



**Olin College
Registration Booklet
Fall 2002**

Volume 1, Number 1

Engineering Curriculum: Year One

What do I register for?

The freshmen curriculum at Olin College is composed of a Cohort Course Block (CCB), Engineering Computing, and a Foundational Arts, Humanities and Social Sciences (AHS) course. Students register for one of three cohorts, an Engineering Computing section and one of five sections of AHS. A limited number of students may choose to do their elective in the fall in place of their AHS. Students who choose this option will take a double AHS course in the spring semester. Students interested in this option should decide based on the elective descriptions outlined below.

Cohort Overview – (Choose 1 of 3)

A cohort is a large course block (equivalent to three conventional courses) taught by a multidisciplinary faculty team. The block combines two disciplinary topics, Math and Physics, with a large interdisciplinary project, which connotes the “flavor”. Cohorts enable tight coordination between the *understanding* of underlying disciplines and the *application* of this disciplinary knowledge to real engineering problems. Cohorts also provide a logical environment for students to develop *entrepreneurial skills*, such as opportunity assessment and teamwork. Finally, cohorts address *student choice* by allowing them to relate material to an application of their choosing – in any given semester, students can opt for one of three “flavors” of the cohort.

Students will register for the entire cohort based on their interest in one of three “flavors.” The cohort consists of three courses, each of which is graded individually at the end of the semester. The student schedule will reflect the times that the disciplinary subjects are offered and the eight hours of scheduled project time.

The two disciplinary topics for the first semester of the freshmen year are Math (Calculus & Differential Equations) and Physics.

The mathematics component of the cohort course introduces and reinforces several concepts from calculus and differential equations. Calculus material includes sequences, series, limits, parametric equations, integrals and their applications. In differential equations, the material covers various methods for solving certain first- and second-order differential equations that arise in engineering and scientific applications. The skills of mathematical modeling and solutions analysis are developed.

The physics component of the cohort course provides a thorough introduction to classical mechanics. The course will cover kinematics, the basis of Newton’s laws, particle dynamics, the concepts of momentum, work, energy, and rotational motion, oscillations and waves. Additionally, the course will establish the basics of solid and fluid mechanics, concluding with introductory topics in thermodynamics. Our goal is to share with you the excitement of discovering the material universe at its most basic levels and to equip you with the basic knowledge and analytical skills necessary to become a scientist or an engineer.

In addition to the disciplinary topics, the cohort “flavors” are defined by the projects below:

Cohort 1: Things That Go

Professors Mark Somerville, Sarah Spence, Jon Stolk

Did you ever wonder what you could do with a bicycle pump? In this cohort you'll design, construct, and test compressed air powered vehicles ranging from the simple (water rockets) to

the complex (dragsters powered by miniature compressed air engines). Along the way you'll learn plenty of math and physics as well as design, modeling, and fabrication skills. Grab your safety glasses, because after your dragsters are honed to perfection, you'll gear up for some friendly team competition. If you think you can handle the pressure, join us as we pump up the volume in Things That Go.

Cohort 2: National Design Contest

Professors Dan Frey, Steve Holt, Mike Moody

Test your engineering skills through a nationwide design competition. Students from across the country will be trying to develop solutions to a challenge posed by the American Society of Mechanical Engineers (see "Moving on up" at <http://www.asme.org/students/Competitions/designcontest/2003/Y2003index.html>). The task is to move material up a ramp by harnessing the potential energy in a water reservoir. After the course is over, you may enter your machine into the ASME contest. Participation in the contest is a great resume booster and cash prizes are available.

Cohort 3: Kinetic Sculpture Cohort

Professors Jill Crisman, Burt Tilley, Yevgeniya Zastavker

Explore your artistic and creative abilities while doing real engineering design on a kinetic or moving sculpture. The goal is to create a dynamic sculpture that illustrates mechanical concepts of physics and mathematics while being aesthetically pleasing. The resulting moving sculptures will decorate our campus, proudly displaying the names and class of their creators. You will learn how to design, simulate, and fabricate your designs in this activity.

