Electrical, Computer, & Systems Engineering

Class of 2022
Advising Handbook
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Electrical Engineering

Electrical Engineering is a dynamic and broad field that applies physics and mathematics to the creative design, research, development, testing and maintenance of diverse products prevalent in society today. From cell phones to smart cars, Light Emitting Diodes to autonomous robots, nano to macro, electrical engineering continues to grow as an integral part of our multidisciplinary, technological society.

The fun side of Electrical Engineering is: Feeling as if you are an integral part of making an idea reality. All the while you think to yourself, “I can’t believe they are paying me to play with so many high tech toys that also help people!”

Key & Related Courses: Electric Circuits, Fields & Waves I, Embedded Control, Signals and Systems, Microelectronics Technology, Introduction to Electronics, and Electrical Energy Systems

Areas of Concentration: Communications, Information and Signal Processing; Control, Robotics, and Automation; Microelectronics and Photonics Technology; Circuit and Computer Hardware Design, Plasma Engineering and Electromagnetics; Electric Power

Employment and Career Opportunities: Electrical Engineering graduates with a bachelor’s degree provide the backbone for a wide variety of technological fields. From designing sensors for the automotive industry to implementing circuits for defense companies to creating imaging products in the medical field, electrical engineers enable scientific ideas in many areas of technology. According to Jobweb, a career development and website for new college grads, electrical engineering is at the top of the engineering job demand curve at all degree levels with a very clear lead over other engineering disciplines for M.S. and PhD degrees. The U.S. Dept. of Labor also projects a 6% increase in employment through 2020. In addition, annual average job opportunities are highest for electrical and electronics engineers at 23,000.

Typically, during the first year or two after a bachelor’s degree, the young engineer would get to know the company’s products, expectations, and procedures before selecting a technical niche. That niche may include, design, development, implementation, testing, and characterization of various technologies. On the job, hands on experience, supplements theory learned in the classroom. For this reason, internships or co-ops before graduation increase chances of early success in this career path. In academic year 2011-12, RPI students are participating in co-ops with firms such as, IBM, GE Energy, Cisco, Honda, Siemens, Intel, and Hasbro. For more information about co-ops or internships visit the Center for Career and Professional Development (DCC-Suite 209) and their website at http://www.rpi.edu/dept/cdc/.

“A Bachelor of Science degree in engineering with a specialty in electrical engineering may also serve as a starting point for careers in many other fields, ranging from business to law, medicine, and politics, since the problem-solving skills acquired in an electrical engineering program provide an extraordinarily valuable asset. The same skills will equip you to assume leadership roles in your community and in professional circles outside the workplace.” (2001 IEEE, Inc.) Management and electrical engineering is becoming a popular combination with a need for technical expertise in leadership. Decision making from a technical point of view is often sought and encouraged in electrical engineers whose aspirations are to lead. The finance industry has also become a primary employer of electrical engineers.
Undergraduate Research and Graduate School: Most electrical engineers eventually continue on to grad school where they further develop their expertise with the goal of leading technology into new and exciting areas of application. Continuing education is needed for a career in research and development. Usually M.S. students pursue their degrees with financial assistance from their employers. EE students in doctoral programs can plan on full financial support which includes tuition and stipends so such programs are essentially free. Participation in an undergraduate research project (URP) is an excellent way to learn about research and graduate studies.
Computer and Systems Engineering

Computer and Systems Engineering is a dynamic field that creatively applies computers and mathematics to the design, development, testing and implementation of a wide range of products. From secure wireless networks to medical imaging systems, from autonomous mobile robots to face recognition security systems, from aircraft control systems to mapping the world, from distributed underwater pollution sensors to the next generation Internet, from handheld games to MP3 players, these systems are built by RPI computer engineers.

The fun side of Computer and Systems Engineering is: Using all kinds of cool computers and equipment, and really understanding how they work, while also seeing the huge positive impact they have on society and our quality of life.


Employment and Career Opportunities: Computer and Systems Engineering graduates with a bachelor’s degree provide the backbone for a wide variety of technological fields and enjoy broad freedoms in choosing the types of projects on which they want to work. In many cases, a computer engineer may decide to focus on building a tool or a product that meets a need they feel passionate about. For example, a computer engineer who suffered a loss in his or her family due to illness might invest their energy on developing software that manages medical equipment or help to bring back the enjoyment of music to someone with profound hearing loss. According to Jobweb, a career development and website for new college grads, computing and computer engineering are at the top of the engineering job demand curve at all degree levels, especially for M.S. and PhD degrees. Overall, career opportunities in computer engineering remain strong and are expected to grow by 9% by 2020.

Typically, during the first year or two after a bachelor’s degree, the young engineer would get to know the company’s products, expectations, and procedures before selecting a technical niche. That niche may include, design, development, implementation, testing, and characterization of various software and hardware technologies. On the job, hands on experience supplements theory learned in the classroom. For this reason, internships or co-ops before graduation increase chances of early success in this career path. Currently, RPI students are participating in co-ops with companies such as IBM, GE Energy, Cisco, Intel, MIT/Lincoln Labs, and Google. For more information about co-ops or internships visit the Center for Career and Professional Development and their website at http://www.rpi.edu/dept/cdc/.

Management and computer engineering is becoming a popular combination with a need for technical expertise in leadership. Decision making from a technical point of view is often sought and encouraged in computer engineers whose aspirations are to lead. The finance industry has also become a primary employer of CSE grads. Computer and Systems Engineers who go on to graduate school are looking to go beyond seeking solutions to immediate needs but look to project and steer future technologies through discovery and innovation.
Undergraduate Research and Graduate School: In addition to the BS degree, the CSE program also offers MS and PhD degrees. The MS degree can be a terminal degree or used as preparation for a PhD program. Continuing education is needed for a career in research and development. Usually M.S. students pursue their degrees with financial assistance from their employers. EE students in doctoral programs can plan on full financial support which includes tuition and stipends so such programs are essentially free. Participation in an undergraduate research project (URP) is an excellent way to learn about research and graduate studies.
Career Links

The US Department of Labor (http://www.bls.gov/ooh/architecture-and-engineering/home.htm) provides information on the various fields of engineering and statistics concerning salary and job outlooks on its Occupational Outlook Handbook page. On their site, you will be able to explore engineering careers by following the links to these topics:

