

**The University of Michigan
College of Engineering/College of LS&A
Joint Curriculum Committee**

Agenda

February 21, 2006

1:30-3:30 p.m.

GM Room

Fourth Floor Lurie Engineering Center

- 1. Current Status of LSA Minors**
- 2. How LSA handles Triple Degrees**
- 3. Is College of Engineering Ready to Offer Minors?**
- 4. Update on the Progress of LS&A's Treisman (Emerging Scholars) Program/Douglass Houghton Scholars Program, and hope for Ultimate Engineering participation**
- 5. Report on the Opening of the Undergraduate Science Building**
- 6. Conversation about 3/2 Bachelor's Master's Programs**
- 7. How to overcome the Barriers for CoE Students Who Wish to Double Major in Programs in Both CoE and LS&A. Currently, CoE Students Who Choose to do This Must Satisfy all of the Distribution Requirements for Both Colleges. This is particularly hard on CoE Students.**
- 8. Update on LSA Academic Minors (Especially the new IS and EEB) and Discuss Potential Interest Among Engineering Students.**

GATEWAY SCIENCE WORKSHOP PROGRAM

Searle Center For Teaching Excellence - Northwestern University



Program Overview

GSW PROGRAM

- Introduction
- Program Goals
- Collaborations

Introduction

It is a common belief at colleges and universities across the United States that introductory science and engineering courses are very challenging both for students to study and for faculty to teach. Many students make significantly lower grades in these courses than their previous academic records predicted. These courses are often prerequisites for science majors and required of students planning to pursue careers in medicine and science. Poor performance has prevented many students from entering careers in science, engineering and medicine. Students at Northwestern University have been no exception to this pattern.

The Gateway Science Workshop (GSW) program was developed as a key part of Northwestern's strategy to address this issue. GSW is based largely on the successful interventions initiated by Uri Treisman at University of California, Berkeley. Inaugurated in Biology in 1997, the program has expanded to chemistry, physics and engineering. Students who participate in the GSW program meet weekly in small, diverse groups with a trained peer facilitator to tackle challenging and conceptually-based problems related to their course material.

The GSW program at Northwestern is generously funded by the Andrew Mellon Foundation and managed by the Searle Center for Teaching Excellence at Northwestern. In addition to the role of program organization, development and expansion, the Searle Center serves as evaluator for the program to assess its impact on students, facilitators and faculty.

Program Goals

- Improve overall student performance
- Increase retention of students within individual course sequences
- Increase number of students completing degrees in and entering careers in the sciences
- Create a model program that can be implemented at other highly selective institutions
- Identify the components that are necessary and sufficient for a successful program
- Understand how the program accomplishes its goals (e.g., how does it affect student learning?)

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GATEWAY SCIENCE WORKSHOP PROGRAM

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Program Background

GSW PROGRAM

- History of the Program
- Context of the Program
- GSW Proposal
- Relevant Literature

History of the Program

Research has shown that students benefit from working in small groups to study and grapple with problems and issues they encounter in their classes. Realizing the potential power of combining "small group" and "peer learning", Uri Treisman applied both concepts to the historically-challenging calculus course by developing the *Professional Development Program Mathematics Workshop* at the University of California Berkeley and the Emerging Scholars Program at the University of Texas Austin. These programs seek to reduce academic isolation and provide a supportive community for participants, who meet for four hours per week in small multiethnic groups to work on more challenging problems. These groups were led by graduate student facilitators who asked questions and guided students through the problems without actually doing them for the students. This program, on the whole, showed success in enhancing student performance and reducing student attrition.

Inspired by the "Treisman model", Northwestern faculty applied these concepts to design the 1997 Gateway Course Workshop Program for Biology 210. The workshops were designed based on the strong trust in the ability of the students to benefit from and contribute to the intellectual work in the program, and it put a significant emphasis on advanced conceptual work. Participants in the workshops met in diverse groups of five to seven students once each week for two hours to solve conceptually-rich and intellectually-intriguing problems related to the course material. An advanced undergraduate student met with each group to facilitate the intellectual encounter necessary to solve the problems and develop a deeper understanding of the concepts involved. All students in Biology 210 were invited to join the program, though participation was strictly voluntary. Student participants received a 0-credit notation on their transcripts for their effort. Impact of this initial Biology Program on academic performance of students was assessed by comparing the performance of workshop participants and non-participants. After controlling for GPA and SAT scores, workshop program participants earned substantially higher grades than their non-participating counterpart.

