Undergraduate Student Handbook

2010-2011

October 2010

Dear First-Year Students:

On behalf of the students, faculty, and staff of the L.C. Smith College of Engineering & Computer Science, I am delighted to have this opportunity to welcome you into our community. We are all looking forward to working alongside you to help make sure that your experience as an LCS student is both rewarding and successful.

The next several years will be a challenging and exciting time for you. As you embark on an LCS undergraduate program that will help prepare you to become a future leader in engineering and computer science, you can look forward to receiving the enthusiastic support of faculty and staff who are firmly committed to your success.

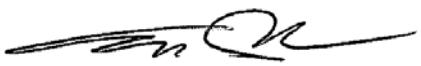
Your success as an LCS student will be based, in part, upon the choices that you make over the course of the next several years. With that in mind, we have assembled this handbook for your use. Please think of this handbook as a resource guide that is available to you and your faculty advisor as you meet to discuss your academic goals and plans.

Inside this handbook, you will find information on rules, regulations, procedures, and worksheets that relate to your program of study. These materials will help you to keep track of your academic progress and will also provide you with important guidelines for registration, advising, and program-of-study adjustments. You will find that sections of this handbook refer you to a separate document, *The University Bulletin: Academic Rules and Regulations*, which is available online at http://coursecatalog.syr.edu/2010/rules/undergraduate.

Perhaps the most important and valuable resource that is available to you is the assistance and support that you find from your advisor and from the staff members of your department and the LCS Student Records Office. Our door is always open to your thoughts, ideas, concerns, and accomplishments - please feel free to share them with us at any time. For your information, our office is located at 130 Link Hall; telephone number 315-443-5191.

We all wish you the very best for continued success, good health, and happiness.

Warm regards,



Can Isik, Ph.D.
Senior Associate Dean

SYRACUSE UNIVERSITY

L.C. SMITH COLLEGE OF ENGINEERING AND COMPUTER SCIENCE

UNDERGRADUATE STUDENT HANDBOOK
2010-2011

Prepared by Nicole Adkins

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L.C. Smith College of Engineering and Computer Science
Office Directory

(315) 443-5191

Dean's Office Suite		223 Link	X-2545
Dean	Dr. Laura J. Steinberg	223 Link	X-4341
Assistant to the Dean	*Stephanie Vasta*	*223 Link*	*X-4341*
Senior Associate Dean	Dr. Can Isik	223 Link	X-3604
Associate Dean for Student Affairs	Dr. Andria Costello Staniec	223 Link	X-2545
Associate Dean for Research & Doctoral Programs	Dr. Mark Glauser	223 Link	X-2105
Assistant Dean of Advancement	Steve Savage	223 Link	X-4414
Assistant Dean of External Relations	Ariel Duchene	223 Link	X-2546
Director of Development	Alan Greene	223 Link	X-3314
Associate Director of Development	Jennifer Breyer	223 Link	X-3129
Assistant Director of Alumni Relations	Denise Hendee	223 Link	X-4345
Administrative Assistant	*Ellen Robb*	*223 Link*	*X-4777*
Director of Space & Facilities	Patricia Shanahan	223 Link	X-4343
Director of Fiscal Operations	Christina Rhinehart	223 Link	X-2988
Director of Computer & IT Services	Kevin Barnett	247 Link	X-3839
Director of Student Support Programs	Kathryn Pynn	123 Link	X-2582
Student Support Programs Coordinator	*Christine Zacher*	*123 Link*	*X-3513*
Administrative Assistant	*LindaTerramiggi*	*123 Link*	*X-5192*
Office Coordinator	*Carol Dewitt*	*123 Link*	*X-2582*
Assistant Dean for Student Recruitment	Kathleen Joyce	123 Link	X-2219
Undergraduate Recruiting Specialist	Binh Huynh	131 Link	X-5348
Recruiting Assistant	*Terry Monto*	*125 Link*	*X–1044*
Associate Director of Career Development & Service Learning	Karen Davis	123 Link	X-2239
Employment Specialist	*Melanie Morgan*	*127 Link*	*X-2371*
First Year Student Advisor	Giovanna Colosi	135 Link	X-3978
First Year Student Advisor	R. Scott Freeney	133 Link	X-2582
Director of Student Records & Study Abroad	Maria Marceau	129 Link	X-5191
Assistant to the Director	*Nicole Adkins*	*130 Link*	*X-5191*
Fax Number for the Dean's Office		223 Link	X4936
Fax Number for Student Records Office		130 Link	X4459
Fax Number for SOAR Office		123 Link	X1065

ACADEMIC PROGRAMS DIRECTORY
2010-2011

Department	Chairs		
Biomedical & Chemical Engineering	Dr. Radhakrishna Sureshkumar	121 Link	X-1931
Civil & Environmental Engineering	Dr. Chris Johnson	151 Link	X-2311
Electrical Engr & Computer Science	Dr. Chilukuri Mohan	4-177 CST	X-2322
Mechanical & Aerospace Engineering	Dr. Achille Messac	263 Link	X-2341
Program	**Directors**		
Aerospace Engineering	Dr. Hiroshi Higuchi	263 Link	X-4369
Bioengineering	Dr. Julie Hasenwinkel	121 Link	X-1931
Chemical Engineering	Dr. George Martin	367 Link	X-4467
Computer Engineering	Dr. Roger Chen	4-133 CST	X-4179
Computer Science	Dr. James Royer	4-206 CST	X-2562
Electrical Engineering	Dr. Qi Wang Song	335 Link	X-1516
Environmental Engineering	Dr. Chris Johnson	151 Link	X-2311
Research Center	**Directors**		
Institute for Sensory Research – ISR www.ecs.syr.edu/dept/ben/ research.html	Dr. Robert Smith	621 Skytop Rd	X-4164
CASE Center http://case.syr.edu	Dr. Pramod Varshney	2-212 CST	X-1060
The Systems Assurance Institute http://sai.syr.edu	Dr. Steve Chapin	4-295 CST	X-4457
Environmental Quality Systems (STAR Center) http://eqs.syr.edu	Dr. H. Ezzat Khalifa	462 Link+	X-2545
Geofoam Research Center http://geofoam.syr.edu	Dr. Dawit Negussey	251 Link	X-3129
Center of Excellence	Dr. Edward Bogucz	621 Skytop Rd	X4445

Computer & Information Technology Services

The L.C. Smith College of Engineering & Computer Science (LCS) provides and extensive list of computing resources for its students. There are LCS customized PCs in numerous faculty labs and in several public labs. In addition to the standard office productivity tools like word processors and spreadsheet programs, there are a broad range of the latest engineering tools (CAD, FEA, math and simulation) and software development tools. The LCS Windows computing labs use the campus NetID and password and a home directory quota of 1GB. All PCs have CDROM burners, USB ports and floppy drives for portable storage. They are located as follows:

- Link 011 ("MADlab") – 31 PCs
- Link 201, 202 – 31 PCs each
- Link 274 – 35 PCs
- CST 3-201 – 31 PCs

All LCS students who need an "LCS" account for Unix access or to an LCS domain Windows PC are given a "unified" home directory visible from both Windows and Unix with 100MB of storage available. This account can be requested online at http://helpdesk.ecs.syr.edu/ . Unix labs are located as follows:

- CST 1-214 – (SUN/Synopsys lab) 31 Muti-OS Thin Client terminals
- CST 3-210 ("Foundry") – 10 UBUNTU Linux Workstations

Please visit the Online Services at http://www.lcs.syr.edu and review your ListServ subscriptions by using the "ListServ Manager". It is to your advantage to be subscribed to your class list, so please ensure that you are.

All LCS Students	LCS-students@listserv.syr.edu
All LCS Graduates	LCS-grad@listserv.syr.edu
All LCS Undergraduates	LCS-undergrad@listserv.syr.edu
All LCS First Year	LCS-2014@listserv.syr.edu
All LCS Sophomores	LCS-2013@listserv.syr.edu
All LCS Juniors	LCS-2012@listserv.syr.edu
All LCS Seniors	LCS-2011@listserv.syr.edu
All LCS Fifth Year Seniors	LCS-2010@listserv.syr.edu

******NOTE:*** Subscribing to any of the class lists automatically subscribes you to LCS UNDERGRAD and LCS-STUDENTS where appropriate. You only need to subscribe to your class' mailing list.

For frequently asked questions and other information about LCS computing, please visit

http://helpdesk.lcs.syr.edu. Email questions and requests can be sent help@lcs.syr.edu or by visiting the CIT Help Desk in 204 Link Hall during business hours.

L.C. SMITH COLLEGE OF ENGINEERING AND COMPUTER SCIENCE
PROFESSIONAL SOCIETIES

SOCIETIES		OFFICE	MAILING
AIAA	AMERICAN INSTITUTE OF AERONAUTICS & ASTRONAUTICS	276 LINK	154 LINK
AIChE	AMERICAN INSTITUTE OF CHEMICAL ENGINEERS	276 LINK	121 LINK
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	276 LINK	151 LINK
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS	276 LINK	263 LINK
AOE	ALPHA OMEGA EPSILON NATIONAL ENGINEERING SORORITY	276 LINK	223 LINK
AWWA	AMERICAN WATER WORKS ASSOCIATION	276 LINK	151 LINK
BMES	BIOMEDICAL ENGINEERING SOCIETY	276 LINK	121 LINK
CHI EPSILON	NATIONAL CIVIL ENGINEERING HONOR SOCIETY	276 LINK	151 LINK
EWB	ENGINEERS WITHOUT BORDERS	276 LINK	223 LINK
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS	276 LINK	335 LINK
NSBE	NATIONAL SOCIETY OF BLACK ENGINEERS	276 LINK	223 LINK
PI TAU SIGMA	NATIONAL MECHANICAL ENGINEERING HONOR SOCIETY	276 LINK	154 LINK
SAE	SOCIETY OF AUTOMOTIVE ENGINEERS	276 LINK	263 LINK
SEE	SOCIETY OF ENVIRONMENTAL ENGINEERS	276 LINK	151 LINK
SHPE	SOCIETY FOR HISPANIC PROFESSIONAL ENGINEERS	276 LINK	223 LINK
SIGMA GAMMA TAU	NATIONAL AEROSPACE ENGINEERING HONOR SOCIETY	276 LINK	263 LINK
SWE	SOCIETY FOR WOMEN ENGINEERS	276 LINK	223 LINK
TAU BETA PI	NATIONAL ENGINEERING HONOR SOCIETY	276 LINK	223 LINK

ACADEMIC CALENDAR

FALL 2010

Opening Day . . . .…….….…. . . . Friday, August 27

Registration/Schedule Adjustment for New Students . .…............... . .Saturday-Sunday, August 28-29

First Day of Classes . . . .…….……... . . . . Monday, August 30

Late Registration . . .. …………... Monday-Tuesday, August 30-September 7

Late Schedule Adjustment . . . . …………….Monday-Tuesday, August 30-September 7

Labor Day (no classes) . . . . …………... . . . . .Monday, September 6

Last Day of Late Registration . . . . …………… . . . .Tuesday, September 7

Last Day to Add a Course . . . . ………….. . . . . .Tuesday, September 7

Last Day to Adjust a Pass/Fail/Audit Option . . . . . . …………... Monday, September 13

Financial Deadline for Dropping Courses . . . . ……………Monday, September 20

Eid Ul-Fitr (no classes)……………………………………….……Friday, September 10

Mid-Term………………………………………..……………Tuesday, October 19

Yom Kippur (no classes) ……………………………….…Saturday, September 18

Academic Deadline for Dropping Courses . . . .…………..…. Tuesday, October 26

Undergraduate Registration for Spring 2011 . . . . …………..Wednesday-Thursday, November 10-December 17

Deadline to Withdraw from a Course. . . . . ……………... . . Friday, November 19

Thanksgiving Vacation (no classes) . . . . …………… Wednesday-Sunday, November 24-November 28

Last Day of Classes . . . . ………..….. Friday, December 10

Reading Days . . . . .Saturday & Sunday, December 19-20
Tuesday & Thursday (am Only), December 14-16

Final Exams . . . . . . ………... . Monday, Wednesday & Friday, December 13, 15, & 17

Tuesday & Thursday (pm Only), December 14-16

SPRING 2011

Registration for New Students ……..…….. …...Sunday, January 16

First Day of Classes ……..……..……..…Tuesday, January 18

Late Registration / Schedule Adjustment ……Tuesday-Tuesday, January 18-25

Martin Luther King Day (no classes) . . . . . …… ……....Monday, January 17

Spring Break . . . . . .…... ..... .Sunday-Sunday, March 13-20

Easter Break (no classes) . . . . . …….……. Friday, April 22

Undergraduate Registration for Fall 2011. …….....Monday-Thursday, April 11-May 11

Last Day of Classes . . . . . ……...…….……..Tuesday, May 3

Reading Days (no classes) . . . . . ……... . …..….. ……. …..Wednesday, May 4
Saturday-Sunday, May 7-8

Final Examinations . . . . . ….....……. ……... Thursday-Friday, May 5-6
Monday, Tuesday & Wednesday, May 9-11

College Convocation . . . . . …….……..…Saturday, May 14

Commencement . . . . . ……...….....Sunday, May 15

SUMMER 2011

U.C. Summer Session. . . . . ……..….. . . ….. . ... . ……..… .May 16-August 12

For deadlines and a list of classes for the summer please visit: www.YeSU.syr.edu

LCS ACADEMIC INTEGRITY

All formal education is a partnership between teachers and students. This partnership works best when all involved share common values and goals. To achieve this, students must clearly understand what is expected of them (and what they should expect of themselves) and teachers must reciprocate by making their educational objectives and expectations clear. When these objectives and expectations are fulfilled, all involved can have a rewarding and empowering experience.

Engineering and Computer Science are *professions*. The possession of a B.S. in an engineering or computer science discipline asserts that not only has its possessor mastered core educational requirements but also has experience of working in teams and presenting the resulting data to varied audiences. It is important that understanding of the privileges and responsibilities of an engineering or computer science degree be communicated by faculty and understood by student*.

Course Requirements

At the beginning of each course, students should receive a clear statement of Instructor/Faculty expectations for that specific course. This statement (usually presented in the 'Course Syllabus') should include prerequisite skills, the formal syllabus, class schedule, timing of quizzes, homeworks and exams, with the grading scheme for each, as well as the overall grading scheme to establish the final course grade. Students who do not receive such a statement at the beginning of each course should request this information.

In addition, we are required by the Accreditation Board for Engineering and Technology (ABET) to demonstrate course outcomes. ABET has a set of outcome measures some of which apply to all courses, others to some. Success in meeting these measures is very important to maintaining accreditation and so the 'value' of your degree.

The following illustrates primary areas in which clarity in mutual educational expectations is important for successful educational outcomes.

Attendance in Classes

Missing classes without good reason prejudices a student's educational progress. Students arriving late for class are disruptive and discourteous to both fellow students and the instructor. The university has a process for approved absence from class when sickness, family crises or similar serious events occur (see Student Handbook) so that 'credit' can be obtained, or the absence compensated. Conversely, it is perfectly proper for faculty/instructors to take attendance if they so desire.

Course Assignments

Completion of most course assignments is the responsibility of the individual student. His/her obligation is to submit the work product on due date and in the specified format. In Engineering and Computer Science many courses require students to collaborate or work in teams. If, for example, you are part of a student team carrying out a laboratory

experiment, everyone in the group should be clear about how individual credit will be assigned by the Instructor (for example: if the Instructor is going to grade the lab from A-F, and the group gets a C, will every member of the group get the C?). In contrast, if there is a requirement that individual members of the group submit their *own* report, that means that the team can discuss their 'collective data' [Data Acquisition]; but each member of the group must do their own analysis [Data Reduction and Evaluation] and write their own report.

