Olin College Registration Booklet



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Olin College Registration Booklet Spring 2012

Table of Contents

Section	Page
Registration Timelines	1
Frequently Asked Questions and Instructions	2-5
Catalog Supplement and Other Registration Opportunities or Notes	6-11
Appendix	12-17
Spring 2012 Course Listing	рр 1-4
Spring 2012 Scheduling Grid	рр 5-6

Important Advice Regarding YOUR Course Selections for Spring 2012

First Year Students: Two courses you must enroll in are Real World Measurements AND Linearity. In addition to these two, it is STRONGLY suggested you complete your foundation physics requirement with <u>Mechanics (SCI 1130)</u> OR <u>Probability and Statistical Mechanics (SCI 2199A)</u>.

Sophomore through Senior Students: Must complete any remaining 2credit Mathematics courses this spring 2012. We do not intend to offer these courses after spring 2012.

All Students: Reminder that you must complete your Biology requirement and your Materials Science / Chemistry requirement by the end of your junior year.

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

Session	Add	Drop and Pass/No Credit	Withdraw
Full Semester (Jan 24 – May 2)	February 6, 2012	April 3, 2012	May 2, 2012
Session I (Jan 24 – Mar 9)	January 30, 2012	February 27, 2012	March 9, 2012
Session II (Mar 12 – May 2)	March 16, 2012	April 19, 2012	May 2, 2012

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. An example is a passionate pursuit. 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 crossreferenced with the Study Away Committee.

Olin Self Study, Independent Study and Research - - - How do I register?

- Olin's Self Study Please see information on the <u>StAR Center website</u> for details. You will need to complete a form with your OSS intention by the last day to add a course for the spring 2012 semester.
- Independent Study and Research Students interested in doing research and/or independent study must complete a Cover Sheet for Independent Study and Research. This form can be found on the forms tab of the StAR Center website. <u>All forms must be received by the add deadline for the spring 2012 semester</u>. There are no exceptions.

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. The deadline is mid-semester.

What is EG grading?

The 'EG' grade represents an "Experimental Grade" designation, implemented in a small number of courses during a curricular experiment that began in 2009. Each student may undertake no more than one "EG" course per semester. An 'EG' grade in a student's transcript indicates that a student completed the course's learning objectives and received instructor feedback based upon criteria that do not have direct mapping onto the ABCDF grading system. Students who do not complete the learning objectives will receive a "no credit" designation on their transcript (similar to the "no credit" option for pass/no credit courses).

CROSS-REGISTRATION

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.

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 dates:

November 1-18, December 5-16, and January 5-30

You can find their offerings at https://fusionmx.babson.edu/CourseListing/?blnShowHeader=true.

Brandeis University Cross Registration dates:

January 12 – 30, 2012

All courses require instructor permission in writing (email) or via a permission code to submit with your request. You can find Brandeis offerings at http://www.brandeis.edu/registrar/schedule/classes/2012/Spring/100/UGRD .

Wellesley College Cross Registration dates: November 14 – tbd

You can find their offerings at <u>Wellesley Schedule</u>.

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.

How and When Do I Register?

Registration is done online using SIS.OLIN.EDU (we are not using the portal as it is still under maintenance for web registration) <u>https://sis.olin.edu</u>

Here are some useful tips from Olin's Information Technology Department:

During course registration sessions, the IT Help Desk often receives reports about sis.olin.edu and my.olin.edu being slow or unresponsive. In almost all cases, this is due to an excessive and often unnecessary workload placed on the system. By following these guidelines, you can help minimize this load and increase system responsiveness:

- I. Please use only one browser tab on one computer. In past sessions, some students were connecting from as many as four different computers or opening multiple sessions in multiple tabs. Each additional session consumes resources on the server and only serves to slow the system down.
- II. Please be patient and do not refresh the page. This causes the background system processing for the same task to be executed multiple times, adding additional load to the system.
- III. Please remember that everyone else in your group is trying to register at the same time. As much as we would like the system to be as responsive as it is during non-registration periods, this simply cannot happen when over 60 students are attempting to register for classes at the exact same moment. It takes time for the system to process all incoming requests and reconcile them with each other.
- IV. Please avoid using the system during other groups' registration times. Again, this adds additional work to an already busy system.
- V. With the exception of one session, we have seen the fewest slowdowns and smallest workloads on the registration system this semester that we have seen in several years thanks to many students following these guidelines.
- VI. We do realize the importance of registration to every student on campus. If you encounter errors from either sis.olin.edu or my.olin.edu during the registration process, please take a screenshot of the error you receive and send it, along with a detailed description of what you were doing when it occurred, to helpdesk@olin.edu so that we can resolve the issue as quickly as possible.

REGISTRATION TIMES:

On-line registration will take place November 7-11th during the evening hours. Information regarding the groups will be sent **via email** no later than November 3rd.

(Registration will be open to cleared and eligible students only. A cleared student is one who 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 24, 2012 and end on February 6, 2012. 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 24, 2012 and ends April 3, 2012 (for $\frac{1}{2}$ session deadlines see chart). 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 6, 2012. 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.)

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.

Textbooks

Pursuant to the Higher Education Opportunity Act (HEOA) of 2008, information regarding required and recommended textbooks and supplemental course material may be viewed from the Olin's internet course schedule via https://my.olin.edu.

Spring 2012 Supplement to Current Course Catalog

Degree requirements are outlined in the 2011-12 Course Catalog. You may view the on-line catalog at <u>2011–12 Course</u> <u>Catalog</u>.

Course descriptions can also be found in the <u>2011–2012 Course Catalog</u>. Courses for Spring 2012 that were approved after the catalog printing AND Special Topics descriptions are listed here.