This result generated genuine enthusiasm among faculty members, and the Workshop Program has been adopted by the Chemistry, Physics, Engineering, and most recently, Math departments at Northwestern University.

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Context of the Program

Similar to many other universities, a significant number of Northwestern freshmen state career goals in medicine, law or business prior to matriculation. While there are not any special curricula to prepare for law or business school, the prospective medical school applicant faces significantly greater challenges - a significant number of students are discouraged to enter these fields by the rigorous pre-medical curriculum; less-than-satisfactory grades in the required introductory science courses may compel them to make alternative plans. Most pre-medical students at Northwestern take the following full year sequences as pre-requisites: *general chemistry (Chemistry 101,102 and 103)*, *organic chemistry (Chemistry 210-1, 2, 3)*, *introductory biology (Biology 210-1, 2, 3)*, *general physics (Physics 130-1, 2, 3 or Physics 135-1, 2, 3)*. These courses are literally the gateways to careers in the life and medical sciences. Given the challenging nature of these courses, extra assistance is in great need for students to succeed in these "gateway" courses. Therefore the Gateway Science Workshop program was first introduced in the gateway disciplines and courses.

Northwestern is a Research-1 (R1) university. Unlike faculty at non-R1 institutions, Northwestern faculty do not focus primarily on teaching. They spend a considerable proportion of their time on research. As faculty play a crucial role in the GSW program, this presents some special challenges for implementation of the workshop program at Northwestern and other R1 institutions. These include; how to maximize faculty input into facilitator training when faculty time is limited, how to communicate faculty support for the program if faculty are not directly involved in facilitator training, and how to streamline the problem writing process to reduce the time commitment required by faculty. As one of the main goals of the GSW program is to develop a model program that can be implemented at other R1 universities.

GSW Proposal

If you are interested in obtaining a copy of the GSW proposal, please contact us at: workshops@northwestern.edu

Relevant Literature

Bales, R. (1970). *Personality and Interpersonal Behaviour*. Holt, Rhinehart Winston, New York.

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GATEWAY SCIENCE WORKSHOP PROGRAM

Searle Center For Teaching Excellence - Northwestern University



Program Organization

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- Organization by Discipline
- Future Directions

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General Organization

The Gateway Science Workshop program (GSW) consists of five disciplinary "Advanced Conceptual Workshops" in Biology, Chemistry, Physics, Engineering and Math. Each workshop is associated with the following gateway course sequences: Biology 210, Chemistry 101-102-103, Chemistry 210, Physics 135 or 130 Engineering Analysis and Math 214. Currently, we have 113 workshop groups in total: 20 in Biology, 20 in Chemistry, 19 in Physics (135 and 130 combined), 22 in Engineering and 10 in Math.

All students enrolled in the above course sequences are invited to participate in the workshop program, and a simple application process is required. Accepted students meet once a week for two hours in groups of five to seven students, with an undergraduate facilitator who completed the same course successfully in a previous year. Together students work collaboratively on conceptual, challenging and interesting problems related to their course material. There is no formal evaluation on student performance in the workshop, though students receive a zero-credit notation on their transcripts for their effort.

Facilitators are the "leaders" of the workshop groups. They are a specially selected group which consists of individuals with excellent academic background, outstanding interpersonal skill, interest in teaching, and a caring nature. Facilitators receive continuous and rigorous training in two forms:

- Weekly meetings with faculty who develop workshop problems
- Training seminars with teaching experts on pedagogical issues relevant to workshop facilitation. Facilitators also participate in other forms of training activities to improve their facilitation skills. In addition, facilitators contribute to the program evaluation effort.

Faculty play a crucial role in the GSW program. Typically the faculty member (or members) who teach the course sequence is in charge of the workshop program associated with the course. There are two major responsibilities for the faculty-in-charge:

- Develop workshop problems
- Meet weekly with facilitators to help them gain complete understanding of workshop problems. Faculty are closely involved in efforts to evaluate program effect, improve program quality, and steer program

development direction.

The Searle Center for Teaching Excellence takes the responsibility for managing and evaluating the GSW program. The project team works closely with the parties mentioned above to ensure the program's smooth operation. In addition, the project team cooperates with various academic or administration departments at Northwestern, as well as members of other universities in the country. In fact, the GSW Advisory Board, which meets regularly, consists of distinguished experts from a wide range of fields that are related to the program.

