Intro Env/Organisational Biology (4)

**Senior year, first semester (17 credit hours)**
- CEE 262: CSE Planning and Engr. Economics (3)
- CEE 263: Professional Development (2)
- CEE 378: Solid & Haz. Waste Management (3)
- CHE 379: Environmental Case Studies (3)
- TF*: Technical Elective (3)
- HE: Free Elective (3)

**Senior year, second semester (18 credit hours)**
- CEE 377**: Environmental Engr. Project (3)
- TF*: Technical Electives (6)
- HSS: Humanities/Soc. Sci. Elective (6)
- FE: Free Electives

*9 technical (approved) elective credits approved by the academic advisor to satisfy proficiency in four focus areas of water supply and resources, environmental chemistry, waste management and biological processes; approved list available from CEE department.

A total of 133 credits is required for the bachelor's degree in Environmental Engineering.
1. Current course number, title, course description, and credits

IE 131. Work Systems and Facilities Planning (3) spring

Techniques of methods analysis, work design and measurement, and facilities design. Operations analysis, workplace ergonomics, worker-machine systems, assembly systems, time study, predetermined time systems, work sampling, incentive systems, and plant layout design. Prerequisite: IE 111 or equivalent, either previously or concurrently.

2. Proposed course number, title, course description, and credits

IE 131. Work Systems and Operations Management (3) spring

Worker-machine systems, work flow, assembly lines, logistics and service operations, and project management. Operations analysis, methods engineering, work measurement, lean production, and six sigma. Workplace ergonomics, plant layout design, and work management. Prerequisite: IE 111 or equivalent, either previously or concurrently.

3. Nature of proposed change(s)

A. Course title change? If so, provide rationale below:

Changing "facilities planning" to "operations management" makes the title more general. It is also more descriptive of the topics being covered.

B. Course number change? If so, provide rationale below:

C. Change in course credits? If so, provide rationale below:

D. Change in course description? If so, provide rationale below:

The description is modified with a better grouping of topics. It also uses more modern terms.

E. Other change(s)? If so, please describe below and provide rationale for each change.

4. Resource Impact

A. Provide impact statements in the four areas listed below:

   (1) Library impact statement (statement template provided by LTS)
   (2) Computer impact statement (statement template provided by LTS)
   (3) Faculty impact statement (statement template provided by LTS)
   (4) Facilities impact statement (statement template provided by LTS)

B. Provide a statement indicating who will assume financial responsibility for any new resources required:
Proposed Course Changes

Change in Title and Description

1. Current course number, title, course description, and credits (Your present course number)

IE 132. Work Systems and Facilities Planning Laboratory (1) spring

Laboratory exercises and projects in methods analysis, operations analysis, plant layout, and related topics. Co-requisite: IE 131.

2. Proposed course number, title, course description, and credits (If applicable)

IE 132. Work Systems Laboratory (1) spring

Laboratory exercises, case studies, and projects in operations analysis, methods engineering, work measurement, and plant layout design. Co-requisite: IE 131.

3. Nature of proposed change(s)

A. Course title change? If so, provide rationale below:

Change in title better agrees with the new IE 131 title and description

B. Course number change? If so, provide rationale below:

C. Change in course credits? If so, provide rationale below:

D. Change in course description? If so, provide rationale below:

The description adds case studies and projects that were not in the original description.

E. Other change(s)? If so, please describe below and provide rationale for each change.

4. Resource Impact

A. Provide impact statements in the four areas listed below:

(1) Library impact statement (Which statement 1 provided by LTS)

(2) Computer impact statement (Which statement 2 provided by LTS)

(3) Faculty impact statement (How proposed program will add or existing faculty or requires new faculty)

(4) Facilities impact statement (How proposed program will add or existing facilities or requires new facilities)

B. Provide a statement indicating who will assume financial responsibility for any new resources required:
RCEAS: ISE

Proposed Course Changes

Change in Description

1. Current course number, title, course description, and credits

IE 215. Fundamentals of Modern Manufacturing (3) fall
Study of modern production methods. Machining, bulk and sheet metal working processes, and electronics manufacturing. Introduction to automation, numerical control, and industrial robots. Prerequisite: MAT 33.

2. Proposed course number, title, course description, and credits

IE 215. Fundamentals of Modern Manufacturing (3) fall
Manufacturing processes and systems. Metal machining and forming, polymer shape processes, powder metallurgy, assembly and electronics manufacturing. Introduction to automation, numerical control, and industrial robots. Prerequisite: MAT 33.

3. Nature of proposed change(s)

A. Course title change? If so, provide rationale below:

B. Course number change? If so, provide rationale below:

C. Change in course credits? If so, provide rationale below:

D. Change in course description? If so, provide rationale below:
The description adds some new process areas and uses more general terms to agree with what is taught.