AHSE 2199: Special Topics in Psychology

Narrative Psychology Instructor: J. Adler Credits: 4 AHSE Hours: 4-0-8 Pre-requisite: none Registration note: Enrollment is by permission of instructor only and limited to 5.

Humans are natural storytellers. Indeed, it has been suggested that the natural mode of human thought takes a narrative form. This course will present an examination of the scientific study of humans' approach to meaning-making through the crafting and telling of personal stories. The course will include consideration of the ways in which we create meaning out of our experiences with a special emphasis on identity development, drawing on scientific research from personality, developmental, and clinical psychology. Note: This course will be taught at Wellesley.

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: Class will meet on the following Thursdays: Jan 26; Feb 2, 9, 16, 23; Mar 1, 8, 15, 29; Apr 5, 12, 19 from 6-8:15p]

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 students from each college in the final semester of their undergraduate program. The course is taught by President Bottomly of Wellesley College, President Schlesinger of Babson College, and President Miller of Olin College.

ENGR 2199: Special Topics in Engineering

Sustainable Building Design Instructor: Zessin Credits: 4 ENGR Hours: 4-0-8

This course explores sustainability as it relates to the built environment—from the economic, environmental and social-equity perspectives. Learn how researchers and analysts define sustainability, as well as how they measure and track progress. Topics will include embodied energy, heating, ventilation, and cooling (HVAC), daylighting, the LEED rating system, and life cycle analysis of buildings. Students will complete readings, case studies, and building visits. This course is intended for any student with interest in the area. The course is designed to be suitable for Olin, Wellesley or Babson students, and particularly those interested in the sustainability certificate program. This course will be rigorous enough to earn Olin engineering credit, but will be accessible to those without a typical engineering first year education.

ENGR 2199A/AHSE 2199A: Special Topics in Engineering and AHS

Engineering for Humanity: Helping Elders Age in Place through Partnerships for Healthy Living Instructors: Stein/Lynch Credits: 2 ENGR, 2 AHS

Hours: 5-0-7 Registration note: Offered Using Experimental Grading

This course is suitable for students without prior engineering coursework and available for Babson and Wellesley students. This course introduces students to engineering problem solving, beginning with understanding client needs and ending with an implemented, adaptable, adoptable, and sustainable solutions. This course will draw equally on empathetic and ethnographic methods and on a technical understanding of the problem and solution domains. Our client population for spring 2012 will be senior citizens who live in their own homes and who will be recruited before the class begins. Over the semester, we will learn about and with our clients; we will identify specific challenges that our clients face; and – together with our clients – we will develop concrete solutions to address these challenges. Students will leave Engineering for Humanity with a grounded understanding of the engineering problem solving process, experience in participant-observer fieldwork, and hopefully a feeling of satisfaction at having made a concrete difference in the lives of members of our community. The course will be taught seamlessly (2cr ENGR and 2cr AHS) with integrated activities and topics ranging from anthropology/sociology to design/build.

The projects will be specific service projects that students identify and design while working with client partners (senior citizens in surrounding communities). For example, students might design a device to help someone who has difficulty reaching up to change a light bulb, something to help hold a newspaper steady with shaky hands, or something to enable someone to get clothes out of a clothing dryer that is difficult to stoop down to reach. Some sessions of the course will be devoted to co-design with the client population or to team meetings. Other sessions involving guest speakers and fieldtrips, others with course discussion of topics relevant to aging. A sense of adventure and enthusiasm is, however, highly recommended.

ENGR 2599: Special Topics in Computing

Game Design Instructor: Wolz Credits: 4 ENGR Hours: 4-0-8 Prerequisites: Software Design or permission of instructor

Computer game design and implementation provides a unifying perspective on a range of concepts and skills in computer science. Students benefit from a broad survey of topics essential to game development, gaining insight into the collaborative systems necessary to deliver a game to market. The course is intended to bring people with diverse backgrounds in computing and media together, both to contribute to each other's learning and to support each other's project work. The formal prerequisite is Olin's Software Design course, or equivalent experience (by instructor permission.) Students with expertise in one of these areas are strongly encouraged to enroll: graphics, artificial intelligence, human/computer interaction, physics, production management, graphic art (cartooning, animation, drawing), music (composition, music technology), and creative writing. Babson and Wellesley are welcome. In teams, students will implement a game prototype and accompanying design document in the development environment of their choice. Through the analysis and implementation of game engines, we will examine topics of interest such as modeling, simulation, and artificial intelligence; languages and architectures for game design; physics (including collision detection); animation in 2 and 3 dimensions; audio management; interfaces including gesture; and production management. We will consider games for entertainment and education, encouraging exploration of emerging game modalities including social networked games, kinesthetic interaction and gesture, global positioning, and physical material integration.

ENGR 2599A: Special Topics in Computing

Computing and Craft Instructor: Milner Credits: 4 ENGR Hours: 4-0-8

This is a project-based course focused on using computing to sense and respond to the physical world. We will incorporate novel computational and craft elements into various sorts of interactive experiences - involving clothes, old toys, and/or fabricated mechanisms. For example, a student project might be a glove that makes sounds if separated from its mate for too long or any kind of idea that construction kits (cutting-edge or classic) can support.

This course is about the process of engineering: creating, connecting with people who share interests, providing and receiving feedback, designing and re-designing ideas, sketching in both hardware and software, collaborating, and acquiring resources to explore one's ideas. It is an experimental course being run for the second time. The instructional approaches will adapt to the learning styles of the enrolled students. Those with little computing experience will have opportunities to learn key computing concepts as they use computational toolkits in novel ways. Students with extensive programming and electronics backgrounds will have opportunities to extend computational toolkits to enable new functionality.