- What They Do
- Work Environment
- Educational Requirements
- Job Outlook
- Earnings & Wages
- Similar Occupations
- Sources of Additional Information
Contact List for ECSE

Department Head: Michael Wozny (woznym@rpi.edu) JEC 6052

Administrative Coordinator: Gina Moore (gina@ecse.rpi.edu) JEC 6049

Administrative Assistant: Priscilla Magilligan (pris@ecse.rpi.edu) JEC 6012

Advising Coordinator: David Nichols (nichols@ecse.rpi.edu) JEC 6046

Transfer Student Advisor David Nichols (nichols@ecse.rpi.edu) JEC 6046

Graduate Admissions: Leslie Davis (davisl4@rpi.edu) JEC 6012

Class of 2022 Advisors
Mahmood Hameed (Hameem2@rpi.edu) JEC 7006
Manoj Shah (shahm5@rpi.edu) JEC 7020
Meng Wang (wangm7@rpi.edu) JEC 6024
Partha Dutta (duttap@rpi.edu) CII 9219
Luigi Vanfretti (vanfrl@rpi.edu) JEC 6022
Mona Hella (hellam@ecse.rpi.edu) JEC 6008
Advising Responsibilities

Student's responsibilities

- To know their advisor’s office hours, email address, and advising schedule.
- To make, and keep, appointments and prepare for registration advising by reviewing the templates, Class-Hour Schedule on SIS, and your Degree Works worksheet. Take with you a copy of your worksheet to the meeting.
- To formulate questions regarding curriculum, course selections, career options, etc. Take with you a list of questions.
- To be aware of their academic and personal needs and to seek assistance when needed. It’s OK to ask your advisor for directions.
- To understand that the role of their advisor is to provide information and to advise you, but not to make decisions for you. Our goal is for every student to become an active participant in their education, not only while at Rensselaer but for their life time.

Advisor

- To be accessible to students throughout the year at posted office hours. If an advisor will be away from campus for an extended period of time, he or she should post the names and office locations of alternate advisors outside their offices, so that students will have other advising resources.
- To set aside designated times for registration advising and individual discussions.
- To be knowledgeable about current curriculum requirements, academic policies and procedures, referrals and resources on campus, and career opportunities in the major field.
- To guide students through academic programs that will complement their personal, educational, and professional interests.

The HUB

http://eng.rpi.edu/students/hub

The School of Engineering Advising Hub is the primary source of academic advising for all engineering students during their first three semesters at RPI. The Hub is located in the Ansell lounge on the third floor of the Jonsson Engineering Center (JEC) and is staffed by experienced advisors who will offer academic assistance for all engineering majors. Hub advisors assist students in establishing a foundation for academic success through student responsibility and planning. The Hub is a resource for all advising purposes including:

- Semester course planning
- Clear Student Advising Meeting (SAM) holds
- Major/minor declaration or changes
- Form approvals
- Registrar Protocol
- The Arch planning
- HASS and other course requirements

The Advising Hub will offer academic support to students through the end of the fall semester of their sophomore year. At that time, students will transition to a faculty advisor specific to the student’s major. The faculty advisor will then contribute to the student’s academic success by offering valuable perspective on internships, research and job prospects in addition to graduation requirements.

The Advising Hub hours are Monday, Tuesday, Thursday, and Friday 9am-4pm, by appointment. Walk-in Wednesdays offer 20 minute meetings with no appointment necessary.
### ECSE Advising Tasks, by Year

The Purposes for Meeting with Your Advisor

<table>
<thead>
<tr>
<th>Time</th>
<th>Visions</th>
<th>Your Roadmap</th>
<th>People to Meet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entering RPI</td>
<td></td>
<td>Adjust ECSE template/plan for AP credit</td>
<td>Members of the Student Orientation team</td>
</tr>
<tr>
<td>First Year</td>
<td>Choosing or changing a major</td>
<td>Exploring your plan and template</td>
<td>Getting to know your Hub Advisor</td>
</tr>
<tr>
<td>Second Year</td>
<td>Learning and deciding about Arch, URP’s, Internships, Co-op’s, and Study Abroad</td>
<td>Adjust plan for overloads, dropped or failed courses, Co-op, and Study Abroad</td>
<td>Getting to know your faculty advisor and at least one faculty in major</td>
</tr>
<tr>
<td>Third Year</td>
<td>Planning 4th year, deciding about work and grad school</td>
<td>Adjust plan for co-op, overloads, dropped or failed courses.</td>
<td>Getting to know other faculty in major</td>
</tr>
<tr>
<td>Fourth Year</td>
<td>Creating a vision for career or grad school or both</td>
<td>Preparing applications for job and/or grad school</td>
<td>Asking faculty for recommendations</td>
</tr>
</tbody>
</table>
Threads

Threads are sequences of courses that are linked like beads by prerequisite or co-requisite relationships. Threads frequently have branches. It is very important to understand the role that Threads play in the planning of your course selection. So, here are two challenges for you! And you wouldn’t be at RPI unless you liked challenges!

For a given course find the pre- and co-requisites for that course AND the courses for which the given course is a prerequisite. Then make a diagram of the Thread. Hand drawn diagrams are fine; something more electronic is certainly encouraged.

**First Challenge**: Determine the Thread for ECSE-2010 (Electric Circuits). First find the prerequisites for Circuits and then the prerequisites for the prerequisites. Use the Course Catalog (http://www.rpi.edu/academics/catalog/). Then peruse the catalog to see which courses have Circuits as a prerequisite. And for those courses you find, determine for which courses they are prerequisites. Hint: pay attention to ECSE-2410 & ECSE-2050.

**Second Challenge**: Determine the Thread for ECSE-2610 (Computer Components & Operations or COCO).
Academic Information and Regulations

The Institute requires a degree candidate to earn the last 30 credits in courses completed on this campus or through a program formally recognized by the Institute. Transfer courses are limited to two courses or eight credits counting toward the student’s last 30 credits and require the approval of the director of the Advising and Learning Assistance Center.

Baccalaureate candidates must have passed all of the prescribed academic work and have satisfied the fee requirements. Candidates must also be in good academic and disciplinary standing. Undergraduate students on probation at the time of completion of course work may be required to meet certain stipulations for removal from probation. However, such requirements may be waived for those students whose cumulative GPAs satisfy the baccalaureate degree requirements. In general, a term’s work with grades of not less than C will be required in programs arranged by the Committee on Academic Standing. The director of the Advising and Learning Assistance Center will state requirements to the students in writing.