Engineering Computing - (All Students Take this Course – To choose your time slot consult the offerings/schedule page)

Professors Gill Pratt, Brian Storey

In this laboratory-based course we will learn about computer tools that assist student and professional engineers to design and analyze physical systems. We will write programs in Matlab, SimuLink, and C that acquire data from experiments, analyze that data, perform simulations on models of physical system, and control these systems in real-time. We will briefly touch on signal conditioning and amplification, and also examine the mathematics of numerical methods that underlie the analysis, simulation, and control methods we use.

Arts, Humanities and Social Sciences (AHS) Overview

(Choose your subject from below and then the time slot – see the offerings/schedule page)

All students are required to take a foundational AHS course. For the fall, you have 3 subject choices, History and Society by Babson Professor Fritz Fleischmann, Arts & Humanities taught by Babson Professor Marty Tropp, or History of Technology & Society taught by Olin's own, Rob Martello. (Note1: Arts & Humanities and History & Society will be taught on the Olin campus and with Babson students. This is a great opportunity to meet the "neighbors." Note2: Any student registered in Arts & Humanities or History & Society should be aware of calendar issues between Babson and Olin. On October 17, 2002 Olin will not be holding classes due to 'Future Synch'. Students are responsible for any missed work in class and should speak with the instructing faculty member.)

History of Technology Foundation: Technology, Society and the Environment
Professor Rob Martello

The History of Technology foundation course will operate on three exciting levels of inquiry and exploration. In the most detailed sense, we will look at several major history of technology themes, such as “Technological Systems,” “Technology and Culture” (including sci-fi!), and “Technology and the Environment.” We will also address larger historical questions that are relevant to an Olin educational trajectory, such as the interpretation of evidence and the combination of analysis and narrative. Finally, we will conduct writing, presentation, creative, and analytical exercises that contribute to “big picture” Olin competencies such as communication, contextual understanding, humor, and overall coolness.

History and Society: “Bodies in Motion: Migration and Meaning in the 20th-Century U.S.”
Professor Fritz Fleischmann

In the 20th century, human societies changed at an unprecedented pace, raising new questions about how individual and collective identities are made and remade in the face of movement and instability. By focusing on narratives of belonging and exclusion, "Bodies in Motion" explores the social and psychological construction, destruction and reconstruction of identity in the United States during the past century. We will ask how diverse peoples have defined themselves and how they have been defined in the context of such major political and social phenomena as immigration and migration; the rise and decline of racial, ethnic, and religious identification; changing gender and sexual norms and the development of new forms of family; war and its consequences; and oppression and movements of liberation.

Arts and Humanities: The Quest
Professor Marty Tropp

This course will examine one of the oldest patterns in world literature and film: **the quest**. We will begin by examining the quest theme in childrens literature, followed by an examination of the detective story as a quest and the comic quest. In addition to the novels and plays we read, we will watch three films: two of them will be during a special film week right before midsemester, and the third will be a classic detective film.

As part of our exploration of the quest, we will be examining **intertextuality**: the way writers and filmmakers are aware of other works of art when they create their own. Being aware of the way works of art speak to each other can not only enable us to better understand the subtext of art—its deeper meanings-- but can help us to appreciate how artistic creation comes out of a tradition of earlier work that is implicit in each new work of art, and indeed, in entire genres such as the detective novel or comic form.

By the end of this course, you should not only be better readers of fiction and film, but you should also be more aware of how certain archetypal patterns recur, and point to the deeper significance to be found behind particular artistic works and genres.

Elective Overview

If you would like to take one of the two electives listed below, please speak with the professor prior to registration. There are a limited number of seats in each elective course. Those that elect to take one of these two will be required to take a double AHS class in the spring semester. (Note: I’ve been told that this “double-wide AHS” is a very cool course!)