ENGR 3199: Special Topics in Engineering

Robotics II Instructor: Bennett Credits: 4 ENGR Hours: 4-0-8 Prerequisites: ENGR3390 or permission of instructor Satisfies Subject Requirements: ME, ECE, E:SYS, E:Robotics

This course builds on the core robotic concepts of sense-think-act covered in ENGR3390 Robotics, but extends them to fully integrated, complex, multi-degree of freedom robots with sophisticated industrial grade sensor systems. The course will involve a heavy lab component incorporating three canonical robot applications; 1. an autonomous sailboat, 2. a 7DOF robot arm working in conjunction with a high speed vision system to perform a complex manipulation task and 3. cooperative interaction and control of three quad-copters, aided by an off-board sensor (camera and/or a Kinect). The course will incorporate some design, fabrication and integration tasks like the design of end effectors, and the electronic hook-up and debug of sensors and actuators, as well as include a significant amount of LabVIEW robot control code generation. This course is intended to act as solid preparation for the many complex system integration projects that typically are a significant part of the SCOPE capstone program.

ENGR 3199A: Special Topics in Engineering

Circuits for Electronic Music Instructor: Lundberg Credits: 4 ENGR Hours: 4–0–8 Prerequisities: Signals and Systems or Dynamics (transfer functions and frequency response) Basic op-amp circuits (such as amplifiers, summers, and integrators).

This course covers the analysis and design of electronic circuits for music synthesis. Topics include audio generation, subtractive synthesis, frequency modulation, and some digital techniques. Analog circuits such as voltage-controlled oscillators, filters, and amplifiers, as well as timbre modulators, effects boxes, interfaces to microcontrollers, and other op-amp applications are explored. The course includes additional course content on synthesizer history, music appreciation, and performance, and a final design project and construction.

ENGR 3299: Special Topics in Design ENGR 4199: Alternative Capstone in Engineering Affordable Design and Entrepreneurship (ADE) Instructors: Linder / TBD Credits: 4 ENGR Hours: 2-2-8 Prerequisites: AHSE 1500, ENGR 2210 and ENGR 2250 for Olin Students; FME1000 and EPS 3501 for Babson students; Junior standing

Students gain experience innovating to address social challenges through a design and entrepreneurship approach that emphasizes context, collaboration, and sustainability. The focus is on alleviating poverty by deploying innovations in communities that generate income and meet daily human needs in areas like energy, water, health, agriculture, transportation, and communication. For example, students might create and test the technology for a micro energy utility, such as a concentrated-solar battery charging station, and the business model that makes it viable.

The course is run as a firm where students work in teams with community partners nationally and internationally to co-create and launch new products and ventures. Topics covered include the conditions and causes of poverty, approaches to poverty alleviation, cultural awareness and community engagement, affordable design principles and practices, and social venture models and strategies including financing and scaling. Groups of students travel to partner sites in countries like India, Morocco, Ghana, El Salvador and the U.S. to build relationships, gain contextual awareness, and implement projects.

This course is offered jointly with Babson, and Babson students are strongly encouraged to enroll. At Olin, ADE is an experimental, two-course engineering capstone program. Olin students can elect ADE as an alternative to the SCOPE program beginning in their junior or senior year by registering for ENGR 4199. They cannot change programs once enrolled. Alternatively, this course can be taken for one semester to fulfill the Olin Design Depth requirement by registering for ENGR 3299. Enrollment is limited. Enrollment in both courses is by application. Please see professor Ben Linder.

ENGR 3299A: Special Topics in Design Engineering

Real Products, Real Markets

Instructor: L. Neeley Credits: 4 ENGR Hours: 4-0-8 Registration Note: May be used for Design Depth

This experimental course is intended to completely re-imagine the product design + entrepreneurship process. Each participant in the course will imagine, design, prototype, test, market and sell a product in the span of the semester. The products and customers will be real. A key measure of success will be the number of products successfully sold and shipped to complete strangers. To achieve these lofty goals, we will have to explore, understand and analyze each element of existing processes with an eye towards exploiting best practices, redesigning them when relevant and, if needed, creating processes anew.

MTH2188: Special Topics in Mathematics

Section 01, 02 and 03: Linearity 1 Instructors: Adams/Geddes/Hoffman Credits: 4 MTH Hours: 4-2-6 Registration note: Designated alternative for required mathematics. This course is required for first year students, and is open to first year students only, except by permission of instructor.

Linearity 1 is a new class that all first-year students will take in Spring 2012. It will include treatment of discrete-time dynamical systems in the context of age-structured population models as well as continuous-time dynamical systems in the context of mechanical, electrical and chemical oscillators. Students must have background equivalent to ModSim2011 and ModCon2011 to take this course. This course is a designated alternative to Linear Algebra and Differential Equations. Linearity 1 will be an active learning experience, and students should anticipate significant pre-class preparation in order to participate actively during class meetings.

MTH2199: Special Topics in Mathematics

Section 01: Introduction to Stochastic Processes Instructor: Ho Credits: 2 MTH Hours: 4-0-8 Prerequisites: basic course in probability Registration notes: Session I

This course will study basic random processes and some of their applications. Basic processes covered will include random walks, Markov chains, Bernoulli and Poisson processes, and if time permits, Brownian Motion, Gaussian Random Processes, and Martingale Theory. Applications in Operations Research (queuing, data networks, traffic), communication systems and information theory (modeling data, traffic, and signals) and mathematical finance (gambling, portfolio theory).

MTH 3199: Special Topics in Mathematics

Advanced Linear Algebra Instructor: A. Hoffman Credits: 2 MTH Hours: 4-0-8 Registration notes: Session II Prerequisites: MTH 2120, Linear Algebra

Advanced Linear Algebra will pick up where we left off in the normal Linear Algebra course. We'll learn more advanced applications that rely on more advanced theory. The exact topics to be covered will be determined in part by student interest, but likely candidates include learning about and applying the Singular Value Decomposition (SVD) to image compression, recommender systems, and/or webpage ranking algorithms and learning theory-based algorithms used by Matlab in its matrix computations. Students will be able to tailor their work to some degree in order to accommodate differences in preparation and in order to meet their individualized learning goals. In all cases, LA is a pre-req. Intended as a follow-up to linear algebra; will be offered in second half of semester to enable students to take both courses in sequence.

