Olin College Registration Booklet

Spring 2009

Classes begin Tuesday, January 20, 2009

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Registration Timelines
for Add ; Drop and Pass/No Credit ; Withdraw

Session	Add	Drop and Pass/No Credit	Withdraw
Full Semester (Jan 20 - Apr 30)	February 2, 2009	March 31, 2009	April 30, 2009
Session I (Jan 20 - Mar 6)	January 26, 2009	February 23, 2009	March 6, 2009
Session II (Mar 9 – Apr 30)	March 13, 2009	April 17, 2009	April 30, 2009

Frequently Asked Questions and Instructions

What do I register for?
Students are allowed to register for a maximum of 20 credits. All students have a minimum requirement of 12 degree credits to be eligible for the Olin tuition scholarship.

The maximum credits can be distributed between **degree** and **non-degree** activities.

> **Degree** activities are defined as counting toward graduation credit and course requirements (all students must have a minimum of 12 degree credits). Examples of registered degree activities are standard courses, cross-registered courses, independent study and research for degree credit. Consult the catalog for your specific degree requirements.
>
> **Non-degree** activities are defined as **not** counting toward degree and subject requirements. Examples are passionate pursuits and shop. Non-degree activities are not graded and appear on your transcript if you have met all of your objectives for the activity. Remember these do not count in your minimum requirement of 12 degree credits.

How do I choose my activities for degree and non-degree credit?
Use this booklet as a tool to assist you in preparation for advising discussions. Meet with your adviser BEFORE your registration date. Your adviser will "clear" you to register. If you are not cleared, you will not be permitted to register.

I am doing a Study Away Program next semester. Do I need to register?
YES! Students in approved semester away programs must register for a single course: **AWAY1000: Study Away Program**. This course will allow Olin to certify you as a full-time student during the semester you are away. Your approved course work will be transferred to your academic record upon receipt of a transcript from the host institution (provided you have received the minimum required grade). Note: All registrations will be cross-referenced with the Study Away Committee.

Olin Self Study, Independent Study and Research - - - How do I register?
Students interested in doing research and/or independent study can do so by registering for the proper course number on sis.olin.edu or my.olin.edu AND by applying to the Olin Self Study and Independent Study and Research Board (OSSISURB). ALL OSSISURB applications must be turned into the StAR Center by February 2, 2009 to be considered registered. Any on-line registration without an OSSISURB application will be dropped from the student record. Seniors must leave room in their schedules for 4 credits of OSS. Juniors can leave room in their schedules for 4 credits of OSS, subject to finding an OSS advisor.

NOTE: YOUR OSSISURB APPLICATION MAY BE DUE EARLIER THAN YOU ANTICIPATED. PLEASE BE CAREFUL TO READ ANY/ALL OSSISURB RELATED EMAILS.

I am interested in doing a Passionate Pursuit next semester. How do I register?
If you are interested in doing a Passionate Pursuit, consult the Student Handbook for FAQ's. Passionate Pursuits require approval from the Executive committee of the Passionate Pursuit Board in addition to consent of a faculty sponsor and the student's adviser. Passionate Pursuit proposals should be sent to the chair of the executive board, the Dean of Student Life.

How do I participate in Cross-Registration with Babson, Brandeis or Wellesley (BBW)?
Olin students are allowed to take one course per school, per semester; with the exception of first semester freshmen. First semester freshmen are not permitted to participate in cross-registration.

When selecting a BBW course, keep in mind the time constraints of your Olin courses. Additionally, it is important to check for course pre-requisites and the enrollment. Under most circumstances, if the course is full, you will not be able to register for the course. Enrollment is generally found under course "tally" or listed with the course info.

All BBW courses will be noted on your Olin degree audit by 'color' (the area of discipline). It is the student's responsibility to review the ARB approved 'coloring' on the ARB website and note the color on the cross-reg form. If a course is not found on the 'list', the student must petition the CSTB for appropriate coloring.

NEW PROCESS FOR CROSS-REGISTRATION:
In order to submit a cross-registration request, use the cross-registration portlet under the MyStAR tab at http://my.olin.edu. The StAR Center will work with the host school to facilitate the registration. The following dates reflect the dates that the host school will accept cross-registration requests from Olin's StAR Center. Olin students may submit requests to the StAR Center any time before the later of the dates listed below.

Babson College Cross Registration
You can find their offerings at .http://www.babson.edu/registrar/. Last day to add is January 28, 2009.

Brandeis University Cross Registration
You can find Brandeis offerings at http://www.brandeis.edu/registrar/reg-sched/sch.html . Last day for early registration is November 5, 2009. Registration is closed from Nov 5-Jan 11. Last day to add is January 27, 2009. NOTE: All Brandeis registration requests must have 6 digit approval code from the instructing Brandeis faculty member. Registrations submitted without permission will not be processed.

Wellesley College Cross Registration
You can find their offerings at http://www.wellesley.edu/Registrar/Menupage8.html . You can register November 17, 2008-January 16, 2009. After January 16, 2009, you can only register via the visiting student card process. No requests will be sent from the StAR Center after January 16, 2009.

How do I Cross-Register to Olin College?
Olin welcomes students from Babson, Brandeis and Wellesley to register for Olin courses. In general, all courses except for some first year courses are eligible for cross-registration with the permission of the Olin faculty member. BBW students should send a request for a course through their Registrar's Office to the Student Accounts and Records (StAR) Center. Cross-registration request forms can be found at the home institution. Visit http://star.olin.edu for more information.

What About Co-Curriculars?
Registration and descriptions for Co-Curriculars will be released during the add 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 this semester and notify the Dean of Student Life. Co-Curricular offerings will be posted at http://star.olin.edu.

When Do I Register?
On-line registration will take place November 10-13, 2008 during the evening hours. Information regarding the groups will be sent **via email** no later than November 5, 2008.

(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.)

When is the Add Period – the Drop Period – the last day to withdraw from a course? – REFERENCE HANDY CHART at beginning of this Booklet.
The Add period* is the first 10 class days of the semester. The Add period will begin on January 20, 2009 and end on February 2, 2009. Add requests can be processed in person at the StAR Center and on-line. Add/Drop forms can be found at http://star.olin.edu.

The Drop period begins January 20, 2009 and ends March 31, 2009. During this time, students can alter their schedule as long as they remain in a minimum of 12 credits of degree activities. A "drop" is removed from the student schedule and does not appear on transcripts. Drops and withdrawals after the add period require a hard copy form and must be processed at the StAR Center. There are no on-line drops after the add period ends.

The last day to withdraw from a course is the last day of instruction.