Degree candidates must be registered during the semester in which they intend to graduate and must file a degree application with the registrar by the dates specified in the academic calendar. Students who previously applied for graduation but did not complete all their requirements on time must submit a new application specifying the new date of graduation.

Double Degrees

A student may become a candidate for a second baccalaureate degree when he or she has completed: (1) the equivalent of at least two terms (30 credit hours) of additional work beyond the requirements of a single degree, and (2) the courses in the department in which the student is registered and such other courses as are required for the second degree. From the ECSE department’s perspective, students considering a Double Degree may want to consider a Co-terminal or traditional Master’s degree, instead. The ability to obtain a graduate level degree by taking 30 credits beyond the Bachelor’s degree should be seriously considered rather than taking 30 additional credits and conferring solely a Bachelor’s degree.

Dual Majors

ECSE students sometimes pursue a dual major, usually in a field closely allied with ECSE. CSE majors can add Computer Science as a CSE/CS dual major and EE majors can add Applied Physics to become EE/AppPhy dual majors. Other combinations of majors are possible but may require more than eight semesters to complete. Before deciding on a dual major, meet with your advisor, or David Nichols, to learn more about it. Dual majors rarely have room in their schedules for Free Electives.

Minors

ECSE majors frequently complete a minor in a field of interest, other than engineering, by using Free Electives and/or the HASS Electives. A minor is a set of courses coherently based on subject, methodology, or other factors. Many departments offer one or more such minors; several of the minors are interdisciplinary. A student wishing to complete a minor should consult with the adviser for that minor before completing the second course in it (departmental secretaries have this information). Minors vary in their requirements from 15 to 21 credit hours. Courses for the minor may not be taken on a Pass/No Credit basis. No course which is required for a major can be used for a minor requirement. No course which is required for one minor can be used for another minor requirement.
Engineering students at Rensselaer are required to successfully complete
- 20 credits of HASS (Humanities, Arts, and Social Sciences)
- 2 credits of PD II (Professional Development II)
as well as
- 1 credit of PD I (typically as part of ENGR-2050 Introduction to Engineering Design, or alternatively as ENGR-1010 Professional Development I if ENGR-2050 transferred in as less than a 4 credit course)
- 1 credit of ENGR-4010 PD III
for a total of 24 credits to fulfill the HASS Core requirement.

**ENGINEERING STUDENTS SHALL DISTRIBUTE THE 20 CREDITS OF HASS AS FOLLOWS.**

- A minimum of 8 credits of Humanities/Arts (see table below)
- A minimum of 8 credits of Social Science (see table below)
- At least 4 credits must be 4000+ level
- No more than 3 courses at the 1000 level (but note depth sequence and CI restriction below)
- No more than 4 credits can come from 1 credit courses (e.g. music ensemble)
- No more than 2 courses (8 credits total) can be from transfer courses (including AP/IB and study abroad classes)
- No more than 8 credits can be from Pass/No credit courses (note depth sequence and CI restriction below)

<table>
<thead>
<tr>
<th>HUMANITIES:</th>
<th>SOCIAL SCIENCE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTS (ARTS, MUSIC)</td>
<td>COGS (COGNITIVE SCIENCE)</td>
</tr>
<tr>
<td>COMM (COMMUNICATION &amp; MEDIA)</td>
<td>ECON (ECONOMICS)</td>
</tr>
<tr>
<td>LANG (LANGUAGE)</td>
<td>PSYC (PSYCHOLOGY)</td>
</tr>
<tr>
<td>LITR (LITERATURE)</td>
<td>STSS (ANTHROPOLOGY)</td>
</tr>
<tr>
<td>PHIL (PHILOSOPHY)</td>
<td>STSS (SOCIOLOGY)</td>
</tr>
<tr>
<td>STSH (HISTORY)</td>
<td>STSS (SCIENCE &amp; TECHNOLOGY)</td>
</tr>
<tr>
<td>STSH (SCIENCE &amp; TECHNOLOGY)</td>
<td></td>
</tr>
<tr>
<td>WRIT (WRITING)</td>
<td></td>
</tr>
<tr>
<td>IHASS (INTERDISCIPLINARY HASS)</td>
<td>IHASS (INTERDISCIPLINARY HASS)</td>
</tr>
</tbody>
</table>

A depth sequence of two courses, each of ≥ 4 credits, from the same area code (ARTS, COGS, etc., but not including IHSS) where a minimum of one course (≥ 4 credits) is at an advanced level (2000+), and no courses are taken on a Pass/No Credit basis. STSS and STSH count as the same area code.

In addition, students are required to take at least one HASS course that is “CI” (Communications Intensive – a list of these courses is available from a link on the SIS home page, and here: [http://srfs.rpi.edu/update.do?artcenterkey=208&setappvar=page(1)]). This course may not be taken on a Pass/No Credit basis. This CI course is not required to be part of the 24 credits of HASS Core; that is, it may instead be an HASS CI course taken as a free elective.

Enrolled Rensselaer students wishing to take an HASS course for credit at another accredited institution must obtain prior approval for the course from the HASS Manager of Student Services. Applicants must furnish a syllabus (preferred) or the catalog description of the proposed course and a completed copy of Rensselaer’s Transfer Credit Approval form to the HASS Manager of Student Services to apply for approval.
Cross-listed STSS/STSH courses can be switched (between H and SS) after the course is taken by making a request to the Assistant Registrar.

Through careful planning and course selection, students may fulfill more than one requirement with a single course. For example, a 4000 level CI course can cover both the CI requirement and the 4000 level requirement. Another example is a 4000 level course that can satisfy the depth requirement as long as it shares the same prefix as another course at a lower level. If that course is communications intensive it can also be used to satisfy the CI requirement, thus fulfilling three requirements with a single course. However, even though a single course may be used to fulfill more than one requirement, Engineering students MUST STILL have 20 credits of HASS overall.

THE 2-CREDITS OF PD II SHALL BE SATISFIED AS FOLLOWS:

STSS -496# (number to be assigned each semester) course specifically titled PD2 Tech Issues and Solutions, will satisfy the PD II requirement.