SCI2099: The Art of Approximation

Instructor: Mahajan Credits: 4 SCI Hours: 4–0–8

For historical reasons, our courses are organized by disciplinary area, be it mechanics, calculus, differential equations, or molecular biology. However, there are modes of reasoning that span many areas of science or engineering. Nine such crosscutting modes of reasoning are the focus of the proposed course. The nine modes group themselves into three approaches to the complexity of the world: (1) organizing the complexity (for example, with divide-and-conquer reasoning); (2) discarding apparent complexity (for example, with symmetry or dimensional analysis); and (3) discarding actual complexity (for example, by approximating with spring models or lumping).

SCI 2199/ENGR2199B: Special Topics in Engineering and Science

Renewable Energy

Instructors: Christianson/Townsend Credits: 2 SCI, 2 ENGR Hours: 4–0–8 The Official version:

Renewable and sustainable energy technologies will play a large part in the global energy mix, especially as demand for constant and reliable energy increases in all parts of the world. This course will explore the question of how to sustainably supply the world's energy needs. It will include the fundamental physical sciences behind sources of renewable energy as well as the technical challenges and tradeoffs. This course also focuses on the energy conversion techniques that will make better use of renewable sources, increase conservation, and mitigate environmental effects. Discussions will also include cultural, policy and economic considerations.

This course is intended as a multidisciplinary exploration of renewable energy for any student with interest in the area. The course is designed to be suitable for Olin, Wellesley or Babson students, and particularly those interested in the sustainability certificate program. This course will be rigorous enough to earn Olin engineering and science credit, but will be accessible to those without a typical engineering first year education.

The Need-to-Know version:

THE CLAS	iS:
•	An interdisciplinary approach to the science, technology and policy of renewable energy sources like wind, solar (PV and solar thermal), biomass, wave, geothermal, and others.
•	The class will be a series of case studies that delve into the origins of the energy source (earth science, geology, chemistry, physics), the conversion and manufacturing technologies (heat engines, electrical grid) and the "reality" that affects the use and adoption of renewable energy (finance, policy, politics, social, cultural, etc)
•	At the end of the class we want you to be able to assess and make decisions about the adoption of renewable energy technologies focusing on technology, economics and environment. The class will give you the tools to do this.
•	The class will include interactive activities (in every class), peer teaching, self-directed learning modules, and will allow the students to explore topics beyond what Rebecca and I will be covering. There will be an appreciable project component as well.
WHAT IT	COUNTS FOR:
•	This class is 2 credits of science, and 2 credits of engineering. It does not count as the ME elective (this is not the old Renewable Energy (ENGR3355) course that counted as the ME elective) It could be used as part of an E course plan (if previously approved by the E Program Group) It can be counted towards the 3 College Sustainability Certificate
PREREQU	ISITES:
•	For Olin students, none! For Babson, Wellesley, Brandeis students, some college level science (physics, chem or bio is fine)

SCI 2199A: Special Topics in Physics

Probability and Statistical Mechanics Instructor: Zastavker Credits: 4 SCI Hours: 4–0–8

Prerequisites: basic knowledge of classical mechanics as well as electricity and magnetism and calculus as well as an acquaintance with basic atomic nature of materials (e.g., quantum states, energy levels, spin), or permission of the instructor. Registration note: May be used for Physics Foundation Requirement OR by petition for MTH2130 Probability & Statistics requirement

This course focuses on the study of large-scale (i.e., macroscopic) systems consisting of large number of particles (e.g., molecules or atoms). We will describe and predict the properties of macroscopic systems through the use of basic notions of atomic theory. We will investigate a single principle, a tendency of a system to approach a state of greatest randomness, from a number of vantage points. By doing so, we will develop widely applicable and generalizable methods for describing behavior of large number of particles in a variety of different contexts. Abstract concepts and ideas will be related to real world applications and experiments and philosophical underpinnings of the theory will be discussed. The following content will be develop largely through a more traditional set of pedagogical practices: probability concepts (including sample space, probability theorems, random variables, discrete and continuous probability distributions, etc.), statistical description of systems of particles (e.g., statistical ensemble, statistical postulates, number of states available to systems, system interactions), equilibrium and irreversibility, density of states, phase space, partition function, as well as microcanonical, canonical, and grandcanonical ensembles. The course provides rigorous scaffolding to support development of quantitative and qualitative analysis competencies alongside with lifelong learning and communication skills.

SCI 2299: Special Topics in Biology

Engineered Microbial Systems Instructor: Huang Credits: 4 SCI Hours: 3–0–9 Prerequisites: SCI1210: Mod

Prerequisites: SCI1210: Modern Biology for Olin students, or one semester of biology with laboratory for cross-registered students.

This course examines the intersection of biology and engineering as these fields meet in the area of engineered microbial systems. In recent years, developments in the area of synthetic biology, which applies engineering philosophy to biological systems with the goal of generating useful functions, have demonstrated that engineered microbial systems are feasible and provide basic and applied science insights. Novel bacterial systems have been developed that exhibit logic, are programmable, form patterns, produce medicines, and detect and degrade environmental pollutants. Through primary literature discussion and team work in the laboratory, this course will explore the biological and engineering principles that underlie the design, development, and analysis of synthetic microbial systems, and the application of these principles for creative development of novel systems. Topics will include: microbial pattern formation, oscillators, BioBricks, ethics, biosensors, minimal genome, re-direction of metabolic pathways, and design and analysis of existing microbially-based systems. Students with background and interest in engineering or biology are welcome; bring your creativity and desire to learn about the challenges and promises of this field of study.

