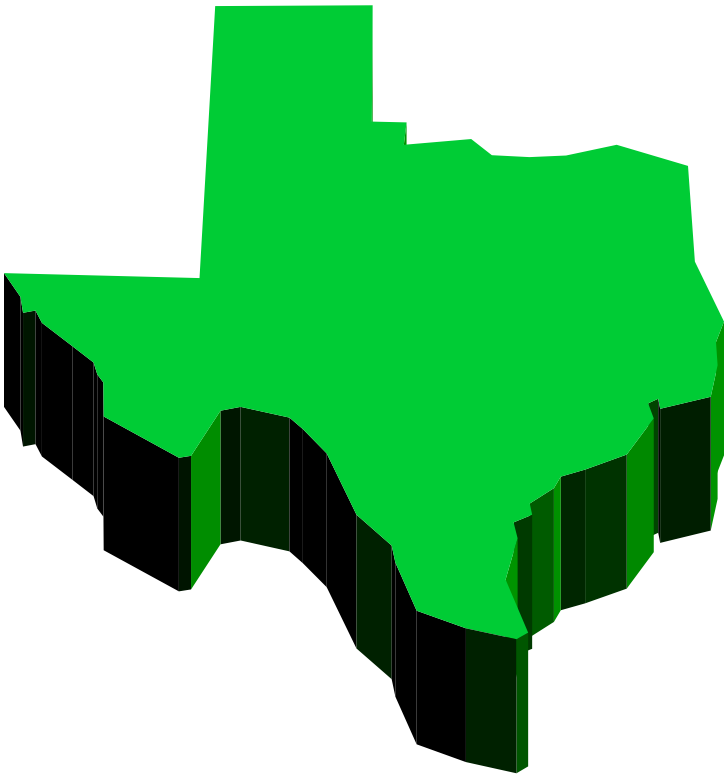
Olin College Registration Booklet Spring 2004



Volume 2, Number 2.1

Revised October 27, 2003

Spring 2004 Registration Information

What do I register for?
The first year, second semester at Olin College is composed of a Integrated Course Block (CCB), a free elective, and an Arts, Humanities and Social Sciences (AHS) course. The AHS and/or elective may be taken at Olin, Babson, Wellesley, or possibly Brandeis. The second year, second semester at Olin College marks the beginning of formulating your major at Olin. Your course choices are comprised of the remainder of your required courses, a major course or elective and possible an AHS or other elective.

ALL students should be discussing course choices with their adviser. This booklet is strictly a tool to assist you in preparation for advising discussions. Your adviser "clears" you to register once you have met and your learning plan is up-to-date. If you are not cleared, you will not be permitted to register.

Cross-Registration
Students interested in cross-registration should use the following guidelines to find a course to meet their AHS or elective "slot."

Keep in mind the time constraints of the *integrated course blocks* and any other Olin course you may be interested in taking. The process for cross-registration generally will occur after Olin registration. This is due to Olin's early registration and the times for registration at Babson, Brandeis and Wellesley. It is also time consuming in getting information back and forth from Olin to the other schools. As a result, there will be opportunities after registration to finalize any and all details. In other words, don't panic. Every effort will be made to accommodate your learning objectives for the upcoming semester.

Note: When looking for a course at a BBW school, it is important to check for course pre-requisites and the enrollment. Under most circumstances, if the course if full, you will not be able to register for the course. Enrollment is generally found under course "tally" or listed with the course section information.

New Process: Send Completed Form to **star.center@olin.edu**

Babson College: You can find their offerings at http://newton.babson.edu/registrar/. You do not need a log-in to access the information. Information should be available in early November. You can begin submitting requests for Babson courses on December1st.

Choose "course listing" from the menu options on the left menu bar and then follow the prompts from that point. It is best to sort by course title and course number. If you find a course you are interested in, complete a cross-registration form (found on Blackboard in Olin Community → Documents → Academic Forms on Blackboard) and send it to star.center@olin.edu . The StAR Center will work with Babson to facilitate the registration.

Brandeis University: You can find Brandeis offerings at http://www.brandeis.edu/registrar/reg-sched/sch.html . The spring 2004 offerings are not currently available. They should be by late October. You can begin submitting requests for Brandeis courses on November 3rd.

If you find a course you are interested in, complete a cross-registration form (found on Blackboard in Olin Community → Documents → Academic Forms on Blackboard) and send it to star.center@olin.edu . The StAR Center will work with Brandeis to facilitate the registration.

Wellesley College: You can find their offerings at http://www.wellesley.edu/Registrar/menu.html Spring 2004 course information should be posted at the beginning of November. You can begin submitting requests for Wellesley courses on November 13th.

Students interested in pursuing a course at Wellesley should complete a registration form (found on Blackboard in Olin Community → Documents → Academic Forms on Blackboard) and send it to star.center@olin.edu . The StAR Center will facilitate the registration for Olin students.

When Do I Register?
Freshmen: Registration will take place on October 29, 2003 using the on-line system. There will be two groups for registration. We will reverse the order used in the fall. Last names I – Z will go first and last names A-H will register in the second group. You will receive your times for registration via email no later than October 24, 2003.

Sophomores: Registration will take place October 28, 2003. Information regarding the two groups will be sent vial email no later than October 24, 2003.

(Registration will be open to cleared and eligible students only. A cleared student is one that has met with his/her adviser and has an updated learning plan. An eligible student is one who does not have an outstanding financial balance with the college.)

Add/Drop
The add/drop period is the first 10 days of the semester. Add/Drop will begin on January 20, 2004 and end on February 2, 2004. Additionally, students wishing to participate in cross-registration will be allowed to alter their Olin schedule to accommodate cross-registration requests. This will be done at the StAR Center once confirmation of the cross-registered request is received. The primary reason for this is due to the variable times at which we can honor cross-registration requests due to the host's schools registration times.