Term Papers/Course Essay Assignments

These assignments vary widely between LCS Courses in their expectations for the product. Any review of material (Abstract, Report, Journal Article, Review or the college equivalents thereof) requires the acknowledgement of previous work, i.e. References/ Bibliography .and *all other sources used*. All students should ascertain from their instructors the style of reference/citation they expect. There is currently no agreed international standard for *internet citations*[1] which are becoming increasingly important. (A general 'rule of thumb' is to: i) give the title of the webpage/article, ii) the author(s), iii) website name, with date of last update and the web address). Abstracting or copying from source documents or *material on the web*, without acknowledgement is *plagiarism*, and will be treated as such.

Examinations

The form of examinations is dictated by the Instructor. Students should expect that the exam will be carefully proctored and the papers carefully collected. Devices (e.g. calculators, cell phones, iPODs, Palm Pilots and comparable tools with electronic memory and communication capacity) are not to be used without *formal approval:* i.e. agreement by or instruction from the course director.
Take-Home Exams These place a special burden on the integrity of the student. The Instructor will set the conditions, the student should consider it a moral duty to comply with the instructors' requirements.

The Ethical Responsibilities of Students and Faculty.

When students register as incoming freshmen, they are accepting an obligation for themselves, their parents, family and friends and the profession to persevere through their courses to graduate with a Bachelors Degree proudly earned. Similarly graduate students should be able to wear their hoods at Convocation and Commencement as insignia of achievement.

To honorably obtain the degree, each student should have fully complied with the 'terms and conditions' laid down by each course instructor for the courses he/she teaches. Reciprocally, the course instructor should not change those terms and conditions during the course without notice or discussion.

Any attempt to short circuit the educational process by circumventing the rules on intellectual honesty will be treated firmly but equitably. The College and the University have policies on academic integrity which lay out in great detail the processes to be followed when a student or students have behaved in such a way as to suggest they have

breached the LCS Policy on Academic Integrity, which addresses cheating, plagiarism and academic malfeasance.

Finally, we wish to emphasize that any attempt to circumvent the rules and standards laid down by LCS in its Policy on Academic Integrity will not only lead to sanctions (up to and including expulsion) but can deprive the student of the credit obtained from honest work. Cheating also demeans the efforts of other students and devalues the degree the student cheated to obtain. It is recognized as unacceptable and corrosive behavior affecting the program, college and university.

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[1]. A summary of citation modes is given in Attachment D to the LCS Policy on Academic Integrity.

** These are laid out in the College Policy on Academic Integrity. See the LCS website and Policy Documents (Dean's Office).*

PROGRAMS ROOTED IN DEVELOPING EXCELLENCE - PRIDE

At **Syracuse University's L.C. Smith College of Engineering and Computer Science (LCS),** we are committed to the success of each individual. It is a commitment that is found not only in our classrooms, but also in the programs and experiences that we provide to our students. These opportunities support our students' development in the academic, personal, and professional skills that are so critical for success and leadership in today's society.

This commitment to student success is at the heart of LCS PRIDE (Programs Rooted In Developing Excellence). PRIDE is on a mission to challenge and support students with experiences and opportunities that will ensure their success well beyond the Syracuse University campus.

PRIDE supports all students in the L.C. Smith College of Engineering and Computer Science, with an emphasis on supporting and including women and students of color. PRIDE programs challenge, inspire, and encourage students to pursue and achieve academic, personal, and professional excellence. The programs offered under the umbrella of PRIDE assure opportunities for success through every stage of a student's college - before, during, and after life on campus.

PRIDE gives students the opportunity to develop a strategy for success that will lift them through their studies at Syracuse University and that will last a lifetime. The PRIDE program is a key to the success of LCS students in the first semester and beyond

The Academic Excellence Workshop (AEW) is an optional active-learning program offered to students taking Pre-Calculus, Calculus I, II, and III. It has also been expanded to several key engineering foundation courses and higher level mathematics courses.

AEW delivers a unique approach to calculus instruction by supplementing classroom teaching through a highly interactive, small-group session. Trained undergraduate facilitators, who excelled in the course previously, work with six to eight students who have volunteered for the extra time commitment week required by AEW. The facilitators present the AEW participants with a worksheet developed in conjunction with the course instructor that reinforces key principles recently taught in class. The facilitator is trained not to do the work for the students, but to encourage them to work in teams, using the language of the course to solve the problems.

The result is a lively, interactive session where students work together to solve problems that enhance their understanding of the subject material. The goal of AEW is to encourage subject mastery, and not merely memorization. At the same time, students develop strengths in other areas to, including their communication, teamwork, problem solving, and presentation skills.

Student chapters of professional engineering societies focus on student success by providing academic support to members, including tutoring, study circles, and mentoring.

Student societies also promote professional development by hosting guest speakers from industry, and by sponsoring visits to area companies. Other activities include participation in regional and national conferences and competitions where students enjoy additional opportunities to network with their peers from other schools and with professionals from industry. Students often join several societies to share common interests, network, and prepare for life beyond college.

Students helping students, that is the goal of LCS Pathfinders, a program that facilitates interactions between upper-class students and new LCS students. Pathfinders are undergraduate peer advisors who assist first-year and transfer students in their transition to life as new members of the SU community. Pathfinders offer guidance, support, and friendship to new students in the first semester and beyond.

The Students Taking Academic Responsibility (STAR) program is dedicated to helping students achieve their full academic potential by offering individualized assistance from a professional counseling staff. The STAR staff offers both group and individual counseling on an array of topics, which includes to improve academic performance through study habit development, better time management and improved organizational skills.

The WISE program at Syracuse University was established to inspire, encourage, and support undergraduate women in engineering, computer science, and the natural sciences. WISE strives to promote a supportive community for undergraduate women in engineering and science with each other, faculty members, and professionals in industry. The components of the WISE program include:

- A mentoring program that pairs undergraduate women in engineering with a professional from industry. The WISE program allows undergraduate women an opportunity to learn about careers in engineering and technology. Is also eases the transition into college, and later into the workplace.

- A campus lecture series featuring prominent women scientists and engineers.

- A WISE living/learning community. Located in an undergraduate residence hall, the WISE community provides a residential experience for undergraduate women to live and learn with their peers.

For Additional Information Contact: Kate Pynn
Director of PRIDE and Student Support Programs

123 Link Hall
Syracuse University
Syracuse, NY 13244
(315) 443-2582
http://pride.syr.edu

STUDENT CAREER OPPORTUNITIES

Cooperative Education Program

The LCS Cooperative Education program (Co-op) empowers undergraduate students to take advantage of experiential learning opportunities that have proven to aid them in successfully reaching their post graduate goals. The Co-op program consists of full-time professional work primarily during the summer. This design allows students the opportunity to gain more that six months of paid work experience in their field of study and still graduate in four years. Working during the academic year is an option that students may choose, with the understanding that their ability to graduate on time may be affected. To be eligible, students must be enrolled full time in the L.C. College of Engineering and Computer Science.

For Additional Co-Op Information Contact:

Karen Davis
Director
123 Link Hall
Syracuse University
Syracuse, NY 13244-1240
(315) 443-2239

STUDY ABROAD PROGRAM

The L.C. Smith College of Engineering and Computer Science, in cooperation with Syracuse University Abroad, offers qualified engineering and computer science students the opportunity to spend a year at a university in London or students in Electrical Engineering, Computer Engineering and Computer Science have the option of spending the spring semester in London, a semester in Madrid, Dublin, Chile, Hong Kong, Australia or Turkey. Here they will broaden their technical and intellectual horizons, and enjoy the cultural and social advantages of living in one of the world's great cities.

The London academic-year program is open to students in all engineering and computer science majors. The program is designed for students to spend the entire junior year in London. A normal academic load is taken alongside their British counterparts while receiving full Syracuse University credit. Each student is assigned a British advisor and has all the advantages of membership in the host university, student residence halls, and the Student Union. In addition, students have access to the resources and services of the Syracuse University London Center.

A spring semester engineering program in Madrid is available for juniors who have intermediate/advanced proficiency in Spanish (two years of college-level Spanish or equivalent). Students enroll in two or three engineering courses at Universidad Politecnica de Madrid (UPM), taking classes alongside Spanish engineering students. LCS students complete their registrations by enrolling in classes at the SU Madrid Center, choosing from a broad selection of elective courses in English or Spanish. They also participate in the SU Madrid homestay program, extensive field trip opportunities, and an optional traveling seminar that begins the semester. The Madrid engineering program is open to most engineering majors. Similar to Madrid the program in Santiago, Chile requires Spanish language fluency.

For a list of other international study opportunities see http://suabroad.syr.edu/programs/location/worldPartners/.

For further information, contact the L.C. Smith College of Engineering and Computer Science Study Abroad Office in 130 Link Hall or Syracuse University Abroad, 106 Walnut Place (*suabroad.syr.edu*).

For Additional Information Contact:

Gustav Engbretson
Executive Director
111 Link Hall
Syracuse, NY 13244
(315)443-1189
gengbret@syr.edu

Maria Marceau
Director
129 Link Hall
Syracuse, NY 13244
(315) 443-5191
mcmarce@syr.edu

STUDY GROUPS AND TUTORING SERVICES

In order to help students achieve academic excellence, the L.C. Smith College of Engineering and Computer Science offers free study groups for various courses. You can get current information about these groups in the Student Support Programs (SSP) Office, 123 Link Hall.

It is important for all LCS students to recognize that good study technique includes studying together. You master course content more thoroughly, with better retention when you explain it to others. Successful students not only join study groups, they start them. We encourage all LCS students to do both. It is one of our priorities to help students interested in forming study groups. If you would like some assistance, please stop by the SSP Office and let us know of your interest.

Also Tutoring and Study Center offers a variety of seminars and workshops in learning strategies and techniques essential to academic achievement. Conducted in small group settings, these workshops are also available upon request to campus organizations, faculty/instructors, college advising offices, and Residence Life staff. The office selects and trains undergraduate and graduate student tutors. Students may request one-on-one tutorials and/or study group facilitators for undergraduate level courses.

For Additional Information Contact:

Tutoring and Study Center
11 Waverly Ave.
Suite 220
Syracuse University
Syracuse, NY 13244
(315) 443-2005
www.tutoring.syr.edu

Kate Pynn
Director of PRIDE and Student Support Programs

123 Link Hall
Syracuse University
Syracuse, NY 13244
(315) 443-2582

SYRACUSE UNIVERSITY INTERNSHIP PROGRAM (SUIP)

Syracuse University Internship Program

SUIP provides information about elective internships in Syracuse and elsewhere to **undergraduate and graduate students** from all schools and colleges of the University, helping them find internships that will offer them the opportunity to link theory with practice, explore possible careers, and meet their individual learning goals.

SUIP works with **faculty and staff** throughout the University to facilitate the academic and administrative aspects of internships taken for elective academic credit.

SUIP works with a variety of **organizations** both in the local Syracuse area and across the country, helping them find suitable interns and facilitating an effective, productive internship experience for both student and employer.

The Program

Students may choose elective internships from either of two categories—SUIP internships, taken for academic credit, or **experience-only internships**. SUIP staff members help students identify the sort of internship experience they want, guide them as they search and apply for appropriate placements, and help with paperwork related to academic credit for SUIP internships.

Experience-only internships are similar to work experience, where the student learns what the organization wants to teach. The student usually has a much smaller role (if any) in identifying learning goals and in selecting projects and tasks; there may be no formal identification of learning outcomes.

An SUIP **Internship** is a planned learning experience, taken for academic credit, which is sponsored and overseen by a professor with knowledge of the internship subject area.

There are three main types of SUIP Internship:

1. **Local internships**: These are taken with a local (Syracuse) company or organization that has an Affiliation Agreement with Syracuse University.
2. **National internships**: These are internships taken away from Syracuse, usually over the summer.
3. **Independent internships**: These are internships taken with companies with which SU has no Affiliation Agreement. These may be in Syracuse or elsewhere—most national internships are also independent internships.

An SUIP Internship:

- Can be taken in any semester or summer session
- Must be supervised on site by an experienced member of the host organization or company
- Must allow the student the opportunity to reach identified learning goals

- Must be taken for between 1 and 6 academic credits
- Requires 45 hours on site per semester for each credit (during fall and spring semesters this works out to be about 4 hours per week per credit.)
- Must be registered for credit before or during the semester in which the internship is taken (no retroactive credit is possible)
- Must have a faculty sponsor who is an SU faculty member who has expertise in the area of the internship
- Is assessed by the faculty sponsor, using reports from the site supervisor to assist in making the assessment
- Must be paid for, like any other course taken for credit (in fall and spring semesters, the regular tuition fee covers up to 19 credits for undergraduates, and students can usually include an internship among these 19; in summer, students pay for each credit they take.)
- May be paid or unpaid

For Additional Information Contact:

SUIP
235 Schine Student Center
Syracuse University
Syracuse, NY 13244
(315) 443-3616
http://students.syr.edu/careerservices/undergrad/int-find.htm

SYRACUSE UNIVERSITY
STATEMENT ON ACADEMIC ADVISING

ACADEMIC ADVISING

Academic advising is an essential component of a Syracuse University education. The University is committed to providing the individual advice and assistance that students need at every step throughout their degree programs. A successful system of academic advising is highly dependent upon a shared commitment of students, faculty, and staff to process and availability of timely, accurate information.

Students are responsible for scheduling, preparing for, and keeping advising appointments; for seeking out contacts and information; and for knowing the basic requirements of their individual degree programs. Students bear the final responsibility for making their own decisions based on the best information and advice available and, ultimately, on their own judgment.

Advisors are responsible for developing a thorough knowledge of the degree requirements within the student's program of study and a working knowledge of academic options and resources throughout the University. Advisors are expected to involve students by encouraging them to ask questions, gather information, and explore options so that they may develop a meaningful academic plan. Advisors will be available to students on a regular basis, monitor their advisees' progress, assist in considering career options, and make appropriate referrals to other campus offices.

The University, through its schools and colleges, pledges to support a campus-wide network of faculty, staff, and student peer advisors by providing them with a clear and firm foundation of information regarding policies, procedures, resources, and programs. The University is committed to help faculty and staff develop effective advising and support services, and to make improvements where necessary. The University also acknowledges the important contribution advisors make to the community through appropriate recognition within the institutional reward system.

ACADEMIC DISHONESTY

The following statement is drawn from the General Academic Rules and Regulations of Syracuse University.

****Please see Pg 7 for the L.C. Smith College of Engineering & Computer Science Academic Integrity Policy**

ACADEMIC STANDARD – Plagiarism

The submission of any work by a student is taken as a guarantee that the thoughts and expressions in it are the student's ***own except*** when properly credited to another.

Violations of this principles include giving or receiving aid in an exam or where otherwise prohibited, fraud, plagiarism, the falsification or forgery of any record, or any other deceptive act in connection with academic work. Plagiarism is the representation of another's words, ideas, programs, formulae, opinions, or other products of the work as one's own, either overtly or by failing to attribute them to their true source. Sanctions for violations will be imposed by the dean, faculty, or Student Standards Committee of the appropriate school or college. Documentation of such academic dishonesty may be included in an appropriate student file at the recommendation of the academic dean.