Area	Course #	Sec #	Course Title	Instructors	Credits	Time	Location	Enroll Caps	Notes
AHS	AHSE 0112	01	The Olin Conductorless Orchestra	Dabby	1	R 6:45-9:00p	AC305; AC318	30	
AHS	AHSE 1155	01	Identity from the Mind and the Brain: Who Am I and How Do I Know	Adler	4	TF 1:30-3:10p	AC128	15 resv	Priority to First Years needing AHS foundation; others by permission
AHS	AHSE 2199	01	Special Topics in Arts, Humanities, Social Sciences: Narrative Psychology	Adler	4	TF 11:10-12:20p	at Wellesley	5	Registration for 5 avail seats by Permission Only; See Professor Jon Adler
AHS	AHSE 3190	01	Arts, Humanities, Social Sciences Capstone Preparatory Workshop	Epstein	1	n/a	n/a	20	
AHS	AHSE 3199	01	Special Topics in Arts, Humanities, Social Sciences: Leadership and Ethics	Miller; Bottomly; Schlesinger	2	R 6:00-8:15p	Babson Campus	8	
AHS	AHSE 4190	01	Arts, Humanities, Social Sciences Capstone	Epstein	4	T 10a-1p	AC328	25	
DSN	ENGR 2250	01	User Oriented Collaborative Design		4	MR 3:20-6:00p	AC204 / MH120	24	
DSN	ENGR 2250	02	User Oriented Collaborative Design	Linder, Neeley, Donis-	4	MR 3:20-6:00p	AC206 / MH120	24	
DSN	ENGR 2250	03	User Oriented Collaborative Design	Keller, Ben-Ur, Bator	4	MR 3:20-6:00p	AC209 / MH120	24	
DSN	ENGR 2250	04	User Oriented Collaborative Design		4	MR 3:20-6:00p	AC213 / MH120	24	
DSN	ENGR 3260	01	Design for Manufacturing	Miller,S	4	MR 1:30-3:10p	AC309	25	
DSN	ENGR 3260	02	Design for Manufacturing	Miller,S	4	MR 3:20-5:00p	AC309	25	
DSN	ENGR 3299A	01	Special Topics in Design: Real Products Real Markets	Neeley	4	TF 1:30-3:10p	AC328	21	May be used as a Design Depth
DSN / ENGR	ENGR 3299 <mark>OR</mark> ENGR 4199	01	Special Topics in Design: / Alternative Capstone in Engineering: <i>Affordable Design and Entrepreneurship</i>	Linder	4	T 3:30-6:30p	AC318	reserved seats	Enroll by APPLICATION to Professor Ben Linder
E!	AHSE 1500	01	The Entrepreneurial Initiative	Gold	4	MR 9-10:40a	AC318	30	
E!	AHSE 1500	02	The Entrepreneurial Initiative	Gold	4	MR 10:50-12:30p	AC318	30	
E!	AHSE 4590	01	Entrepreneurship Capstone	TBD	4	T 9-10:40a	AC313	15	
E:C	ENGR 2510	01	Software Design	Wolz	4	TF 10:50-12:30p	AC326	25	
E:C	ENGR 2510	02	Software Design	Wolz	4	TF 1:30-3:10p	AC326	25	
E:C	ENGR 2599	01	Special Topics in Computing: Game Design	Wolz	4	T 3:20-6:00p	AC326	25	

Area	Course #	Sec #	Course Title	Instructors	Credits	Time	Location	Enroll Caps	Notes
E:C	ENGR 2599A	01	Special Topics in Computing: Computing and Craft	Millner	4	MR 10:50-12:30p	AC304	16	WAITLIST AVAILABLE
E:C	ENGR 3520	01	Foundations of Computer Science	Downey	4	MR 9-10:40a	AC326	40	Pre or Co-Requisite of Discrete Mathematics REQUIRED
E:BE E:MS	ENGR 3610	01	Biomedical Materials	Chachra	4	TF 1:30-3:10p	AC318 and labs	25	
ECE	ENGR 2410	01	Signals and Systems	Dabby	4	TF 10:50-12:30p	AC304	32	
ECE	ENGR 2420	01	Introduction to Microelectronic Circuits	Minch	4	TF 1:30-3:10p	AC304	48	Choose lab A or lab B alone eith this course
ECE	ENGR 2420 L	A	Introduction to Microelectronic Circuits LAB	Minch	0	T 3:20-5:00p	AC304	24	Must select corresponding course ENGR2420
ECE	ENGR 2420 L	В	Introduction to Microelectronic Circuits LAB	Minch	0	W 12:30-2:10p	AC304	24	Must select corresponding course ENGR2420
ENGR	ENGR 1121	01	Real World Measurements	Storey	3	T 9:00-10:40a; W 9-10:40a	AC428; MH120 (W)	23	
ENGR	ENGR 1121	02	Real World Measurements	Minch	3	T 10:50-12:30p; W 9-10:40a	AC428; MH120 (W)	23	
ENGR	ENGR 1121	03	Real World Measurements	Storey	3	W 9-10:40a; F 9- 10:40a	AC428; MH120 (W)	23	
ENGR	ENGR 1121	04	Real World Measurements	Minch	3	W 9-10:40a; F 10:50-12:30p	AC428; MH120 (W)	23	
ENGR	ENGR 1330	01	Fundamentals of Machine Shop Operations	Anderson	4	W 12:30-4:30pm	AC104	6	
ENGR	ENGR 2199	01	Special Topics in Engineering: Sustainable Building Design	Zessin	4	TF 10:50-12:30p	AC309	25	
ENGR	ENGR 2210	01	Principles of Engineering	Murphy	4	TF 9-10:40a	AC306	28	
ENGR	ENGR 3199	01	Special Topics in Engineering: Robotics II	Bennett	4	TF 1:30-3:10p	AC309	25	
ENGR	ENGR 3199A	01	Special Topics in Engineering: Circuits for Electronic Music	Lundberg	4	MR 1:30-3:10p	AC304	25	Contingent on demand
ENGR	ENGR 4190	01 - 12	Senior Capstone Program in Engineering (SCOPE)	Bennett et al	4	W 9-10:40a; 12:30-6:00p		75	Enroll in same section as your team number (or section from fall)
ME	ENGR 2320	01	Mechanics of Solids and Structures	Zessin	4	TF 9-10:40a	AC326	45	
ME	ENGR 2330	01	Introduction to Mechanical Prototyping	Hoover	4	MR 10:50-12:30p	AC309	25	Contingent on demand
ME	ENGR 2350	01	Thermodynamics	Townsend	4	MR 10:50-12:30p	AC326 AC328	48	