How do I Register?
1. Log into the Web Registration system at https://sis.olin.edu .
2. Click the "For Students" Button on the bottom and enter the secure connection using your username and password.
3. Make sure your "Set Options" are selected for Spring 2004. This can be done from the **MAIN** page at the bottom of the screen.
4. Select the **Registration** option from the directory structure on the left frame of the web page.
5. You will only be able to enter registration if it is (1) during your assigned time block; (2) if you are cleared by your adviser; and (3) if you do not have a hold due to financial obligations.
6. Enter the course number and the section of your choice and click **Add**. (For course numbers and sections refer to the course listing in Appendix III of this booklet.)
7. Confirmation Messages appear above the schedule in the **blue bar**. If you are not successful with an add function (due to a conflict or a full course), try another course and/or section. If you make a mistake, you can **Drop** the confirmed course and **Swap** it for another by using the **Swap** option. To use the swap option, select a course to "drop" and then enter the course number and section that you want to swap for it. You can also drop courses by selecting the radial button next to the course and clicking the "drop" key. You can only drop one course at a time. When you are finished, close the browser.

What About Co-Curriculars?
Registration and descriptions for Co-Curriculars will be addressed during the add/drop period in January. If a student has a particular interest in a co-curricular that they would like to see offered, they are encouraged to seek out a "faculty/staff" sponsor before the end of the Fall Semester.

What About Passionate Pursuits?
If you are interested in doing a Passionate Pursuit, consult the Student Handbook for FAQ's. Starting immediately, Passionate Pursuits require approval from the Executive branch of the Passionate Pursuit Board in addition to consent of a faculty sponsor and the student adviser. Passionate Pursuit proposals should be sent to the chair of the executive board, the Dean of Student Life. Remember that the maximum amount of non-degree credit you can receive in a semester is three (3).

Engineering Curriculum: Year One, Semester Two

What Do I register for?

You are required to do one of the three cohorts and two other courses. One of these two must be an Arts, Humanities, Social Science (AHS) course. The other may be another AHS or an elective. Which one it will be is determined by what you are presently taking. If you are currently taking your cohort, modeling and control and an AHS; then, you should be registering for a cohort, another AHS and an elective. If you are currently taking your cohort, modeling and control and an elective; then, you should be registering for two AHS course. There is some degree of flexibility with this structure. Please consult your adviser for more information.

Cohort Overview

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 scheduled project time.

The integrated components for cohorts in the second semester of the freshmen year are:

FND1320: Mathematical Foundations in Engineering II: Linear Algebra and Vector Calculus

This course provides the mathematical infrastructure for the cohorts in the topics related to linear algebra and vector calculus. Topics in linear algebra include, but are not limited to, matrices, determinants, systems of linear equations, vector spaces, linear transformations, eigenvalues, eigenvectors, and their application in science and engineering. Topics in the vector calculus portion include, but are not limited to, curvature, partial derivatives, multiple integrals, line integrals, and Green's divergence and Stokes's theorems, and their application in science and engineering.

FND1220: Physical Foundations in Engineering II

The physics component of the cohort course provides a thorough introduction to Electricity and Magnetism as well as establishes the basics of physical and geometrical optics. In addition to the basics, we will address the vast variety of interesting applications pertaining to the knowledge you gain this semester. For example, we may discuss electrophoresis, heart monitors, brain wave function, CT (computerized tomography) imaging, magnetostatic bacteria, microwave cooking, LCDs, lightning, corona discharge, St. Elmo's fire, pacemakers, electric shock treatment, electrocardiograms, metal detectors, musical instruments, magnetic levitation, electric motors, radios, TV, car coils, superconductivity, aurora borealis, rainbows, radio telescopes, interferometers, particle accelerators, mass spectrometers, red sunsets, blue skies, radar speed guns, and much, much more. 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.

FND1420: Foundations of Electrical Engineering Design

This project-based course integrates Mathematical and Physical Foundations II with applications and hands-on design. The course introduces students to the tools of Electrical Engineering. Students learn the basics of circuit design, EE laboratory skills, interfacing computers with electrical and mechanical components, and PSpice (software for professional circuit simulation). This course also provides an introduction to entrepreneurship.

The cohort "flavors" are defined by the projects below:

CCB1001-01: An Integrated course block in Electrical Engineering
Batteries Not Included

Professors Mark Somerville and John Geddes

> It went zip when it moved and bop when it stopped
> And whirr when it stood still.
> I never knew just what it was and I guess I never will…
>
> *The Marvelous Toy*
> *Tom Paxton*

If you look for excuses to visit the toy store (or you don't feel you need excuses), Batteries Not Included may be the project for you. In this project, we'll focus on toy design as a vehicle for learning about circuit components, electro-mechanical devices, and simple circuit design. We plan

to start the semester with interactions with users (i.e., local elementary school kids), and an introduction to the business side of the toy market. We hope to include in this section a guest speaker or two from the toy industry. Following this information-gathering phase, teams will develop and prototype their ideas for simple electro-mechanical toys. We'll end the semester with a miniature toy fair at the Olin Expo.

CCB1001-02: An Integrated course block in Electrical Engineering
Things That Go Bang—Explorations in Electromagnetic Power and Energy
Professors Steve Holt, Michael Moody and Gill Pratt

> A physical experiment which makes a bang is always worth more than a quiet one. Therefore a man cannot strongly enough ask of Heaven: if it wants to let him discover something, may it be something that makes a bang. It will resound into eternity.`
>
> *Georg Christoph Lichtenberg 1742-1799*

The TTGB project will build electromagnetic devices that demonstrate the storage, conversion, and transport of electromagnetic energy, strongly motivating and reinforcing the material you will be learning in physics. To keep things lively, we will emphasize high power devices, especially those devices that accumulate energy slowly and release it quickly. Such devices include rail guns, pulse electroforming devices (like can crushers and coin shrinkers), high voltage generators, etc ...

We will begin the semester by building some simple standard projects, including a charge pump that accumulates energy on a capacitor, which is then discharged into a Xenon flash tube, and a coil gun that fires a steel bolt through the air. We will then form groups and build a number of more sophisticated projects.

We plan to integrate into the final projects an exploration of their practical utility in the marketplace, and assess what business opportunities their further development may present.