A 4-credit PD II alternate course at any level (2000-4000) can be substituted for the 2-credit course. A list of these PD II alternate courses is available from a link on the SIS home page, and here: http://registrar.rpi.edu/update.do?artcenterkey=325.

A course used to satisfy the PD II requirement may not be taken on a Pass/No Credit basis.

In general, the PD II alternate course will be split as follows:
– two credits allocated to satisfy PD II
– the remaining credits allocated to free elective (or “Not Applied” to the degree if free elective credits have been completed)

With restrictions, the credits of a PD II alternate that are not allocated to PD II may be used to fulfill the 20-credits of HASS. These credits:
– cannot count toward the 4000 requirement,
– cannot count toward the depth requirement,

However,
– they can count toward the overall 20 credits of HASS,
– they can count toward the H and SS 8-credit minimums,
– they can count toward the HASS “CI” requirement.

If a student transfers in a course that is in name and course number equivalent to a PD II alternate it counts as that named HASS course, but it does not transfer in its status as a PD II alternate. The student would still be responsible for taking PD II or a PD II alternate at Rensselaer.

In the rare case that a student transfers in a course with Professional Development II content nearly identical to that of STSS -496# (number to be assigned each semester) course specifically titled PD2 Tech Issues and Solutions, they may furnish a syllabus of the transfer course and a completed copy of Rensselaer’s Transfer Credit Approval form to the Associate Dean of Engineering to apply for approval. Note that some courses in the Study Abroad program automatically satisfy the PD II requirement, as indicated in the transfer equivalency guide.

The School of Humanities, Arts, and Social Sciences (HASS) Associate Dean of Academic Affairs is: Mike Kalsher (kalshm@rpi.edu, Sage 4302)
The Assistant Registrar is: Kim Herkert (herkek@rpi.edu, Academy Hall 2713)
The Associate Dean of Engineering is: Kurt Anderson (anderk5@rpi.edu, JEC 3018)
Need an Extra Credit?

Q: What if I’m short 1-2 credits in H&SS?
A: Use a 4-credit PD II alternate, with 2 credits to PD II, 1-2 credits to H&SS as needed, and any remaining credits to free elective (or “Not Applied” if you have filled all of your free elective credits)

Q: What if I’m short 1-2 credits in Free Electives?
A: Use a 4-credit PD II alternate, with 2 credits to PD II and 2 credits to free elective

Q: Am I really free to choose my free electives?
A: Almost, but not quite – there are restrictions for “free” electives. To count as a free elective, one credit classes must be either
   – from the School of Engineering, or
   – graded classes (though you can take these on a Pass/No Credit basis),
   and
   – ROTC courses (USAF, USAR, USNA) must not total more than six credits
One credit classes that are graded Satisfactory / Unsatisfactory (S/U) that are not in the School of Engineering may not be used as free electives. For example, PHYS-1010 A Passion for Physics is a 1-credit S/U course that will not count as a free elective.

Options for 1 credit free electives
   – independent study (1 credit ≈ 3 hours/week ⇒ ~ 45 hours of work)
   – undergraduate research project (when taken for credit)
   – School of Engineering courses, such as
     - CHME-1010 Introduction to Chemical Engineering
     - CIVL-1100 Introduction to Civil and Environmental Engineering
     - CIVL-1200 Engineering Graphics for Civil Engineers
     - ENGR-1300 Engineering Processes (if not required for your major)
     - ENGR-1700 Intro to Better World Engineering
     - ISYE-1100 Introduction to Industrial and Systems Engineering
     - MANE-1100 Introduction to Nuclear Engineering
     - MANE-1090 Introduction to Mechanics Hardware and Software
     - MTLE-1200 Introduction to Materials Engineering
   – School of Science courses
     - ISCI-4510 Origins of Life Seminar (requires Junior standing or higher)
   – HASS courses
     - ARTS-2300 Rensselaer Orchestra
     - ARTS-2310 Rensselaer Concert Choir
     - ARTS-2360 Roots of Africa Music Ensemble
   – ROTC courses (USAF, USAR, USNA, up to six credits maximum)
   – most one-credit topics courses (see http://srfs.rpi.edu/update.do?artcenterkey=305)
<table>
<thead>
<tr>
<th>Checklist for HASS Core Requirements</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Distribution Requirement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you completed the Humanities distribution requirement?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Minimum of 8 credits in courses with a Humanities and/or IHSS departmental prefix)</td>
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<td></td>
</tr>
<tr>
<td><strong>NOTE:</strong> PD2 or alternative PD2 cannot be used</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you completed the Social Sciences distribution requirement?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Minimum of 8 credits in courses with a Social Science and/or IHSS departmental prefix)</td>
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<td></td>
</tr>
<tr>
<td><strong>NOTE:</strong> PD2 or alternative PD2 cannot be used</td>
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<tr>
<td><strong>Depth Requirement</strong></td>
<td></td>
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<tr>
<td>Have you completed two 4-credit HASS courses with the same departmental prefix, one of which is above the 1000 level?</td>
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</tr>
<tr>
<td>Example COMM 1510 and COMM 2210</td>
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<td></td>
</tr>
<tr>
<td><strong>NOTE:</strong> Pass/No credit is not allowed</td>
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<tr>
<td>Can be two courses at the 2000 level.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Communication Intensive (CI) Requirement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you completed at least one HASS course designated as CI?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Courses designated as CI are listed online at <a href="https://sis.rpi.edu/">https://sis.rpi.edu/</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NOTE:</strong> Transfer credit and Pass/No Credit are not typically allowed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4000 Level Requirement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you completed at least one 4 credit HASS course at the 4000 level?</td>
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<tr>
<td><strong>Restrictions:</strong> Are you meeting...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A maximum of three 1000 level courses may be applied to the HASS Core</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A maximum of eight transfer/AP/IB credits may be counted towards the HASS core</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A maximum of two courses may be taken Pass/No Credit</td>
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<td></td>
</tr>
<tr>
<td>Have you completed a total of 24 credits of HASS courses?</td>
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<td></td>
</tr>
<tr>
<td><strong>NOTE:</strong> Engineering is 22 and Architecture is 20</td>
<td></td>
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</tr>
<tr>
<td>If you have answered all of the questions with “Yes”, then you have met the HASS Core Requirements</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Arch

[https://info.rpi.edu/the-arch](https://info.rpi.edu/the-arch)

The Arch program is a unique approach for student development and growth that prepares students to meet the multifaceted challenges of the 21st century. The Arch will augment academic and experiential programs, and provide an even more robust-and transformative-educational experience for undergraduate students.