In keeping with this University regulation, the L.C. Smith College of Engineering and Computer Science has adopted the following statement of policy concerning academic dishonesty:

An instructor may respond to a suspected infraction by one of two means:

A. When the infraction is confined to the limits of the course s/he may handle it personally or s/he may refer to the matter to the Associate Dean.

The maximum sanction, which may be assigned by the instructor, is a course grade of F. Lesser sanctions related to evaluation of course work may be assigned by the instructor at his/her discretion. An instructor assigning any sanction will notify the student of his/her right to appeal to the Associate Dean of the College. When the grade, "F", for the course is assigned, it must be reported to the Department Chair and to the Associate Dean who will also notify the student by letter of his/her right to appeal.

It is desirable that a charge of cheating or some other infraction be made in the presence of either the Associate Dean or some other responsible witness.

This is to protect the rights both of the student and of the faculty member involved.

B. When the infraction involves the purchase, distribution, or the sale of the papers, examinations or answers, the matter must be referred to the Associate Dean.

More serious infractions, such as illegal entry or forgery of University documents, will be handled as outlined in the General and Undergraduate Academic Rules Regulations.

"Engineers… are not mere technicians and should not approve or lend their name to any project that does not promise to be beneficent to man and the advancement of civilization.

John Fowler

ACADEMIC POLICIES AND PROCEDURES

ACADEMIC PROBATION AND SUSPENSION POLICY

To be in good standing a student must meet all of the following conditions:

1) Maintain at least a 2.00 cumulative grade point average

2) Maintain at least a 2.00 semester grade point average.

3) Maintain at least a 2.00 cumulative grade point average in all LCS, mathematics, and science courses taken at Syracuse University.

4) Meet grade and/or cumulative average requirements for specific courses

5) Show satisfactory progress by completing a minimum 12 credit hours in one semester and 24 credit hours toward the degree in the last calendar year

Students failing to meet one or more of the above conditions will receive notice of probation status. Students may be suspended from the L.C. Smith College of Engineering and Computer Science if they do not achieve the minimum GPA specified below:

Suspension Table

Hours Completed	Minimum GPA
0-16	1.40
17-32	1.60
33-48	1.80
49 +	2.00

HOURS COMPLETED refers to credit hours toward the degree program and includes all transfer credits. Minimum GPA refers to the cumulative grade point average for courses taken at Syracuse University. Students classified as Juniors or Seniors (54 credit hours or more) must have at least a 2.00 cumulative average, whether or not they are transfer students. Students not meeting the minimum requirements in the SUSPENSION TABLE in any two consecutive semesters may be suspended from the College.

For **GRADUATION**, students must have at least a 2.00 cumulative GPA and at least a 2.00 GPA in all ECS, mathematics, and science course taken at Syracuse University. In addition, students must meet all degree requirements specific to the chosen major.

Students are placed on academic probation when their academic records fail to meet specific minimum criteria for progress toward degree completion. Probationary status is determined by the Associate Dean for Academic Programs in consultation with program directors. The classifications of probation are listed below. Probationary status is

indicated on the student's record maintained in the Dean's Office. The following are the various levels of probation status:

COP College Probation

-cumulative average in Mathematics, Science, and LCS courses below is a 2.00 and/or
-grade or cumulative average in program-specific courses is below required minimum and/or
-unsatisfactory progress toward the degree and/or
-semester average is below 2.00 and/or
-cumulative average is below 2.00

PST Probation With One Semester Trial

-students academic record is showing major deficiencies warranting explicit actions for immediate improvement in the following semester.

PAW Probation With Advice to Withdraw

-students academic record continues to show major deficiencies with little evidence of improvement; student is advised to consider alternatives to continuing in the college

IRE Ineligible to Register In Engineering and Computer Science

-students academic record reflects continued poor performance with no improvement; students is academically withdrawn **(suspended)** from the college.

ACADEMIC POLICIES AND PROCEDURES

ADVISING

All Engineering and Computer Science students are assigned professional or faculty advisors. The advisor signs all academic forms (add/drops, petitions). Each semester, prior to registration, students meet with their advisors to discuss the upcoming semester and to prepare for registration. It is important to plan carefully for this meeting to be sure that you will be taking the appropriate courses. You should also feel free to meet regularly with your advisor during the term to discuss program plans for the next term as well as any problems or concerns you may have.

Please feel free to let your advisor know about the good things that are happening to you (scholarships, awards, activities). The more an advisor knows about you, the better equipped they will be able to advise and to make suggestions and recommendations.

Professional or faculty advisor assignments may be changed for the following reasons:

1. **Student Request** – A student who prefers another advisor should see the Student Records Office in 130 Link Hall.
2. **Student Change of Major** – A student who changes his/her major will have a professional faculty advisor from the new academic unit assigned to them.
3. **Advisor Department** – When faculty advisors leave their academic units or the University, their advisees are reassigned to another advisor in the same program. The new advisor will advise these students until they complete their degree requirements.
4. **Advisor on Leave of Absence** – If faculty advisors are unable to meet with their advisees during registration or during the academic year, their students are assigned temporary advisors. This is not a permanent assignment; when regular advisors return they will resume their advising duties.

ADVANCED CREDIT EXAMINATIONS

Matriculated Syracuse University students may earn credit in an SU course by taking an Advanced Credit Examination. The examination must be approved by the department chair concerned, the student's advisor, and the Associate Dean. It is administered and graded by a member of the faculty. Only A, B, and C grades are acceptable as passing grades. Both credits and grade points are recorded on the student's transcript. By University policy, this option may not be used to repeat a course and flag the first course grade.

For more information, including examination fees, refer to the General Academic Rules and Regulations and to the booklet on Tuition, Fees and Related Policies.

ACADEMIC POLICIES AND PROCEDURES

ADVANCED PLACEMENT EXAMINATIONS

Syracuse University is authorized to award academic credit to students who have successfully passed examinations administered by Advanced Placement Program of the College Entrance Examination Board (CEEB). Scores from these examinations must be sent from the agency administering the examination directly to the College. Since the award of credit for AP courses depends on academic major, students should contact their academic advisors or the Student Records Office (130 Link Hall) for additional information.

Academic credit for AP examinations is indicated in the student's record. Advanced Placement Examinations are scored 1 through 5. A score of at least 3 is required for the award of up to 8 credits. These credits count just as if the student has taken the corresponding course while in college although no grades are assigned. The credits are counted toward the total required for the degree.

Please see page 36 for the AP Table.

AUDITING COURSES

Students may audit courses with the approval of the appropriate department and subject to the restrictions made by the instructor.

Students auditing courses may not be responsible for fulfilling the academic requirements of the course and, therefore, do not receive academic credit for auditing courses. Audited courses appear on student transcripts with a grade of AU, which means no academic credit was earned. Audited courses do not affect the calculation of the grade point average, nor do they count toward hours for graduation. Tuition charges for audited courses are published annually by the Bursar's Office in the booklet "Tuition, Fees, and Related Policies". Registration instructions are published each semester by the Registrar's Office in the Time Schedule of Classes.

Students must decide by the end of the second week of classes whether or not they wish to audit a course. They may not rescind their selection of the audit option after the first two weeks of classes. Students may drop or withdraw from an audited course in accordance with standard procedures. See the Student Records Office in 130 Link Hall if you need assistance.

CHANGE OF MAJOR

In order to select or change a major, students must obtain a formal approval from the department chair or program director of the new major. Students may do this by obtaining a Change of Major Petition in the Student Records Office or the LCS website (http://www.lcs.syr.edu/student/petition%20forms/petition_forms.aspx) and following the procedure below:

1. Meet with Chairperson or Program Director of the new major.

2. Complete a Petition Form clearly stating the current Major and the new major.
3. Obtain the signature of the Chairperson or the Program Director of the new major. A review of the student's file may be necessary before making a decision. If the petition is approved, the Chairperson will assign a new faculty advisor to the student.

CORRECTED GRADES

Once a grade has been reported, it may not be changed except to correct a clerical error. If an error has been made in reporting the grade, the instructor must submit a Change of Grade Form with accompanying documentation of the need for the change to the Chair of department in which the course was taught. The form will then be sent to the student's home college and finally submitted to the Registrar's Office. UNDER NO CIRCUMSTANCES MAY A STUDENT HAND-CARRY A CHANGE OF GRADE FORM

DEAN'S LIST

The minimum semester grade point average for the Dean's list is 3.40. Students earning Dean's List standing are notified each semester by a congratulatory notice from the Dean's Office; the name will be posted in their hometown local newspaper and will be posted online at http://sunews.syr.edu/honorroll/index.html . The Dean's List will be generated one week after semester grades are sent out to students. To be eligible for Dean's List recognition, the students must have earned a minimum of 12 credits and must have no missing or incomplete grades.

FLAGGING COURSES

Students who transfer into the L.C. Smith College of Engineering and Computer Science and who have accumulated courses that cannot be included in the new program of study may petition to have these courses flagged for exclusion from the calculation of the grade point average (GPA) following admission to the College. The flagged courses and grades are not deleted from the transcript. Students should be aware such action could affect their eligibility for TAP awards. The consequences with regard to TAP eligibility could be positive or negative. Students are advised to consult with a financial aid counselor BEFORE initiating the action of flagging courses.

GRADUATE LEVEL COURSES

LCS students may register for graduate level courses (600 level) under the following conditions:

1. A senior whose overall academic record normally would qualify him or her for admission to the Graduate School may enroll in a 600-level course for undergraduate credit by petition and must have the approval of:
Instructor, Department Chairperson and Associate Dean

2. Graduating seniors who anticipate enrolling in the Graduate School of Syracuse University may submit a petition to the Graduate School to request graduate credit**. Courses taken for graduate credit may not be applied toward an undergraduate degree**.

GRADUATION HONORS

Graduation honors are based on the following cumulative grade point averages:
Cum Laude……..3.400
Magna Cum Laude……..3.600
Summa Cum Laude…….3.800

Students must complete at least 60 credit hours at Syracuse University in order to be eligible for graduation honors.

INCOMPLETE

The symbol of I (Incomplete) may be granted to a student only if it can be demonstrated that it would be unfair to hold the student to the normal time limits of the course. Illness or other exceptional circumstances are the usual basis for consideration. To receive an Incomplete, a student must complete a Request for Incomplete Form, available in the Student Records Office. The form becomes a contract between the student and the course instructor, specifying the reasons for granting the Incomplete and the conditions and time limit for removing it.

An Incomplete grade is calculated as an F in the grade point average immediately. A student may graduate with Incompletes outstanding provided the cumulative average equals or exceeds 2.0 and the number of earned credits meets the requirements for the degree. This decision should be made with great care; once a student has graduated, s/he can not remove the Incomplete from her/his transcript. It remains a part of the permanent record.

Incompletes are not removed by re-registering for the course. Even though an instructor may require a student to repeat certain elements of a course to remove an Incomplete, the student should not register for the course a second time.

Further information concerning the removal of an incomplete can be found in Section 6.6.2 in the Academic Rules and Regulations Bulletin.

ACADEMIC POLICIES AND PROCEDURES

INDEPENDENT STUDY

Students who wish to explore a special problem or study an area in which a formal course does not exist must submit a plan of study using the Proposal for Independent Study Form. The plan must be approved by the supervising instructor or faculty sponsor, the student's faculty advisor, the course department chair, and the Associate Dean for Academic Programs. The form must be submitted to the Registrar's Office in 106 Steele Hall. Students should check carefully with their faculty advisors and with the Associate Dean prior to registering for an Independent Study to be sure that the course will be accepted toward the completion of requirements for a degree.

In addition to Independent Study arranged within the College, students may take advantage of the Syracuse University Internship Program (SUIP). This program places students in off-campus field positions related to their academic career or personal goals. Students can earn free elective, pass/fail academic credit for participation in local and national internships which are offered each semester and during the summer sessions. Additional information may be obtained by contacting the SUIP Office, 235 Schine Student Center, x-3616.

"Computers are useless. They can only give you answers."
Pablo Picasso (1881-1973)

ACADEMIC POLICIES AND PROCEDURES

INTRA-UNIVERSITY TRANSFER (IUT-IN)

1) Transfer Into the L.C. Smith College of Engineering and Computer Science.

Students who wish to transfer to any program within the L.C. Smith College of Engineering and Computer Science should have a strong record of achievement and demonstrated success in key technical courses. Specifically, it is critical for the applicant to excel in following and meet GPA requirements:

- Complete at least one of MAT 295, 296 or 397 with a grade of B- or better
- Complete at least one set of PHY 211/212 or CHE 106/107 with a grade of B- or better
- A minimum 3.0 grade point average

2) Transfer into Computer and Information Science (CIS) programs only

Students who wish to major in CIS must also complete the following:

- CIS 252 with a grade of at least a B (3.0), along with the above requirements

Obtain an Intra-University Transfer Form (IUT) from the Student Records Office, 130 Link Hall.

Submit the completed IUT Form. If there are any special circumstances that should be noted at the time the application is reviewed, they should be attached to the application.

At the end of each semester and following receipt of the latest grades, applications are reviewed by the Associate Dean and the appropriate Academic Chair. The schedule for review is as follows:

Applications for	**Reviewed**	**Student notification**
Fall Semester	*May*	*June*
Spring Semester	*Dec-Jan*	*January*

3) Transfer Out of the L.C. Smith College of Engineering and Computer Science

- Obtain an Intra-University Transfer Form (IUT) from the Student Records Office, 130 Link Hall
- Check with the office of college/school into which you wish to transfer. Many have special requirements and application deadlines.
- Obtain the signature of the accepting (new) Dean.
- Submit the IUT form to the Registrar's Office, 106 Steele Hall

ACADEMIC POLICIES AND PROCEDURES

4) Transfer To University College (Part-time Study)

Please note the following special rules and regulations regarding an IUT into University College (UC).

- Students registered on the Main Campus during the spring semester may not transfer to UC for the purpose of summer study.
- Students who have completed eight regular semesters as a full-time student may petition to complete the remaining eleven or less credit hours at UC tuition rates and still receive a Main Campus diploma. These students do not transfer to UC (see also "Tuition, Fees, and Related Policies" booklet)

LEAVE OF ABSENCE AND WITHDRAWAL

Students desiring to take a Leave of Absence from the University must initiate such action in the Student Records Office, 130 Link Hall. Students should indicate the approximate date they intend to return to the University. The signature of the Associate Dean is required.

If a student takes a Leave of Absence before midterm, all courses are dropped from the transcript. Only the effective date of the leave of absence is recorded on the transcript.

After midterm, courses for which the student was registered remain on the transcript and grades of WD are recorded. Following the deadline to receive a WD, an F grade is recorded for all courses unless an approved petition has been filed with the Registrar's Office. Students who take a leave of absence may not receive incomplete grades in courses for which they were registered. Only grades of WD or F can be recorded on the transcript.

MISSING GRADES

Missing grades (grades not reported by the instructor) do not calculate into the student's grade point average. The student should contact his/her instructor to determine why a grade is missing from the record. If the instructor cannot be located, the student should see the Chair of the department in which the course was taught.

To report a missing grade, the instructor submits a Missing Grade Report to the Chair of the department in which the course was taught. The form will then be sent to the student's home college and finally submitted to the Registrar's Office. ***UNDER NO CIRCUMSTANCES MAY A STUDENT HAND-CARRY A MISSING GRADE REPORT.***

ACADEMIC POLICIES AND PROCEDURES

NEVER ATTENDED- (NA)
The grading symbol "NA" is used when a student has registered for a course and one of the following conditions applies:

- the student never attended the course

- the student stopped attending the course so early in the semester that no basis for evaluation exists.