Responsive Drawing and Visual Thinking

Professor: Helen Donis-Keller

Rick Miller once told me that he has seen a real decline in the ability of engineers to conceive and express themselves visually and that the ability to be able to communicate project ideas through sketching is of vital importance for today's engineers. This course is tailored to help students learn to visualize objects in space and develop expressive, compelling, and interesting freehand drawings. We will begin with basic exercises (form, volume, line) and progress to more complex challenges (perspective, foreshortening, composition, relationships) using as subjects still-life constructions, live models, and our imagination. Class discussion and sketchbook homework assignments provide additional means to enhance learning, particularly with respect to visual thinking, visual memory, and to reinforce classroom drawing experiences. At least one field trip is planned to a local art museum to view first-hand master drawings. One or two artists/designers/engineers (e.g. Woodie Flowers) with expertise in idea sketching and visual thinking will visit our class to lead an exercise and participate in reviews of student work. Experience gained from the practice of "idea sketching" and drawing from life can be put to many uses in future courses and projects as well as being a satisfying aesthetic pursuit that can be carried on for pleasure for the rest of one's life. This course requires NO prior experience in drawing.

Music Performance, Music Composition

Professor: Diana Dabby

Designed to set a high standard for music at Olin, this seminar will provide a guided studio environment for talented students at Olin. As performers and composers, class members will help inaugurate a concert series at Olin, prepare performances for Olin events, e.g., Admissions Open House 2002, Candidates' Weekends 2003, and give concerts in surrounding communities. Material for these concerts will include the classical repertoire as well as original material composed by the class. Students have the option of focusing on performance and/or composition under an umbrella encompassing creativity, context, and scholarship. The course will include group as well as individual meetings. Class trips to Boston's Symphony Hall, Jordan Hall, as well as Carnegie Hall and Lincoln Center in New York will provide opportunities to hear solo, chamber, and symphonic music in acoustically notable venues. The New York trip will include Juilliard's "Wednesdays at One" series at Alice Tully Hall and a visit to Patelson's Music House. By the close of this seminar, students will have learned, or further refined their ability to vary musical material, shape an interpretation, adjust to different performance spaces, integrate and evaluate primary and secondary source materials, cogently argue issues of form, phrasing, dynamics, nuance, color, etc., in performance and/or composition. Performers in the class will help jumpstart the Olin Cooperative Orchestra, a conductorless orchestra dedicated to orchestral performance within an ensemble setting.



Co-Curricular Offerings

FREQUENTLY ASKED QUESTIONS

Q: What is a co-curricular offering?

A: Co-curricular offerings are (1) non-credit activities combining fun and intellectual awareness, (2) scheduled for a limited time (e.g., one semester), (3) led by a faculty or staff member or by a student working in concert with a faculty/staff member, and (4) funded by the Office of Student Life. They differ from curricular offerings in that they are not graded and attendance is not strictly enforced. They differ from extra-curricular activities in that they have an intellectual component, faculty/staff leadership, and limited lifespan.

Q: What are some examples of co-curricular offerings?

A: The following co-curricular activities were offered during the 2001-02 year:

- American Architecture (Zach First)
- CD Listening Group/CD Sessions (Jon Stolk)
- Chamber Music Society (Diana Dabby)
- French Culture (Joanne Pratt)
- Food in Boston (Mark Somerville)
- For Intelligent Lovers of Movies, F.I.L.M. (Maruta Vitols)
- 1950s Fender Tube Amp Replication (Jon Stolk)
- Olin Dance Group (Abby Adair and Jeannine Lalonde)
- Ornithology for Engineers (Rod Crafts)
- September 11: A Dialogue about the Middle East, Peace, Terrorism, and Making Sense of this Tragedy (Zach First)
- The Photographer / Videographer's Eye (Helen Donis-Keller)
- Yoga Stretching (Hillary Berbeco)

Q: Will my co-curricular participation be listed on my transcript?

A: Inclusion of co-curricular activities on the transcript is in the planning stage but may not be implemented until 2003. So it looks likely that your participation will be listed on your transcript in the future, assuming the sponsoring faculty or staff member notifies the Registrar that your involvement has been worthy of notation. Faculty and staff will be asked to report such participation at the

same time grades are submitted for curricular offerings.

Q: How do co-curricular offerings differ from the "passionate pursuits" mentioned in the curriculum model?