Area	Course #	Sec #	Course Title	Instructors	Credits	Time	Location	Enroll Caps	Notes
ME	ENGR 3370	01	Controls	Lundberg	4	MR 3:20-5:00p	AC318	25	
МТН	MTH 1120	01	Vector Calculus	tbd	2	tbd	tbd	25	This course will most likely be taught as an independent study for those who still need to meet this requirement
МТН	MTH 2120	01	Linear Algebra SESSION I	Adams	2	MR 10:50-12:30p	AC113	25	Session I
МТН	MTH 2130	01	Probability and Statistics SESSION I	Но	2	TF 10:50-12:30p	AC128	30	Session II
МТН	MTH 2140	01	Differential Equations SESSION	Hoffman	2	TF 10:50-12:30p	AC318	24	Session I
МТН	MTH 2188	01	Special Topics in Mathematics: Linearity 1		4	MWR 1:30-3:10p	AC318; MH120 (W)	29	Required designated mathematics alternative
МТН	MTH 2188	02	Special Topics in Mathematics: Linearity 1	Adams; Geddes; Hoffman	4	MWR 1:30-3:10p	AC326; MH120 (W)	29	Required designated mathematics alternative
мтн	MTH 2188	03	Special Topics in Mathematics: Linearity 1		4	MWR 1:30-3:10p	AC328; MH120 (W)	29	Required designated mathematics alternative
МТН	MTH 2199	01	Special Topics in Mathematics: Introduction to Stochas Processes SESSION I	tic Ho	2	TF 10:50-12:30p	AC128	24	Session I
МТН	MTH 3150	01	Numerical Methods and Scientific Computing	Geddes; Manno	4	MR 9-10:40a	AC128	24	Offered using EXPERIMENTAL GRADING
МТН	MTH 3199	01	Advanced Linear Algebra SESSION	I Hoffman	2	MR 10:50-12:30p	AC113	25	Session II
SCI	SCI 1130	01	Mechanics	Somerville; Christianson	4	MTR 3:20-5p	AC326, AC328, MH120 (T)	60	
SCI	SCI 1210	01	Principles of Modern Biology (with Lab)	Huang	4	MR 10:50-12:30p; W 3:20-6:00p	AC417 / AC404	21	
SCI	SCI 1210	02	Principles of Modern Biology (with Lab)	Pratt, J.	4	TF 1:30-3:10p; T 3:20-6:00p	AC417 / AC406	21	
SCI	SCI 1310	01	Introduction to Chemistry (with Lab)	Morse	4	MR 10:50-12:30p; W 3:20-6:00p	AC128 / AC409	30	
SCI	SCI 1310 L	A	LAB: Introduction to Chemistry	Morse	0	T 9-10:40a	AC409	15	
SCI	SCI 1310 L	В	LAB: Introduction to Chemistry	Morse	0	W 3:20-6:00p	AC409	15	
SCI	SCI 1410	B1	Materials Science and Solid State Chemistry (with Lab) Environmental and Societal Impact of Materials	: Stolk	4	MR 9-11:40a	AC413	21	
SCI	SCI 1410	C1	Materials Science and Solid State Chemistry (with Lab) Biomaterials, Polymers and Mechanical Properties	Chachra	4	TF 9-11:40a	AC413	21	
SCI	SCI 2099	01	Special Topics in Science: The Art of Approximation	Mahajan	4	MR 9-10:40a	AC328	48	