The "NA" means that student failed to exercise his/her responsibility to withdraw officially from the course.

PASS/FAIL OPTION
For students in Engineering majors: only social science, humanities, and free elective courses at the 300 level or higher may be taken pass/fail. Elective courses that must be taken from a specified list may not be taken pass/fail. The total hours of pass/fail courses permitted cannot exceed 18 credit hours.

For students in Computer Science major: only free elective courses may be taken pass/fail.

PETITIONS
Petition forms may be obtained in the Student Records Office, 130 Link Hall or online at http://www.lcs.syr.edu/student/petition%20forms/petition_forms.aspx. When petitioning, students must obtain the following signatures (in this order), unless otherwise noted below:

1. Faculty Advisor
2. Department Chair or Program Director
3. Associate Dean

Example: you may petition to take a course in place of another; or you may petition to take an overload of courses, more than 19 credits; or you may petition to fulfill your Social Science/Humanities requirements with only Social Sciences, etc.

Students are responsible for checking with the Registrar's Office and/or the Student Records Office to make sure the petition has been processed.

Petitions should be written as clearly and concisely as possible. They should contain all pertinent information since, in many cases, they are used in place of an interview. If the intention of the petition is not clear, it may be returned to the student for further clarification, and thus, delay the processing.

ACADEMIC POLICIES AND PROCEDURES

READMISSION/TERMINATION OF LEAVE OF ABSENCE

Students who have taken a leave of absence or been withdrawn from the University must apply for readmission through the Office of the Vice President for Student Affairs, 306 Steele Hall, Syracuse, NY 13244-1120, (315) 443-4357. **Readmission** is contingent on space availability in the college and in the program to which the student seeks readmission. It is also dependent on the student's ability to demonstrate potential for completing the program of study successfully.

A student dropped for academic reasons is eligible to apply for readmission after at least one calendar year has elapsed from the date of the drop action. A student suspended for other reasons is eligible to apply for readmission according to the terms of the suspension. Students may be placed on academic probation for the first semester after reentering the University.

If the withdrawal from the University was for health reasons, the attending physician must submit a medical evaluation of the student's present state of health to the Director of University Health Services, 111 Waverly Ave. Health clearance must be granted by the University Health Service before an application for readmission can be considered.

REGISTRATION

Syracuse University uses a computerized registration system known as MySlice. Detailed instructions for using this system are included in the Time Schedule of Classes published during the Fall and Spring semesters by the Registrar's Office. LCS undergraduate students are put on Advising Hold and must meet with their advisor before they can register.

REPEATING A COURSE

Students who wish to demonstrate improved competency or who must repeat a required course must petition to re-register and retake the same course at Syracuse University. However, it is not necessary to petition to retake a course that was failed. Equivalent courses taken at other institutions are not counted as repeated courses. Courses may not be repeated after a student receives an undergraduate degree.

If a student repeats a course a third time, both the second and the third grades will be used to calculate the GPA. If a student repeats a course a fourth time, the third and fourth grades will be used to calculate the GPA.

NEW YORK STATE TAP RECIPIENTS

REPEATED COURSES/TAP ELIGIBILITY

For purposes of TAP eligibility, a student must be enrolled full time (a minimum of 12 credits per semester). In some circumstances, the credits for repeating a course in which a

student has already received a passing grade may not be included in the determination of full time enrollment for TAP purposes. If you have questions about this determination, you may contact the TAP coordinator in the Bursar's Office, 443-2444.

Please Note:

WE HAVE BEEN REQUESTED BY THE OFFICE OF STUDENT ASSISTANCE TO ALERT STUDENTS TO THE FOLLOWING STATEMENT REGARDING REASONABLE ACADEMIC PROGRESS:

"University, state, and federal regulations require that students receiving financial aid make reasonable academic progress toward a degree. This entails completing one-sixth of the program of study for each year of attendance. Financial aid progress regulations are established separately and may differ from your college's academic progress regulations. If you suspect your aid could be in jeopardy you should make an appointment with your Financial Aid Counselor."

REGISTRATION FOR MORE THEN 19 CREDIT HOURS (OVERLOAD)

Undergraduate students who wish to register for more than 19 credits must present an approved petition to the Bursar's Office. The petition, available from the Student Records Office, 130 Link Hall, must be approved by the student's advisor and the Associate Dean.

Juniors and seniors with a grade point average of at least 3.5 or higher cum GPA, with no outstanding incomplete grades and registered as a fulltime student at Syracuse University for the preceding two semesters, may take an overload without added tuition by completing the above petition.

Honors students may sign up for this credit overload in the Honors Office. (For more information see the most current version of Tuition, Fees, and Related Policies).

SCHEDULE ADJUSTMENT

Adding Courses during the first two weeks of classes.

During the first two weeks of the semester (see Academic Deadlines in section I), students may change their schedules (adding and/or dropping courses) using MySlice on the web at www.MySlice.syr.edu and by using the LCS Registration Form. These forms are available in the Student Records Office. If a student is on ***advising hold,*** he/she must meet with his/her advisor.

The Faculty or Professional Advisor signature is required on the LCS Registration Form for all undergraduate students in LCS programs of study.

The advisor will keep a copy of the form in the student's folder. Student will drop off a copy of the LCS Registration Form to the Student Records Office who will then process the removal of the advising hold within a 24 hour period.

Dropping a Course after the first two weeks of classes.

Students may drop courses up to the Academic Deadline for Dropping Courses. The add/drop form is used for this purpose. Forms are available at the Student Records Office, or from the Registrar's Office, 106 Steele Hall.

The following signatures/stamps are required on the add/drop form:

1. Advisor
2. Course Instructor
3. Course Department Chair
4. Dean's office stamp, provided by Student Records Office in 130 Link Hall

The form must be delivered to the Registrar's Office, 106 Steele Hall. Courses dropped by the deadline date are not recorded on the student's transcript and are not counted in the calculation of the grade point average.

PLEASE NOTE: If you fail to complete a course (as a result of dropping, withdrawing, failing, or receiving an incomplete grade) you **may not** be able to register for additional courses for which the uncompleted course is a prerequisite.

ALSO NOTE: Courses with start and end dates different from those published in the Time Schedule of Classes may have different add/drop deadlines. For example, during the summer sessions, the last day to drop a course with a tuition refund is one week after the first day of classes. See the booklet, "Tuition, Fees, and Related Policies" for a complete statement of the University's policy regarding the effect of add/drops on tuition charges.

SUMMER COURSES

Students wishing to take summer courses at Syracuse University should contact University College, Division of Continuing Education, 700 University Ave, Syracuse, NY 13244, (315) 443-4174 for enrollment information.

ACADEMIC POLICIES AND PROCEDURES

Students wishing to obtain transfer credit for summer courses taken at another university must meet the requirements below:

1. Complete a Transfer Credit Approval Petition prior to taking the course
   - The Petition must contain:
     - The name of the school
     - The Name and number of the course
     - A description of each course from an official catalog, bulletin, or school website.
     - The number of credits for each course.
     - The equivalent S.U. course.
     - Any special circumstances, i.e., students who plan to transfer into the college of LCS should state this clearly
   - Obtain the advisor's and department chairperson's signatures
   - Return the petition to the Undergraduate Records Office
2. Receive a grade of **C** or better (pass/fail grades are not acceptable)
3. Have an official transcript showing the course taken sent to:

Syracuse University
L.C. Smith College of Engineering & Computer Science
Student Records Office
130 Link Hall
Syracuse, New York
13244-1240
P:315-443-5191***F:315-443-4459
Attn: Maria Marceau

Students should check the regulations of the school they are planning to attend as early as possible since many schools require written permission for non-matriculated students to register.

WITHDRAWAL FROM A COURSE

Students may withdraw from a course up until the Deadline published in the Time Schedule of Classes (usually two weeks before the last day of classes). A WD will appear on the student's record but will not be counted in determining the grade point average.

Withdrawal petitions are available in the Student Records Office. The petition must be completed by the student and then the following signatures must be obtained:

1. Course Instructor
2. Student's Advisor
3. Student's Department Chair Director
4. Associate Dean for Academic Programs

Submit a withdrawal petition to the Registrar's Office, 106 Steele Hall.
Withdrawal petitions will not be accepted after the deadline.

ALL UNIVERSITY REQUIREMENTS

English Courses for Foreign Students

All international students (and all students whose native language is not English) must take the English Language Proficiency and Placement Examination upon arrival at Syracuse University. The results will determine what sequence of Writing or English courses must be taken. The sequence becomes a requirement for graduation in the L.C. Smith College of Engineering and Computer Science and meets the University writing requirement. This sequence may result in extra credit hours required for graduation

NOTE: Remedial English courses (ENL 201,202,203) may not count towards degree requirements.

Writing Courses

Writing Studio I and II (WRT 105,205) are required for all students. Some students may satisfy the requirement by scoring 3, 4 or 5 on the Advanced Placement English Language & Composition Exam of the CEEB or by earning 6 credits in SU's Project Advance English course.

ALL- COLLEGE REQUIREMENTS

Introduction to Engineering and Computer Science

All first-year LCS students are required to complete ECS 101, Introduction to Engineering and Computer Science. You will be registered for a section of this course by the major you have chosen or by the designation, undeclared. The section for each major is taught by a faculty member from that major; the sections for undeclared students are taught by senior faculty members in the College who have a broad, general knowledge of the majors. In the course, you will receive an introduction to each major offered in the College. In addition, you will spend the semester working with other students and a faculty instructor in developing a baseline of mathematical and scientific skills which you will apply in future course work.

Mathematics

All LCS students **except CIS** are required to complete the following calculus courses, MAT 295, MAT 296, and MAT 397. All programs of study require additional mathematics courses beyond these three courses.

Natural Sciences

All LCS students are required to complete at least one semester of calculus-based physics. All programs of study require additional natural science courses beyond the physics course.

Physical Education Courses (PED)

Physical Education Courses are not required.

For Engineering & CIS Majors: **PED** courses may be used for free-elective credit only.

Remedial Courses

The following courses are considered by the College Faculty to be remedial and credit for these courses will not be counted toward the total credit hour requirement for graduation:

ENL 201 – Intermediate English for Non-Native Speakers
ENL 202 – Intermediate English for Non-Native Speakers
ENL 203 – Speaking and Listening for Non-Native Speakers of English
MAT 112 – Algebraic Operations and Functions
MAT 194 – Pre-Calculus

ROTC Courses

An ROTC course, which is cross-listed, with another Syracuse University course is treated in the same manner as the cross-listed course and may thus be used to satisfy degree requirements. ROTC courses, which are not cross-listed, will not count toward degree requirements. For CIS students, the courses, which are not cross-listed, may be used for free-elective credit.

SENIOR YEAR

DEGREE AUDIT – **Seniors are responsible for reviewing degree requirements with their advisor and with the Associate Dean to assure that all requirements for graduation will be met on time.**

This should be done prior to registration for the final semester. It is advisable that you do a preliminary check before registration for the final two semesters.

FILE DIPLOMA REQUEST – When an undergraduate student attains Junior standing (54 credits or more), the File Diploma Request link becomes available under Student Services in MySlice. Students must use this link to specify the term in which they intend to graduate and to provide information for their diploma Students must also contact their home school or college to review all graduation requirements.

DIPLOMAS & STATUS VERIFICATION – Graduating students notify the University of their intention to graduate through the File Diploma Request process, accessed through MySlice. This process must be completed to ensure inclusion in the degree certification review process and receipt of commencement information and, eventually, a diploma. Any questions or problems about diplomas should be directed to the Diploma Office, 107 Steele Hall, 443-2222.

During the interim period between certification and the receipt of the diploma, students may request a letter verifying their degree from the Student Records Office, 130 Link

Hall. After you have received your diploma your degree can be verified through the National Clearinghouse, http://www.studentclearinghouse.org.

GRADUATION – All students must have a minimum cumulative GPA of 2.00 and at least a 2.00 GPA in all LCS, Math & Science courses taken at Syracuse University. In addition, students must meet all degree requirements specific to their chosen major. Seniors graduating in May or August may attend the May Commencement Ceremony. December graduates attend graduation ceremonies held in the following May. For more information concerning commencement, contact the Special Events Office, 210 Women's Building, 443-4631.

In addition to commencement, there is an annual College Convocation for seniors and their parents. All graduates are welcome to attend this event. Information about the LCS Convocation will be available during the Spring Semester.

PLACEMENT SERVICES – During the fall of the final year, seniors interested in job placement should sign up with the Center for Career Services, 235 Schine Center, 443-3616 or Karen Davis , Associate Director of Career Development in 123 Link Hall. Seniors interested in graduate study should contact the schools of interest to request catalogs and applications. Be sure to discuss the schools with your faculty advisor who can assess the program's strength in your particular area (s) of interest.

PROFESSIONAL ENGINEER EXAM – The fundamentals of Engineering Exam is the first part of the licensing process in New York State. The exam is given twice a year. Applications can be obtained in the SOAR Office, 123 Link Hall, 443-2582.

UNDESIGNATED/FREE ELECTIVES

Any course approved by the faculty advisor may be assigned to the undesignated or free area. These may be technical or social science/humanities courses. **For engineering majors**, physical education and remedial courses may not be included.

"It is a great profession. There is the satisfaction of watching a figment of the imagination emerge through the aid of science to a plan on paper. Then it moves realization in stone or metal or energy. Then it brings jobs and homes to men/women. Then it elevates the standards of living and adds to the comforts of life."

That is the engineer's high privilege.