We'll end the semester with a demonstration of our prototypes and a presentation by each group at the Olin Expo. Those interested in last year's projects can check out http://ttgb.ece.olin.edu .

CCB1001-03: An Integrated course block in Electrical Engineering
It's Alive! - Explorations in Electronics and Biology
Professors Burt Tilley, Zhenya Zastavker and Gill Pratt

"It's Alive!" --- *Baron Von F.*

The "It's Alive" project will focus on electronic devices that interface with biological systems. By doing this work, we hope to strongly motivate and reinforcing the material you will be learning in physics.

We will begin the semester by studying and building an incredible non-invasive monitoring device – a pulse Oximeter. We will then form groups and build a number of more sophisticated projects. Example projects include an EKG, EEG, diffuse-optical tomography system (that measures brain activity through the skull as a result of increased blood flow on the surface of the brain), muscle stimulator, exercise dynamometer, etc …

We plan to integrate into the final projects an exploration of their practical utility in the marketplace, and assess what business opportunities their further development may present.

We also will have guest speakers in from the bio-electronics industry to speak about different state of the art technology.

We'll end the semester with a demonstration of our prototypes and a presentation by each group at the Olin Expo. Those who want a preview of the pulse Oximeter can check out the web site http://ia.ece.olin.edu which contains a paper and presentation on a similar device that was built during the partner year.

Curriculum Year Two, Semester Two

The journey toward specific engineering majors begins during the second semester of the second year for Olin students. Course selection for this semester includes any remaining second year foundation courses:

FND2240, Principles of Materials Science with Lab
FND2350, Applied Mathematical Methods
FND2510, Signals and Systems with Lab
FND2610, Foundation of Business and Entrepreneurship
FND2710, Principles of Modern Biology with Lab

Plus,
FND2490, Sophomore Design Project

And a major specific course, technical elective or elective:
ECE2910, Introduction to Circuits and Electronics (Tech elective for ECE, E with Systems Design)
ENG1510 (formerly ELE1050), Intro to Interactive Programming: The Design of Software Systems
ELE2710, Physics of Living Organisms
ELE2715, Applied Organic Chemistry
MEC2910, Thermodynamics and Chemistry of Combustion
MEC1915, Mechanics of Solids & Structures

Additionally, students must complete one Arts, Humanities and Social Science requirement during their second year. See the AHS descriptions in this registration booklet for offerings and descriptions.

Students must seek the advice of their adviser when choosing their courses for spring. Some students may have deferral options for the spring semester. Advisers also have to "clear" a student to register. Without on-line clearance, students will not be permitted to register.

Spring 2004 Course Descriptions

Foundation Courses

FND2240

Principles of Materials Science with Lab

Section 01 and 02: Combined lectures with separate lab experiences
Professor Debbie Chachra

This laboratory-based course introduces students to the relationships among structure, processing, properties, and performance of engineering materials including metals, ceramics, polymers, composites, and semiconductors. Students apply materials science principles in laboratory projects that focus on analysis of material microstructure, measurement and modification of material properties, and selection of materials for engineering designs.

FND2350

Applied Mathematical Methods

Section 01: Professor Burt Tilley Section 02: Professor Sarah Spence

An introduction to standard statistical and analytical techniques used to solve mathematical problems that arise in science and engineering. Topics include an introduction to probability and statistics with additional topics in linear algebra and ordinary differential equations, such as linear stability theory of systems of ordinary differential equations, bifurcation theory, generalized eigenspaces, Lagrange multipliers, and other solution techniques to optimization problems.

FND2490

Sophomore Design Project

Professors Ben Linder (project leader and section professor), Jill Crisman, Gill Pratt, Lynn Stein, Jon Stolk [Registration Note: Students will be registered for the main section of the project (01). After projects are established, they will be matched to a section professor.]

Students gain design experience through the development of an authentic product. Students work individually and in teams following a design process to develop ideas into a looks-like/works-like prototype. Emphasis is placed on a holistic solution integrating primarily user and technical perspectives, including the involvement of users to provide guidance and validation.

FND2510

Signals & Systems

Professors Diana Dabby and Jill Crisman

Signals (functions of one or more independent variables) and Systems (devices that perform operations on signals) present fundamental concepts that arise in a wide variety of fields. The ideas and techniques associated with these concepts inform such diverse disciplines as Biomedical Engineering, acoustics, communications, aeronautics and astronautics, circuit design, seismology, energy generation and distribution systems, chemical process control, the Arts, Humanities, and Social Sciences. Topics include dynamic systems (continuous and discrete), transforms (Laplace, Z, Fourier), frequency analysis, feedback (stability, performance), convolution, generalized functions, modulation (AM and FM), sampling, and filtering (analog, digital).

FND2610

Foundations of Business & Entrepreneurship (FBE)

Professors John Bourne and Stephen Schiffman

The course is designed to provide Olin students with experience in planning and growing a business venture. The learning experience is centered on “doing" (e.g., engaging in a business simulation) while building a student’s competence in the functional areas of business including accounting, finance, marketing, and strategy. The course extends teaming skills and builds and expands on the entrepreneurial model introduced in the Opportunity Assessment Practicum during the first year of the Olin curriculum.

FND2710
Principles of Modern Biology with Laboratory
Section 01: Professor Joanne Pratt Section 02: Professor Helen Donis-Keller

[Note: Within these two sections there may be variations within the laboratory experience and of the topics covered. Students should inquire with the section faculty members for more specific descriptions.]

This course introduces students to the fundamental aspects of biological science including biochemistry, molecular biology, human molecular genetics, and cellular communication. Students gain experience with contemporary research methods and scientific reasoning through laboratory experiments. The relevance of Biology to the environment and health is emphasized.