E. Other change(s)? If so, please describe below and provide rationale for each change.

4. Resource Impact

A. Provide impact statements in the four areas listed below:
   (1) Library impact statement (attach statement if provided by LTS)
   (2) Computer impact statement (attach statement if provided by LTS)
   (3) Faculty impact statement (how proposed program affects retention, faculty or requires new faculty)
   (4) Facilities impact statement (how proposed program affects retention, faculty or requires new facilities)

B. Provide a statement indicating who will assume financial responsibility for any new resources required:
Proposed Course Changes

Change in Prerequisites

1. Current course number, title, course description, and credits (how much)

IE IE 220. Introduction to Operations Research (3) spring

Introduction to deterministic and stochastic methods in operations research. Mathematical programming, queuing theory, and other modeling techniques. Emphasis on formulation, analysis and solution of operations problems. Prerequisites: IE 111 or MATH 231.

2. Proposed course number, title, course description, and credits (how much)

IE IE 220. Introduction to Operations Research (3) spring and fall

Introduction to deterministic and stochastic methods in operations research. Mathematical programming, queuing theory, and other modeling techniques. Emphasis on formulation, analysis and solution of operations problems. Prerequisites: IE 111 or MATH 231 and Math 205 Corequisite: IE 122.

3. Nature of proposed change(s)

A. Course title change? If so, provide rationale below:

B. Course number change? If so, provide rationale below:

C. Change in course credits? If so, provide rationale below:

D. Change in course description? If so, provide rationale below:

E. Other change(s)? If so, please describe below and provide rationale for each change.

The title line is changed to reflect that this course is normally offered in spring and fall. Math 205 has been added as a prerequisite. A predecessor of this course had Math 205 as a prerequisite. This course was being taught without it as an experiment. The instructors believe that Math 205 should be added again. The corequisite of IE 122 insures that the accompanying lab is taken in the same semester. The current description allows IE 122 to be taken at a later time. This has proven detrimental to students not taking them together.
4. Resource Impact

A. Provide impact statements in the four areas listed below:

(1) Library impact statement

(2) Computer impact statement

(3) Faculty impact statement

(4) Facilities impact statement

B. Provide a statement indicating who will assume financial responsibility for any new resources required:
RCEAS: ISE

Proposed Course Changes

Change in Description

1. **Current course number, title, course description, and credits** (from present course catalogue):

   *IE 340. Production Engineering (3) fall*


2. **Proposed course number, title, course description, and credits** (as will appear in course catalogue):

   *IE 340. Production Engineering (3) fall*


3. **Nature of proposed change(s)**

   - **A. Course title change?** If so, provide rationale below:
   - **B. Course number change?** If so, provide rationale below:
   - **C. Change in course credits?** If so, provide rationale below:
   - **D. Change in course description?** If so, provide rationale below:
   - **E. Other change(s)?** If so, please describe below and provide rationale for each change.

4. **Resource Impact**

   - **A. Provide Impact statements in the four areas listed below:**
     1. **Library impact statement** (attach statement if provided by LTS)
     2. **Computer impact statement** (attach statement if provided by LTS)
     3. **Faculty impact statement** (how proposed program affects load on existing faculty or requires new faculty)
     4. **Facilities impact statement** (how proposed program affects use of existing facilities or requires new facilities)

   - **B. Provide a statement indicating who will assume financial responsibility for any new resources required:**
Proposed Course Changes

Change in Prerequisite

1. Current course number, title, course description, and credits

IE 449. Advanced Computer-Aided Manufacturing (3)
Numerical control in manufacturing; CAD/CAM systems; computer monitoring and control of manufacturing operations; adaptive control of manufacturing operations. Manufacturing resource planning, computer-aided process planning, and shop floor control. Prerequisite: IE 342 or consent of the department chair.

2. Proposed course number, title, course description, and credits

IE 449. Advanced Computer-Aided Manufacturing (3)
Numerical control in manufacturing; CAD/CAM systems; computer monitoring and control of manufacturing operations; adaptive control of manufacturing operations. Manufacturing resource planning, computer-aided process planning, and shop floor control. Prerequisite: IE 340 or consent of the department chair.

3. Nature of proposed change(s)

A. Course title change? If so, provide rationale below:
B. Course number change? If so, provide rationale below:
C. Change in course credits? If so, provide rationale below:
D. Change in course description? If so, provide rationale below:
E. Other change(s)? If so, please describe below and provide rationale for each change.

IE 342 is being dropped. The description of IE 340 has been modified to include material needed as a prerequisite of this course.