A: Co-curricular offerings are typically group activities while Passionate Pursuits will typically be individual pursuits. Co-curricular offerings are guided by faculty/staff; Passionate Pursuits will be student-directed (with some faculty input and feedback). Co-curricular offerings focus on fun, and may provide great opportunities for students to participate in entirely new experiences (i.e., no prerequisites other than student interest in the activity); Passionate Pursuits, although fun, are driven by individual passions. Co-curricular offerings will generally require a smaller time commitment than Passionate Pursuits. Co-curricular performance will not be formally assessed.

Q: How does a co-curricular offering differ from a student club?

A: A student club is an extra-curricular activity and is not required to have a faculty or staff advisor. Clubs are student government funded (i.e., the Council of Olin Representatives or CORE). Participation in a student club may be self-reported for posting on a student transcript but will be listed in a separate section (not for any particular semester). Also, while co-curricular activities are time-limited (e.g., one semester), student clubs are perpetual.

Q: May students lead co-curricular offerings?

A: Yes, but only in concert with a faculty or staff member.

Q: Can a co-curricular offering evolve into an extra-curricular club?

A: Yes, if a co-curricular offering is likely to extend beyond a semester and/or becomes student led, it would be logical to approach the student government (Council of Olin Representatives) for recognition and funding.

Q: How are co-curricular offerings scheduled?

A: The faculty or staff sponsor announces an initial organizational session where participants compare schedules and select regular meeting times. The Registrar does not schedule these offerings.

Q: Can a co-curricular offering be repeated in subsequent semesters?

A: Yes, so long as the faculty/staff sponsor is willing and any necessary conditions are met.

Fall 2002 Co-Curricular Offerings

Students can register for co-curriculars at the same time they register for their academic courses. Be careful not to over do it by signing up for everything. Choose offerings that will really interest you or broaden your awareness. Note: Co-curriculars are optional.

Ornithology for Engineers

Faculty/staff members involved: Rod Crafts

Time commitment: Once a week for approximately 2 hours during the first half of the semester

General description: As many as four students are welcome to accompany Dean Crafts on early morning bird watching walks around the Olin College property and at local sanctuaries. The College owns one pair of binoculars and one field guide. So, if you or your parents have these items, please bring them to the first walk.

Trad Jazz

Faculty/staff member involved: Steve Holt

If you're entranced by King Oliver's Creole Jazz Band or by Jelly Roll Morton's Red Hot Peppers or Lu Watters' Yerba Buena Jazz Band, you may want to join me in playing (not just listening). This is not for emulators of John Coltrane or Miles Davis or Charlie Parker - this is "hot" rather than "cool" jazz. It may take a year or two to get a full complement of dedicated souls, but I'd like to play my trombone just for fun with anybody who likes this kind of music.

Title: For Intelligent Lovers of Movies (F.I.L.M.)

Faculty/staff member involved: Maruta Vitols

Time commitment: One night per week.

Description: Are you addicted to movies? Do you drive your friends and family crazy by talking about films all of the time? Do Blockbuster employees know you on a first name basis? F.I.L.M. can help! Come and meet once a week for some cinema therapy and a great post-screening discussion. You'll never look at movies the same way again!

Math Table

Faculty/staff member involved: Sarah Spence

Description: This co-curricular activity is for anyone who has any interest in mathematics. Think math is the coolest subject ever? Can't figure out how to survive the math component of your cohort? Come to the Math Table (probably for lunch once a week) to eat and chat with like-minded Olin folks.

ODP: Olin Dance Project

Faculty/staff member involved: Abby Adair (with students Jessica Anderson and Susan Fredholm)

Mission: To bring an appreciation of the world of dance to Olin College.

Activities: ODP activities include a weekly ballet class that is open to all ability levels, workshops ranging from swing and ballroom to Irish step and jazz classes, and trips to see performances by the Boston Ballet and touring companies.

ODP is open to any Olin student, faculty or staff member who has an interest in or a love for dance.

La Vie Bohème

Une activité proposé par Profs. Burt Tilley et Joanne Pratt

La duration de l'activité est une heure par semaine de discuter, et entre une et deux heures par semaine de lire.