(*Additionally, students wishing to participate in cross-registration will be allowed to alter their Olin schedule to accommodate cross-registration requests if the host schools' add/drop period extends beyond February 2, 2009. This will be done at the StAR Center once the confirmation of the cross-registered request is received. The reason for this is due to the variable times at which we can honor cross-registration requests depending on the host school's registration times.)

How do I Register? --- Internet Explorer is the preferred browser

1. Log into the Web Registration system at https://sis.olin.edu
   Notes:
   a) your username is your first initial followed by your last name and your password is your 'old' sis.olin.edu password and not your network log-in;
   b) please do not use the portal for Spring 2009 registration unless you have been asked to participate in the pilot program;
   c) class of 2012- you will receive a "sis" password from IT.

The following instructions are based on the sis.olin.edu site:

2. Make sure your "Set Options" are selected for **SPRING 2009**. This can be done from the **MAIN** page at the bottom of the screen.
3. Select the **Registration** option from the directory structure on the left frame of the web page.
4. 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.
5. Enter the course number and the section of your choice and click **Add**. (For course numbers and sections refer to the course listing in this booklet.)

   Note: Course numbers have no space between the letter and the number. Sections numbers are two digits with a leading zero if necessary – e.g. section one is 01.)

6. 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.

Waitlists

Waitlists are available on most courses. In sis.olin.edu, a waitlist comment is included in the course catalog offering section by clicking on the "VIEW" button under requirements if there is indeed a waitlist.

Spring 2009 Supplement to Current Course Catalog

Degree requirements are outlined in the Course Catalog. You may view the on-line catalog at 2008-09 Course Catalog

Course descriptions can also be found in the 2008-09 Course Catalog. Changes to 2008-09 catalog courses or new course offerings for the spring 2009 semester are listed below.

AHSE 2199: Special Topics in Arts, Humanities, Social Sciences
Environmental Enterprise: Technology, Civilization, and Sustainability
Instructor: Martello
Credits: 4 AHSE
Hours: 4-0-8
Technologies, entrepreneurial ventures, and entire civilizations evolve in response to the opportunities and challenges posed by their environment. Human history provides many examples of the complex, dynamic interaction between humans and their natural surroundings, often mitigated by technologies.

This course will survey different environmental issues via a three-step approach. In part one, we will read about different ancient civilizations such as Egypt, Rome, Sumeria, and the Mayans, and investigate how they valued and interacted with their surroundings. In part two we will study American history, including topics on Native American technologies, the conquest of space, environmental protection, and biotechnologies. Part three is an open-ended period of individual or team-based studies of modern technological systems in different nations, with an emphasis upon sustainability and environmental context. Throughout the course we will discuss relevant economic theories, philosophical concepts, ethical frameworks, and literary treatments of the environment.

This course will adopt an experimental, student-driven structure and tone reminiscent of the earliest days of Olin. We will sample and test different readings, assignments, classroom strategies, and pedagogical methods, and student groups will have a great degree of flexibility in shaping this experience. You will not only learn about environmental enterprise, but will help improve this course for future Olin students while meeting your own educational and personal goals. You will not have a second chance at this opportunity, so come on aboard.

AHSE 2199A: Special Topics in Arts, Humanities, Social Sciences
Saving the World: Ideals, Routes, and Contexts for Effective Change
Instructor: Lynch
Credits: 4 AHSE
Hours: 3-0-9
This course is for students who want to use technical expertise to solve world problems. With flexibility to adapt to student interest and discovery, this course will examine obstacles to "saving the world," and avenues to overcome them—all with the aim of empowering students to act on their ideals. Possible topics to consider include interdisciplinary humanities and social science approaches to globalization, development, health, the environment, and industrialization. The course will begin with discussion of topics such as "What is development?" and "Who has the right to implement change?" Based on student interest, we will consider examples of projects that set out to effect change (e.g., damming of rivers in India, appropriate technology in Africa, tuberculosis treatment in Haiti) to see what works, what does not, and why. By examining case studies of successes and failures, students will have a better sense of how to move forward on their own ideas. The course will strike a balance between learning about issues in other parts of the world and working on a local issue. The course structure will likely include provocative and pertinent readings (e.g., Mountains Beyond Mountains by Tracey Kidder; "The Greater Common Good" by Arundhati Roy) visitors, and short research and hands-on projects.

AHSE 2199B: Special Topics in Arts, Humanities, Social Sciences
Writing about Science and Technology
Instructor: Goldoftas
Credits: 4 AHSE
Hours: 3-0-9
The creativity inherent in science and engineering and the creative process of writing can come together in rich and compelling ways. In this experimental seminar, we will use writing to probe questions about science, biomedicine, and technology—questions about their theories, their methods, their influence and institutions, their place in and responsibility to society. As writers, we will investigate and attempt different writing forms, including informal writing, personal essays, technical essays, explanatory essays, and arguments. This class will explore the relationship between technical and non-technical forms of writing. We will also read writing by both scientists and non-scientists on topics that range across the sciences and include policy. This class will appeal to students who like to read and also like to write (or wonder if they do). Possible readings include writing by: Alan Lightman, Oliver Sacks, Stephen Jay Gould, Diane Ackerman, C.P. Snow, Elizabeth Kolbert, Douglas Hofstadter, Michael Specter, Malcolm Gladwell, Berton Roueche, John McPhee, Terry Tempest Williams, E.B. White.

AHSE 2199C: Special Topics in Arts, Humanities, Social Sciences

Social Justice and Social Change: Literature and Films That Speak "Inconvenient" Truths to Power

Instructor: Argyros
Credits: 4 AHSE
Hours: 4-0-8

The world into which you will graduate is rife with social problems: hunger, poverty, pollution, racism, global warming, domestic abuse, AIDS, war, genocide. How do novelists and filmmakers address these problems in aesthetically compelling ways without sounding tediously didactic? Which texts attempt only to outline the scope of the problem? Which imagine potential solutions? Which do both? Which methods are most effective, and why?

The course will focus on fictional and non-fictional representations of mid-to-late 20th century and early 21st century social problems. We will pair non-fictional texts with relevant fictional texts to explore both the literary representation of social problems as well as the socio-historical contexts surrounding the problems. The class will be primarily discussion-based with readings, films, analytical essays, oral presentations, and other less conventional assignments. For example, students might choose to do a social activism project where they identify, research, and attempt to solve—or at least outline a plan for solving—a social problem in Needham (e.g., the dearth of affordable housing). Or they might choose to do a creative option, authoring a piece of original short fiction or poetry or creating a short film as a means of representing a social problem of their choice. Some course texts will be determined through consultation with students. One possible example of a fiction/non-fiction pairing is the following, on pollution: Sound Truth and Corporate Myth$: The Legacy of the Exxon Valdez Oil Spill (2005) by Riki Ott & The Shipping News by E. Annie Proulx.