Electives, Technical Electives and Major Requirements

ELE2710
Physics of Living Organisms
Professor Yevgeniya Zastavker
(Pre-Requisites: PFE I and II; Calculus, Linear Algebra, Vector Calculus)

Have you ever pondered about the intricacies with which nature imbues life? Have you ever given a thought to how living organisms find the ways of resolving their challenges? Have you ever attempted to understand nature's workings in creating optimal and efficient flora and fauna? In this course, we will delve into these questions. This will be done not from a philosophical, mystical, or spiritual point of view. As we look at life as one of the many phenomena displayed by the universe in its evolution, we will apply the laws of physics to understand these phenomena. In doing so, we will take a "reductionist" or simplified approach to investigate the big picture. This implies that we will not be concerned with the differences between a frog and a toad, but rather explore basic biophysical mechanisms that make these organisms interesting to scientists and useful for engineers. We will aim to achieve an intuitive and a semi-quantitative understanding of physical phenomena ranging from electrosensing (the ability of some animals to sense external electric fields for navigation and the detection of prey and communication) to biomechanics and scaling theory (which provides us with information about beasts we have never seen, for example, dinosaurs). Based on physical laws, we will investigate the phenomena of color vision and the performance of athletes, and we will examine diseases ranging from the cataract of the eye to the formation of gallstones in gall bladder bile. In order to gain knowledge of these various phenomena, we will systematically investigate the properties of water, Brownian motion, dynamics and physiology of fluids, thermodynamics, biomechanics and bioenergetics, and the electrochemical potential. Although engineers spend their entire careers solving and optimizing various problems, nature has been doing this for much longer; therefore, a deep understanding of biophysical processes in nature can yield unforeseen solutions to countless scientific and engineering problems. In this course, we will learn how to learn from nature.

ECE2910
Introduction to Circuits and Electronics
Professors Gill Pratt and David Kerns

This course introduces some elementary analog circuit analysis and design techniques, some simple analog and digital components, and some elementary electronics fabrication techniques. Topics include introductions to Kirchoff's Laws, Loop and Node analysis, Thevenin and Norton equivalents, impedance matching, power factors, op-amp circuits, filters, oscillators and comparators, power switching devices, noise, grounding and shielding techniques, and circuit board layout. Besides hand analysis, students will use PSPICE to simulate circuits. Students will also design, fabricate, and keep a modest but useful electronic circuit incorporating both analog and digital elements.

[Note: This course is not required for the ECE major. It will serve as a technical elective for the ECE major and the Systems Design concentration within Engineering.]

ELE2715
Applied Organic Chemistry with Lab
Professor Hillary Berbeco

This course introduces the principles needed to understand the structure and reactivity of organic molecules with emphasis on substitution and elimination reactions. Biological, bioengineering, and materials applications will be highlighted. The laboratory component is designed to develop competence with experimental design and procedure for synthesis, purification, and characterization of organic molecules. This course is equivalent to the first organic course at other schools and should prepare students wishing to take a second semester of organic chemistry elsewhere. [No prerequisites]

ENG1510 (formerly ELE1050)
Introduction to Interactive Programming: The Design of Software Systems
Professor Allen Downey
[This course is open to all students.]

This course is an introduction to computer programming. It will be taught in the Java programming language, and will teach the language (i.e., no prior programming experience is assumed), but it is not about the language. Students with no prior background AND students with background comparable to the CS AP should both find this course interesting and worthwhile.

The theme of this course is interactive programming. Most computation these days is not algorithmic question-answering in desktop boxes (as typically taught in introductory computer science). Instead, this course will focus on a model of computation as a set of simultaneous ongoing entities embedded in and interacting with a dynamic environment: computation as interaction; computation as it occurs in spreadsheets and video games, web applications and robots.

A major component of the class will be a weekly three hour in-class laboratory. Much of this laboratory will be spent in collaborative work on program development, with an emphasis on student-student interaction and student-student teaching, facilitated and enriched by the course staff. In addition, design and implementation work will be supplemented with observational laboratory assignments, inviting students to consider not only how to build a program, but how to anticipate its behavior and how to modify that behavior.

MEC1915
Mechanics Of Solids And Structures
Professor Roberto Ballarini
[Registration Note: This course is available to students with successful completion of Physical Foundation of Engineering I.]

This course provides an introduction to continuum mechanics, with applications to the response of solids and structures to mechanical and thermal loads. Analysis of statically determinate trusses, frames and machines; stress, strain, strain-displacement relations, equilibrium equations and the stress-strain behavior of various materials; analysis of stresses and deformations of elements subjected to axial, torsional and bending loads; strength theories, fatigue, brittle fracture and buckling; statically indeterminate structures; and energy methods and an introduction to the finite element method.

MEC2910
Thermodynamics and Chemistry of Combustion
Professor Brian Storey

This introductory course covers the fundamental principles of thermodynamics and physical chemistry as applied to real combustion systems. This course provides a foundation in general thermodynamic phenomena, including the production, conversion, and transfer of energy, equations of state in real and ideal gases, phase equilibrium in single and multi-component systems, chemical equilibrium, and gas phase chemical reaction kinetics. Applications include energy conversion in real engines as well as pollutant formation.

Arts, Humanities and Social Sciences Offerings
(See Appendix I for Olin AHS requirements)

Note to students in search of meeting their Olin foundation AHS requirement: There are three Olin offerings that meet this requirement. There are also two course offerings at Babson that will meet this requirement. The Babson courses are similar to the ones being offered at Olin this semester, but are taught by different faculty and will be held on Babson's campus. If you are interested in these offerings, you can cross-register for them at the beginning of December. The offerings are: AHF1311-02: Honors Arts & Humanities Foundation Genre and Meaning; meets Tues/Thurs 11:30-1:00pm and HSF1311-02: Honors History & Society Foundation; meets Tues/Thurs 11:30-1:00pm.

AHS1110
History of Technology in America
Professor Rob Martello
This course meets the Olin foundation AHS requirement.

This course exploits America's rich collection of narratives and themes, including new looks at classic gems such as the road from colony to revolution to republic, the "peculiar institution" of slavery, the evolution of political parties, wars and peaces, and the turbulence of the 1960s. We explore these and other topics via the lens of technological systems. Our readings and discussions examine the two-way relationship between technological systems and their social, political, economic, and environmental context, using case studies from all periods of American history. Class work includes weekly readings and reflections upon those readings, several films, a heaping dose of discussion, several short writing assignments and presentations, and a creative group project. Students can select from different specialization topics such as sci-fi, communication technologies, technology and public policy, and the history of the doorstop.