4. Resource Impact

A. Provide impact statements in the four areas listed below:

   (1) Library impact statement
   (2) Computer impact statement
   (3) Faculty impact statement
   (4) Facilities impact statement

B. Provide a statement indicating who will assume financial responsibility for any new resources required:
Proposed Course Changes

DROP

1. Current course number, title, course description, and credits

   TE 307. Advanced Systems Analysis and Design (3) spring

   Study of advanced techniques and their application in the analysis and design of
   information systems. Emphasis is placed on tools and techniques used for structured
   analysis and design, and on prototyping of systems. Prerequisites: IE 224 or equivalent

2. Proposed course number, title, course description, and credits

3. Nature of proposed change(s)

   A. Course title change? If so, provide rationale below:

   B. Course number change? If so, provide rationale below:

   C. Change in course credits? If so, provide rationale below:

   D. Change in course description? If so, provide rationale below:

   E. Other change(s)? If so, please describe below and provide rationale for each change.

   DROP THE COURSE. We have not taught the course in a number of years and do not
   intend to teach it again.

4. Resource Impact

   A. Provide impact statements in the four areas listed below:

      (1) Library impact statement (attach statement if provided by LTS)
      (2) Computer impact statement (attach statement if provided by LTS)
      (3) Faculty impact statement (how proposed program affects and or existing faculty or
         requires new faculty)
      (4) Facilities impact statement (how proposed program affects and or existing facilities
         or requires new facilities)

   B. Provide a statement indicating who will assume financial
      responsibility for any new resources required:
Proposed Course Changes

DROP

1. Current course number, title, course description, and credits

IE 309. Introduction to Information Systems (3) fall

Study of information systems analysis and design with emphasis on management issues. Interfaces between information systems and databases and data communications are examined. Effects of information systems on organizational relationships are considered. Example information system will be designed and implemented. Prerequisite: IE 224 or equivalent.

2. Proposed course number, title, course description, and credits (as it will appear in course catalog)

3. Nature of proposed change(s)
   A. Course title change? If so, provide rationale below:
   B. Course number change? If so, provide rationale below:
   C. Change in course credits? If so, provide rationale below:
   D. Change in course description? If so, provide rationale below:
   E. Other change(s)? If so, please describe below and provide rationale for each change.

DROP THE COURSE. We have not taught the course in a number of years and do not intend to teach it again.

4. Resource Impact

   A. Provide impact statements in the four areas listed below:

      (1) Library impact statement (attach statement if provided by LTS)

      (2) Computer impact statement (attach statement if provided by LTS)

      (3) Faculty impact statement (how proposed program affects and equilibrates faculty or requires new faculty)

      (4) Facilities impact statement (how proposed program affects and equilibrates facilities or requires new facilities)

   B. Provide a statement indicating who will assume financial responsibility for any new resources required:
Proposed Course Changes

DROP

1. Current course number, title, course description, and credits

IE 310. Database Analysis and Design (3) spring

Conceptual analysis of data is considered through data structures and models. Logical
design of databases is studied in the context of the relational model of data. Prerequisite:
IE 224 or equivalent.

2. Proposed course number, title, course description and credits

3. Nature of proposed change(s)

A. Course title change? If so, provide rationale below:

B. Course number change? If so, provide rationale below:

C. Change in course credits? If so, provide rationale below:

D. Change in course description? If so, provide rationale below:

E. Other change(s)? If so, please describe below and provide rationale for each change.

DROP THE COURSE. We have not taught the course in a number of years and do not intend to teach it again.

4. Resource Impact

A. Provide impact statements in the four areas listed below:

(1) Library impact statement (attach statement if provided by LTS)

(2) Computer impact statement (attach statement if provided by LTS)

(3) Faculty impact statement (How proposed changes affect faculty or facility or requires new faculty)

(4) Facilities impact statement (How proposed changes affect use of existing facility or requires new facilities)

B. Provide a statement indicating who will assume financial responsibility for any new resources required:
ROEAS: ISE

Proposed Course Changes

DROP

1. Current course number, title, course description, and credits (If course not currently offered)

IE 342. Computer Integrated Manufacturing (3) spring

Analysis and design of manufacturing systems. Principal topics: computer-based techniques, decision support systems, applications of information technology to enterprise systems, value stream mapping, introduction to high performance work systems, manufacturing management measurement techniques, optimization strategies for discrete parts manufacturing, lean and agile manufacturing methods. Term project. Prerequisite: IE 224 IE 215 or equivalent.

2. Proposed course number, title, course description and credits (If course not currently offered)

3. Nature of proposed change(s)

A. Course title change? If so, provide rationale below:

B. Course number change? If so, provide rationale below:

C. Change in course credits? If so, provide rationale below:

D. Change in course description? If so, provide rationale below:

E. Other change(s)? If so, please describe below and provide rationale for each change.

DROP THE COURSE. We have not taught the course in a number of years and do not intend to teach it again.