AHSE 3199: Special Topics in Arts, Humanities, Social Sciences

Issues in Leadership and Ethics

Instructor: Miller, Schlesinger; Bottomly
Credits: 2 AHSE
Hours: 2-0-4
Pre-requisite: students in their final year of their undergraduate program
[NOTE: Special time considerations – For approximately five evenings during the semester, guest speakers will deliver a public lecture. On the evenings without guest lecturers, the course will meet from approximately 6:00-7:30pm.]

This course examines the intersection of leadership and ethics in business, engineering, and more general contexts. Readings will include material on the definition and history of ethics and morality in the U.S., the definition and development of leadership skills in a professional context, the role of ethics in the professions, and case studies involving the intersection of leadership and ethics. The course will be structured as a seminar, involving guest speakers and interactive case studies. Enrollment will be limited to 8 Babson students, 8 Olin students, and 8 Wellesley students in the final year of their undergraduate program.

AHSE 4190: Arts, Humanities Social Sciences Capstone Project

"Course Capstones": Deadline for applying for approval for spring '09 "course capstones" is Thursday, November 6, 2008. Information on this process is available in the AHS policies information that will be emailed to all students around the time of the release of spring '09 registration information.

"Project Capstones"

- Music: Students wishing to do music capstone projects should register for AHSE 4190, sec. 01 (Dabby)
- Creative Writing: Students wishing to do creative writing capstone projects should register for AHSE 4190, sec. 03 (Shea)
- All others: Students wishing to do capstone projects in fields other than Creative Writing and Music should register for AHSE 4190, sec. 02 (Lynch)

ENGR 3499: Special Topics in Electrical and Computer Engineering

Principles of Wireless Communications

Instructor: Govindasamy
Credits: 4 ENGR
Hours: 4-0-8
Prerequisites: ENGR 3420, familiarity with basic Linear Algebra and Probability

This course teaches students the main principles of modern wireless communications systems. Students will learn about the propagation and modeling of wireless signals, communications concepts particularly applicable to wireless channels such as channel coherence, diversity, and outage capacity, multiple-input-multiple-output (MIMO) channels using multiple antennas, and multi-user communications. Students will be required to do a substantial, simulation or in exceptional cases hardware-based design project.

ENGR 3499A: Special Topics in Electrical and Computer Engineering
Principles of Intelligent Systems Engineering
Instructor: Chang, Ravel, Boxer
Credits: 4 ENGR
Hours: 4-4-4
Prerequisites: ENGR 2210, ENGR 3410, or permission of instructor(s)

Many of our global challenges such as life sciences, communications, transportation, energy, and agriculture, are areas in which intelligent systems can make a significant impact. PoISE gives students the opportunity to select complex, multi-technology projects that are both challenging engineering endeavors and can make a meaningful impact on society. PoISE is a project-based course that will engage students in teams to develop intelligent systems using multiple technologies (FPGA, DSP, embedded CPU, desktop systems). These computing systems may reach out to the real world through sensor networks and/or mechanical systems. Students will be introduced to systematic design approaches, real-world tradeoffs, and platform-based design practices central to today's intelligent and embedded systems. The course will also provide a project experience that seeks to bridge students more smoothly from PoE to SCOPE.

ENGR 3499B: Special Topics in Electrical and Computer Engineering
Digital Signal Processing
Instructor: Dabby
Credits: 4 ENGR
Hours: 2-2-8
Prerequisites: ENGR 2410

Signal processing—the modeling, transformation, and manipulation of signals and their content—underpins virtually all facets of our daily lives due to the coupling of computing and communications in consumer, industrial, and public sector applications. Discrete-time signals, obtained through the periodic sampling of continuous-time signals, and their frequency domain equivalents, can undergo transformation via systems, e.g., filters that are categorized by the duration of their impulse responses. The theory, design, and application of finite-duration impulse response (FIR) and infinite-impulse response (IIR) filters conjoins such fundamental topics as difference equations, the z-transform, stability, frequency response, the fast Fourier transform, windowing, A/D and D/A conversion techniques. Each topic will be introduced by real-world applications, followed by illustrative problems that clarify the underlying theory, and a laboratory practicum offering hands-on experiential learning and opportunities for design.

ENGR 3499C: Special Topics in Electrical and Computer Engineering
Analog Filter Design
Instructor: Lundberg
Credits: 4 ENGR
Hours: 4-4-4
Prerequisites: ENGR 2420, or permission of instructor

This course covers the design and implementation of continuous-time analog filters, which are essential parts of many modern electronic systems, in a variety of different styles, such as passive filters, active RC filters, switched-capacitor filters, and OTA-C filters. It also covers the design of oscillators. Students will do a project involving the design of a filter or of an oscillator.

ENGR 3699: Special Topics in Bioengineering
Tissue Engineering
Instructor: Sieminski
Credits: 4 ENGR
Hours: 4-0-8

Tissue engineering is often defined as growing or regenerating tissues. To grow engineered tissues requires an understanding of the cell and tissue biology as well as understanding of how culture conditions (transport of oxygen and biochemical factors, application of mechanical forces, etc.) affect the growing tissues. This course will begin with an overview of developmental biology and the types of biochemical and biophysical cues cells receive and respond to during development that direct them to form specific tissues, followed by an overview of the larger field of tissue engineering. We will discuss cell source, the use of natural or synthetic biomaterials, development of bioreactors, the use of biochemical supplements, as well as motivations and applications of engineered tissues – from replacement of damaged tissues to models of tissue function. The bulk of this course will be dedicated to the design, implementation, and analysis of experiments with a particular focus on engineering blood vessels. This will be an intensive lab-based course in which groups of students will choose the aspect of blood vessel tissue engineering (e.g. scaffold choice, biochemical culture conditions, mechanical stimulation, functional readouts) they would like to pursue and perform their own experiments and analysis (e.g. biochemical, mechanical, histological).