AHS1111 (formerly ELE1010)
Responsive Drawing and Visual Thinking
Professor Helen Donis-Keller
This course meets an AHS breadth or depth requirement or an unrestricted elective.

The aim of this course is to help students learn to visualize objects in space and develop expressive and compelling freehand drawings. Basic exercises (form, volume, line) will be followed by more complex challenges (perspective, foreshortening, composition) using as subjects still-life constructions, life models, and the imagination. Class discussion, critiques, reading and analysis of work by classical and contemporary artists, a field trip to a museum or gallery, and visits to the class by professional artists/designers provide diverse opportunities to enhance learning. Sketchbook homework assignments reinforce drawing and visual thinking classroom experiences. Several projects including a graphic narrative, e.g. a preliminary version of a graphic novel, will provide a means for students to demonstrate learning over the course of the semester. No prior experience in drawing is required.

AHS1140
Heroes for the Renaissance Engineer: Leonardo, Nabokov, Bach, and Borodin
Professor Diana Dabby
Open to All. This course meets the Olin foundation AHS requirement.

Students talented in art and science regularly manifest themselves on the class lists of virtually all educators in science, mathematics, and engineering. Is it possible to offer them models for living and working — heroes — whose inimitable contributions to society stem in part from dual (and sometimes dueling) passions? This course examines individuals who possessed extraordinary ability in the arts, mathematics, and science. It explores how their creative voices achieved resonance for generations, how at times their disciplines entwined, while at others they separated. Source documents provide the key focus for analysis and critical thought revolving about four figures in the fields of literature, art, and music: Vladimir Nabokov (writer and lepidopterist), Leonardo da Vinci (artist and engineer), Alexander Borodin (composer and chemist), and J. S. Bach (composer, performer, and acoustician). Each of these achieved a self-sufficiency enabling the articulation and activation of work that reveals a singular vision; in short, an entrepreneurial streak runs through their lives, fueled by their own individuality and remarkable originality — an originality shaped in part by fluency in art and science. Students will have opportunity to pursue projects in the arts while engaged in their respective technical studies in order to 'live' the ideal of the Renaissance engineer. In doing so, they experience firsthand the satisfaction and challenges faced by Bach, Borodin, Nabokov, and Leonardo in their desire for knowledge, discovery, and creative expression.

AHS1150
What is "I"
Professors Robert Martello and Lynn Andrea Stein
Open to All. This course meets the Olin foundation AHS requirement.

This interdisciplinary exploration of identity draws on a diverse range of genres in the Humanities, Social Sciences, Arts and Sciences. Prior offerings have drawn from Anthropology, Artificial Intelligence, Biology, Film, History, Literature, Memoir, Neuroscience, Philosophy, Psychology, Political Science, Science Fiction, Sociology, and Visual Arts. Our goal is to understand how individual perspective (or the illusion of same) comes into being and how our own unique perspectives shape the way that we see the world. Emphasis is placed on communication and context.

Appendix I

Olin AHS Requirements
…an introductory primer

Welcome to AHS

At Olin, "**AHS**" stands for **Arts, Humanities, and Social Sciences**. An Olin AHS education begins with a minimum of eight required AHS courses and includes material delivered in technical courses as well as non-course experiences. This AHS curriculum is a vital cornerstone of a Renaissance engineer's education and will enable Olin's graduates to identify, understand, and address the concerns of the 21st century … and beyond.

Olin's AHS course requirement consists of an introductory foundation course, a breadth requirement that offers exposure to different disciplines, a depth requirement that offers a concentration and advanced work in one discipline, and a creative AHS Capstone.

You can find additional information concerning the philosophy and mechanics of the Olin AHS experience at **http://projects.olin.edu/AHS**, a web site that, much like Olin College, is continually under development and bursting with the glorious potential for education and fun.

Key disclaimer: all AHS policies are subject to change as the well-meaning and underfed AHS committee continues to assess and improve this program. Olin believes in placing the spirit above the letter of the "law," and the AHS Committee and your adviser will be more than happy to discuss your concerns and find a way to make the AHS experience work for you.

Overall AHS Course Requirement and Cross Registration

All Olin students must complete *at least*[1] eight AHS courses prior to graduation. These eight courses must satisfy the following requirements, not necessarily in this order:

1. AHS foundation (must be completed in the freshman year)
2. First depth course
3. Second depth
4. Third depth
5. First breadth course
6. Second breadth
7. Unrestricted
8. AHS Capstone

You can take the foundation course in either the first or second semester of your freshman year. If you take the foundation course in the second (spring) semester, you can take either an AHS course or a free elective in the first semester.

[1] The AHS Committee unanimously urges you to consider using some of your free electives to add additional breadth or depth to your AHS education.

Olin students can register for course offerings at Olin, Babson, and Wellesley Colleges and Brandeis University.[2] Olin will also offer credit for AHS courses taken at many other institutions.

- Wellesley courses often include prerequisite requirements and Olin students are strongly urged to consult the Wellesley course catalog at **http://www.wellesley.edu/Courses/home.html** prior to registration.
- Babson allows Olin students to register for any foundation or intermediate level course at any time. Olin students may register for advanced level Babson courses after completing three foundation or intermediate-level courses, or with permission of the instructor. Babson's course catalog is available at **http://www2.babson.edu/babson/courselist.nsf/ulevel?openform&db=hp** .
- Brandeis courses also often include prerequisite requirements and Olin students are strongly urged to consult the Brandeis course catalog at **http://www.brandeis.edu/registrar/bulletin.html** prior to registration.

AHS Foundation Requirement

All Olin students must take one designated "foundation" course in either the fall or spring of their first year. All foundation courses should accomplish several goals, including introductory writing instruction, exposure to extensive readings and critical analysis techniques, and practice with class discussion and (possibly) presentation skills. These goals will be explained in greater detail in an upcoming publication.