La description: On se recontrera afin de discuter des romans français et de boire du café. On commencera avec le roman d'Albert Camus "L'Etranger", et après lequel le groupe décidera les romans suivants. Les étudiants qui comprennent déjà un peu de français ne participent que cette activité. On n'aura pas besoin de bétet. Le groupe fera le rendez-vous tous les jeudis de 12h30 à 1h30.

Partaking the Putnam Exam - Preparation

Faculty member/staff involved: Burt Tilley

On the first Saturday every December (this year, December 7), the William Lowell Putnam Mathematical Competition will take place. This is a nationwide, six-hour exam that is taken by several thousand undergraduate students. Although only calculus is typically needed to take the exam, the median score on this exam is a zero out of 120 possible points. The problems are very challenging, and a great deal can be learned by their solution. We will meet one evening per week prior to the exam to go over previous problems, scratch heads, eat food, and have fun.

Running/Walking for Health (and Charity)

Faculty member/staff involved: Joanne Pratt with Ann Marie Rynning

This co-curricular activity is for people who would like to participate in organized races in the Boston area throughout the year. We will select a number of races from the dozens that occur in the region each year. Some possible events are the Susan Komen Race for the Cure, the Boston Half Marathon and the James Joyce Ramble. You don't need to be competitive or fast, or participate in all of the races. Some of the road races have more walkers than runners.

Meetings will be held to select races and organize race participation. The meeting schedule will be determined by the participants. Running/walking groups to train for these events may also be established if there is sufficient interest.

Mere Mortals

Faculty member/staff involved: Jon Stolk

Time Commitment: 1.5 hrs once a week

Description: Jimi Hendrix, Janis Joplin, Patsy Cline, Jim Morrison, Tupac Shakur, Kurt Cobain, Michael Hutchence, and numerous other talented musicians – all dead before age 40.

In this special installment of CD Sessions, we will explore the lives and music of musicians who died tragically young. Each week, a different participant will serve as host for the activity. The host will choose a musician who died before the age of 40, select and play about 60 minutes of appropriate music, provide information surrounding the musician's life and death, and lead a discussion of the musician and music.

All types of music are welcome. Copyright infringements are not allowed – no MP3 files, unless you own the original CD. Borrowing CDs from other participants is fine (and encouraged!). Snacks will be provided.

Adventurous International Food in Boston

Faculty/staff members involved: Ellen Cooney, Linda Canavan, Mark Somerville

Time Commitment: Approximately 3 hours every other Tuesday

Cost: To be split among those attending, about \$15 a time

Description: In its varied neighborhoods and side streets, Boston offers a wide range of interesting, relatively authentic international cuisine. In this activity we will explore 6 or 7 of these ethnic restaurants, trying as far as possible to sample “the real thing” at each. Meals will be ordered family style to allow each of us to stretch our taste buds and imaginations along with our waistlines. Possible cuisines include Vietnamese, Indian, Ethiopian, Portuguese, Brazilian, Italian and Cuban, among others.

By going to different parts of the city and metropolitan area, students will also get some introduction to these areas. There will be opportunities for those who wish to remain and explore the area after dinner to do so, providing a good opportunity to start getting to know this varied city.

To round out the experience (no pun intended) before we leave each week, different groups of participants will share some interesting information about country whose cuisine we are trying as well as the part of the city we are visiting.

Due to space limitations at restaurants, size will be limited to 14 students to be chosen by lottery. We hope to also arrange occasional outings open to the entire community throughout the year and, if there is sufficient interest, to do this co-curricular activity again in the spring.

Passionate Pursuits

If you are interested in doing a Passionate Pursuit, consult the Student Handbook for FAQ’s. In order to get non-degree credit for your Passionate Pursuit, you must submit a credit proposal to at least one faculty member and get approval from your adviser. You can pick up a credit approval form from the Office of Student Life. In order to be listed as semester work, the Registrar must receive an approved credit proposal for a Passionate Pursuit no later than mid-semester. Remember that the maximum amount of non-degree credit you can receive in a semester is three (3).

Student Name

Student ID

Registration Worksheet

Bring this with you to the computer when you register. It will allow for a quick and smooth registration process. When finished registering, leave this worksheet with Linda Canavan.