Organization by Discipline

GSW is generally organized in a uniform fashion across disciplines. However, certain variations do occur due to individual departmental differences. Some examples are:

Biology:

Instead of the faculty who teach the course, an experienced and dedicated lecturer is designated to develop workshop problems and train facilitators every week. The course instructors are periodically updated of program progress, and provide other forms of support when needed. This is one of the alternatives we have been experimenting with to alleviate the research and teaching burden on faculty members.

Chemistry:

In assistance to the faculty who teach the course, one or two graduate teaching assistants (TAs) are included in the problem development process. The TAs develop the problems under close supervision of the faculty members and occasionally train the facilitators.

Future Directions

We are constantly seeking ways to improve GSW to make it a more effective and enjoyable program for participating students, a more beneficial and meaningful experience for facilitators, a more valuable and efficient model for faculty members, and a more practical model for the institution. Therefore, we welcome any suggestions or comments. Please email workshops@northwestern.edu.

Thank you.

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Designed by -Sylwia-

**Excerpted from Minutes of February 15, 2005:
Joint Meeting of LSA & College of Engineering Curriculum Committees**

Emerging Scholars Programs

Associate Dean Robert Megginson wanted to make everyone aware of existing programs at other institutions that target under-represented groups, students who are often “slow starters” due to their pre-college preparation, especially in math and science. Generally referred to as Emerging Scholars or Gateway Programs, they tend to be most successful with students who test (by some measure) as no more than one standard deviation below the mean for other students in similar courses at the institution. Without special intervention to break down the barriers such students encounter, even those who are very gifted face the risk of dropping out of technical tracks and thus out of the higher education pipeline. According to a recent report by the National Science Foundation, the graduation rate in science and math programs for Blacks, Latinos, and Native Americans as a group is only 13-14%, roughly half their population density of 27%. The math achievement gap in particular is widening, in part a result of the growing number of high-achieving students who earn AP credits to place out of calculus.

Emerging Scholars Programs can take many different shapes depending on the institution and target population. One example is Northwestern’s Gateway Science Workshop Program as described in the attached flyer. Berkeley runs special sections—parallel to the regular ones—that involve intensive work on projects as a way to develop problem-solving skills. Illinois offers small sections in calculus which focuses on very difficult equations intended to make the standard coursework seem easy in comparison. Dean Megginson mentioned two examples used by departments in the College of LSA. One in Chemistry has used the model of peer-led study group with great success. Another in Math employs small enrollment sections in which groups work together on special projects. One specific recommendation that came out of this discussion was for Math to solicit some examples from Engineering to provide practice with real-world applications.

Who is eligible?

This is a new program for first year students in the College of Literature, Science, and the Arts who:

- Have expressed an interest in mathematics or the sciences;
- Are ready to take college calculus, and will be taking both Calculus I and Calculus II in their first year;
- Are excited, hardworking, responsible, and motivated to work intensively with their peers on challenging mathematics problems;
- Are from a group currently under-represented (e.g. rural and urban students, women, first-generation college students, etc.) in mathematics and science related fields.



Alva Bradish 1806-1901, *Douglass Houghton*, 1850. Oil on board, 50 x 42 cm. Bentley Historical Library, University of Michigan.

"Were it not that courage is uplifted by the love of science, both for its own sake and the good it is to accomplish, the task of the pioneer explorer would be hard indeed" Douglass Houghton

Douglass Houghton (1809 - 1845) was the first faculty member at the University of Michigan. He became Professor of Geology, Mineralogy, and Chemistry in 1838. At the time he accepted the professorship at the University of Michigan, he was also offered its presidency, but turned the offer down because he was too busy with his geological survey work.

Douglass Houghton was a remarkable individual. In addition to his university career, he practiced medicine in Detroit, was appointed the first geologist of the State of Michigan, was elected mayor of Detroit for two consecutive terms (1842-1845), was president of Detroit's first Board of Education, and a founder of the Association of American Geologists (now the American Association for the Advancement of Science). He was the Association's President-Elect at the time of his death in 1845.

How do I apply?

After you are admitted to the College of Literature, Science, & the Arts at the University of Michigan we will invite you to apply to the Douglass Houghton Scholars Program as someone who shows potential for excellence in mathematics and sciences.