For the 2003-04 academic year the designated Olin AHS **foundation** offerings are:

- *Arts and Humanities Foundation*, offered in the fall and spring (spring at Babson only).
- *History and Society Foundation*, offered in the fall and spring (spring at Babson only).
- *Science, Technology, and Society*, offered in the spring at Olin (Professor Rob Martello).
- *What is I?*, offered in the spring at Olin (Professors Lynn Andrea Stein and Rob Martello).
- Possibly a spring course offered at Olin by Professor Diana Dabby, such as *Heroes of the Renaissance Engineer*.

Depth Requirement

All Olin students must take a sequence of at least three courses in a single AHS field.

- An "AHS field" is an area of intellectual inquiry within the Arts, Humanities, and Social sciences. Traditional fields include art, music, history, literature, philosophy, economics, political science, and many others, but Olin will also consider non-traditional fields such as "The historical and sociological study of China."
- The three depth courses must build upon each other in some way, enabling advanced study in a field. Three introductory courses do not offer depth.
- The foundation and capstone courses **do not** count towards this requirement.

Breadth Requirement

All Olin students must sample at least two separate AHS fields outside of their area of depth (described above), thereby achieving a "breadth" of coverage of AHS topics.

- "Breadth" means "please explore different areas." Each student needs to determine how their different breadth courses offer exposure to a range of ideas and thinking styles and skills and content areas. This is how one becomes a well-rounded Renaissance engineer.
- Ideal breadth coverage includes one course offering from the arts, one from the humanities, and one from the social sciences. You do not have to do this, however.
- The foundation and capstone courses **do not** count towards this requirement.

[2] Registration options at other institutions may be restricted in the first semester of the freshman year.

Capstone Requirement

All Olin students must complete a creative and exciting "AHS capstone" activity in their fourth year. The capstone will add depth and breadth to your AHS education. Details will be announced at a later time, but get ready for a once-in-a-lifetime experience.

What about communications, particularly writing?

The communication requirement is very much a work in progress. Please send your ideas to Christina.Shea@olin.edu and Robert.Martello@olin.edu if you would like to shape this vital part of your education.

The purpose of a communication requirement at Olin College would be to integrate the instruction and practice in writing and speaking throughout the curriculum. The objective would not be to add additional subjects to the curriculum, but simply to identify and develop communication intensive or communication concentration (CC) courses from existing courses in both AHS and the major or specialization: a seamless integration that reflects the college's commitment to the engineer, as both a highly skilled writer and an informed, persuasive speaker.

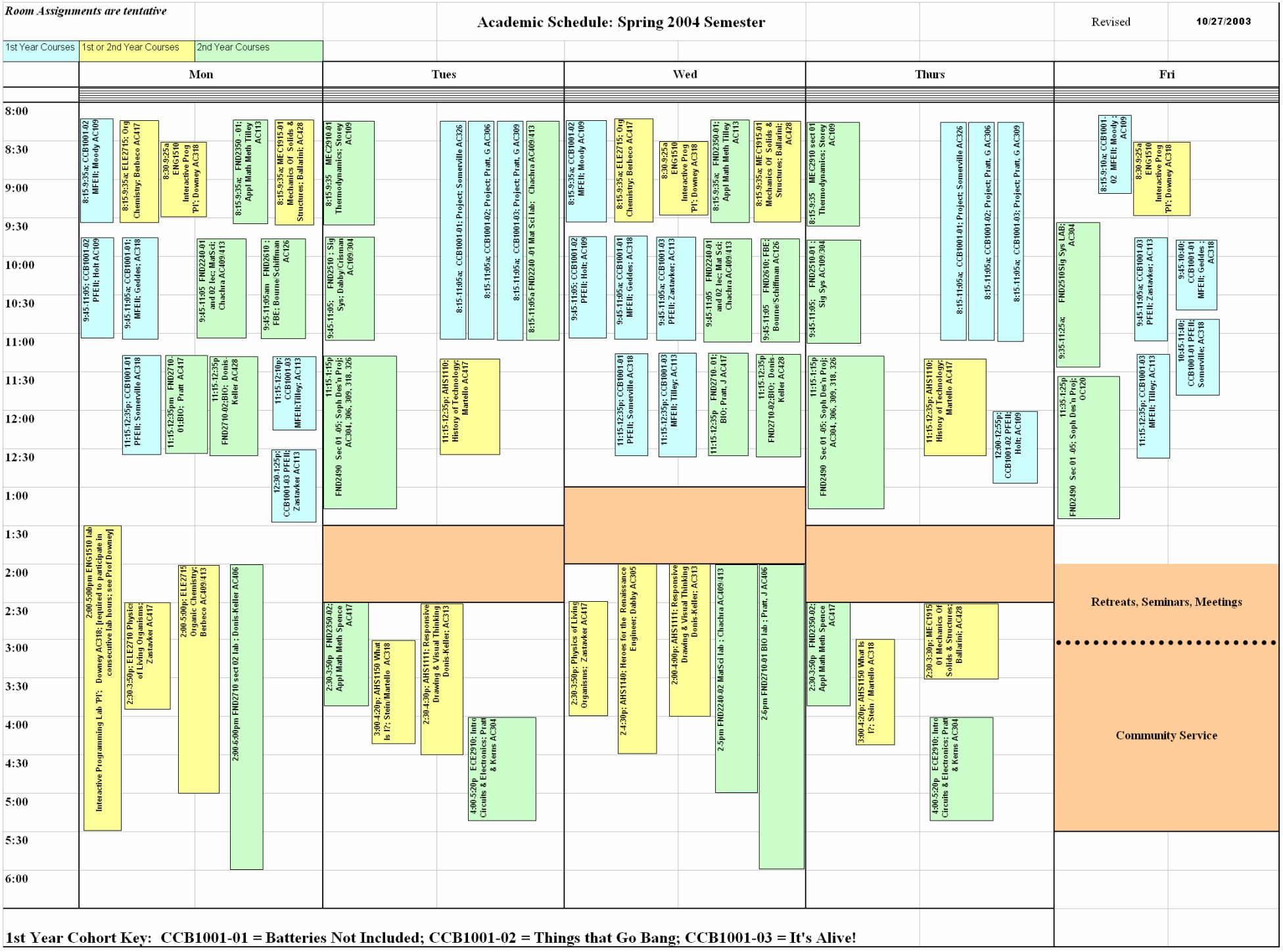
Note that all AHS foundation courses emphasize communication as an integral learning objective and pedagogical goal.