ENGR 3699A: Special Topics in Bioengineering
Biological Thermodynamics for Engineers
Instructor: Sieminski and Zastavker
Credits: 4 ENGR
Hours: 4-0-8

The beauty and depth of this subject cannot be described better than with the words of one of the greatest physicists of the 20th century, Arnold Sommerfeld, "Thermodynamics is a funny subject. The first time you go through it, you don't understand it at all. The second time you go through it, you think you understand it, except for one or two points. The third time you go through it, you know you don't understand it, but by that time you are so used to the subject, it doesn't bother you anymore." In this course we will venture into the depths of thermodynamics and statistical mechanics, while concentrating on applications of the abstract concepts to biological, biochemical, and biophysical phenomena and drawing from contemporary bioengineering problems. This course provides an introduction to the study of energy transformations in biological systems as well as thermodynamics and kinetics of structure formation and association of biomolecules. Topics covered include energy and its transformation, the First and Second Law of Thermodynamics, Gibbs Free Energy, statistical thermodynamics, binding equilibria and reaction kinetics, and a survey of other interesting areas of biological thermodynamics, particularly the origin of life on Earth. Topics have relevance to numerous pertinent biological/bioengineering applications including diseases based on phase transitions (e.g., cataract of the eye, Alzheimer's disease, etc.), oxygenation of hemoglobin; protein folding, aggregation, and binding; assembly of everything from the phospholipids bilayer to biomaterials; the macroscopic mechanical properties of biomaterials and even cells; creation and operation of devices at the nano- and micro-scales; understanding the basis of mass transport; osmotic pressure relevant to cells and microvascular filtration; receptor-ligand binding; the melting and annealing of DNA. The concepts employed in this course have relevance to students interested in many disciplines, including Bioengineering, Material Science, and Chemistry.

ENGR 3899: Special Topics in Materials Science
Process Engineering in Materials Science
Instructor: Neal
Credits: 4 ENGR
Hours: 4-0-8
Prerequisite: SCI 1410

The Design Nature course focuses on experiencing the engineering design process. This course will be about the engineering design of a process. 'Process' being the systematic method for reproducibly producing all or part of a product. Process Engineer is more a job description (search "process engineer" in Monster.com for details) than an engineering discipline; process engineers might be mechanical, chemical, electrical, or materials engineers by training. In any case, all can design and develop processes more effectively when they integrate materials science knowledge and principles into their work. This course will be a team-based project-oriented experience that integrates materials science concepts with systematic experiment design methodologies and applied statistical analysis. Experimentation plays an important role in all phases of product realization, and here we will focus on the process development and improvement part of that. Since statistical validation of results is critical to the systematic enhancement of knowledge and expertise that is at the heart of process engineering, one of the goals of this course will be that students make thoughtful and intelligent use of statistical parameters in their decision making. To that end, we will study the origins and content of these parameters. It is not necessary that students have completed or are concurrently enrolled in probability & statistics, MTH 2130. Nonetheless, the course is quite relevant. Consequently, plans and expectations for individual students in this course will be customized to accommodate prior knowledge in this area. Student project teams will use the statistically based 'Design of Experiments' methodology to develop and optimize processes through experimentation.

SCI 1121: Electricity and Magnetism
Instructor(s): Somerville, Zastavker
Credits: 4 SCI
Hours: 4-0-8
Co-requisites: MTH 1120

Electricity and magnetism, including electric charges, forces, and fields, Gauss's Law, potential, electrostatic energy and capacitors, magnetic fields and energy, mutual and self induction, Ampere's Law, Maxwell's Equations and electromagnetic waves.

Spring 2009 Sections

Section 01, Zastavker: A Theoretical Approach
Electromagnetism is rightly considered one of the great unification triumphs of physics. In this theoretically-oriented course, we will examine the beauty of the Maxwell equations primarily using analytical approaches. Topics include electric charges, forces, and fields, Gauss's Law, potential, electrostatic energy and capacitors, magnetic fields and energy, mutual and self induction, Ampere's Law, Maxwell's Equations, acoustic and electromagnetic waves, polarization, interference and diffraction.

Section 02, Somerville: A Modeling and Simulation Approach
Electromagnetic forces are responsible for an amazingly large fraction of the physical phenomena we observe on a daily basis. Unfortunately, many "real" electromagnetism problems are extremely difficult to solve analytically, so making progress often requires use of computational tools. In this course we will take a modeling and simulation approach to learning the fundamentals of electromagnetism and waves. The course will include both an analytical problem-solving component to reinforce fundamental physical ideas, as well as a number of open-ended modeling and simulation projects in which students will apply these ideas to real-world systems (e.g., microphones, ion traps, aurora borealis, mag-lev trains, musical instruments). Scientific writing will be emphasized.

SCI 1121A: Electricity and Magnetism (with laboratory)
Instructor(s): Christianson
Credits: 4 SCI
Hours: 3-3-6
Co-requisites: MTH 1120

Electricity and magnetism, including electric charges, forces, and fields, Gauss's Law, potential, electrostatic energy and capacitors, magnetic fields and energy, mutual and self induction, Ampere's Law, Maxwell's Equations and electromagnetic waves. This course includes a laboratory component.

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We are surrounded by all kinds of cool devices that function using the basic principles of electric and magnetic fields. In this class we will study the physics of electric and magnetic fields and forces in the context of modern applications. In addition to a thorough overview of topics in electricity and magnetism, we will embark on a laboratory exploration of devices that function using the basic principles of electric and magnetic fields. For the primary class project, you will pick a device or class of devices, and, through analytical calculation, simulation and hands-on demonstration learn to explain thoroughly and quantitatively how your device operates. Through the middle of the term, we will complement this with an extended hands-on project to measure the speed of light using an electric circuit, which will demonstrate some of the basic principles involved in device physics.

Other Registration Opportunities or Notes

MEC 1000
Fundamentals of Machine Shop Operations

Instructor(s): Anderson
Credits: 4 Non Degree (will not meet degree requirements)
Hours: 6-0-6
Pre-requisites: Preference will be given those with prior machining and CAD experience

The course focuses on the fundamentals of machine shop operations, the foundations for all classical machining techniques. In addition, we will cover necessary mechanical design elements and CAD techniques to equip you with the skills to help other students. No basics will be skipped!