Students in the Class of 2022 will be required to participate in the Arch program in summer 2020. There is an exception process for athletes, ROTC, and a few other select cases.

The Arch is a restructuring of the Rensselaer academic calendar. It creates additional opportunities for experiential learning that complement curricular and co-curricular offerings at Rensselaer.

Rising juniors will attend a full summer semester, between their sophomore and junior years. Juniors then spend a semester away during either the fall or spring semester of their junior year, still only taking 8 semesters to graduate.

This will allow students to take advantage of the numerous experiential learning activities available off campus, including international travel, internships, co-ops, research opportunities, and engagement in community service projects.

**Academic Semester Experience**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>FALL</th>
<th>SPRING</th>
<th>SUMMER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>Required</td>
<td>Required</td>
<td>Optional</td>
</tr>
<tr>
<td>Sophomore</td>
<td>Required</td>
<td>Required</td>
<td>Required</td>
</tr>
<tr>
<td>Junior</td>
<td>*</td>
<td>*</td>
<td>Optional</td>
</tr>
<tr>
<td>Senior</td>
<td>Required</td>
<td>Required</td>
<td>Graduate</td>
</tr>
</tbody>
</table>

* option for an "away" semester
# Electrical Engineering Curriculum Checklist

<table>
<thead>
<tr>
<th>First Year</th>
<th>Second Year</th>
<th>Third Year</th>
<th>Fall or Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI-1100</td>
<td>ENGR-2050</td>
<td>ECSE-4900</td>
<td>ECSE-2010</td>
</tr>
<tr>
<td>Computer Science I</td>
<td>Intro. to Eng. Design</td>
<td>Multidisc. Capstone Design 1</td>
<td>Fields &amp; Waves I</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>ECSE-1010</td>
<td>MATH-2400</td>
<td>ECSE-4010</td>
<td>ECSE-2100</td>
</tr>
<tr>
<td>Intro. to ECSE 6</td>
<td>Intro. to Differential Eqns.</td>
<td>Professional Development III 1</td>
<td>Electrical Energy Systems</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>MATH-1010</td>
<td>PHYS-1200</td>
<td>ENGR-2050</td>
<td>ECSE-2110</td>
</tr>
<tr>
<td>Calculus I</td>
<td>Physics II</td>
<td>Intro. to Electronics</td>
<td>Microelectronics Tech.</td>
</tr>
<tr>
<td>4</td>
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<td>3</td>
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## Third Year

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th>ARCH SEMESTER</th>
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</thead>
<tbody>
<tr>
<td>ENGR-4010</td>
<td>MATH-2410</td>
</tr>
<tr>
<td>Professional Development III 1</td>
<td>Signals &amp; Systems</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Lab Elective 1,4</td>
<td>ECSE-2500 Engineering Probability</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Restricted Elective 1,4,5</td>
<td>Professional Development II 1,3</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Restricted Elective 1,4,5</td>
<td>Free Elective 2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Technical Elective 1,4,5</td>
<td>Free Elective 2</td>
</tr>
<tr>
<td>3-4</td>
<td>3-4</td>
</tr>
</tbody>
</table>

1  May be taken either term.
2  The free electives must total to at least 12 credits.
3  This course will be fulfilled from a list published at the start of each semester.
4  It is recommended that students use electives to form a concentration. See the ECSE Web page for concentration listings.
5  No more than one Independent Study course may be used to when satisfying the combined Technical and Restricted Elective requirements.
6  May be replaced with ENGR-1100 Introduction to Engineering Analysis

## 128 credits minimum

### RESTRICTED ELECTIVE
Any 3 or 4 credit hour course with the designation ECSE-4xxx or ECSE-6xxx.

### TECHNICAL ELECTIVE
Any 3- or 4-credit-hour course in engineering, mathematics, or science at the 4000 level or higher.

### LAB ELECTIVES
ECSE 4090 Mechatronics
ECSE-4130 Electric Power Eng. Lab
ECSE-4220 VLSI Design
ECSE-4760 Real-Time Cntrl & Comm.
ECSE-4770 Cptr H'ware Design
ECSE-4790 Microprocessor Systems
ENGR-4710 Adv. Manufacturing Lab I

### SCIENCE ELECTIVE
CHEM-1100 Chemistry I
BIOL-1010/1015 Introduction to Biology + Lab
BIOL-2120 Cell and Molecular Bio.

### MATH/SCIENCE ELECTIVE
A 4-credit-hour course (or a 3-credit-hour course with a 1-credit-hour laboratory) in Science (ASTR, BIOL, CHEM, ERTH, PHYS) or Mathematics (MATH, MATP). An independent Study course cannot be used to satisfy this requirement.
# Computer and Systems Engineering Curriculum Checklist

<table>
<thead>
<tr>
<th>First Year</th>
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</thead>
<tbody>
<tr>
<td>CSCI-1100</td>
<td>Computer Science I</td>
<td>4</td>
<td>CSCI-1200</td>
<td>Data Structures</td>
</tr>
<tr>
<td>ECSE-1010</td>
<td>Intro. to ECSE</td>
<td>4</td>
<td>MATH-1020</td>
<td>Calculus II</td>
</tr>
<tr>
<td>ENGR-1200 OR ENGR-1400</td>
<td>Eng. Graphics &amp; CAD</td>
<td>1</td>
<td>Science Elective</td>
<td>4</td>
</tr>
<tr>
<td>MATH-1010</td>
<td>Calculus I</td>
<td>4</td>
<td>Hum., Arts or Soc. Sci. Elective</td>
<td>4</td>
</tr>
</tbody>
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</thead>
<tbody>
<tr>
<td>CSCI-2200</td>
<td>Foundations of Comp. Sci.</td>
<td>4</td>
<td>CSCI-2300</td>
<td>Intro to Algorithms</td>
</tr>
<tr>
<td>ECSE-2610</td>
<td>Cptr. Comp. &amp; Operations</td>
<td>4</td>
<td>ECSE-2660</td>
<td>Cptr Arch. Nets, &amp; Op Sys</td>
</tr>
<tr>
<td>ENGR-2350</td>
<td>Embedded Control</td>
<td>4</td>
<td>MATH-2400</td>
<td>Intro. to Differential Equations</td>
</tr>
<tr>
<td>PHYS-1100</td>
<td>Physics I</td>
<td>4</td>
<td>PHYS-1200</td>
<td>Physics II</td>
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</table>