Herbert Hoover
The Profession of Engineering
(from his memoirs)

ADVANCED PLACEMENT EXAMINATIONS

Exam Subject/Title	Minimum Score	Awardable Credit	Equivalent SU Course	Recommending School/College	Additional School/College Requirements or Qualifications
Art/Drawing	5	3	Studio Elective	Visual and Performing Arts	*Visual and Performing Arts* A maximum of 6 credits will be awarded. Does not count toward Art and Design Freshman Foundation studio courses.
Art/2-D Design	5	3	Studio Elective	Visual and Performing Arts	*Visual and Performing Arts* A maximum of 6 credits will be awarded. Does not count toward Art and Design Freshman Foundation studio courses.
Art History	3	6	HOA 105,106	Arts and Sciences	
Biology	4	6	BIO 200	Arts and Sciences	*Arts and Sciences* Students may apply to the chair of Biology for an additional two credits of laboratory with documentation that the grade on the AP course is an A or B. The total of eight credits of Biology with lab will substitute for BIO 121-123 and 124 in Natural Sciences and Mathematics.
Chemistry	3	3	CHE 103	Arts and Sciences	
Chinese	3 4	4 4	CHI 102 CHI 201	Arts and Sciences Arts and Sciences	*Public Communications* Must also place out of CHI 102 (with a score of 3) or CHI 201 (with a score of 4 or 5) on the placement exam.
Comparative Government and Politics	3	3	PSC 123	Arts and Sciences	
Computer Science A or Computer Science AB	3	3	CPS 196	Engineering and Computer Science	*Engineering and Computer Science* Students will receive this credit only upon approval of their department chair.
English Language and Composition	3	6	WRT 105-205	Arts and Sciences	*Education* (Inclusive) will accept a score of 3 only after a grade of B+ or higher is earned in an SU writing course.
English Literature and Composition	4	3	ETS151 (or 117 or 118 or 152 or 153) and WRT 105	Arts and Sciences	***Arts and Sciences*** **Students scoring 4 or better will receive 3 credits for ETS 151. Such students who subsequently elect to take ETS 151 may transfer the credit to one of the following: ETS 117, 118, 152, or 153. 3 additional credits are awarded for WRT 105**
Environmental Science	3	3	EAR 200	Arts and Sciences	
European History	4	6	HST 111,112	Arts and Sciences	
French Language	3	4	FRE 102	Arts and Sciences	*Public Communications* Must also place out of FRE 102 on the placement examination
French Literature	3 4	4 4	FRE 102 FRE 201	Arts and Sciences	*Public Communications* Must also place out of FRE 102 (with a score of 3) or FRE 201 (with a score of 4 or 5) on the placement examination.
German Language	3	4	GER 102	Arts and Sciences	*Public Communications* Must also place out of GER 102 on the placement examination
Human Geography	4	3	GEO 105 or 171	Arts and Sciences	
Latin,Catulllus-Horace and/or Latin, Virgil	3	4	LAT 102	Arts and Sciences	*Public Communications* Must also place out of LAT 102 on the placement examination
Italian Language and Culture	3	4	ITA 102	Arts and Sciences	*Public Communications* Must also place out of ITA 102 (with score of 3) or ITA 201 (with score of 4 or 5) on the placement exam.
Japanese language and Culture	3 4	4 4	JPS 102 JPS 201	Arts and Sciences	*Public Communications* Must also place out of JPS 102 (with a score of 3) or JPS 201 (with a score of 4 or 5) on the placement examination
Macroeconomics*	3	3	ECN 102	Arts and Sciences	
Microeconomics*	3	3	ECN 101	Arts and Sciences	
Mathematics— Calculus AB	3 4	3 6 or 4	MAT 285 MAT 285 and 286 or MAT 295	Arts and Sciences	*Engineering and Computer Science* 4 credits awarded for MAT 295 only, pending results of the math placement examination
Mathematics— Calculus BC	4	8	MAT 295,296	Arts and Sciences	*Engineering and Computer Science* Up to 8 credits awarded for MAT 295 only, pending results of the math placement examination.
Mathematics— Calculus BC-AB subscore	4	6 or 4	MAT 285 and 286 or MAT 295	Arts and Sciences	
Mathematics Level II†	3	3	MAT 194	Arts and Sciences	
Music Theory	3	6	HOA 125,126	Arts and Sciences	
Physics B	3	8	PHY 101,102	Arts and Science	*Education* (Inclusive) will accept a score of 3 only after a grade of B+ or higher is earned in an SU lab/science course.
Physics C (Mechanics)	3	4	PHY 101 or 211,221	Arts and Sciences	
Physics C (Electricity and Magnetism	3	4	PHY 102 or 212,222	Arts and Sciences	
Psychology	4	3	PSY 205	Arts and Sciences	
Spanish Language	3	4	SPA 102	Arts and Sciences	*Public Communications* Must also place out of SPA 102 on the placement examination
Spanish Literature	3 4	4 4	SPA 102 SPA 201	Arts and Sciences	*Public Communications* Must also place out of SPA 102 (with a score of 3) or SPA 201 (with a score of 4 or 5) on the place examination
Statistics	3	3	MAT 121,221 or STT 101	Arts and Sciences	*Management* Credit accepted as MAS 261
U.S. Government and Politics	3	3	PSC 121	Arts and Sciences	
U.S. History	4	6	HST 101,102	Arts and Sciences	
World History	4	6	HST 200	Arts and Sciences	

Attention all LCS Students!

ANT 131, CFS 388, GEO 155, 315, 316, 326, GOL 105 and PSY 223, 252, 323, 324, 334

ARE NOT Social Science/ Humanities Courses

For course exceptions see http://coursecatalog.syr.edu/2010/schools/thecollege/544_liberal_arts_core of the On-line course Catalog.

List of acceptable Social Science/ Humanities courses:

Social Sciences Division

AAS (African American Studies)
ANT (Anthropology)
ECN (Economics)
GEO (Geography)
HST (History)
MAX (Maxwell)
PAF (Public Affairs)
PSC (Political Science)
PSY (Psychology)
SOC (Sociology)
WSP (Women's Studies)

Humanities Division

AAS (African American Studies)
ANT (Anthropology)
ETS (English Textual Studies)
FIA (Fine Arts)
HST (History)
HUM (Humanities)
LIN (Linguistics)
LIT (Literature)
PHI (Philosophy)
QSX (LGBT)
REL (Religion)
WSP (Women's Studies)
All Foreign Languages

See back of curriculum sheets for Major specific requirements

College of Engineering and Computer Science

Aerospace Engineering Name _____

Fall 2010 SUID _____

		CREDIT	FIRST-YEAR		SOPH		JUNIOR		SENIOR		VAR
		GRADE	F	S	F	S	F	S	F	S	+/-
MATHEMATICS (18)											
MAT295	Calculus 1	(4)____	4								
MAT296	Calculus 2	(4)____		4							
MAT397	Calculus 3	(4)____			4						
MAT331	Linear Algebra	(3)____			3						
MAT514	Intro. Differential Equations	(3)____				3					
SCIENCES (12)											
CHE106	General Chemistry 1	(3)____	3								
CHE107	General Chemistry Lab 1	(1)____	1								
PHY211	General Physics 1	(3)____		3							
PHY221	General Physics Lab 1	(1)____		1							
PHY212	General Physics 2	(3)____			3						
PHY222	General Physics Lab 2	(1)____			1						
ENGLISH/SOCIAL SCIENCE/HUMANITIES (12)											
WRT105	Studio 1: Practices of Academic Writing	(3)____	3								
WRT205	Studio 2: Critical Research and Writing	(3)____				3					
SSH Elective	_____	(3)____	3								
SSH Elective	_____	(3)____		3							
PROGRAM CUSTOMIZATION (18)											
Course1	_____	(3)____			3						
Course2	_____	(3)____					3				
Course3	_____	(3)____						3			
Course4	_____	(3)____						3			
Course5	_____	(3)____							3		
Course6	_____	(3)____								3	
ENGINEERING (26)											
ECS101	Intro. to Engr. & Comp. Sci.	(3)____	3								
ECS104	Engr. Comp. Tools	(3)____		3							
ECS221	Statics	(3)____			3						
ECS222	Dynamics	(3)____				3					
ECS325	Mechanics of Solids	(4)____				4					
ECS326	Engr. Materials,Prop. & Proc.	(3)____					3				
ELE231	Elec. Engr. Fundamentals 1	(3)____					3				
ELE291	Electrical Laboratory I	(1)____					1				
ELE312	Control Systems	(3)____								3	
AEROSPACE ENGINEERING (42)											
AEE342	Aerodynamics	(4)____						4			
AEE343	Compressible Flow	(3)____						3			
AEE427	Dynamics of Aero. Vehicles	(4)____							4		
AEE446	Propulsion	(3)____							3		
AEE471	Des. & Anal. of Aero. Struct.	(4)____							4		
AEE472	Syn. of Aerospace Systems	(4)____								4	
AEE577	Space Flight	(3)____								3	
MAE184	Engr. Graphics & CAD	(3)____		3							
MAE251	Thermodynamics	(4)____				4					
MAE315	Mech/Aero Lab I	(3)____					3				
MAE321	Dynamics of Mechanical Systems	(3)____						3			
MAE341	Fluid Mechanics	(4)____					4				
TOTAL CREDITS		**128**	**17**	**17**	**17**	**17**	**17**	**16**	**14**	**13**	

AEROSPACE ENGINEERING
Curriculum Notes
2010-2011

1. Aerospace engineering students must complete 6 credit hours in the Social Science/Humanities and in addition complete one of the following options for a total of eight electives (24 credit hours):

   Option 1: Complete a non-technical minor (18 credits).

   Option 2: Complete 3 credits in the social sciences/humanities and 15 credits towards a technical minor.

   Option 3: Complete 6 credits in the social sciences/humanities and 6 credits of free electives and 6 credits of technical electives.

2. Technical electives must be taken within the Mechanical and Aerospace Engineering Department (MAE).

3. Many technical electives in the MAE Department are scheduled on a 2-year rotation, so students should make themselves aware of technical elective offerings starting in their junior year.

4. Students seeking to complete a mathematics minor by taking an additional math course (usually MAT 517) can use this course as a free elective but must still complete one of the 3 options listed above.

College of Engineering and Computer Science

Bioengineering

Effective Fall 2010

Name _____

SUID _____

		CREDIT	FIRST	YEAR	SOPH		JUN		SEN		VAR
		GRADE	F	S	F	S	F	S	F	S	+/-
MATHEMATICS (15)											
MAT295	Calculus 1	(4)____	4								
MAT296	Calculus 2	(4)____		4							
MAT397	Calculus 3	(4)____			4						
MAT485	Diff. Equ. & Matrix Algebra	(3)____				3					
SCIENCES (21)											
CHE106	General Chemistry 1	(3)____	3								
CHE107	General Chemistry Lab 1	(1)____	1								
CHE116	General Chemistry 2	(3)____		3							
CHE117	General Chemistry Lab 2	(1)____		1							
CHE275	Organic Chemistry 1	(3)____			3						
CHE276	Organic Chemistry Lab 1	(2)____			2						
PHY211	General Physics 1	(3)____		3							
PHY221	General Physics Lab 1	(1)____		1							
PHY212	General Physics 2	(3)____			3						
PHY222	General Physics Lab 2	(1)____			1						
BIO 327	Genetics and Cell Biology II	(3)____						3			
ENGLISH/SOCIAL SCIENCE/HUMANITIES (24)											
WRT105	Studio1: Prac of Acad Wrt	(3)____	3								
WRT205	Studio 2:Critcl Resrch & Wrt	(3)____				3					
SSH Elective	_____	(3)____	3								
SSH Elective	_____	(3)____				3					
SSH Elective	_____	(3)____					3				
SSH Elective	_____	(3)____						3			
SSH Elective	_____	(3)____							3		
SSH Elective	_____	(3)____								3	
ENGINEERING (18)											
ECS101	Intro. to Engr. & Comp. Sci	(3)____	3								
ECS104	Engr. Comput. Tools	(3)____		3							
ECS221	Statics	(3)____				3					
ECS326	Engr. Materials,Prop. & Proc	(3)____					3				
ELE231	Elec. Engr. Fundamentals 1	(3)____				3					
ELE232	Elec. Engr. Fundamentals 2	(3)____					3				
BIOENGINEERING (41)											
BEN212	Exp. Methods in CEN & BEN	(3)____				3					
BEN231	Mass and Energy Balances	(3)____			3						
BEN301	Biological Prin. for Engrs	(4)____					4				
BEN333	Fluid Transport	(3)____					3				
BEN341	Fund. of Heat & Mass Trnsf	(4)____						4			
BEN364	Quantitative Physiology	(4)____						4			
BEN465	Biomechanics	(3)____							3		
BEN468	Biomaterials	(3)____								3	
BEN481	Bioinstrumentation	(3)____							3		
BEN485	Bioengineering Laboratory	(4)____							4		
BEN487	Bioengring Capstone Des.	(4)____								4	
BEN575	Process Control	(3)____						3			
ELECTIVES (9)											
Tech Elec	_____	(3)____							3		
Tech Elec	_____	(3)____								3	
Tech Elec	_____	(3)____								3	
TOTAL CREDITS		**131**	**17**	**15**	**16**	**18**	**16**	**17**	**16**	**16**	

BIOENGINEERING
Curriculum Notes
2010-2011

1. Bioengineering students must complete 18 credit hours in the Social Science/Humanities using any one of the following options:

   Option 1: Complete the social science division (minimum of 12 credits) AND complete 6 credits of courses listed in the humanities division.

   Option 2: Complete the humanities division (minimum of 12 credits) AND complete 6 credits of courses listed in the social science division.

   Option 3: Complete the social science division (minimum of 12 credits) AND complete a minimum of 6 credits of a foreign language sequence (must not be student's native language).

   Option 4: Students may elect to complete 18 credits of social science and humanities courses by petition. Students pursuing this option must petition early in their degree program. The petition must be endorsed by the student's advisor and Department Chair. Students are encouraged to adopt an 18 credit minor in humanities or social sciences.

College of Engineering and Computer Science

Chemical Engineering

Effective Fall 2010

Name _____

SUID _____

		CREDIT	FIRST YR		SOPH YR		JUN		SEN		VAR
		GRADE	F	S	F	S	F	S	F	S	+/-
MATHEMATICS (15)											
MAT295	Calculus 1	(4)____	4								
MAT296	Calculus 2	(4)____		4							
MAT397	Calculus 3	(4)____			4						
MAT485	Diff. Equations & Matrix Algebra	(3)____				3					
SCIENCES (29)											
CHE106	General Chemistry 1	(3)____	3								
CHE107	General Chemistry Lab 1	(1)____	1								
CHE116	General Chemistry 2	(3)____		3							
CHE117	General Chemistry Lab 2	(1)____		1							
CHE275	Organic Chemistry 1	(3)____			3						
CHE276	Organic Chemistry Lab 1	(2)____			2						
CHE346	Physical Chemistry 1	(3)____					3				
CHE347	Physical Chemistry Lab 1	(2)____					2				
CHE356	Physical Chemistry 2	(3)____						3			
PHY211	General Physics 1	(3)____		3							
PHY221	General Physics Lab 1	(1)____		1							
PHY212	General Physics 2	(3)____			3						
PHY222	General Physics Lab 2	(1)____			1						
ENGLISH/SOCIAL SCIENCE/HUMANITIES (27)											
WRT105	Studio 1: Practices of Academic Writ.	(3)____	3								
WRT205	Studio 2: Critical Research and Writing	(3)____				3					
WRT307	Adv. Wrt Studio: Professional Writing	(3)____					3				
SSH Elective	_____	(3)____	3								
SSH Elective	_____	(3)____				3					
SSH Elective	_____	(3)____					3				
SSH Elective	_____	(3)____							3		
SSH Elective	_____	(3)____							3		
SSH Elective	_____	(3)____								3	
ENGINEERING (9)											
ECS101	Intro. to Engr. & Comp. Sci.	(3)____	3								
ECS104	Engr. Comput. Tools	(3)____		3							
ECS326	Engr. Materials, Prop. & Proc.	(3)____				3					
CHEMICAL ENGINEERING (36)											
CEN212	Exp. Methods in Chem & Bioengr.	(3)____				3					
CEN231	Mass and Energy Balances	(3)____			3						
CEN252	Chem.Engr. Thermodynamics 1	(3)____				3					
CEN311	Chemical Engineering Lab 1	(2)____						2			
CEN333	Fluid Transport	(3)____					3				
CEN341	Fund. Of Heat & Mass Trsfr	(4)____						4			
CEN353	Chem.Engr. Thermodynamics 2	(3)____					3				
CEN412	Chemical Engineering Lab 2	(2)____							2		
CEN542	Mass & Heat Trans.Operation	(3)____							3		
CEN574	Process Design	(4)____								4	
CEN575	Process Control	(3)____						3			
CEN587	Chemical Reaction Engr.	(3)____							3		
TECH ELECTIVE (12)											
Tech Elective	_____	(3)____						3			
Tech Elective	_____	(3)____							3		
Tech Elective	_____	(3)____								3	
Tech Elective	_____	(3)____								3	
TOTAL CREDITS		**128**	**17**	**15**	**16**	**18**	**17**	**15**	**17**	**13**	

CHEMICAL ENGINEERING

Curriculum Notes
2010-2011

1. Chemical engineering students must complete 18 credit hours in the Social Science/Humanities using any one of the following options:

   Option 1: Complete the social science division (minimum of 12 credits) AND complete either 6 credits of courses listed in the humanities division or 6 credits of a foreign language.