The Douglass Houghton Scholars Program application will help us identify those who will make the most of this opportunity based on your academic and career goals, what you hope to gain from the program, and what you will add to the group.

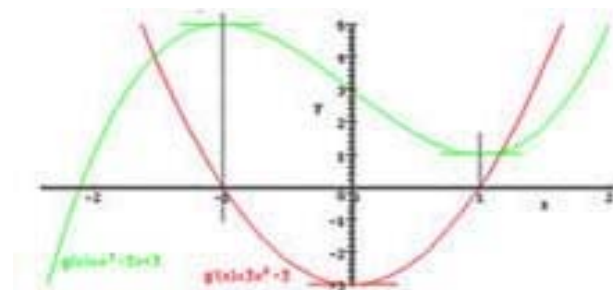
We will notify you in the spring if you are selected to participate in the program.



Douglass Houghton Scholars Program

An Academic Excellence Program in Mathematics for 2006/07

Information for Students



Program description

The Douglass Houghton Scholars Program is a first-year calculus program based on a proven, award-winning national model.

You will enjoy a small group atmosphere allowing you to delve more deeply into interesting mathematical issues not usually found in typical first-year courses. Since mathematics is the building block for further study in science, this will give students a strong mathematical foundation to successfully pursue careers in the mathematics and science fields.

You will enroll in a 2-credit Douglass Houghton Scholars workshop class as a complement to your Fall and Winter calculus courses. The class is limited to 18 students, who will work together in groups of three or four on challenging problems that will develop your conceptual understanding of calculus and skill at solving difficult problems.

This is an exciting opportunity to be a part of a community of instructors and peers who have similar interests and goals.

Scheduling requirements

You will enroll in the following mathematics courses each term of your freshman year as a Douglass Houghton Scholar. You will work with your academic advisor to select courses which complement this schedule to ensure success in the first year.

Fall 2006

Calculus I (4 credits)
Douglass Houghton workshop (2 credits)

Winter 2007

Calculus II (4 credits)
Douglass Houghton workshop (2 credits)

Why should I participate?

National experience has shown that students in programs such as ours earn a grade point average at least one letter grade higher in calculus than if they were not involved in the program.

Participation in the Douglass Houghton Scholars Program offers benefits that you will not find in other mathematics programs at Michigan. You will have the chance to develop study skills needed in other coursework, find support that will enable you to acclimate to the rigors of college more quickly, and form lasting friendships with peers who share your interests and work ethic. Additionally, the chance to interact with faculty and graduate students at social events, lectures and programs discussing math and science careers will enrich your first year experience at Michigan.

There is a dire need at both the national and state level for more scientists. The Douglass Houghton Scholars Program will help address these needs by preparing students for a promising future in mathematics or science careers.

Students in this first inaugural class of the Douglass Houghton Scholars Program can help shape the activities for future generations of scholars.



Grading

Grading in the supplementary workshop will be Credit/No Credit, with intensive participation in class being the key element in earning credit.

Homework

No graded homework will be assigned in the supplementary workshop, although you will often find the problems interesting and challenging enough to continue working on them outside of class.



For more information contact:

Dr. Jayne Brownell
Director, LSA Advising Center
University of Michigan
Ann Arbor, MI 48109-1003
(734) 764-0332
brownelj@umich.edu

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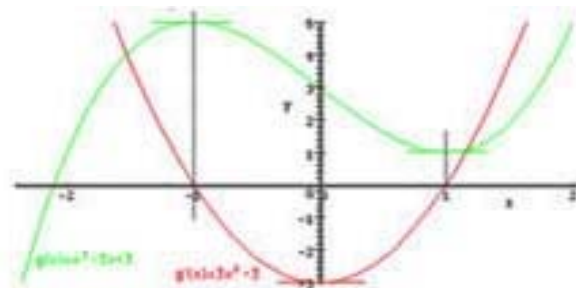
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Douglass Houghton Scholars Program

*An Academic Excellence
Program in Mathematics
for 2006/07*

*Information for Counselors
and Teachers*



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3/2 Bachelor's/Master's Program

The Department of Physics and Astronomy offers a 3/2 Bachelor's/Master's program, in which students study for five years and receive both the Bachelor's (B.S.) and Master's (M.S. or M.A.) degrees. A special 3/2 program in [medical physics](#) is also available.