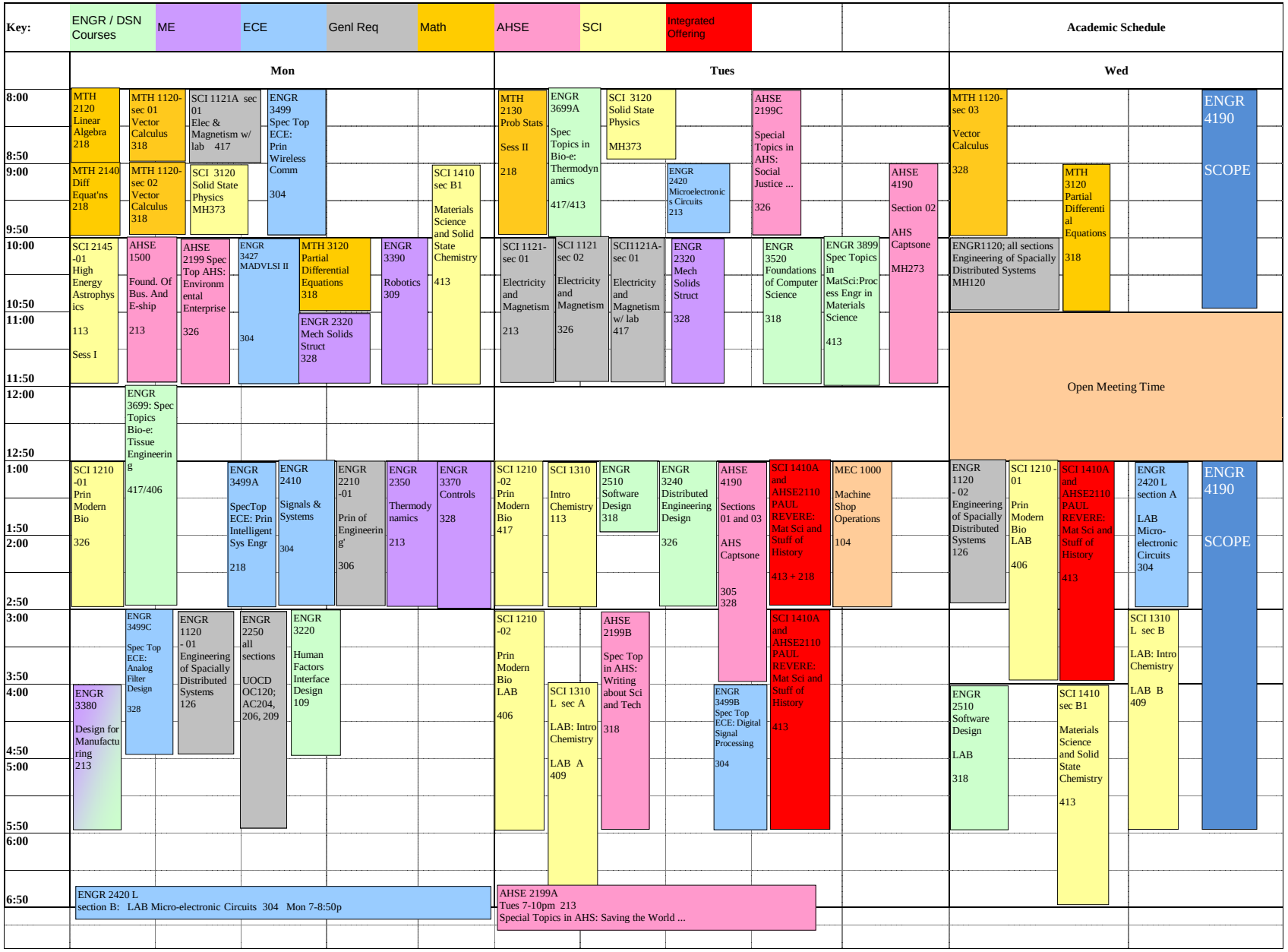
We will cover topics in proper breadth and depth to ensure that you come away with a sound understanding of machine shop safety, bench work, measurement, part layout, machine setup, operation and maintenance. We will also focus on design techniques and drawing creation using SolidWorks. Projects will be assigned to enforce these concepts and also provide many hours of machine time. There will be incentives to entice you to work professionally, learn how to interpret and establish appropriate design requirements and make parts to specification. Additionally you will learn how to inspect parts to ensure they meet specification. Time permitting - there will be field trips to local establishments to expand your horizons.