<table>
<thead>
<tr>
<th>Arch Semester</th>
<th>Third Year</th>
<th>Fall or Spring</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ECSE-2010</td>
<td>Electric Circuits</td>
<td>4</td>
<td>ECSE-2050</td>
</tr>
<tr>
<td>ENGR-2050</td>
<td>Intro to Eng. Design</td>
<td>4</td>
<td>ECSE-2410</td>
</tr>
<tr>
<td>MATH-2010</td>
<td>Multivar Calc &amp; Matrix Alg.</td>
<td>4</td>
<td>ECSE-2500</td>
</tr>
<tr>
<td>Hum., Arts or Soc. Sci. Elective</td>
<td>4</td>
<td>ECSE-2900</td>
<td>Enrichment Seminar</td>
</tr>
<tr>
<td></td>
<td>Free Elective</td>
<td>3-4</td>
<td></td>
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<tr>
<td></td>
<td>Hum., Arts or Soc. Sci. Elective</td>
<td>4</td>
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<tr>
<th>Fourth Year</th>
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</tr>
</thead>
<tbody>
<tr>
<td>ENGR-4010</td>
<td>Professional Development III</td>
<td>1</td>
<td>Professional Development II</td>
<td>2</td>
</tr>
<tr>
<td>ECSE-4900</td>
<td>Multidisc. Capstone Design</td>
<td>3</td>
<td>Free Elective</td>
<td>3-4</td>
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<tr>
<td></td>
<td>Computer Eng Elective</td>
<td>3-4</td>
<td>Free Elective</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>Restricted Elective</td>
<td>3-4</td>
<td>Free Elective (if needed)</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>Technical Elective</td>
<td>3-4</td>
<td>Hum., Arts or Soc. Sci. Elective</td>
<td>4</td>
</tr>
</tbody>
</table>

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1. May be taken either term.
2. The free electives must total at least 12 credits.
3. This course will be fulfilled from a list published at the start of each semester.
4. May be taken in the third year.
5. It is recommended that students use electives to form a concentration. See the ECSE Web page for concentration listings.
6. No more than one Independent Study course may be used when satisfying the combined Technical and Restricted Elective requirements.
7. May be replaced with ENGR 1100 Introduction to Engineering Analysis.

**RESTRICTED ELECTIVE**
Any 3 or 4 credit hour course with the designation ECSE-4xxx or ECSE-6xxx.

**TECHNICAL ELECTIVE**
Any 3- or 4-credit-hour course in engineering, mathematics, or science at the 4000 level or higher.

**COMPUTER ENGINEERING ELECTIVES**
ECSE-4670 Computer Comm. Networks
ECSE-4750 Computer Graphics
ECSE-4770 Computer Hardware Design
ECSE-4790 Microprocessor Systems
CSCI-4380 Database Systems
CSCI-4440 Software Design & Doc

**SCIENCE ELECTIVE**
BIOL-1010/1015 Introduction to Biology +Lab
BIOL-2120 Intro to Cell and Molecular Biology
CHEM-1100 Chemistry I
Registration

**When:** Registration for the Spring semester generally occurs in early November. Registration for the Fall semester occurs the preceding Spring, usually in early April. Exact dates are included in the Academic Calendar. (http://rpinfo.rpi.edu/)

**How:** Use the Student Information System (SIS) to register for your courses.

**Where:** There are no assigned rooms for registration. You can register for your classes using any computer with Internet access.

**Time tickets**

As a student at Rensselaer, you are issued a "time ticket," which assigns to you a specific window of time during which you may register for the following semester. Your time ticket will be sent to your RPI email address 3 - 4 weeks before registration. In addition to making the registration assignment, this email message notifies you of any existing ‘holds’ which may prevent you from registering if you do not resolve them.

Your registration time is assigned based on the number of credit hours you have earned as a student. The table to the right shows the range of earned credit hours associated with each class. Please note that classes which are still in progress or courses which have been graded as "incomplete" do not count towards earned credits.

**Degree Works**

Degree Works is a planning and advising tool, available only to undergraduate students, that allows you to track the progress you are making toward your Bachelor’s Degree, develop plans of study, and estimate future GPAs. You can access Degree Works by logging in from the main menu of the Student Information System (SIS).

**Registration FAQs**

Q: What do I do if a class I want to register for is full?
A: Meet with the instructor of the course and request to be admitted to the course. If the class is a core/required course every effort will be made to accommodate the request. If this is an elective course you may be asked to take it in a subsequent semester. Note that for Core Engineering courses (ENGR prefix) there will be an electronic waitlist available at the time of registration which is capped at ten students per section.

Q: How do I add/drop a course?
A: You may use the Student Information System (SIS) to add or drop courses. Generally speaking, from the beginning of the semester, you will have two weeks to add courses and eight weeks to drop them. Please refer to the Academic Calendar for specific add and drop deadline dates. Meet with your advisor about the changes you want to make.

If you wish to petition to add or drop classes after the published deadline, you may do so using a Late Add/Drop Form. Please note that after getting the instructors signature (if required), the form must also be approved by the Advising and Learning Assistance Center.
Rensselaer has a very strong Undergraduate Research Program. This is a program that allows students to work in a professor’s laboratory for credit or cash. On average, we have 30% of the class taking advantage of these opportunities during their Rensselaer career.

The program offers many advantages and the opportunity to:
- work on a project whose impact could be worldwide and can lead to patents and/or grants
- apply knowledge gained in the classroom to actual problems and research situations
- network with faculty beyond the classroom, opening the door to other opportunities
- gain critical leadership, team-building and critical thinking skills
- publish as an undergraduate
- receive course credit in a more dynamic way or supplement your income

How to find a project
Most URP projects are found through direct contact with the faculty member supervising the research. Most undergraduates find projects from faculty members from whom they have taken classes. A good place to start your search is to determine a faculty member with whom you may want to work on a project. Check the Research Areas page below to determine their field of research. If it sounds interesting, approach them about a possible URP project.