Program Requirements

Students in the Physics and Astronomy 3/2 program must satisfy the College degree requirements for the [Bachelor's \(B.S.\) degree](#), as well as for the [Master's degree](#). The Master's degree may be either under *Plan A* (M.S. degree), which requires a dissertation and an oral examination on the dissertation, or *Plan B* ([M.A. degree](#)), which requires that the student pass the Department's Master's Comprehensive Examination (same examination as the Department's [Preliminary Examination](#), however the candidate need pass at the Master's level only). It is expected that the student will complete the Bachelor's degree by the end of the fourth year. For the Master's degree, the requirements include at least 30 credit hours of coursework beyond the requirements for the Bachelor's degree, with the following stipulations:

- At least 12 hours must be at the 400 level or higher
- For Plan A, 6-12 hours must represent the dissertation research/reading
- At most 6 hours may be reading course(s)
- At most 10 hours may be transfer credits, including courses taken at the University of Rochester prior to graduate matriculation in the program (The regulations state that "Ordinarily, no course completed before the candidate has received the bachelor's degree may be included in the graduate program." This rule is waived for the 3/2 program.)
- For more details see the [Regulations and University Policies Concerning Graduate Study](#). The M.S. thesis defense committee includes three members, appointed by the Dean for Graduate Studies. These include the student's advisor in Physics, the student's external advisor (if not in the Department of Physics and Astronomy), and another faculty member. One of the committee members must be from a department other than Physics and Astronomy.
- Exceptions to any of the above rules (and those in the Regulations document) must be approved by the Associate Dean of Graduate Studies.

Admission to the Program

Students who wish to apply to the 3/2 program should do so in the Spring of their junior year (applications will be accepted during the Fall of the senior year, up to Nov. 1, but junior year applications are strongly preferred). Students should identify a faculty member who will agree to serve as advisor and, for Plan A students, will supervise the dissertation research (often the faculty member will supervise the student's senior thesis). Students should apply through the usual [graduate studies application](#), with the following modifications:

- Student should submit with the application a program of study, including classes to be taken and identification of the faculty advisor and research topic if applicable.
- The GRE is not required at the time of application, but students are expected to take the GRE, usually during the Fall of the senior year.

The Graduate Admissions Committee will decide admission to the program based on academic records and letters of recommendation. Support for the fifth year of the 3-2 program is available in the form of a partial tuition scholarship at the level of up to 75% for qualifying students (additional support in special circumstances may be available in the form of a tuition scholarship and/or a teaching or research assistantship).

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Comments? Contact webmaster@pas.rochester.edu

This page is located at:

<http://spider.pas.rochester.edu/mainFrame/education/special/special3-2.html>



Current Student Info

3-2 Program

Each year, a number of graduating seniors in chemical engineering pursue advanced degrees. At Bucknell, in addition to the master's degree program which students may enter once their bachelor's degree is completed, the Department of Chemical Engineering offers an accelerated 3-2 program leading to both a bachelor of science and a master of science in chemical engineering in a period of approximately five years, including 1-2 summers devoted to full-time research.

Depending on an individual's goals, further study at the master's level can be attractive in that it provides:

- study and experience in a specialized area within chemical engineering;
- expertise in planning and conducting a intensive research project;
- positioning for additional employment opportunities beyond those available to bachelor's degree engineers; and
- experience (and time) to help you define your next educational/career path.

The fourth and fifth years

In Bucknell's 3-2 program, the undergraduate curriculum remains the same through the third year. During the fourth and fifth years, students take a mix of undergraduate and graduate courses, chosen such that the required graduate courses (7 courses plus a 1.0 unit thesis credit) are spread over two academic years, and the B.S. degree requirements are satisfied. This course credit load would typically amount to 4.0 each semester in the fourth and fifth years. A template which indicates the normal course sequence is shown in the table on below.

A written master's thesis describing work on a research, design or other problem involving original scientific inquiry is an integral part of Bucknell's master's program. Selection of a thesis advisor will be done during the Fall of the fourth year. In order to get an early beginning on a thesis topic, it is recommended that an undergraduate independent study elective be taken (if possible) during Spring of the fourth year (see table) under the supervision of the master's thesis advisor.