Appendix II

Spring 2004 Olin College Course Offerings; Followed by Grid

Block Course #	UG Year	Cohort	Course #	Section	Course Title	Faculty	Credits	Time	Room	Class Size
CCB1001-01	1	*Batteries Not Included*	FND1220	01	Physical Foundations of Engineering II	Somerville	3.00	MW 11:15-12:35p; F 10:45-11:40a	AC318	**25**
	1		FND1320	01	Mathematical Foundations of Engineering II: Linear Algebra & Vector Calculus	Geddes	3.00	MW 9:45-11:05a; F 9:45-10:40a	AC318	**25**
	1		FND1420	01	Foundations of Electrical Engineering Design	Somerville	4.00	TR 8:15-11:05a	AC326	**25**
CCB1001-02	1	*Things that Go Bang*	FND1220	02	Physical Foundations of Engineering II	Holt	3.00	MW 9:45-11:05a; R 12:00-12:55p	AC109	**25**
	1		FND1320	02	Mathematical Foundations of Engineering II: Linear Algebra & Vector Calculus	Moody	3.00	MW 8:15-9:35a; F 8:15-9:10a	AC109	**25**
	1		FND1420	02	Foundations of Electrical Engineering Design	Pratt, G	4.00	TR 8:15-11:05a	AC306	**25**
CCB1001-03	1	*It's Alive!*	FND1220	03	Physical Foundations of Engineering II	Zastavker	3.00	M 12:30-1:25p; WF 9:45-11:05a	AC113	**25**
	1		FND1320	03	Mathematical Foundations of Engineering II: Linear Algebra & Vector Calculus	Tilley	3.00	M 11:15-12:10p; WF 11:15-12:35p	AC113	**25**
	1		FND1420	03	Foundations of Electrical Engineering Design	Pratt, G	4.00	TR 8:15-11:05a	AC309	**25**
	1 or 2		ELE1050 / ENG1510	01	Intro to Interactive Programming: The Design of Software Systems	Downey	4.00	MWF 8:30-9:25a; Lab M 1:30-5:30p (not all 4 hrs req'd – see Prof Downey)	AC318	**25**
	2		FND2240	01	Material Science and Applied Chemistry	Chachra	4.00	MW 9:45-11:05a lec; lab T 8:15-11:05a	AC409/413	**20**
	2		FND2240	02	Material Science and Applied Chemistry	Chachra	4.00	MW 9:45-11:05a lec; lab W 2:00-5:00p	AC409/413	
	2		FND2350	01	Applied Mathematical Methods	Tilley	3.00	MW 8:15-9:35a	AC113	**24**
	2		FND2350	02	Applied Mathematical Methods	Spence	3.00	TR 2:30-3:50p	AC417	**24**
	2		FND2490	01-05	Sophomore Design Project	Linder, Crisman, Stein, Stolk; TBA	4.00	TR 11:15-1:15p; F 11:35-1:25p	TR AC304, AC306, AC309, AC318, AC326; F OC120	**75**

Block Course #	UG Year	Cohort	Course #	Section	Course Title	Faculty	Credits	Time	Room	Class Size
	2		FND2510	01	Signals & Systems	Dabby; Crisman	3.00	TR 9:45-11:05am lec; lab F 9:35-11:25a	AC109 / AC304	**29**
	2		FND2610	01	Foundations of Business & Entrepreneurship	Bourne; Schiffman	3.00	MW 9:45-11:05am	AC126	**25**
	2		FND2710	01	Principles of Modern Biology	Pratt, J	4.00	MW 11:15-12:35p; W 2-6 lab	AC417 / Lab AC406	**25**
	2		FND2710	02	Principles of Modern Biology	Donis-Keller	4.00	MW 11:15-12:35p; M 2-6 lab	AC428 / Lab AC406	**25**
	2		MEC2910	01	Thermodynamics and Chemistry of Combustion	Storey	3.00	TR 8:15-9:35a	AC109	**30**
	2		MEC2910	02	Thermodynamics and Chemistry of Combustion	Storey	3.00	if needed; TBD	TBD	
Elective / AHS Offerings:										
	1		AHS1110	01	History of Technology (meets Olin foundation requirement)	Martello	3.00	TR 11:15-12:35p	AC417	**20**
	1 or 2		AHS1140	01	Heroes for the Renaissance Engineer (meets Olin foundation requirement)	Dabby	3.00	W 2-4:30p	AC305	**6**
	1 or 2		AHS1150	01	What Is I? (meets Olin foundation requirement)	Stein / Martello	3.00	TR 3:00-4:20p	AC318	**20**
	1 or 2		ELE1010 / AHS1111	01	Responsive Drawing and Visual Thinking	Donis-Keller	3.00	T 2:30-4:30p; W 2:00-4:00p	AC313	**12**
	2		ECE2910	01	Introduction to Circuits and Electronics	Pratt, G; Kerns, D	3.00	TR 4:00-5:20p	AC304	**26**
	2		ELE2710	01	Physics of Living Organisms	Zastavker	3.00	TBA	AC417	**25**
	1 or 2		ELE2715	01	Applied Organic Chemistry	Berbeco	4.00	MW 8:15-9:35a lec; lab M 2:00-5:00p	AC417 / lab AC409/413	**14**
	1 or 2		MEC1915	01	Mechanics Of Solids And Structures	Ballarini	3.00	MW 8:15-9:35a; R 2:30-3:30p	AC428	**25**