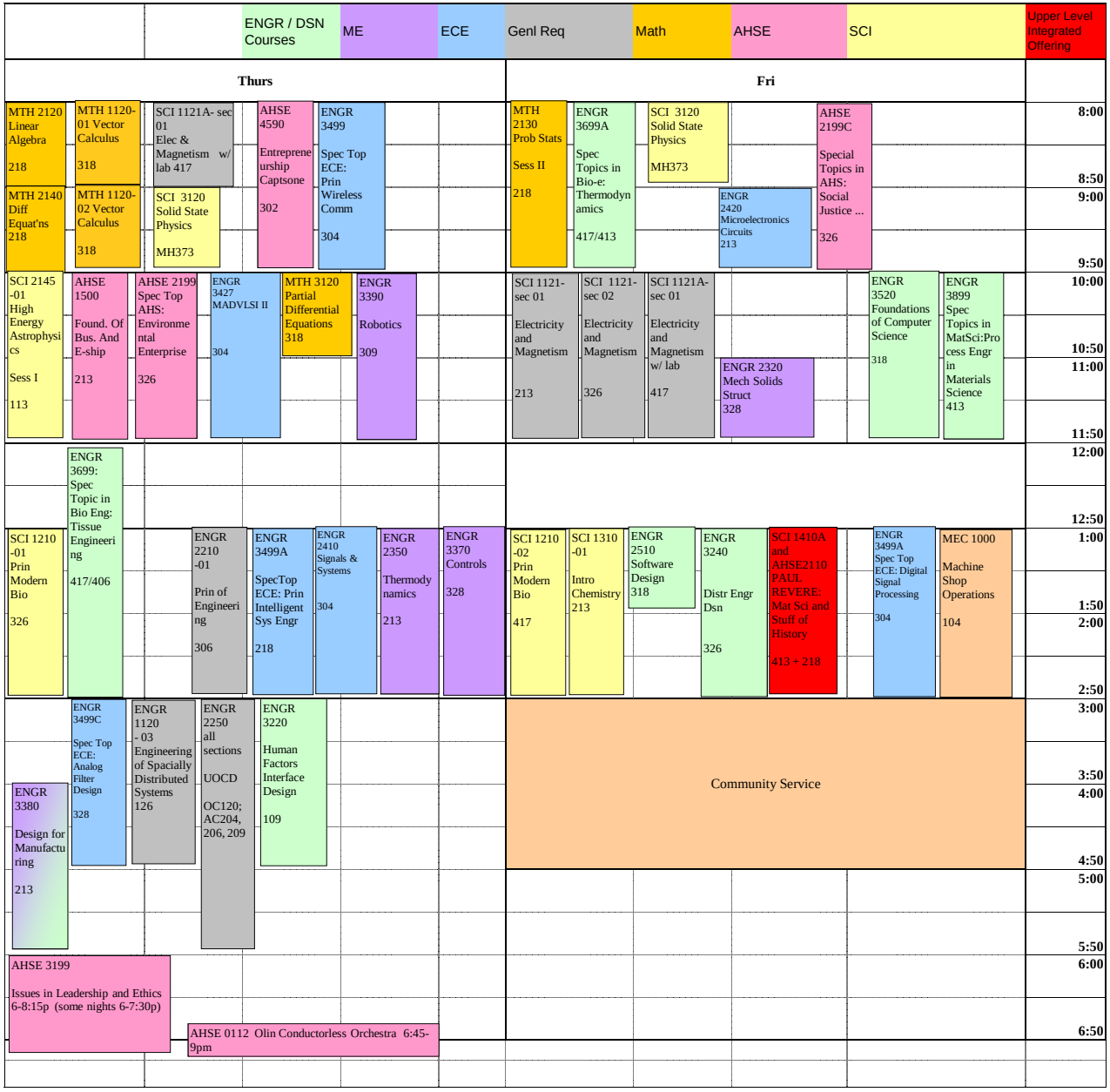
Area	Course #	Sec #	Course Title	Instructors	Credits	Time	Location (tentative)	Enroll Limits	Note
AHS	AHSE 0112	01	The Olin Conductorless Orchestra	Dabby	1	R 6:45-9:00p	AC305; AC318	none	Audition Required; See Description
AHS	AHSE 2199	01	Special Topics in Arts, Humanities, Social Sciences: *Environmental Enterprise: Technology, Civilization, and Sustainability*	Martello	4	MR 10-11:50a	AC326	20	
AHS	AHSE 2199A	01	Special Topics in Arts, Humanities, Social Sciences: *Saving the World: Ideals, Routes, and Contexts for Effective Change*	Lynch	4	T 7-10p	AC213	20	
AHS	AHSE 2199B	01	Special Topics in Arts, Humanities, Social Sciences: *Writing about Science and Technology*	Goldoftas	4	T 3-5:50p	AC318	15	Waitlist Available
AHS	AHSE 2199C	01	Special Topics in Arts, Humanities, Social Sciences: *Social Justice and Social Change …*	Argyros	4	TF 8-9:50a	AC326	20	
AHS	AHSE 3190	01	AHS Capstone Preparatory Workshop	Epstein	1	n/a			
AHS	AHSE 3199	01	Special Topics in Arts, Humanities, Social Sciences: *Issues in Leadership and Ethics*	Miller	2	R 6-8pm		8	
AHS	AHSE 4190	01	Arts, Humanities, Social Sciences Capstone	Dabby	4	T 1-3:50p	AC305	30	
AHS	AHSE 4190	02	Arts, Humanities, Social Sciences Capstone	Lynch	4	T 9-11:50a	MH273	30	
AHS	AHSE 4190	03	Arts, Humanities, Social Sciences Capstone	Shea	4	T 1-3:50p	AC328	30	
AHS / SCI	AHSE 2110	01	The Stuff of History: Materials and Culture in Ancient, Revolutionary and Contemporary Times	Martello	4	TF 1-2:50p	AC218 + AC413	18	Concurrent requisite of SCI 1410A, sec A1
AHS / SCI	SCI 1410A	A1	Materials Science and Solid State Chemistry with Lab	Stolk	4	T 3-5:50p; W 1-3:50p	AC218 + AC413	18	Concurrent requisite AHSE 2110
DSN	ENGR 2250	01	User Oriented Collaborative Design	Linder, Townsend, Eris, Somerville, et al	4	MR 3-5:50p	MH120; AC204	28	
DSN	ENGR 2250	02	User Oriented Collaborative Design	Linder, Townsend, Eris, Somerville, et al	4	MR 3-5:50p	MH120; AC206	28	
DSN	ENGR 2250	03	User Oriented Collaborative Design	Linder, Townsend, Eris, Somerville, et al	4	MR 3-5:50p	MH120; AC209	28	
DSN	ENGR 3220	01	Human Factors Interface Design	Stein	4	MR 3-4:50p	AC109	32	
DSN	ENGR 3240	01	Distributed Engineering Design	Eris	4	TF 1-2:50p	AC326	8	Permission Req'd by attending Info Session

Area	Course #	Sec #	Course Title	Instructors	Credits	Time	Location (tentative)	Enroll Limits	Note
E!	AHSE 1500	01	Foundations of Business and Entrepreneurship	Schiffman; Gold; Bourne	4	MR 10-11:50a	AC213	40	
E!	AHSE 4590	01	Entrepreneurship Capstone	Schiffman; Bourne	2 or 4	R 8-9:50a	AC302	10	
E:BE	ENGR 3699	01	Special Topics in Bioengineering: Tissue Engineering	Sieminski	4	MR 12-2:50p	AC417; AC406	12	enrollment by permission only
E:BE	ENGR 3699A	01	Special Topics in Bioengineering: Biological Thermodynamics for Engineers	Zastavker; Sieminshi	4	TF 8-9:50a	AC417 + AC413	20	
E:C	ENGR 2510	01	Software Design	Sheldon	4	TF 1-1:50p; lab W 4-5:50p	AC318	25	Waitlist Available
E:C	ENGR 3520	01	Foundations of Computer Science	Sheldon	4	TF 10-11:50a	AC318	25	
E:MS	ENGR 3899	01	Special Topics in Materials Science: Process Engineering in Materials Science	Neal	4	TF 10-11:50a	AC413	15	
ECE	ENGR 2410	01	Signals and Systems	Mur-Miranda	4	MR 1-2:50p	AC304	30	Waitlist Available
ECE	ENGR 2420	01	Introduction to Microelectronic Circuits	Minch	4	TF 9-9:50a; W 1-2:50p	AC213	44	
ECE	ENGR 2420 L	A	LAB: Introduction to Microelectronic Circuits	Minch	0	W 1-2:50p	AC304	22	
ECE	ENGR 2420 L	B	LAB: Introduction to Microelectronic Circuits	Minch	0	M 7-8:50p	AC304	22	
ECE	ENGR 3427	01	Mixed Analog-Digital VLSI II	Chang; Minch	4	MR 10-11:50a	AC304	25	
ECE	ENGR 3499	01	Special Topics in Electrical and Computer Engineering: Principles of Wireless Communications	Govindasamy	4	MR 8-9:50a	AC304	15	
ECE	ENGR 3499A	01	Special Topics in Electrical and Computer Engineering: Principles of Intelligent Systems Engineering	Chang; Ravel; Boxer	4	MR 1-2:50p	AC218	16	
ECE	ENGR 3499B	01	Special Topics in Electrical and Computer Engineering: Digital Signal Processing	Dabby	4	T 4-5:50p; F 1-2:50p	AC304	12	
ECE	ENGR 3499C	01	Special Topics in Electrical and Computer Engineering: Analog Filter Design	Lundberg	4	MR 3-4:50p	AC328	10	
ENGR	ENGR 1120	01	Engineering of Spatially Distributed Systems	Mur-Miranda; Storey	3	W 10-10:50a; M 3-4:50p	MH120 W; AC126	28	