Typical 3-2 course sequence (UG = undergraduate course)

Fall	Spring
Fourth Year	
CHEG 400 Process Engr.	CHEG 410 Adv. Process Engr.
CHEG 320 Chem. React. Engr.	CHEG 330 Process Control
ELEC 105 Elec ENGR. Fund.	UG Elective--Independent Study (CHEG) (advisor)
GRAD Core Course	GRAD Core Course
Summer Research	
Fifth Year	
UG Elective	UG Elective

GRAD Core Course
 GRAD Elective
 GRAD Elective¹

GRAD Core Course
 GRAD Elective
 GRAD Thesis Credit

¹ at the discretion of thesis advisor, one GRAD elective may be used for independent study related to the thesis project.

Note that once commitment to the 3-2 program is made and this schedule of courses is begun, the normal progression toward the four-year B.S. degree is altered. As a five-year student, you would not receive a B.S. degree after your fourth year (although you can request to be included in the graduation ceremony with your classmates). Also, it will be difficult and maybe impossible after the fourth year has begun to change your mind about the 5-year program and obtain your B.S. after the fourth year. Therefore, the decision to pursue the 3-2 option requires careful thought on your part and a strong commitment to pursue the dual degree option.

Financial Support for Participants

Students participating in the 3-2 program will receive a tuition scholarship for all courses taken during the fifth year, and are eligible for summer stipends and summer university housing. Also, as a part of the total graduate experience, they will be expected to assist the department faculty with duties related to the instructional program (usually by serving as a teaching assistant) for a maximum of nine hours per week during the fifth year.

Eligibility and Application

Early in the spring semester, the Chemical Engineering faculty will announce details about the 3-2 program (this memo) to members of the junior class. Note that the accelerated 3-2 program is very intensive, and also that only a limited number of total M.S. spaces are available. Admission criteria to enter the program (which will be reviewed by the department and Graduate Studies Office) are therefore quite stringent, and include a strong academic record as well as a persuasive statement of purpose, which would accompany an official application (see below). Typically, students accepted into the 3-2 program will have a GPA of 3.2 or higher, although exceptions can be made in unusual cases.

Of course, Bucknell graduates are also eligible to apply to the master's program via the normal (not 3-2) route.

The normal timeline for the 3-2 program specifies that admission decisions be made before pre-registration in the Spring of the third year. The following deadlines therefore apply:

On or before:

March 8	Send a note to me or the department chairperson indicating your intention to apply to the 3-2 program.
March 15	<p>Fill out and submit (to the Graduate Studies Office) a Graduate Studies Application form and a Financial Aid Application form, both available at:</p> <p>http://www.bucknell.edu/GraduateStudies</p> <p>Note the following regarding these forms as they relate to the 3-2 program:</p> <ul style="list-style-type: none"> ■ Indicate "3-2 Program" with the "intended date of entry" on Application. ■ You do not need to take the GRE examination or the TOEFL examination. ■ You will need to have two letters of recommendation sent directly to Graduate Studies to accompany your application. Plan ahead so that these arrive on or before March 15 if possible. ■ Indicate "3-2 Program" on Financial Aid form, along with an indication of the date at which requested financial aid will begin (Fall of your fifth year).
April 1	Graduate Studies Office will notify of you of decision regarding your application.

Summary

Depending on your own personal goals and interests, the 3-2 program may provide an outstanding opportunity to obtain an advanced degree. For additional information about Bucknell's graduate program in chemical engineering, contact the department graduate advisor ([Professor King](#)) or the department chairperson ([Professor Csernica](#)). General information about Bucknell's M.S. program (including faculty research areas) can also be found in the [Chemical Engineering Department Graduate Program](#) pages.

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The 3/2 Graduate Program in Philosophy, Politics and Law

[M.A. in
Philosophy](#)

[The 3/2
Program](#)

[Application
Procedure](#)

[Contacts](#)

*T*he Program in Philosophy, Politics and Law (PPL) offers a limited number of exceptional PPL majors the opportunity to enroll in a 3/2 Master's degree program. This combined degree allows PPL majors to graduate in five years with a Bachelor of Arts degree in Philosophy, Politics and Law, and a Master of Arts degree in Philosophy. The 3/2 Graduate Program combines the PPL major with the philosophy graduate concentration in Social, Political, Ethical and Legal Philosophy.