   Option 2: Complete the humanities division (minimum of 12 credits) AND complete either 6 credits of courses listed in the social science division or 6 credits of a foreign language.

   Option 3: Complete at least an 18 credit hour social science or humanities minor.

   Option 4: Chemical engineering students may elect by petition to complete 18 credits of social science and humanities courses structured toward a particular objective.

2. ECS 392 Engineering Ethics can be substituted for 3 credits in the 18 credit hours required in the Social Sciences/Humanities division.

3. It is recommended that one technical elective be in the sciences.

4. Technical electives must be approved by the student's academic advisor. At least one technical elective must be in chemical engineering.

College of Engineering & Computer Science

Civil Engineering — Name _____

Fall 2010 — SUID _____

		CREDIT	FIRST-YEAR		SOPHOMORE		JUNIOR		SENIOR		VAR
		GRADE	F	S	F	S	F	S	F	S	+/-
MATHEMATICS (15)											
MAT295	Calculus 1	(4)____	4								
MAT296	Calculus 2	(4)____		4							
MAT397	Calculus 3	(4)____			4						
MAT485	Diff. Equations & Matrix Algebra	(3)____				3					
SCIENCES (16)											
CHE106	General Chemistry 1	(3)____	3								
CHE107	General Chemistry Lab 1	(1)____	1								
PHY211	General Physics 1	(3)____		3							
PHY221	General Physics Lab 1	(1)____		1							
PHY212	General Physics 2	(3)____			3						
PHY222	General Physics Lab 2	(1)____			1						
Select one of the following two courses:		(4)____		**4 or**	**4**						
EAR101	Dynamic Earth (4)										
EAR203	Earth System Science (4)										
ENGLISH (9)											
WRT105	Studio 1: Practices of Academic Writing	(3)____	3								
WRT205	Studio 2: Critical Research and Writing	(3)____				3					
WRT307	Adv Writing Studio: Professional Writing	(3)____						3			
SOCIAL SCIENCE /HUMANITIES (18)											
(See curriculum notes)											
SSH Elec	_____	(3)____	3								
SSH Elec	_____	(3)____		3							
SSH Elec	_____	(3)____		**3 or**	**3**						
SSH Elec	_____	(3)____					3				
SSH Elec	_____	(3)____							3		
SSH Elec	_____	(3)____								3	
	ENGINEERING (16/17)										
ECS101	Intro. to Engr. & Comp. Sci.	(3)____	3								
ECS221	Statics	(3)____			3						
ECS325	Mechanics of Solids	(4)____				4					
ECS326	Engineering Materials	(3)____						3			
Select One of the Following 3 Courses:		( )____				3 or 4					
ECS222	Dynamics (3)										
ELE231	Elec. Engr. Fundamentals I (3 or 4)										
MAE251	Thermodynamics (4)										
CIVIL ENGINEERING (41)	**D=16.00**										
CIE272	Civil Engineering Analys	(3)____			3						
CIE274	Civil & Envir. Engr. Syt	(3)____				3					
CIE327/MAE341	Fluid Mechanics	(4)____					4				
CIE331	Analysis of Structures and Materials	(3)____					3				
CIE332	Design of Concrete Structures 2.00	(3)____						3			
CIE337	Intro to Geotechnical Engring 1.00	(4)____					4				
CIE338	Foundation Engineering 2.00	(3)____						3			
CIE341	Intro to Environmental Engr. 1.00	(3)____					3				
CIE352	Water Resources Engr. 2.00	(4)____						4			
CIE442	Trtmnt Proc. In Envir. Engr 2.00	(4)____							4		
CIE443	Transportation Engineering 2.00	(3)____							3		
CIE475	Capstone Design 4.00	(4)____								4	
ELECTIVES (12)											
Free Elective _____		(3)____							3		
Prof. Elective _____		(3)____								3	
Tech Elective _____		(3)____							3		
Tech Elective _____		(3)____								3	
TOTAL CREDITS		**127-128**	**17**	**14/15**	**17/18**	**16/17**	**17**	**16**	**16**	**13**	

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING
Curriculum Notes
(Effective Fall 2009)

SS/HUM ELECTIVES

All CIE students are required to complete at least 18 credits of SS/HUM electives. A *minimum* of one course (or 3 credits) must be chosen from each of the three groups of designated courses listed below. The remaining three SS/HUM electives (or 9 credits) can be selected from the lists below or, in addition to the lists,

- any College of Arts and Sciences courses that are listed on their Humanities and Social Sciences lists in the SU Bulletin – Undergraduate Course Catalog
- any foreign language courses (except student's native language)
- ECS 391 – Legal Aspects of ECS
- ECS 392 – Ethical Aspects of ECS.

Group 1: Economics and Social Issues
ECN 203 – Economics Ideas and Issues
ECN 301* – Intermediate Microeconomics
ECN 302* – Intermediate Macroeconomics
ECN 365* – The World Economy
SOC 101 – Introduction to Sociology
SOC 102 – Social Problems
SOC 363 – Urban Sociology
STS/BPS 101 – Introduction to Science, Technology and Society
STS/HNR/ECS 318 – Technology: Past and Present

*requires ECN 203 as prerequisite

Group 2: Global Affairs
GEO 103 – America and the Global Environment
GEO 105 – World Geography
GEO 272 – World Cultures
GEO 273 – World Political Economy
GEO 315 – Global Environmental Change
MAX 123 – Critical Issues for the U.S.
MAX 132 – Global Community
PAF 351 – Global Social Problems

Group 3: Public Policy and Policy Studies
GEO 203 – Society and the Politics of Nature
GEO 314 – Hazardous Geographic Environments
PAF 101 – An Introduction to the Analysis of Public Policy
PAF 409*[+] – Intermediate Analysis of Public Policy
PAF 451 – Environmental Policy
PSC 302- Environmental Politics and Policy
PSC 305 – Legislative Process and US Congress
PSC 308 – The Politics of US Public Policy
PSC 312 – Urban Government & Politics
PSC 318 – Technology, Politics & Environment

*requires PAF101 as prerequisite

PROFESSIONAL ELECTIVES

Professional Electives are courses that advance a student's professional abilities and form a cohesive and meaningful addition to the required CIE coursework. They are designed to develop and enhance a student's role as a professional civil or environmental engineer. Professional Electives are *upper-level courses* (300 and above; as well as ECS 222, ELE 231, and MAE 251 that have not been used for degree credits), generally from professional schools at SU and SUNY-ESF, and must be selected in consultation with the student's academic advisor. Many Professional Electives can be used towards completion of a minor. Approved Professional Electives are courses offered in the following schools/colleges with the indicated prefixes that meet the above stated criteria.

School/College	**Course Prefix**
Architecture	ARC
Arts and Sciences	AST, BCM, BIO, CHE, ECN, GEO, GOL, MAX, MAT, PAF, PHY
Engineering and Computer Science	All course prefixes
Information Studies	IST
Whitman	ACC, BUA, EEE, FIN, INB, LPP, MAR, O&M, OPM, SHR, SOM
Newhouse	COM
VPA	CRS
SUNY-ESF	All course prefixes

College of Engineering and Computer Science

Computer Engineering — Name _____

Effective Fall 2010 — SUID _____

Track (circle one): **HWS SWS HSS INT**

Minor/Second Major (if any): _____

		CREDIT	FIRST-YEAR		SOPHOMORE		JUNIOR		SENIOR		VAR
		GRADE	F	S	F	S	F	S	F	S	+/-
MATHEMATICS (21)											
CIS275	Intro to Discrete Mathematics	(3)____			3						
MAT295	Calculus 1	(4)____	4								
MAT296	Calculus 2	(4)____		4							
MAT397	Calculus 3	(4)____			4						
MAT 485	Diff. Equations & Matrix Algebra	(3)____				3					
MAT521	Intro. to Probability and Statistics*	(3)____					3				
SCIENCES (12)											
CHE106	General Chemistry 1	(3)____	3								
CHE107	General Chemistry Lab 1	(1)____	1								
PHY211	General Physics 1	(3)____		3							
PHY221	General Physics Lab 1	(1)____		1							
PHY212	General Physics 2	(3)____			3						
PHY222	General Physics Lab 2	(1)____			1						
ENGLISH (12)											
WRT105	Std 1: Practices of Academic Wrt	(3)____	3								
WRT205	Std 2: Critical Research and Wrt	(3)____				3					
WRT307	Adv. Wrt Studio: Prof. Writing	(3)____						3			
WRT407	Adv. Wrk in Prof, Tech, or Disc. Wrt	(3)____								3	
SOC. SCIENCE/HUMANITIES/GEN. ED. (12)											
ECS392	Ethical Aspects of ECS	(3)____						3			
PHI 251	Logic	(3)____	3								
SSH Elective _____		(3)____		3							
SSH Elective _____		(3)____					3				
ENGINEERING (17)											
ECS101	Intro. to Engr. & Comp. Sci.	(3)____	3								
ECS102	Intro. to Computing	(3)____		3							
ELE231	Electrical Engr. Fundamentals I	(3)____			3						
ELE232	Electrical Engr. Fundamentals II	(3)____				3					
ELE291	Electrical Lab. 1	(1)____			1						
ELE292	Electrical Lab. 2	(1)____				1					
ELE331	Digital Circuits & Systems	(3)____					3				
COMPUTER ENGINEERING (31)											
CSE261	Digital Logic Design	(3)____				3					
CSE281	Comp. Org. & Assem. Lang.	(3)____					3				
CSE283	Intro. To Object-Oriented Design	(3)____			3						
CSE381	Computer Architecture	(3)____						3			
CSE382	Algorithms & Data Structures	(3)____				3					
CSE397	Computer Laboratory 1	(3)____					3				
CSE458	Data Networks: Basic Principles	(3)____						3			
CSE398	Computer Laboratory 2	(3)____						3			
CSE486	Design of Operating Systems	(3)____						3			
CSE497	Senior Design Project	(2)____							2		
CSE497	Senior Design Project	(2)____								2	
TECHNICAL ELECTIVES (15)											
Tech Elective _____		(3)____							3		
Tech Elective _____		(3)____							3		
Tech Elective _____		(3)____							3		
Tech Elective _____		(3)____								3	
Tech Elective _____		(3)____								3	
NON-ENG./COMP. SCIENCE ELECTIVES (9)											
Non-Eng./Comp. Sci. Elective_____		(3)____		3							
Non-Eng./Comp. Sci. Elective_____		(3)____							3		
Non-Eng./Comp. Sci. Elective_____		(3)____								3	
	TOTAL CREDITS	**129**	**17**	**17**	**18**	**16**	**15**	**18**	**14**	**14**	

Computer Engineering Curriculum Notes 2010-2011

Technical Electives

Students fulfill 15 credits of technical electives by completing at least one of the tracks specified below. Each track is completed by taking at least 15 credit hours of courses specified by the track:

Hardware Systems (HWS) Track:
Students must take the following 3-credit hour courses:
CSE 464 - Introduction to VLSI Design
CSE 561 - Digital Machine Design
CSE 565 - Digital Design Test and Verification

Students select at least one of the following 3-credit hour courses:
CSE 471 - Introduction to Embedded System Design
CSE 591 - Topics in Computer Systems Engineering: Topics Related to Hardware
CIS 483 - Introduction to Computer and Network Security
CIS 543/ELE 516 - Control of Robots
ELE 333 - Analog Circuits
ELE 346 - Semiconductor Devices
ELE 351 - System and Signal Analysis
ELE 424 - Fundamentals of RF and Microwaves
ELE 431 - Analog Circuits and Systems

Students select at least one technical course, 300-level or above, from the Department of Electrical Engineering and Computer Science (EECS), except CIS 554 and CPS courses (see General Information at the end of these Curriculum Notes), or one technical course, 300-level or above, from the Department of Mathematics.

Software Systems (SWS) Track:
Students must take the following 3-credit hour courses:
CIS 453 - Software Specification and Design
CIS 454 - Software Implementation

Students select at least two of the following 3-credit hour courses:
CSE 482 - Principles of Software Engineering
CSE 483 - Windows Programming
CSE 581 - Introduction to Database Management Systems
CSE 588 - Translator Design
CSE 591 - Topics in Computer Systems Engineering: Topics Related to Software
CIS 352 - Programming Languages: Theory and Practice
CIS 373 - Introduction to Automata Theory
CIS 425 - Introduction to Computer Graphics
CIS 467 - Introduction to Artificial Intelligence
CIS 473 - Logic and Computability Theory
CIS 483 - Introduction to Computer and Network Security
CIS 500 - Programming in Java 5.0
CIS 543/ELE 516 - Control of Robots
CIS 581 - Concurrent Programming
Students select at least one technical course, 300-level or above, from the Department of Electrical Engineering and Computer Science (EECS), except CIS 554 and CPS courses (see General Information at the end of these Curriculum Notes), or one technical course, 300-level or above, from the Department of Mathematics.

Hardware/Software Systems (HSS) Track:
Students must take the following 3-credit hour courses:
CIS 453 - Software Specification and Design
CIS 454 - Software Implementation
CSE 464 - Introduction to VLSI Design
CSE 561 - Digital Machine Design
CSE 565 - Digital Design Test and Verification

Interdisciplinary (INT) Track:
Objective: To allow students to have a more broad education by being able to take more courses outside of the Department of Electrical Engineering and Computer Science (EECS).

Requirements to complete this track:
Student must be awarded a minor or a second major in a discipline outside of the Department of Electrical Engineering and Computer Science (EECS), excluding a minor in Mathematics*;

Student may substitute up to 9 credit hours of technical elective courses to fulfill this minor or second major; All of the remaining credit hours (six or more) of technical electives must be taken from one of the following tracks:

Hardware Systems (HWS) Track: In this case, student needs to take at least two core courses of the HWS Track if the remaining number of credits of technical electives the student must fulfill is six credit hours, or all the core courses of this track if the remaining number of credit hours of technical electives required is more than six;

Software Systems (SWS) Track: In this case, students need to take at least all the core courses of the SWS Track.

The Computer Engineering Program Committee will determine if a specific CSE 591 course can be used to fulfill one of the tracks.

Social Sciences and Humanities Electives
This 6-credit requirement may be fulfilled by any combination of courses whose contents are in the social science and humanities area. A glossary of course designations with such contents can be found in the Humanities Division and the Social Sciences Division of the College of Arts and Sciences with the exception of the following Anthropology - Physical courses: ANT 131, 331, 431, 432, and 433. These glossaries are given in The College of Arts and Sciences section of the Undergraduate Catalog.

Non-Engineering/Computer Science Electives
The purpose of this 9-credit requirement of non-engineering/computer science elective courses is to provide students with a broad educational experience in a diversity of subjects.

More specifically, technical courses offered by (or crosslisted with) the College of Engineering and Computer Science (ECS), courses with pass/fail grades, CPS courses, and 100-level courses in CHE, MAT, and PHY cannot be used to satisfy this requirement. IST courses will require permissions from academic advisors.

Note that **you cannot take CIS 554 – Object-Oriented Programming in C++,** to fulfill any requirement in the Computer Engineering undergraduate program. This is because a considerable amount of material covered in this course overlaps with the material covered in the core course CSE 283 – Introduction to Object-Oriented Design.