4. Resource Impact

A. Provide impact statements in the four areas listed below:

(1) Library impact statement
(2) Computer impact statement
(3) Faculty impact statement
(4) Facilities impact statement

B. Provide a statement indicating who will assume financial responsibility for any new resources required:
**Proposed Course Changes**

**DROP**

1. **Current course number, title, course description, and credits**

   IE 347, Electronics Manufacturing (3)

   Manufacturing processes required in electronics assembly, through-hole printed circuit cards, surface-mount printed circuit boards, and thick film hybrids. Testing and inspection procedures. Includes laboratory. Prerequisite: senior standing in engineering.

2. **Proposed course number, title, course description, and credits**

3. **Nature of proposed change(s)**

   A. **Course title change?** If so, provide rationale below:

   B. **Course number change?** If so, provide rationale below:

   C. **Change in course credits?** If so, provide rationale below:

   D. **Change in course description?** If so, provide rationale below:

   E. **Other change(s)?** If so, please describe below and provide rationale for each change.

   DROP THE COURSE. We have not taught the course in a number of years and do not intend to teach it again.

4. **Resource Impact**

   A. **Provide impact statements in the four areas listed below:**

   1. **Library impact statement** (attach statement if provided by LTS)
   2. **Computer impact statement** (attach statement if provided by LTS)
   3. **Faculty impact statement** (how proposed changes affect on existing faculty or requires new faculty)
   4. **Facilities impact statement** (how proposed program affects existing facilities or requires new facilities)

   B. **Provide a statement indicating who will assume financial responsibility for any new resources required:**

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Proposed New Course

1. Proposed new course number and course description (as it will appear in course catalogue):

IE 281. Leadership Project (1-3)
Application of leadership principles through team projects with industry. Written report required. (Prerequisite: IE 382 or permission of instructor).

2. Instructional mode (lecture, recitation, laboratory, seminar, independent study, or other) and number of contact hours per week:

Independent Study

3. Rationale for proposed new course:

This course will provide implementation practice for the proposed minor in Leadership. Students will practice the theories learned in IE 382. Using student teams coupled with industry will build on the practice of IE seniors working with companies for their senior projects. This has been a model for over 30 years.

4. Academic impact on programs affected by new course:

   A. Is the proposed course to be cross-listed?

       NO

   B. Identify any known effects of the proposed new program on other programs at the University.

       NONE

   C. If there are known effects, individuals in charge of the affected programs must be consulted about the proposed new program and the following information provided:

      (1) Who was consulted?

      (2) Is the proposed new program acceptable to all other programs affected?

      (3) Will any changes be required in the affected programs? If so, please describe below:

   D. Does the proposed new program affect the University’s commitment to diversity in any way? If so, please describe below:

5. Resource Impact

   A. Provide impact statements in the four areas listed below:

      (1) Library impact statement (impact statement if provided by LTS)

      NONE

      (2) Computer impact statement (impact statement if provided by LTS)

      NONE

      (3) Faculty impact statement (new proposed program affects land on existing faculty or requires new faculty)

      NONE. Projects in this course will be supervised by various faculty members.

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(4) Facilties impact statement (show impact on existing facilities or indicate if new facilities are required)

NONE.

B. Provide a statement indicating who will assume financial responsibility for any new resources required:
Proposed New Course

1. Proposed new course number and course description (as it will appear in course catalogue):

IE 382. Leadership Development (3) spring
Exploration and critical analysis of theories, principles, and processes of effective leadership. Managing diverse teams, communication, and ethics associated with leadership. Application of knowledge to personal and professional life through projects and team assignments. (Junior or Senior)

2. Instructional mode (lecture, recitation, laboratory, seminar, independent study, or other) and number of contact hours per week:

Lecture-Seminar: Discussion, three hours/week.

3. Rationale for proposed new course:

An experimental version of this course has been offered several times. The enrollments have been large and student reaction has been positive. Department advisory board strongly backs the course. This course will be part of the new minor being proposed.

4. Academic impact on programs affected by new course:

A. Is the proposed course to be cross-listed?

NO.

B. Identify any known effects of the proposed new program on other programs at the University.

NONE

C. If there are known effects, individuals in charge of the affected programs must be consulted about the proposed new program and the following information provided:

(1) Who was consulted?

(2) Is the proposed new program acceptable to all other programs affected?

(3) Will any changes be required in the affected programs? If so, please describe below:

D. Does the proposed new program affect the University's commitment to diversity in any way? If so, please describe below:

5. Resource Impact

A. Provide impact statements in the four areas listed below:

(1) Library impact statement (attach statement provided by LTS)

NONE