Room Assignments are tentative
Academic Schedule: Spring 2004 Semester
Revised
10/27/2003
1st Year Courses
1st or 2nd Year Courses
2nd Year Courses
Mon
Tues
Wed
Thurs
Fri
8:00
8:30
9:00
9:30
10:00
10:30
11:00
11:30
12:00
12:30
1:00
1:30
2:00
2:30
3:00
3:30
4:00
4:30
5:00
5:30
6:00
8:15-9:35a; CCB1001-02 MFEll; Moody AC109
8:15-9:35a; ELE2715; Org Chemistry; Barbeco AC417
8:30-9:25a ENG1510 Interactive Prog 'PI'; Downey AC318
8:15-9:35a; FND2350 .01; Appl Math Meth Tilley AC113
8:15-9:35a; MEC1915-01 Mechanics Of Solids & Structures; Ballarini; AC428
9:45-11:05; CCB1001-02 PFEll; Holt AC109
9:45-11:05a; CCB1001-01; MFEll; Geddes; AC318
9:45-11:05 FND2240-01 and 02 lec; MatSci; Chachra AC409/413
9:45-11:05am FND2610 ; FBE; Bourne Schiffman AC126
11:15-12:35p; CCB1001-01 PFEll; Somerville AC318
11:15-12:35pm FND2710-01;BIO; Pratt AC417
11:15-12:35p FND2710-02;BIO; Donis-Keller AC428
11:15-12:10p; CCB1001-03 MFEll;Tilley; AC113
12:30-1:25p; CCB1001-03 PFEll; Zastavker AC113
Interactive Programming Lab 'PI'; Downey AC318; [required to participate in consecutive Lab hours; see Prof Downey]
2:00-5:00pm ENG1510 lab
2:30-3:50p; ELE2710 Physics of Living Organisms; Zastavker AC417
2:00-5:00p; ELE2715 Organic Chemistry; Barbeco AC409/413
2:00-6:00pm FND2710 sect 02 lab ; Donis-Keller AC406
8:15-9:35 MEC2910-01 Thermodynamics; Storey AC109
9:45-11:05; FND2510 ; Sig Sys; Dabby/Cinsman AC109/304
11:15-1:15p FND2490 Sec 01 -05; Soph Des'n Proj; AC304, 306, 309, 318, 326
8:15-11:05a; CCB1001-01; Project; Somerville AC326
8:15-11:05a; CCB1001-02; Project; Pratt, G AC306
8:15-11:05a; CCB1001-03; Project; Pratt, G AC309
8:15-11:05a FND2240 -01 Mat Sci lab; Chachra AC409/413
11:15-12:35p; AHS1110; History of Technology; Martello AC417
2:30-3:50p FND2350-02; Appl Math Meth Spence AC417
3:00-4:20p; AHS1150 What Is I?; Stein/Martello AC318
2:30-4:30p; AHS1111; Responsive Drawing & Visual Thinking Donis-Keller; AC313
4:00-5:20p ECE2910; Intro Circuits & Electronics; Pratt & Kerns AC304
8:15-9:35a; CCB1001-02 MFEll; Holt AC109
8:15-9:35a; ELE2715; Org Chemistry; Barbeco AC417
8:30-9:25a ENG1510 Interactive Prog 'PI'; Downey AC318
8:15-9:35a; FND2350-01; Appl Math Meth Tilley AC113
8:15-9:35a; MEC1915-01 Mechanics Of Solids & Structures; Ballarini; AC428
9:45-11:05; FND2240 -01 and 02 lec; Mat Sci; Chachra AC409/413
9:45-11:05 FND2610; FBE; Bourne/Schiffman AC126
11:15-12:35p; FND2710 -01; BIO; Pratt, J AC417
11:15-12:35p; FND2710-02;BIO; Donis-Keller AC428
2:30-3:50p; Physics of Living Organisms; Zastavker AC417
2:4:30p; AHS1140; Heroes for the Renaissance Engineer; Dabby AC305
2:00-4:00p; AHS1111; Responsive Drawing & Visual Thinking Donis-Keller; AC313
2-5pm FND2240-02 MatSci lab ; Chachra AC409/413
2-6pm FND2710-01 BIO lab ; Pratt, J AC406
8:15-9:35 MEC2910 sect 01 Thermodynamics; Storey AC109
9:45-11:05; FND2510-01 ; Sig Sys AC109/304
11:15-1:15p FND2490 Sec 01 -05; Soph Des'n Proj; AC304, 306, 309, 318, 326
12:00-12:55p; CCB1001-02 PFEll; Holt; AC109
8:15-11:05a; CCB1001-01; Project; Somerville AC326
8:15-11:05a; CCB1001-02; Project; Pratt, G AC306
8:15-11:05a; CCB1001-03; Project; Pratt, G AC309
11:15-12:35p; AHS1110; History of Technology; Martello AC417
2:30-3:50p FND2350-02; Appl Math Meth Spence AC417
3:00-4:20p; AHS1150 What Is I?; Stein / Martello AC318
2:30-3:30p; MEC1915 01 Mechanics Of Solids & Structures; Ballarini; AC428
4:00-5:20p ECE2910; Intro Circuits & Electronics; Pratt & Kerns AC304
8:15-9:10a; CCB1001-02 MFEll; Moody ; AC109
8:30-9:25a ENG1510 Interactive Prog 'PI'; Downey AC318
9:35-11:25a FND2510Sig Sys LAB; AC304
11:35-1:25p FND2490 Sec 01 -05; Soph Des'n Proj; OC120
9:45-11:05a; CCB1001-03 PFEll; Zastavker; AC113
9:45-10:40; CCB1001-01 MFEll; Geddes ; AC318
10:45-11:40; CCB1001-01 PFEll; Somerville; AC318
11:15-12:35p; CCB1001-03 MFEll; Tilley; AC113
Retreats, Seminars, Meetings
Community Service
1st Year Cohort Key: CCB1001-01 = Batteries Not Included; CCB1001-02 = Things that Go Bang; CCB1001-03 = It's Alive!