What if I have my own idea for a project?
You may work with a faculty member on an existing research project or on a project based on your own ideas. If you want to pursue your own project, find a faculty advisor who may be interested in your topic since you will be required to have a project advisor.

For credit or funding?
You can earn from one to four credit hours per semester for your participation in the URP. The number of credit hours you earn is negotiable between you and your faculty sponsor. If you choose this option you and your sponsor need to:
- Determine how many credit hours you will earn
- Decide exactly what is expected of you, such as your time commitment, the type of work to be submitted, etc.
- Agree on how your grade will be determined

In the past, students who have participated in the URP for pay have earned up to $3,000 per semester. The majority of participants earn $400 per semester. URP funding comes from two sources:
- Your sponsoring faculty member or department, and/or
- The Office of Undergraduate Education

The faculty sponsor or department is responsible for the financial support of your research. In addition, the Office of Undergraduate Education pays URP participants a maximum of $400 per semester in the form of matching funds.

Most projects expect eight to twelve hours of work per week.
The URP application must be completed electronically and then should be submitted to, Leslie Davis (JEC 6012); who:

- Checks the URP Application for completeness
- Fills out your payroll paperwork
- Forwards your application and payroll paperwork to the Office of Undergraduate Education for approval
- Will set up a schedule for reporting your hours. You must submit your hours to the Department Coordinator within the same payroll period that you worked. Please keep in mind that if you work and submit hours that exceed your funding allotment, you will not be paid for those hours. Pay checks are issued every other Friday.

**With whom can I work?**

You can certainly work with any professor who agrees to have you as a part of the research team. However, you may have a more exciting experience if you are working in an area of interest to you. The following page has the research areas of our department listed as well as faculty names for each area. Note that some faculty are listed in more than one area.

You should talk to each of your course professors about their research and about you becoming a part of their team. Do not be shy. Ask about a position. If you do not ask, the answer will certainly be ‘No’.
Research Areas

Communications, Information, and Signals and Systems

<table>
<thead>
<tr>
<th>Mahmood Hameed</th>
<th>Rich Radke</th>
<th>Ali Tajer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meng Wang</td>
<td>Mike Wozny</td>
<td>Birsen Yazici</td>
</tr>
</tbody>
</table>

Computer Engineering and Networking

<table>
<thead>
<tr>
<th>Al-Hussein Abouzeid</th>
<th>Ishwara Bhat</th>
<th>Mona Hella</th>
</tr>
</thead>
<tbody>
<tr>
<td>Koushik Kar</td>
<td>Yannick LeCoz</td>
<td>Jack McDonald</td>
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Control, Robotics and Automation, and Synthetic Biology

<table>
<thead>
<tr>
<th>Joe Chow</th>
<th>Agung Julius</th>
<th>Art Sanderson</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Wen</td>
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Electrophysical Devices and Systems

<table>
<thead>
<tr>
<th>Ishwara Bhat</th>
<th>Paul Chow</th>
<th>Partha Dutta</th>
<th>Mona Hella</th>
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<tbody>
<tr>
<td>Rena Huang</td>
<td>Robert Karlicek</td>
<td>Yannick LeCoz</td>
<td>James Lu</td>
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<tr>
<td>Jack McDonald</td>
<td>Shayla Sawyer</td>
<td>Paul Schoch</td>
<td>Fred Schubert</td>
</tr>
<tr>
<td>Michael Shur</td>
<td>Jian Sun</td>
<td>Tong Zhang</td>
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Energy Sources and Systems

<table>
<thead>
<tr>
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<th>Joe Chow</th>
<th>Partha Dutta</th>
<th>George Gela</th>
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<tbody>
<tr>
<td>Mona Hella</td>
<td>Rena Huang</td>
<td>Paul Schoch</td>
<td>Manaj Shah</td>
</tr>
<tr>
<td>Jian Sun</td>
<td>Ali Tajer</td>
<td>Luigi VanFretti</td>
<td>Meng Wang</td>
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Image Sciences

<table>
<thead>
<tr>
<th>Randolph Franklin</th>
<th>Qiang Ji</th>
<th>Rich Radke</th>
<th>Birsen Yazici</th>
</tr>
</thead>
</table>

Lighting Sciences & Systems

<table>
<thead>
<tr>
<th>Partha Dutta</th>
<th>Mahmood Hameed</th>
<th>Mona Hella</th>
<th>Rena Huang</th>
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</thead>
<tbody>
<tr>
<td>Robert Karlicek</td>
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<td>Fred Schubert</td>
</tr>
<tr>
<td>Manoj Shah</td>
<td>Michael Shur</td>
<td>John Wen</td>
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</tbody>
</table>
International Study

International Study, or Semester Abroad as it is sometimes called, is coordinated by the Office of International Programs (OIP), located in 4103 Walker Lab. For general information about International Study visit the OIP web site:

http://info.rpi.edu/international-programs

ECSE students who choose to participate in International Study should do so during the Junior year (5th or 6th semester). This means that the decision to study abroad should be made during the 4th semester of study so that a plan for the entire junior year can be made with the guidance of the student’s advisor. (For students with a substantial number of AP credits this may be the 3rd chronological semester.) Consultation Week in March is a good time to talk with your advisor about planning for International Study.

Students may also participate in a year-long fellowship program known as the Congress Bundestag Youth Exchange (CBYX) which offers the opportunity for intensive German language instruction, a semester of coursework at a German University, and a five-month internship placement in Germany. Participation in this program may delay graduation by a semester but the internship and language instruction will more than compensate for the delay.
Graduate School

The ECSE Department currently offers the MS, MEng, and PhD degrees in Electrical Engineering and in Computer and Systems Engineering. Students who wish to continue their studies beyond the BS degree should have a very good academic record and begin planning the application process in the 5th semester.

For more information about our graduate school, see the graduate school sections of the Institute catalog, as well as the ECSE Department web site. Also ask your advisor about grad school opportunities.

Students frequently think they cannot possibly afford graduate school. But the road to a PhD is essentially toll free. Most students are granted tuition waivers, in addition to receiving an assistantship stipend for living expenses. Students can graduate with a PhD without having added to their debt load.

If you are a very good student, consider applying to graduate school. It is easier to go directly from undergraduate studies to grad school than to wait for several years before enrolling.