Note that CPS **courses cannot be taken** to fulfill any of the requirements for the Computer Engineering undergraduate program. These courses are designed for non-majors in Computer Engineering or in Computer Science

College of Engineering and Computer Science

Electrical Engineering — Name _____

Fall 2010 — SUID _____

Track: _____	CREDIT	FIRST-YEAR		SOPHOMORE		JUNIOR		SENIOR		VAR
Minor: _____	GRADE	F	S	F	S	F	S	F	S	+/-
MATHEMATICS (18)										
MAT295 Calculus 1	(4)____	4								
MAT296 Calculus 2	(4)____		4							
MAT397 Calculus 3	(4)____			4						
MAT485 Diff. Equations & Matrix Algebra	(3)____				3					
MAT521 Probability and Statistics+	(3)____					3				
SCIENCES (15)										
CHE106 General Chemistry 1	(3)____	3								
CHE107 General Chemistry Lab 1	(1)____	1								
PHY211 General Physics 1	(3)____		3							
PHY221 General Physics Lab 1	(1)____		1							
PHY212 General Physics 2	(3)____			3						
PHY222 General Physics Lab 2	(1)____			1						
Math/ Science Elective _____	(3)____								3	
ENGLISH (12)										
WRT105 Studio 1: Practices of Academic Writ	(3)____	3								
WRT205 Studio 2: Critical Research and Writ	(3)____				3					
WRT307 Adv. Writing Studio: Professional Writ	(3)____					3				
WRT407 Adv. Wrkshp in Prof. Tech, or Disc. Writ	(3)____							3		
SOC. SCIENCE/HUMANITIES/GEN. ED. (18)										
SSH Elective _____	(3)____	3								
SSH Elective _____	(3)____		3							
SSH Elective _____	(3)____			3						
ECS392 Ethical Aspects of ECS	(3)____							3		
Non-Tech Elective _____	(3)____		3							
Non-Tech Elective _____	(3)____								3	
ENGINEERING (9)										
ECS101 Intro. to Engr. & Comp. Sci.	(3)____	3								
ECS102 Intro. to Computing	(3)____		3							
CSE261 Digital Logic Design	(3)____				3					
ELECTRICAL ENGINEERING (42)										
ELE231 Electrical Engr. Fundamentals I	(3)____			3						
ELE232 Electrical Engr. Fundamentals II	(3)____				3					
ELE291 Electrical Engr. Lab. I	(1)____			1						
ELE292 Electrical Engr. Lab. II	(1)____				1					
ELE324 Electromagnetics I	(3)____					3				
ELE325 Electromagnetics II*	(3)____						3			
ELE331 Digital Circuits & Systems	(3)____					3				
ELE333 Analog Circuits	(3)____						3			
ELE346 Semiconductor Devices*	(3)____				3					
ELE351 System and Signal Analysis	(3)____					3				
ELE391 Digital Circuits Laboratory	(3)____					3				
ELE392 Analog Circuits Laboratory	(3)____						3			
ELE497 Senior Project	(4)____							3	1	
Select Two of the Following 3 Courses:	( )____						3			
ELE312 Control Systems* (3)	( )____						3			
ELE352 Digital Signal Processing (3)										
ELE424 Fund.of RF and Microwaves (3)										
TECHNICAL ELECTIVES (12)										
Tech Elective _____	(3)____							3		
Tech Elective _____	(3)____							3		
Tech Elective _____	(3)____								3	
Tech Elective _____	(3)____								3	
FREE ELECTIVES (6)										
Free Elective _____	(3)____						3			
Free Elective _____	(3)____								3	
TOTAL CREDITS	**132**	**17**	**17**	**15**	**16**	**18**	**18**	**15**	**16**	

ELECTRICAL ENGINEERING
Curriculum Notes
2010-2011

1. Electrical Engineering (EE) students must complete 18 credit hours in social sciences/humanities/Non-Technical electives using any one of the following options:

   Option 1: Students may use their electives to complete a non-technical minor. Students pursuing this option must plan early in their degree program.

   Option 2: Complete the divisional perspective requirements of humanities division and take the remaining electives from the social sciences division.

   Option 3: Complete the divisional perspective requirements of social sciences division and take the remaining electives from the humanities division.

2. In EE program, tracks of specialization (described in the *2009-2010 Syracuse University Bulletin: Undergraduate Course Catalog*) and minors are used to regulate technical electives. A student must complete four technical elective courses in Electrical Engineering or Computer Engineering. At a minimum, two of these courses must complete one EE track. Students with an LCS technical minor needs to complete only one EE track (two EE elective courses). If a student chooses to complete two tracks, there are 12 credits of technical electives. If a student chooses to complete one EE track and a technical ECS minor, the technical electives are increased to 21 credits. Courses that are not required for students who complete a technical minor are ELE 346, 325 and 312.
3. First year courses in Physics, Mathematics and computer programming may not be used as unspecified electives.

Footnotes to the Curriculum Table:

+ CIS 321 can be substituted if a student does not want a mathematics minor.

***** Students who choose to complete a technical ECS minor may replace these courses with technical electives.

Electrical Engineering -Tracks
2010-2011

Tracks (Technical Electives)

Tracks are intended to provide a cohesive set of technical electives for electrical engineering students. A track usually consists of a group of four courses (12 credits). In the Department of Electrical Engineering and Computer Science there are three tracks in electrical engineering.

VLSI Track:

ELE 331	Digital Circuits & System	3
ELE 346	Semiconductor Devices *	3
ELE/CSE 464	Introduction to VLSI Design	3
ELE 541	Integrated Circuits	3

Electromagnetics Track:

ELE 324	Electromagnetics I	3
ELE 325	Electromagnetics II *	3
ELE 424	Fundamentals of RF & Microwaves	3
and choose one of the following:		
ELE 425	Microwave Engineering	3
ELE 524	Introduction to Applied Optics	3
ELE 525	Electromagnetic Compatibility	3

Communications Track:

ELE 351	System and Signal Analysis	3
ELE 352	Digital Signal Processing	3
and choose one of	the following:	
ELE 551	Communication Systems	3
ELE 558	Data Networks: Basic Principles	3
ELE 591	Special Topics in Communications	3

* Students who choose to complete a technical ECS minor may replace these courses with technical electives.

College of Engineering & Computer Science

Environmental Engineering — Name _____

Fall 2010 — SUID _____

			CREDIT	FIRST-YEAR		SOPHOMORE		JUNIOR		SENIOR		VAR
			GRADE	F	S	F	S	F	S	F	S	+/-
MATHEMATICS (15)												
MAT295	Calculus 1		(4)____	4								
MAT296	Calculus 2		(4)____		4							
MAT397	Calculus 3		(4)____			4						
MAT485	Diff. Equations & Matrix Algebra		(3)____				3					
SCIENCES (20)												
CHE106	General Chemistry 1		(3)____	3								
CHE107	General Chemistry Lab 1		(1)____	1								
CHE116	General Chemistry 2		(3)____		3							
CHE117	General Chemistry Lab 2		(1)____		1							
PHY211	General Physics 1		(3)____		3							
PHY221	General Physics Lab 1		(1)____		1							
EAR203	Earth System Science		(4)____				4					
GEO383	Geographic Information System		(4)____						4			
ENGLISH (6)												
WRT105	Studio 1: Practices of Academic Writ		(3)____	3								
WRT205	Studio 2: Critical Research and Writ		(3)____				3					
SOCIAL SCIENCE /HUMANITIES (18)												
(See curriculum notes)												
SSH Elective _____			(3)____	3								
SSH Elective _____			(3)____		3							
SSH Elective _____			(3)____			3						
SSH Elective _____			(3)____			3						
SSH Elective _____			(3)____					3				
SSH Elec _____			(3)____					3				
	ENGINEERING (16/17)											
ECS101	Intro. to Engr. & Comp. Sci.		(3)____	3								
ECS221	Statics		(3)____			3						
ECS325	Mechanics of Solids		(4)____				4					
ERE441	Air Pollution Engineering		(3)____							3		
Select One of the Following 5 Courses:			( )____						3 or 4			
ECS222	Dynamics (3)											
ECS326	Engineering Materials											
ELE231	Elec. Engr. Fund (3 or 4)											
MAE251	Thermodynamics (4)											
CHE346	Physical Chemistry (3)											
ENVIRONMENTAL ENGINEERING (35)		**D=12**										
CIE272	Civil & Envir. Engr Measurements		(3)____			3						
CIE274	Civil & Environmental Engr. Systs		(3)____				3					
CIE327/MAE341	Fluid Mechanics		(4)____					4				
CIE337	Intro to Geotechnical Engineering	1.00	(4)____					4				
CIE341	Intro Environmental Engineering	1.00	(3)____					3				
CIE352	Water Resources Engr.	2.00	(4)____						4			
CIE442	Treatment Proc. In Envir. Engr.	2.00	(4)____							4		
CIE471	Env. Chemistry Analysis	1.00	(3)____							3		
CIE472	Applied Env. Microbiology	1.00	(3)____							3		
CIE475	Capstone Design	4.00	(4)____								4	
ELECTIVES (18)												
Prof. Elective _____			(3)____						3			
Prof. Elective _____			(3)____						3			
Prof. Elective _____			(3)____								3	
Tech Elective _____			(3)____								3	
Tech Elective _____			(3)____								3	
Free Elective _____			(3)____							3		
TOTAL CREDITS			**128-129**	**17**	**15**	**16**	**17**	**17**	**17/18**	**16**	**13**	

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING
Curriculum Notes
(Effective Fall 2009)

SS/HUM ELECTIVES

All CIE students are required to complete at least 18 credits of SS/HUM electives. A *minimum* of one course (or 3 credits) must be chosen from each of the three groups of designated courses listed below. The remaining three SS/HUM electives (or 9 credits) can be selected from the lists below or, in addition to the lists,

- any College of Arts and Sciences courses that are listed on their Humanities and Social Sciences lists in the SU Bulletin – Undergraduate Course Catalog
- any foreign language courses (except student's native language)
- ECS 391 – Legal Aspects of ECS
- ECS 392 – Ethical Aspects of ECS.

Group 1: Economics and Social Issues
ECN 203 – Economics Ideas and Issues
ECN 301* – Intermediate Microeconomics
ECN 302* – Intermediate Macroeconomics
ECN 365* – The World Economy
SOC 101 – Introduction to Sociology
SOC 102 – Social Problems
SOC 363 – Urban Sociology
STS/BPS 101 – Introduction to Science, Technology and Society
STS/HNR/ECS 318 – Technology: Past and Present

*requires ECN 203 as prerequisite

Group 2: Global Affairs
GEO 103 – America and the Global Environment
GEO 105 – World Geography
GEO 272 – World Cultures
GEO 273 – World Political Economy
GEO 315 – Global Environmental Change
MAX 123 – Critical Issues for the U.S.
MAX 132 – Global Community
PAF 351 – Global Social Problems

Group 3: Public Policy and Policy Studies
GEO 203 – Society and the Politics of Nature
GEO 314 – Hazardous Geographic Environments
PAF 101 – An Introduction to the Analysis of Public Policy
PAF 409*$^{+}$ – Intermediate Analysis of Public Policy
PAF 451 – Environmental Policy
PSC 302- Environmental Politics and Policy
PSC 305 – Legislative Process and US Congress
PSC 308 – The Politics of US Public Policy
PSC 312 – Urban Government & Politics
PSC 318 – Technology, Politics & Environment

*requires PAF101 as prerequisite

PROFESSIONAL ELECTIVES

Professional Electives are courses that advance a student's professional abilities and form a cohesive and meaningful addition to the required CIE coursework. They are designed to develop and enhance a student's role as a professional civil or environmental engineer. Professional Electives are *upper-level courses* (300 and above; as well as ECS 222, ELE 231, and MAE 251 that have not been used for degree credits), generally from professional schools at SU and SUNY-ESF, and must be selected in consultation with the student's academic advisor. Many Professional Electives can be used towards completion of a minor. Approved Professional Electives are courses offered in the following schools/colleges with the indicated prefixes that meet the above stated criteria.

School/College	**Course Prefix**
Architecture	ARC
Arts and Sciences	AST, BCM, BIO, CHE, ECN, GEO, GOL, MAX, MAT, PAF, PHY
Engineering and Computer Science	All course prefixes
Information Studies	IST
Whitman	ACC, BUA, EEE, FIN, INB, LPP, MAR, O&M, OPM, SHR, SOM
Newhouse	COM
VPA	CRS
SUNY-ESF	All course prefixes

College of Engineering and Computer Science

Mechanical Engineering Name _____

Fall 2010 SUID _____

	CREDIT	FIRST-YEAR		SOPHOMORE		JUNIOR		SENIOR		VAR
	GRADE	F	S	F	S	F	S	F	S	+/-
MATHEMATICS (21)										
MAT295 Calculus 1	(4)____	4								
MAT296 Calculus 2	(4)____		4							
MAT397 Calculus 3	(4)____			4						
MAT331 Linear Algebra	(3)____			3						
MAT514 Intro. Differential Equations	(3)____				3					
MAT521 Intro. to Probability & Stats	(3)____							3		
SCIENCES (12)										
CHE106 General Chemistry 1	(3)____	3								
CHE107 General Chemistry Lab 1	(1)____	1								
PHY211 General Physics 1	(3)____		3							
PHY221 General Physics Lab 1	(1)____		1							
PHY212 General Physics 2	(3)____			3						
PHY222 General Physics Lab 2	(1)____			1						
ENGLISH/SOCIAL SCIENCE/HUMANITIES (12)										
WRT105 Studio 1: Practices of Academic Writing	(3)____	3								
WRT205 Studio 2: Critical Research and Writing	(3)____						3			
ECN 203 Economics Ideas & Issues	(3)____	3								
SSH Elective _____	(3)____		3							
PROGRAM CUSTOMIZATION (21)										
Course1 _____	(3)____			3						
Course2 _____	(3)____					3				
Course3 _____	(3)____						3			
Course4 _____	(3)____							3		
Course5 _____	(3)____							3		
Course6 _____	(3)____								3	
Course7 _____	(3)____								3	
ENGINEERING (26)										
ECS101 Intro. to Engr. & Comp. Sci.	(3)____	3								
ECS 104 Engr. Comp Tools	(3)____		3							
ECS221 Statics	(3)____			3						
ECS222 Dynamics	(3)____				3					
ECS325 Mechanics of Solids	(4)____				4					
ECS326 Engr. Materials,Prop. & Proc.	(3)____					3				
ELE231 Elec. Engr. Fundamentals 1	(3)____					3				
ELE291 Elec. Engr. Laboratory 1	(1)____					1				
ELE312 Control Systems	(3)____								3	
MECHANICAL ENGINEERING (36)										
MAE184 Engr. Graphics & CAD	(3)____		3							
MAE251 Thermodynamics	(4)____				4					
MAE315 Mech/Aero Lab I	(3)____					3				
MAE321 Dynamics of Mech. Systems	(3)____						3			
MAE341 Fluid Mechanics	(4)____					4				
MAE355 Heat Transfer	(4)____						4			
MEE332 Intro. Mach. Des. & Mfg.	(4)____						4			
MEE416 Mechanical Engr. Lab	(1)____							1		
MEE471 Syn. Mech. Systems I	(3)____							3		
MEE472 Syn. Mech. Systems II	(4)____								4	
MFE 331 Manufacturing Processes	(3)____				3					
TOTAL CREDITS	**128**	**17**	**17**	**17**	**17**	**17**	**17**	**13**	**13**	

MECHANICAL ENGINEERING
Curriculum Notes
2010-2011

1. Mechanical engineering students must complete at least 6 credit hours in the Social Science/Humanities and in addition complete one of the following options for a total of nine electives (27 credit hours):

   Option 1: Complete a non-technical minor (at least 18 credits) and 3 additional free credits.