Area	Course #	Sec #	Course Title	Instructors	Credits	Time	Location (tentative)	Enroll Limits	Note
ENGR	ENGR 1120	02	Engineering of Spatially Distributed Systems	Mur-Miranda; Storey	3	W 10-10:50a; W 1-2:50p	MH120 W; AC126	28	
ENGR	ENGR 1120	03	Engineering of Spatially Distributed Systems	Mur-Miranda; Storey	3	W 10-10:50a; R 3-4:50p	MH120 W; AC126	28	
ENGR	ENGR 2210	01	Principles of Engineering	Lee; Minch	4	MR 1-2:50p	AC 306	30	
ENGR	ENGR 4190	01-15	**S**enior **CO**nsulting **P**rogram for **E**ngineering (SCOPE)	Eris; Linder; Ravel; Chang; Minch; Mur-Miranda; Lee; Anderson; Barrett; Storey; Townsend; Somverville, Govindasamy	4	W 8-10:50a; 1-5:50p			
ENGR	ENGR 4190A	01	Senior COnsulting Program for Engineering (SCOPE)	Barrett	4	W 8-10:50a; 1-5:50p		10	open to non-Olin students
ME	ENGR 2320	01	Mechanics of Solids and Structures	Lee	4	MF 11-11:50a; T 10-11:50p	AC328	35	
ME	ENGR 2350	01	Thermodynamics	Townsend	4	MR 1-2:50p	AC213	35	
ME	ENGR 3370	01	Controls	Lundberg	4	MR 1-2:50p	AC328	25	
ME	ENGR 3380	01	Design for Manufacturing	Sabin	4	MR 4-5:50p	AC213	25	
ME	ENGR 3390	01	Robotics	Barrett	4	MR 10-11:50a	AC309	25	
MTH	MTH 1120	01	Vector Calculus	Tilley	2	MR 8-8:50a	AC318	28	Full Semester
MTH	MTH 1120	02	Vector Calculus	Tilley	2	MR 9-9:50a	AC318	28	Full Semester
MTH	MTH 1120	03	Vector Calculus	Gospodinov	2	W 8-9:50a	AC328	28	Full Semester
MTH	MTH 2120	01	Linear Algebra	Gospodinov	2	MR 8-8:50a	AC218	30	Full Semester
MTH	MTH 2130	01	Probability and Statistics	TBD	2	TF 8-9:50a	AC218	30	Session II
MTH	MTH 2140	01	Differential Equations	Gospodinov	2	MR 9-9:50a	AC218	30	Full Semester

Area	Course #	Sec #	Course Title	Instructors	Credits	Time	Location (tentative)	Enroll Limits	Note
MTH	MTH 3120	01	Partial Differential Equations	Tilley	4	MR 10-10:50a; W 9-10:50a	AC318	25	
OSSIS URB	ENGR, SCI, MTH 0097, AHSE 0197; AHSE 0597		Undergraduate Research Activity	varies	varied				
OSSIS URB	ENGR, SCI, MTH 0098, AHSE 0198; AHSE 0598		Independent Study Activity	varies	varied				
OSSIS URB	ENGR, SCI, MTH, AHSE 4198; AHSE 4598		Olin Self Study	varies	2;4				
SCI	SCI 1121	01	Electricity and Magnetism	Zastavker	4	TF 10-11:50a	AC213	40	A Theoretical Approach
SCI	SCI 1121	02	Electricity and Magnetism	Somerville	4	TF 10-11:50a	AC326	40	A Modeling and Simulation Approach
SCI	SCI 1121A	01	Electricity and Magnetism (with laboratory)	Christianson	4	MR 8-8:50a; TF 10-11:50a	AC417	20	
SCI	SCI 1210	01	Principles of Modern Biology with Lab	Donis-Keller	4	MR 1-2:50p; lab W 1-3:50p	AC326; W AC406	22	
SCI	SCI 1210	02	Principles of Modern Biology with Lab	Lutton	4	TF 1-2:50p; lab T 3-5:50p	AC417; T AC406	22	
SCI	SCI 1310	01	Intro Chemistry with Lab	Morse	4	TF 1-2:50p	AC113	30	Students Must Choose Lab A or B
SCI	SCI 1310 L	A	LAB: Intro Chemistry	Morse	4	T 4-6:50p	AC409	15	Concurrent requisite SCI 1310
SCI	SCI 1310 L	B	LAB: Intro Chemistry	Morse	4	W 3-5:50p	AC409	15	Concurrent requisite SCI 1310
SCI	SCI 1410	B1	Materials Science and Solid State Chemistry with Lab: Thermal and Mechanical Properties	Stolk	4	M 9-11:50a; W 4-6:50p	AC413	18	
SCI	SCI 2145	01	High Energy Astrophysics	Holt	2	MR 10-11:50a	AC113	15	Session I
SCI	SCI 3120	01	Solid State Physics	Christianson	4	MR 9-9:50a; TF 8-8:50a	MH373		
	AWAY 1000	01	Study Away Program	n/a	12				Registration Required for those with APPROVED programs.
	MEC 1000	01	Fundamentals of Machine Shop Operations	Anderson	4 non-degree	TF 1-2:50p	AC104	tba	