The B.A. in Philosophy, Politics and Law

The Philosophy, Politics and Law (PPL) major at Binghamton University offers a diverse liberal arts education as a valuable foundation for a wide-range of careers. Many PPL students continue to law school, graduate school, and many other career paths. The major emphasizes critical thinking and expository writing. The major offers core courses in philosophy with complementary courses in history, political science, economics, and other disciplines, leading to an interdisciplinary B.A. degree offered through the Harpur College of Arts and Sciences. (see <http://ppl.binghamton.edu/> for more information.)

The M.A. in Philosophy

The graduate concentration in Social, Political, Ethical and Legal Philosophy (SPEL) is an innovative approach to graduate study in philosophy, offering both M.A. and Ph.D. degrees. Students in the program receive a traditional education in philosophy and its major sub-fields while also concentrating and specializing in areas of social, political, ethical, and/or legal philosophy - and in particular in special topics and projects at the intersection of two or more of these areas. Students interested in areas of applied ethics, classical and contemporary social and political philosophy, or legal theory will find the faculty and courses in this graduate program particularly attractive. (see <http://spel.binghamton.edu> for more information).

The 3/2 Program

Earning B.A. and M.A. degrees is normally a six-year process. However, the 3/2 program combines the undergraduate PPL major with the SPEL M.A. program to condense the program into five years. The 3/2 student counts the fourth year of coursework toward both

undergraduate and graduate degrees. The fourth year student enrolls in two graduate courses as well as any remaining undergraduate requirements and then completes the M.A. during a fifth year of intensive graduate study.

Why the program might be right for you!

Did you like your philosophy courses as a PPL major? Do you want to increase your knowledge of applied ethics, social and political philosophy, and legal theory? This program offers a window for attaining advanced education in an intensive and exciting environment for the additional commitment of one-year of study. The coursework is demanding. The program will help you refine your writing skills and develop your abilities to debate and defend philosophical ideas.

In addition, the 3/2 Program can help students distinguish their academic records for law school applications, the job market, or further graduate study in philosophy. The extra year offers outstanding preparation for law school and an extra year to decide which career path to pursue. You should speak to any PPL advisor to discuss your particular plans.

3/2 Requirements and Course Curriculum:

First Year Requirements:

In the first year in the 3/2 program, (typically the fourth year as an undergraduate), the student is required to take a total of two graduate courses. Although the student can choose to take both graduate courses in one semester, it may be prudent for the first year 3/2 student to take one per semester.

Second Year Requirements:

In the fifth year of study, the student is considered a full-time graduate student pursuing a Masters in philosophy. The M.A. degree may be earned by completing the following requirements (for which students may request waivers based on their particular circumstances):

- A minimum of 32 credits (eight SPEL seminars) with a cumulative grade point average of at least a B. (Students arriving without sufficient background in Philosophy may be required to take additional courses).
- *Required courses:*
 - One first year SPEL seminar to be taken during the first (Fall) semester of residency.
 - At least two SPEL seminars emphasizing the history of philosophy. This is broadly construed ranging from ancient Greek philosophy to the 17th, 18th, 19th, and early 20th centuries.
 - At least two SPEL seminars in philosophy, one drawing mainly from the Anglo-American and the other from the Continental European traditions.
 - Two of the remaining three courses must be chosen from those offered in the Philosophy Department. The third may be chosen either from courses offered by

the Philosophy Department or in consultation with the student's adviser from among course offered by other departments.

- During both semesters of their fifth year, students are required to enroll in the SPEL colloquium. The colloquium meets 3-4 times a semester. It consists of outside speakers (from the U.S. and abroad) who speak on topics related to the graduate coursework.
- Completion of a final examination exam in elementary logic with a grade of at least B.
- Completion and defense of a formal paper to be passed by a committee of three faculty members, the majority of whom are members of the Philosophy Department. After passing the exam, papers may be presented at the SPEL colloquium.

See <http://spel.binghamton.edu> for courses currently offered.

Application Procedure:

Prior to submitting your application, you should make an appointment to speak with Professor Steven Scalet to discuss your application (sscalet@binghamton.edu).