   Option 2: Complete at least 3 additional credits in the social science/humanities and at least 18 credits towards a technical minor.

   Option 3: Complete at least 6 additional credits in the social science/humanities and 6 credits of free electives and 9 credits of technical electives.

2. Technical electives must be taken within the Mechanical and Aerospace Engineering Department (MAE).

3. Many technical electives in the MAE Department are scheduled on a 2-year rotation, so students should make themselves aware of technical elective offerings starting in their sophomore year.

4. Students seeking to complete a mathematics minor by taking an additional math course (usually MAT 517) can use this course as a free elective but must still complete one of the 3 options listed above.

This Section applies only to Computer Science Majors

Important Notes on Course Restrictions

The restrictions on courses listed below are not comprehensive. Students unclear about the appropriateness of courses for meeting a distribution requirement must petition for acceptance of the course(s) through the CIS program committee before taking the course.

Prior to registration each semester, students must meet with their faculty advisors for assistance in choosing appropriate courses.

General-Education Requirements

The intent of the general-education requirements is to ensure that students graduate with knowledge of subjects beyond Computer Science, with particular emphasis on writing skills.

Writing Requirements

The following two courses are required:
WRT 105 Writing Studio 1
WRT 205 Writing Studio 2

Presentation Skills Requirement

Students must successfully complete at least one of the following courses:
CRS 255 Public Advocacy
CAS 325/CRS 325 Presentational Speaking
IST 444 Information Reporting and Presentation

Natural Science and Engineering Requirements

Eighteen credits of natural science and engineering courses are required: six in engineering and twelve in science. These engineering courses are required:

ECS 101 Introduction to Engineering and Computer Science
ECS 102 Introduction to Computing

The twelve credits of science must include a two-semester sequence in a laboratory science, as well as the following courses:

PHY 211 General Physics
PHY 221 General Physics Lab

A student may take the second physics course (PHY 212) and its associated lab (PHY 222) to satisfy the two-semester requirement; the student would still have to take an additional four credits of science. Possible two-course sequences include the following:

PHY 211/221 (General Physics I and Laboratory)
PHY 212/222 (General Physics II and Laboratory)

CHE 106/107 (General Chemistry Lecture and Laboratory)
CHE 116/117 (General Chemistry Lecture II and Laboratory)

BIO 121 (General Biology)
BIO 123 (General Biology II)

GOL 101 (Dynamic Earth)
GOL 333 (Structural Geology)

Additional courses that may be used to complete the science requirement include those in the following departments, except those courses specially excluded or whose content relates primarily to computing and/or mathematics, or to social and historical issues. Such courses may be appropriate for other distribution requirements.

Courses that **may be** used:

Anthropology, Physical (ANT 131, 331, 431, 432, 433)
Biology (BIO)
Chemistry (CHE)
Geology (GOL)
Materials Science (MTS)
Physics (PHY)
Astronomy (AST)

The following courses **do not** satisfy the science requirement:

Social, Cultural Anthropology (ANT)
BIO 211
BIO 215
CHE 103, 113
Geography (GEO)
GOL 102, 105
NEU 211
PHY 101/111, 102/112, 105, 106

Social Sciences, Humanities & VPA Requirements
Students are required to take PHI 251 (Logic), ECS 392 (Ethical Aspects of Engineering and Computer Science), and fifteen additional credit hours of courses in fine arts, humanities, and/or social sciences. These courses (SSH/VPA) are to be drawn from the offerings of the College of Arts and Sciences and the College of Visual and Performing Arts.

Courses from the following departments **may be used**:

Art Photography (APH)
African American Studies (AAS)
Applied Music (AMC)
American Studies (AMS)
Anthropology{Social and Cultural (ANT)
Art (ART)
Ceramics (CER)
Chinese (CHI)
Communications Design (CMD)
Drama (DRA)
Economics (ECN)
English and Textual Studies (ETS)
Fine Arts (FIA)
Fiber Arts (FIB)

Film (FIL)
Foundation (FND)
French (FRE)
Fashion Illustration (FSH)
Geography (GEO)
German (GER)
Greek (GRE)
Hebrew (HEB)
Hindi (HIN)
History (HIS)
Humanities (HUM)
Illustration (ILL)
International Relations (IRP)
Interior Design (ISD)
Italian (ITA)
Latin (LAT)
Linguistics (LIN)
Literature in Translation (LIT)
Metalsmithing (MET)
Music History & Literature (MHL)
Museum Studies (MUS)
Public Affairs & Citizenship (PAF)
Philosophy (PHI)
Polish (POL)
Political Science (PSC)
Psychology (PSY)
Printmaking (PRT)
Painting (PTG)
Religion (REL)
Russian (RUS)
Sculpture (SCU)
Communication and Rhetorical Studies (CRS)
Sociology (SOC)
Social Science (SOS)
Spanish (SPA)
Surface Pattern Design (SPD)
Studio Arts (STA)
Art Video (VID)
Writing (WRT)
Women's Studies (WSP)

The following courses/departments **cannot be used**:

Art Education (AED)
Astronomy (AST)
Advertising Design (ADD)
Anthropology{Physical (see above)
Biology (BIO)
Chemistry (CHE)
Cognitive Science (COG)
Communication Sciences & Disorders (CSD)
Computer Graphics (CGR)
GEO 155
Geology (GOL)
Industrial Design (IND)
Mathematics (MAT)
Music Education (MUE)
Non-departmental AS (NAS)
Physics (PHY)
PSY 223, PSY 273 Science Teaching (SCI)
Undergraduate Research Program (URP)
WRT 105, WRT 205

Also excluded are any courses cross-listed in the College of Arts and Sciences and the School of Education.

Free Electives
Any and all courses may be taken as free electives, with the following exception CPS courses do not count as free-elective credits for CS majors.

Mathematics Requirements
Fifteen or sixteen credit hours of Mathematics courses are required. No grade below C- is acceptable.

Students must take both:
MAT 295 Calculus I
MAT 296 Calculus II

Students must also take at least one of:
MAT 397 Calculus III
MAT 331 Linear Algebra

Students must also take:
CIS 321 Intro to Probability and Statistics

MAT 295, 296, and 397 are four-credit courses, as is CIS 321. MAT 331 is a three-credit course.

Course Requirements for the Major
No grade below C- is acceptable for a course in the major category.

CIS Core Course Requirements
The following ten courses (33 credit hours) are required. These courses must be completed with a core GPA of at least 3.0. No grade below C- is acceptable for a course in the major category.

CIS 252 Intro to Computer Science
CIS 275 Intro to Abstract Mathematics
CIS 341 Computer Organization and Programming Systems
CIS 351 Data Structures
CIS 352 Programming Languages: Theory and Practice
CIS 453 Software Specification and Design
CIS 454 Software Implementation
CIS 473 Computability Theory
CIS 477 Introduction to Analysis of Algorithms
CIS 486 Design of Operating Systems

Upper-Division Course Restrictions
Eighteen credit hours of upper-division courses are required. At least 9 of the 18 credits must be computer science or computer engineering courses. No grade below C- is acceptable for a course in the major category.

Upper-division courses include the following:

CIS 390 Honors Seminar in Computer and I Information Science
CIS 400 Selected Topics
CIS 425 Introduction to Computer Graphics
CIS 428 Introduction to Cryptography
CIS 467 Introduction to Artificial Intelligence
CIS 471 Optimization Methods
CIS 478 Introduction to Quantum Computing
CIS 483 Introduction to Computer and Network Security
CIS 531 Compiler Construction
CIS/MAT 545 Finite Mathematics
CIS 543/ELE 516 Control of Robots
CIS 553 Software Systems Implementation
CIS 554 Object Oriented Programming in C++
CIS/ELE 558 Data Networks: Basic Principles
CIS/IST 563 Natural Language Processing
CIS 565 Introduction to Artificial Neural Networks
CIS 567 Knowledge Representation and Reasoning
CIS 583 Systems Assurance Seminar
CSE 397 Computer Laboratory I
CSE 398 Computer Laboratory II
CSE 483 Windows Programming
CSE 561 Digital Machine Design
CSE 581 Introduction to Database Management Systems
PHI 378 Minds and Machines
PHI 551 Symbolic Logic
PHI 552 Modal Logic

Students may choose any other CIS course numbered above 300, except those that carry no credit hours.

Courses that **do not** qualify as upper-division electives include:

CIS 371 Professional Practice
CIS 471 Professional Practice

CS students may also choose any MAT courses numbered above 400, except for the following:

MAT 485 Differential Equations and Matrix Algebra for Engineers
MAT 521 Introduction to Probability and Statistics

CS students may also choose topics courses (e.g., PHI 460 Logic and Foundations of Mathematics); however, they must petition the CIS program committee to have the specific course accepted before taking the course.

Representative CIS Undergraduate Programs

The following shows a fairly typical CIS undergraduate program for a student who initially places into MAT 295.

	Fall	Spring
First Year	ECS 101	CIS 252
	ECS 102	MAT 296
	MAT 295	PHY 211, PHY 221
	WRT 105	PHI 251
	SSH/VPA elective *	
Second Year	CIS 275	CIS 321
	CIS 341	CIS 352
	CIS 351	WRT 205
	MAT 397 or MAT 331	SSH/VPA
		Free elective
Third Year	CIS 453	CIS 454
	CIS 477	CIS 473
	upper-division course	CIS 486
	presentation-skills elective	SSH/VPA
	science elective	science elective
Fourth Year	upper-division course	upper-division course
	upper-division course	upper-division course
	upper-division course	SSH/VPA
	ECS 392	free elective
	SSH/VPA	elective free elective

** Students wishing to preserve the option of transferring to an engineering major at the end of the first semester should take CHE 106/107 in place of the SSH/VPA elective.*

The following shows a fairly typical CIS undergraduate program for a student who initially places into MAT 194.

	Fall	Spring
First Year	ECS 101	CIS 252
	ECS 102	MAT 295
	MAT 194	PHY 211, PHY 221
	WRT 105	PHI 251
	SSH/VPA elective *	
Second Year	CIS 275	CIS 321
	CIS 341	CIS 352
	CIS 351	WRT 205
	MAT 296	MAT 397 or MAT 331
		SSH/VPA elective
Third Year	CIS 453	CIS 454
	CIS 477	CIS 473
	upper-division course	CIS 486
	presentation-skills elective	SSH/VPA elective
	science elective	science elective
Fourth Year	upper-division course	upper-division course
	upper-division course	upper-division course
	upper-division course	SSH/VPA elective
	ECS 392	free elective
	SSH/VPA	elective free elective

** Students wishing to preserve the option of transferring to an engineering major at the end of the first semester should take CHE 106/107 in place of the SSH/VPA elective.*

College of Engineering and Computer Science

Computer Science — Name _____

Fall 2010 — SUID _____

Minor: _____

		CREDIT GRADE	FIRST-YEAR F	FIRST-YEAR S	SOPHOMORE F	SOPHOMORE S	JUNIOR F	JUNIOR S	SENIOR F	SENIOR S	VAR +/-
GEN EDUCATION REQMTS	**English (6 cr) Minimum Grade C-**										
	WRT105 Studio 1: Practices of Academic Writing	(3)____	3								
	WRT205 Studio 2: Critical Research and Writing	(3)____				3					
	Presentational Skills (3 cr) Minimum Grade C-										
	Select one of the following three courses:	(3)____					3				
	CRS 255 Public Advocacy (3)										
	CRS/CAS325 Presentational Speaking (3)										
	IST 444 Info. Reporting & Presentations (3)										
	SSH/VPA (21 credits)										
	ECS 392 Ethical Aspects of ECS	(3)____							3		
	PHI 251 Logic	(3)____		3							
	SSH/VPA _____	(3)____	3								
	SSH/VPA _____	(3)____				3					
	SSH/VPA _____	(3)____						3			
	SSH/VPA _____	(3)____							3		
	SSH/VPA _____	(3)____								3	
	Natural Sciences (12 cr) Two semester lab sequence in Natural Sciences										
	PHY211 General Physics 1	(3)____		3							
	PHY221 General Physics Lab 1	(1)____		1							
	NS/ENGR _____	(4)____					4				
	NS/ENGR _____	(4)____				4					
	Free Electives (9 cr)										
	Free Elec _____	(3)____						3			
	Free Elec _____	(3)____							3		
	Free Elec _____	(3)____								3	
MAJOR REQUIREMENTS	**Mathematics (15-16 cr) Minimum Grade of C-**										
	MAT295 Calculus 1	(4)____	4								
	MAT296 Calculus 2	(4)____		4							
	MAT397/ 331 Calculus or Linear Algebra	(4-3)___			4 or 3						
	CIS321 Intro. to Probability & Statistics	(4)____				4					
	Engineering Courses (6 cr)										
	ECS101 Intro. to Engineering & Computer Sci	(3)____	3								
	ECS102 Intro. to Computing	(3)____	3								
	Comp Sci Core (33 cr) 3.0 GPA & Minimum Grade C-										
	CIS252 Intro. to Computer Science	(4)____		4							
	CIS275 Intro. to Discrete Mathematics	(3)____			3						
	CIS341 Comp. Organization & Prog. Systems	(3)____			3						
	CIS351 Data Structures	(4)____			4						
	CIS352 Programming Lang: Theory & Prac.	(4)____				4					
	CIS453 Software Specification & Design	(3)____					3				
	CIS454 Software Implementation	(3)____						3			
	CIS473 Computability Theory	(3)____						3			
	CIS477 Intro. to Analysis of Algorithms	(3)____					3				
	CIS486 Operating Systems	(3)____						3			
	Upper Division Courses (18 cr) Minimum Grade C-										
	At least 9 credits of Upper Division **MUST** be in CIS										
	Upper Div _____	(3)____					3				
	Upper Div _____	(3)____								3	
	Upper Div _____	(3)____							3		
	Upper Div _____	(3)____							3		
	Upper Div _____	(3)____								3	
	Upper Div _____	(3)____								3	
	TOTAL CREDITS	**123-124**	**16**	**15**	**13/14**	**18**	**16**	**15**	**15**	**15**	

GPA
WORKSHEET

REQUIREMENTS: Minimum grade of C- in English, Mathematics, Core, and Upper Division Courses
123 credits to graduate
2.0 Overall GPA to graduate
3.0 Core Course GPA
Restrictions/exclusions as noted in the Undergraduate Handbook

CORE GPA TALLY SHEET:

2) Divide Total Grade Points by Total Course Credits for Core Grade Point Average (GPA).

CORE COURSE	HR	GRD	TOTAL GRD POINTS		TOTAL COURSE CR		CORE GPA		CALCULATION DATE AND INITIALS
CIS252	4								
CIS275	3								
CIS341	3								
CIS351	4								
CIS352	4								
CIS453	3								
CIS454	3								
CIS473	3								
CIS477	3								
CIS486	3								
				÷		=			
				÷		=			
				÷		=			
				÷		=			
				÷		=			
				÷		=			
				÷		=			
				÷		=			
				÷		=			
				÷		=			

GRADING CHART: Credit hours X points per grade = Grade Points Earned

GRD	PTS
A	4.0000
A-	3.6666
B+	3.3333
B	3.0000
B-	2.6666
C+	2.3333
C	2.0000
C-	1.6666
D	1.0000
F	0.0000

In most cases an excellent approximation can be obtained by taking A-= 11/3, B+=10/3, etc. The correct GPA; however, is that determined by using the table.