Area	Course #	Sec #	Course Title	Instructors	Credits	Time	Location	Enroll Caps	Notes
SCI	SCI 2199A	01	Special Topics in Physics: <i>Probability and Statistical</i> <i>Mechanics</i>	Zastavker	4	TF 9-10:40a	AC318	24	May be used for Physics Foundation Requirement OR by petition for MTH2130 Probability & Statistics requirement
SCI	SCI 2299	01	Special Topics in Biology: Engineered Microbial Systems	Huang	4	W 12-3:10p	AC318 / AC404	10	Seats (5) Reserved for Cross-Registered Students
SCI	SCI 3320	01	Organic Chemistry II (with laboratory)	Morse	4	MR 1:30-3:10p; T 3:20-6:00p	AC128 / AC409	21	
This is a cr	oss-listed offerin	g. Stud	ents may choose to receive ENGR credit or SCI credit by	enrolling in th	e approp	riate course num	per. The dec	ision mag	y not be reversed after the add deadline
ENGR / SCI	ENGR 2620 <mark>OR</mark> SCI 2220	01	Biomechanics	Zastavker	4	MR 1:30-3:10p	AC313	18	
This is a co	ordinated, 8 cred	lit exper	ience. Students must enroll in both courses (8 credits).	AHSE2110 and	SCI1410	A			
INTEGRATED	AHSE 2110	A	The Stuff of History: Materials and Culture in Ancient, Revolutionary and Contemporary Times	Martello	4	MR 1:30-3:10p	AC417 AC413	21	Enroll in this and SCI1410A sec A
INTEGRATED	SCI 1410A	A	Materials Science and Solid State Chemistry with Lab: Historical Context	Stolk	4	T 3:20-6:00p; W 12:30-3:10p	AC417 AC413	21	Enroll in this and AHSE2110 sec A
This is a co	ordinated, 4 cred	lit exper	ience. Students must enroll in both courses. AHSE2199	A and ENGR21	99A				
INTEGRATED	AHSE 2199A & ENGR 2199A	01	Special Topics: Engineering for Humanity	Lynch/Stein	2 + 2	M 10:50-12:30p; W 3:20-6p	AC109	12	Seats (12) Reserved for Cross-Registered; some Monday classes may go through lunch
This is a co	ordinated, 4 cred	lit exper	ience. Students must enroll in both courses. ENGR2199	B and SCI2199					
INTEGRATED	ENGR 2199B & SCI 2199	01	Special Topics in Physics and Engineering: Renewable Energy	Christianson Townsend	4	MR 1:30-3:10p	AC113	24	
Non-standa	rd course offerin	gs avail	able for registration.		•	•			
Independent Study	ENGR, SCI, MTH 009 0198; AHSE 0598; I	98, AHSE SR 0098	Independent Study Activity		varied				Enroll via Paper Application Process. Deadline is the last day to ADD.
Independent Study	ENGR, SCI, MTH 009 0198X; AHSE 0598 0098X	8X, AHSE 3X; ISR	Independent Study Activity		varied	Enrollin requirement and	ng in one of i will be gradi	these cour ng on a 'le	rse numbers identifies the course as meeting a program etter grade' scale. Enroll via Paper Application Process. Deadline is the last day to ADD.
Research	ENGR, SCI, MTH 009 0197; AHSE 0597 ; I	97, AHSE SR 0097	Undergraduate Research Activity		varied				Enroll via Paper Application Process. Deadline is the last day to ADD.
Self Study	ENGR, SCI, MTH, AF AHSE 4598 ; ISR	Olin Self Study		2 or 4				Enroll via Paper Application Process. Deadline is the last day to ADD.	
AW	/AY1000	01	Study Away Program		12	n/a	n/a	n/a	Registration Required for those in APPROVED Study Away Programs
0	IP 1000	01	The Olin Internship Practicum	Phelps	1	select seminars	n/a	n/a	SEE PGP for Enrollment information