Key:
ENGR / DSN Courses
ME
ECE
Genl Req
Math
AHSE
SCI
Integrated Offering
Academic Schedule
Mon
Tues
Wed
8:00
8:50
9:00
9:50
10:00
10:50
11:00
11:50
12:00
12:50
1:00
1:50
2:00
2:50
3:00
3:50
4:00
4:50
5:00
5:50
6:00
6:50
MTH 2120 Linear Algebra 218
MTH 1120- sec 01 Vector Calculus 318
SCI 1121A sec 01 Elec & Magnetism w/ lab 417
ENGR 3499 Spec Top ECE: Prin Wireless Comm 304
MTH 2140 Diff Equat'ns 218
MTH 1120- sec 02 Vector Calculus 318
SCI 3120 Solid State Physics MH373
SCI 1410 sec B1 Materials Science and Solid State Chemistry 413
SCI 2145 -01 High Energy Astrophysics 113 Sess I
AHSE 1500 Found. Of Bus. And E-ship 213
AHSE 2199 Spec Top AHS: Environmental Enterprise 326
ENGR 3427 MADVLSI II 304
MTH 3120 Partial Differential Equations 318
ENGR 2320 Mech Solids Struct 328
ENGR 3390 Robotics 309
ENGR 3699: Spec Topics Bio-e: Tissue Engineering 417/406
SCI 1210 -01 Prin Modern Bio 326
ENGR 3499A SpecTop ECE: Prin Intelligent Sys Engr 218
ENGR 2410 Signals & Systems 304
ENGR 2210 -01 Prin of Engineering' 306
ENGR 2350 Thermodynamics 213
ENGR 3370 Controls 328
ENGR 3499C Spec Top ECE: Analog Filter Design 328
ENGR 3380 Design for Manufacturing 213
ENGR 1120 - 01 Engineering of Spacially Distributed Systems 126
ENGR 2250 all sections UOCD OC120; AC204, 206, 209
ENGR 3220 Human Factors Interface Design 109
ENGR 2420 L section B: LAB Micro-electronic Circuits 304 Mon 7-8:50p
MTH 2130 Prob Stats Sess II 218
ENGR 3699A Spec Topics in Bio-e: Thermodynamics 417/413
SCI 3120 Solid State Physics MH373
ENGR 2420 Microelectronics Circuits 213
AHSE 2199C Special Topics in AHS: Social Justice ... 326
AHSE 4190 Section 02 AHS Captsone MH273
SCI 1121- sec 01 Electricity and Magnetism 213
SCI 1121 sec 02 Electricity and Magnetism 326
SCI1121A- sec 01 Electricity and Magnetism w/ lab 417
ENGR 2320 Mech Solids Struct 328
ENGR 3520 Foundations of Computer Science 318
ENGR 3899 Spec Topics in MatSci:Process Engr in Materials Science 413
SCI 1210 -02 Prin Modern Bio 417
SCI 1310 Intro Chemistry 113
ENGR 2510 Software Design 318
ENGR 3240 Distributed Engineering Design 326
AHSE 4190 Sections 01 and 03 AHS Captsone 305 328
SCI 1410A and AHSE2110 PAUL REVERE: Mat Sci and Stuff of History 413 + 218
MEC 1000 Machine Shop Operations 104
SCI 1210 -02 Prin Modern Bio LAB 406
SCI 1310 L sec A LAB: Intro Chemistry LAB A 409
AHSE 2199B Spec Top in AHS: Writing about Sci and Tech 318
ENGR 3499B Spec Top ECE: Digital Signal Processing 304
SCI 1410A and AHSE2110 PAUL REVERE: Mat Sci and Stuff of History 413
AHSE 2199A Tues 7-10pm 213 Special Topics in AHS: Saving the World ...
MTH 1120- sec 03 Vector Calculus 328
ENGR 4190 SCOPE
MTH 3120 Partial Differential Equations 318
ENGR1120; all sections Engineering of Spacially Distributed Systems MH120
Open Meeting Time
ENGR 1120 - 02 Engineering of Spacially Distributed Systems 126
SCI 1210 - 01 Prin Modern Bio LAB 406
SCI 1410A and AHSE2110 PAUL REVERE: Mat Sci and Stuff of History 413
ENGR 2420 L section A LAB Micro-electronic Circuits 304
SCI 1310 L sec B LAB: Intro Chemistry LAB B 409
ENGR 2510 Software Design LAB 318
SCI 1410 sec B1 Materials Science and Solid State Chemistry 413


ENGR / DSN Courses
ME
ECE
Genl Req
Math
AHSE
SCI
Upper Level Integrated Offering
Thurs
Fri
MTH 2120 Linear Algebra 218
MTH 1120-01 Vector Calculus 318
SCI 1121A- sec 01 Elec & Magnetism w/ lab 417
AHSE 4590 Entrepreneurship Captsone 302
ENGR 3499 Spec Top ECE: Prin Wireless Comm 304
MTH 2130 Prob Stats Sess II 218
ENGR 3699A Spec Topics in Bio-e: Thermodynamics 417/413
SCI 3120 Solid State Physics MH373
AHSE 2199C Special Topics in AHS: Social Justice ... 326
MTH 2140 Diff Equat'ns 218
MTH 1120-02 Vector Calculus 318
SCI 3120 Solid State Physics MH373
ENGR 2420 Microelectronics Circuits 213
8:00
8:50
9:00
9:50
SCI 2145-01 High Energy Astrophysics Sess I 113
AHSE 1500 Found. Of Bus. And E-ship 213
AHSE 2199 Spec Top AHS: Environmental Enterprise 326
ENGR 3427 MADVLSI II 304
MTH 3120 Partial Differential Equations 318
ENGR 3390 Robotics 309
SCI 1121-sec 01 Electricity and Magnetism 213
SCI 1121-sec 02 Electricity and Magnetism 326
SCI 1121A-sec 01 Electricity and Magnetism w/ lab 417
ENGR 2320 Mech Solids Struct 328
ENGR 3520 Foundations of Computer Science 318
ENGR 3899 Spec Topics in MatSci:Process Engr in Materials Science 413
10:00
10:50
11:00
11:50
ENGR 3699: Spec Topic in Bio Eng: Tissue Engineering 417/406
12:00
12:50
SCI 1210-01 Prin Modern Bio 326
ENGR 2210-01 Prin of Engineering 306
ENGR 3499A SpecTop ECE: Prin Intelligent Sys Engr 218
ENGR 2410 Signals & Systems 304
ENGR 2350 Thermodynamics 213
ENGR 3370 Controls 328
SCI 1210-02 Prin Modern Bio 417
SCI 1310-01 Intro Chemistry 213
ENGR 2510 Software Design 318
ENGR 3240 Distr Engr Dsn 326
SCI 1410A and AHSE2110 PAUL REVERE: Mat Sci and Stuff of History 413 + 218
ENGR 3499A Spec Top ECE: Digital Signal Processing 304
MEC 1000 Machine Shop Operations 104
1:00
1:50
2:00
2:50
ENGR 3499C Spec Top ECE: Analog Filter Design 328
ENGR 1120-03 Engineering of Spacially Distributed Systems 126
ENGR 2250 all sections UOCD OC120; AC204, 206, 209
ENGR 3220 Human Factors Interface Design 109
Community Service
ENGR 3380 Design for Manufacturing 213
3:00
3:50
4:00
4:50
5:00
5:50
AHSE 3199 Issues in Leadership and Ethics 6-8:15p (some nights 6-7:30p)
6:00
6:50
AHSE 0112 Olin Conductorless Orchestra 6:45-9pm