Categories of Registration:

I. Cohort:

When registering on-line, you will be able to "sign-up" for your first choice. There will be no restrictions on the class size. However, after all students have registered, any cohort that is over 25 students will be put through another lottery. If you are not selected for the cohort, you will be put into your second choice.

Rank your preference using the scale below. Please rank a minimum of 2 cohorts.

1 (I am very interested in this cohort) \longrightarrow 2 (I am interested in this cohort)

**Things that Go
Cohort 1
CCB1001-01**

**National Design Contest
Cohort 2
CCB1001-02**

**Kinetic Sculpture
Cohort 3
CCB1001-03**

II. Arts, Humanities, Social Sciences (AHS)

When registering on-line, you will be able to register for open sections only. Therefore, you should have a back-up plan ready in case your first choice is full. This may also affect your choice of Engineering Computing sections. If you are going to take one of the two electives this fall, you do not need to register for an AHS courses.

Your Choices are:

Course Title and Course #	Your Choice	Sect #	Faculty	Meeting Pattern	Class Size
History & Society AHS1101-01		01	Fleischmann, Fritz	T, Th 8:15-9:35a	13
History & Society AHS1101-02		02	Fleischmann, Fritz	T, Th 9:45-11:05a	12
Arts & Humanities AHS1102-01		01	Tropp, Marty	T, Th 8:15-9:35a	13
Arts & Humanities AHS1102-02		02	Tropp, Marty	T, Th 9:45-11:05a	12
History of Technology Foundation AHS1110-01		01	Martello, Rob	T, Th 11:15-12:45p	15

III. Engineering Computing

When registering on-line, you will be able to register for open sections only. Therefore, you should have a back-up plan ready in case your first choice is full. This may also affect your choice of AHS or an elective. All students must register for a section of Engineering Computing.

Your Choices are:

Course Title and Course #	Your Choice	Sect #	Faculty	Meeting Pattern	Class Size
Engineering Computing FND1510-01		01	Pratt, Gill & Storey, Brian	T, Th 11:15-12:45p	25
Engineering Computing FND1510-02		02	Pratt, Gill & Storey, Brian	T, Th 1:45-3:15p	25
Engineering Computing FND1510-03		03	Pratt, Gill & Storey, Brian	T, Th 3:20-4:50p	25

IV. Electives

If you are interested in participating in either Responsive Drawing and Visual Thinking (ELE1010-01) with Helen Donis-Keller or Music Performance, Music Composition (ELE1020-01) with Diana Dabby, please speak with Helen or Diana prior to seeing your adviser. If you register for one of the two, you do not have to register for an AHS. However, please remember to register on-line for the elective.

V. Co-Curriculars

If you would like to sign up for co-curricular(s), you can do so by registering for the offering just like an academic course. You will then be on a list to be sent to the sponsoring faculty or staff member. The faculty or staff member will then contact all interested parties for available times to meet. At the end of the semester, the Registrar will receive confirmation from the faculty or staff member as to who completed the co-curricular for transcript recognition. The important piece is to make sure if you are interested you sign up during registration.

Your Choices are:

Course #	Co-Curricular Title	Your Choice	Faculty
CC01-01	Ornithology for Engineers		Crafts, Rod
CC02-01	Trad Jazz		Holt, Steve
CC03-01	Olin F.I.L.M.		Vitols, Maruta
CC04-01	Math Table		Spence, Sarah
CC05-01	Partaking the Putnam Exam		Tilley, Burt
CC06-01	Olin Dance Project (ODP)		Adair, Abby
CC07-01	La Vie Boheme		Pratt, J. and Tilley, B
CC08-01	Running/Walking for Health (and Charity)		Pratt, Joanne
CC09-01	Mere Mortals		Jon Stolk
CC10-01	Adventurous International Food in Boston		Cooney, E; Canavan, L; Somerville, M

Student Schedule Planning Worksheet

(Use the Grids below to Map out your schedule. Keep in mind you may need 2nd choices for AHS and Engineering Computing if your 1st Choices are full by the time you register.)

1 block = ½ hour	Monday	Tuesday	Wednesday	Thursday	Friday
8:00					
8:30					
9:00					
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