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Color Key- Offering Blocks	Key- Blocks ECE ME E											ENGR /	ENGR / DSN Courses				OIE or Genl Req												
					N	londa	ау									Tue	sday								Wed	nesd	ay		
9:00 AM	AHSE 1500 Sec 01 The Entrepre neurial Intitiativ e AC318	SCI 2099 Spec Topics in Science: Art of Approxi mation AC328		ENGR 3520 Fnd Of Compute r Science	MTH 3150 Numeric al Methods Scientific Computi ng AC128						SCI 1410 sec B1 Materials Science and Solid State Chemistr y: Stolk AC413	ENGR 2210 Principle s of Engineeri ng AC306	ENGR 1121 sec 01 Real World Measure ments AC428		ENGR 2320 Mechani cs Solids Structure s AC326		AHSE 4590 Entrepre neurship Capstone AC313	SCI 2199A Spec Top in Physics: Prob & Stat of Mechani cs AC318		AHSE 4190 AHS C	SCI 1410 sec C1 Mater ials Scienc e and Solid State Chemi stry:	SCI1310 L section A LAB	ENGR 1121 ALL Secs Real World Measure ments MH 120					ENG 4190 SCOI	R PE
10:50 AM	AHSE 1500 Sec 02 The Entrepre neurial Intitiativ e AC318	SCI 1210 sec 01 Prin of Modern Biology Huang AC417	ENGR 2599A Spec Top in Computi ng: Computi ng & Craft AC304	ENGR 2320 Mechani cal Prototypi ng AC309		MTH 2120-01 Linear Algebra SESS I AC113	MTH 2199-01 Adv Linear Algebra SESS II AC113	ENGR 2350 Thermod ynamics AC326 AC328	AHSE & ENGR 2199A Engineeri ng for Humanity Meets M 10:50- 12:30 and W 3:20-6 AC109	SCI 1310 Chemistry AC128		ENGR 2410 Signals and Systems AC304	ENGR 1121 sec 02 Real World Measure ments AC428	AHSE 2199 Narrati ve Psych 11:10- 12:20P @Welle sley	ENGR 2199 Spec Topics in Engr: Sustaina ble Building Design AC309	ENGR 2510 sec 01 Software Design	MTH 2199 Intro Stochasti c Processe s SESS I AC128	MTH 2130- 01 Probabili ty and Statistics SESS II AC128	MTH 2140 Sec 01 Different ial Equation s SESS I AC318	Capstone 10-1pm AC328	Chach ra 9- 11:40 AC413		SCI 2199		Open M	1eeting ⁻	Гime		
																							Special Topics in Biology: Engineeri nged	E 2 s II N	NGR 2420 L, ec B ntro MicoElec ropic		AHSE 2120 and SCI 1410A Stuff of	ENGR 1330 F	
1:30 PM	ENGR262 0 OR SCI2220 Biomech anics AC 313	AHSE 2120 SCI 1410A Stuff of History AC413 AC417	SCI 2199 ENGR 2199B Renewal ble Energy AC113	ENGR 3260, sec 01 Design for Manufac turing AC309	ENGR 3199A Spec Topics in Engr: Circuits Electroni c Music AC304	SCI 3320 Orgranic Chemistry II AC128	MTH 2188 all sect Linearity AC318, 326, 328					ENGR 2420 Intro MicoElec tronic Circuits AC304	AHSE 1155 Identify of the Mind AC128	SCI 1210 sec 02 Prin of Modern Biology Pratt AC417		ENGR 3299A Speci Topics in Design: Real Products Real Mkts AC328	ENGR 3199 Spec Topics in Engr: Robotics II AC309	ENGR 2510, sec 02 Software Design AC326	ENGR 3610 Biomedic al Materials AC318 / AC413 AC404 AC406				Microbial Systems Wed 12- 3:10p AC318 / AC404 AC406		ronic Circuits .2:30- 1:10p AC304	MTH 2188 all sect Linearity MH120	History (Hist Tech and MAt Sci) AC413 AC417	ind Machine Shop Oper 12	ENG
3:20 PM 3:20 PM 5:00 PM	ENGR 2250 Sec 01, 02, 03, 04 User- Oriented Collabora tive Design		ENGR 3370 Controls AC318	ENGR 3260, sec 02 Design for Manufac turing AC309	SCI 1130 Mechani cs MTR 3:20-5p AC326 AC328			-				AHSE 2120 and SCI 1410A Stuff of History (Hist Tech and MAt Sci)	SCI 1210 sec 02 Prin of Modern Biology LAB Pratt		SCI 3320 Organic Chemistr y II LAB	SCI 1130 Mechani cs MTR 3:20-5p MH120	ENGR 2599 Spec Top in Computi ng: Game Design 3:20- 6:00p		ENGR 2420 L sec A MicoElec tronic Circuits LAB 3:20- 5:00pm AC304	ENGF 3299 4199 Affor e Des & E! Tues 3:30- 6:30r	ہ and dabl sign 		AHSE 2199A and ENGR 2199A Engineeri ng for Humanit y Meets M 10:50- 12:30	SCI1310 L sec B Intro to Chemistr y LAB	SCI1210 Sec 01 Prin of Modern Biology LAB Huang)		:30-4:30p	R 4190
6:00 PM	AC 204, 206, 209, 213 MH120											AC413 AC417	AC404 AC406		AC409		AC326			AC31	8		and W 3:20-6 AC109	AC409	AC406				
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Thursday														Fri	iday					
AHSE 1500 Sec 01 The Entrepre neurial Intitiative AC318	SCI 2099 Spec Topics in Science: Art of Approxi mation AC328		ENGR 3520 Fnd Of Compute r Science AC326	MTH 3150 Numeric al Methods Scientific Computi ng AC128					SCI 1410 sec B1 Materials Science and Solid State Chemistr y: Stolk	ENGR 2210 Principle s of Engineeri ng AC306 AC309	ENGR 1121 sec 03 Real World Measure ments AC428		ENGR 2320 Mechani cs Solids Structure s				SCI 2199A Spec Top in Physics: Prob & Stat of Mechani cs AC318	SCI 1410 sec C1 Materials Science and Solid State Chemistr y: Chachra		9:00 AM
AHSE 1500 Sec 02 The Entrepre neurial Intitiativ e AC318	SCI 1210 sec 01 Prin of Modern Biology Huang AC417	ENGR 2599A Spec Top in Computi ng: Computi ng & Craft AC304	ENGR 2320 Mechani cal Prototypi ng AC309		MTH AM 2120-01 21 Linear Ac Algebra Lin Al SESSI SE AC113 AC	TH EN .99-01 23 dv near Th gebra yn SS II C113 AC	GR SC 50 Ch ermod amics 326 328 AG	CI 1310 Chemistry		ENGR 2410 Signals and Systems AC304	ENGR 1121 sec 04 Real World Measure ments AC428	AHSE 219 Spec Top AHS: Narrative Psych 11:10- 12:20P@ Wellesler	99 ENG 2199 Spec Topic Engr Susta ble Build Desig AC30	R EN 25 01 cs in Sc aina De ling gn 09 AG	NGR 510 sec 1 oftware esign C326	MTH 2199 Intro Stochasti c Processe s SESS I AC128	MTH 2130-01 Probabili ty and Statistics SESS II AC128	9-11:40a AC413	MTH 2140 Sec 01 Different ial Equation s SESS I AC318	10:50 AM
ENGR 2620 OR SCI 2220 Biomech anics AC 313	AHSE 2120 SCI 1410A Stuff of History AC413 AC417	 SCI 2199 ENGR 2199B Renewal ble Energy AC113 	ENGR 3260, se 01 Design for Manufac turing AC309	c ENGR 3199A Spec Topics ir Engr: Circuits Electron c Music AC304	SCI 3320 Orgranic Chemistry II AC128	MTH 2188 all sect Linearity AC318, 326, 328				ENGR 2420 Intro MicoElec tronic Circuits	AHSE 1155 Identify of the Mind AC128	SCI 1210 sec 02 Prin of Modern Biology Pratt AC417		ENGR 3299A Speci Topics in Design: Real Products Real Mkts AC328	ENGR 3199 Spec Topics Engr: Robot II AC309	in Softwork	R ENG 9, sec 3610 Bior al ware Mat gn AC3 AC4 AC4 26 AC4	5R 0 medic terials 18 13 .04 .06		1:30 PM
ENGR 2250 Sec 01, 02, 03, 04 User- Oriented Collabora tive Design		ENGR 3370 Controls AC318	ENGR 3260, so 02 Design for Manufa turing AC309	ec SCI 1130 Mechan cs MTR 3:20-5p AC326 AC328	D		<u>-</u>						(Commur	nity Serv	vice				3:20 PM 3:20 PM 5:00 PM
AC 204, 206, 209; 213 MH120																				6:00 PM
AHSE 3199 Issues in Lea Ethics 6-7:45p (sor 8:15p) at BA	dership and ne nights 6- BSON	AHSE 0112 C Conductorles 6:45-9pm	Dlin ss Orchestra																	
		305 + 318																		9:00:00 PM