Application Materials include:

- **A copy of your most recent DARS report**
- **An unofficial transcript**
- **A resume**
- **A writing sample from a philosophy course**
- **The names of three faculty references** (*You need not ask your faculty references to write a letter of recommendation, only that they would be willing to serve as a contact on behalf of your application. Include contact information for your references, including e-mail addresses.*)
- **A cover letter explaining your interest in the program**

Please address all application materials to:

**Philosophy Department
Binghamton University
Binghamton, NY 13902.
Attn: 3/2 Program.**

EXCERPTED FROM CC MINUTES 1/24/06

3-2 BACHELOR'S/MASTER'S PROGRAMS

Dean Megginson introduced the concept of initiating so-called *3-2 programs* as a way to bring students to the University of Michigan from other institutions, especially historically Black colleges and the California state system. Three examples of existing programs are attached: 1) Physics and Astronomy at the University of Rochester; 2) Chemical Engineering at Bucknell University, and 3) Philosophy, Politics, and Law at Binghamton University. One advantage of a *3/2* program would to ease students' acculturation to studies at U-M during the senior year as a bridge to earning a Masters degree the following year. Another would be identifying PhD candidates who otherwise might not apply. A key financial question still needs to be resolved, i.e. whether the undergraduate or graduate school who would receive the tuition money from the fourth year.

ACADEMIC MINORS APPROVED BY COLLEGE OF LSA

<http://www.lsa.umich.edu/saa/minors.html>

1. **Afroamerican & African Studies** (CAAS)
2. **African American Theatre** (Theatre & Drama)
3. **Anthropology** (Anthropology)
4. **Applied Statistics** (Statistics)
5. **Asian Languages & Cultures** (ALC)
6. **Asian Studies** (ALC)
7. **Asian/Pacific American Studies**
(American Culture)
8. **Astronomy & Astrophysics** (Astronomy)
9. **Biological Anthropology** (Anthropology)
10. **Biology** (Biology)
11. **Classical Archaeology** (Classical Studies)
12. **Crime & Justice** (RC)
13. **Czech Language, Literature, & Culture**
(Slavic Languages)
14. **Early Christian Studies**
(Near Eastern Studies & Classical Studies)
15. **Earth Sciences–General**
(Geological Sciences)
16. **East European Studies** (REES)
17. **Ecology & Evolutionary Biology** (EEB)
18. **Economics** (Economics)
19. **Environmental Geology**
(Geological Sciences)
20. **Environment** (Program on the Environment)
21. **Epistemology & Philosophy of Science**
(Philosophy)
22. **French & Francophone Studies**
(Romance Languages)
23. **Gender & Health** (Women's Studies)
24. **Gender, Race, & Ethnicity** (Women's Studies)
25. **General Philosophy** (Philosophy)
26. **Geochemistry** (Geological Sciences)
27. **German Studies** (German)
28. **Global Change** (Program in the Environment)
29. **Global Media Studies** (Screen Arts & Cultures)
30. **Global Transformations** (RC)
31. **History** (History)
32. **History of Art** (History of Art)
33. **History of Philosophy** (Philosophy)
34. **International Studies** (Center for International & Comparative Studies/International Institute)
35. **Italian** (Romance Languages)
36. **Judaic Studies** (Judaic Studies)
37. **Language, Literature, & Culture of Ancient Greece** (Classical Studies)
38. **Language, Literature, & Culture of Ancient Rome** (Classical Studies)
39. **Latin American & Caribbean Studies** (LACS)
40. **Latina/o Studies** (American Culture)
41. **Lesbian, Gay, Bisexual, Transgender, Queer (LGBTQ) & Sexuality Studies** (Women's Studies)
42. **Linguistics** (Linguistics)
43. **Mathematics** (Mathematics)
44. **Medical Anthropology** (Anthropology)
45. **Medieval & Early Modern Studies** (MEMS)
46. **Mind & Meaning** (Philosophy)
47. **Modern Greek Studies** (Classical Studies)
48. **Modern Western European Studies**
(Center for European Studies)
49. **Moral & Political Philosophy** (Philosophy)
50. **Music** (School of Music)
51. **Native American Studies** (American Culture)
52. **Near Eastern Languages & Cultures** (NES)
53. **Oceanography** (Geological Sciences)
54. **Paleontology** (Geological Sciences)
55. **Physics** (Physics)
56. **Polish Language, Literature, & Culture**
(Slavic Languages)
57. **Political Science** (Political Science)
58. **Russian Language, Literature, & Culture**
(Slavic Languages)
59. **Russian Studies** (REES)
60. **Scandinavian Studies** (German)
61. **Science, Technology, & Society** (RC)
62. **Spanish Language, Literature, & Culture**
(Romance Languages)
63. **Statistics** (Statistics)
64. **Text-to-Performance** (RC)
65. **Urban & Community Studies** (RC)