Co-Terminal BS-MS Degrees: An Honors Program

ECSE students who have achieved exceptionally high grades in the first three years are invited to apply to the Co-Terminal Honors Program. The Co-Terminal Program allows Rensselaer undergraduates to complete their Bachelor’s degree within eight semesters (ten for B. Arch students), while maintaining their Rensselaer financial aid for up to an additional two semesters of graduate study. Students can apply to most Master’s Programs that Rensselaer offers, following the same curriculum as those who entered through the traditional route. Some applicants choose to pursue a Master’s degree in the same academic discipline, while others take a more interdisciplinary approach, applying to a graduate program outside of their undergraduate department. Students must apply before the end of the first semester of their senior year, but it is strongly recommended that students begin talking with the undergraduate advisor by their sophomore or junior year.

For more information, pay a visit to JEC 6012 and pick up a Co-terminal information packet.
Remarkable Bookmarkable Links

Advising and Learning Assistance Center [http://info.rpi.edu/advising-learning-assistance/](http://info.rpi.edu/advising-learning-assistance/)
When you need academic help or you’re willing to help others.

Career Development Center: [http://www.rpi.edu/dept/cdc/](http://www.rpi.edu/dept/cdc/)
Looking for an internship, co-op, or career? This is the place.

Course Catalog: [http://www.rpi.edu/academics/catalog/](http://www.rpi.edu/academics/catalog/)
It’s all here! Course descriptions, rules, and faculty names & interests.

ECSE Department: [https://ecse.rpi.edu/](https://ecse.rpi.edu/)
Department News & Information. Keep up to date with ECSE.

Exciting list of multidisciplinary challenges – just waiting for you.

Institute News & Links: [http://rpinfo.rpi.edu/](http://rpinfo.rpi.edu/)
Great home page with handy links. RPI calendar and news.

International Programs: [http://info.rpi.edu/international-programs](http://info.rpi.edu/international-programs)
Study abroad in Singapore or Denmark or Wales or …?

IEEE – The RPI Student Branch: [https://www.ecse.rpi.edu/~ieee/](https://www.ecse.rpi.edu/~ieee/)
Connect with students, researchers, and industry professionals in EE

Eta Kappa Nu (HKN) – [https://www.ecse.rpi.edu/hkn/index.html](https://www.ecse.rpi.edu/hkn/index.html)
The international honor society for electrical engineers.

Ready…Set… Calculus!: [http://calculus.math.rpi.edu/rsc/](http://calculus.math.rpi.edu/rsc/)
Challenging set of problems that test your pre-calculus skills, for students at all levels.

Forms for all occasions: Changing majors, transferring credits, etc

Student Information System: [http://sis.rpi.edu/](http://sis.rpi.edu/)
Jumping off page for registration & records, including Degree Works!
Frequently Asked ECSE Questions

Q: Do I have to repeat a required course in my major if I get a D in it?
A: No. Currently, a grade of D or D+ in any undergraduate course is considered passing.

Q: Can I take one of my Restricted or Technical Electives on a P/NC basis?
A: No. The P/NC option is only for Free Electives and one non-depth, non-Communication Intensive HASS course.

Q: Can I undo a P grade?
A: Maybe. But you need to notify the Registrar’s Office in writing by Friday of the 13th week of the semester in which you elected to use P/NC. However, once the P grade is on your transcript it is generally considered to be a permanent grade.

Q: I am a dual major and have two advisors. Do I need to meet with both of them before I can register for classes?
A: Yes. You will need to be cleared or ‘SAM-ed’ by each of your academic advisors before you can register.

Q: But my roommate is a dual major, too, and she only has one advisor. Why do I need two?
A: When the two majors, such as EE and CSE, are in the same department a single advisor can reasonably be expected to know both curricula. But with disparate majors, ECON and EE for example, it is best to have an advisor from each field of study.

Q: What if I am on co-op or study abroad when registration starts? How can I possibly meet with my advisor?
A: Electronic meetings are permitted under these circumstances. Send your advisor an email to alert him/her about your situation well before registration begins.

Q: I don’t know who my advisor is. How can I find out?
A: You may check who your current adviser is by logging into SIS. Under the student menu, under Curriculum Information, click on “View my Adviser and Curriculum Information.” Select the term you are looking for. Your advisor’s name will be listed in the row titled Primary Adviser.

Q: My Degree Works is messed up. I’ve heard that I won’t be able to graduate. What do I do?
A: First, be assured that your graduation status is determined by at least two human beings. Degree Works is a tool to help plan and monitor academic progress. It does not decide who can graduate. Second, print a copy of your current report and, using a pencil/pen, tidy up the report and show the edited version to your advisor. If your advisor agrees with your redacting, he/she can email the Registrar’s Office and have the changes made.

Q: I just began my senior year. How can I tell if I will graduate on time?
A: Meet with your advisor. He/she will help you assess your progress and plan for your last semester. If you want a second opinion, meet with David Nichols. (JEC 6046)

Q: Do I really have to take CompSci I (CSCI-1100)? I read the syllabus and I think I know it all already.
A: Some students do skip CompSci I and take the following course, Data Structures (CSCI-1200). However, you will have to replace the credits for CompSci I. For CSE majors and CSE/CS dual
majors the replacement course must be another CSCI course. For EE majors, the replacement can be any technical course (Science or Engineering).

Q: Can I use VLSI Design both as my Lab Elective and as a Restricted Elective?
A: No. One course can satisfy only one requirement.

Q: I want to take a course at a college near my home during the summer. How do I get it to transfer?

Q: I took Calculus I at another university but it is only 3 credits and RPI’s Calc I is 4 credits. Do I have to make up one credit of calculus?
A: No. But you will have to complete the proper number of total math credits. This may mean choosing a 4-credit course to satisfy a 3-credit requirement later on. For transferred 3-credit HASS courses you will need to complete the credit requirements of the HASS Core.

Q: How many courses can I transfer into Rensselaer?
A: If you entered Rensselaer as a first year student, you may transfer up to 32 credits. AP credits are considered as transfer credits. Therefore, if you have 5 AP courses (20 credits) you may transfer an additional 12 credits to Rensselaer through summer study. You are further restricted to a maximum 8 transferred and AP credits of HASS.

Q: But I want to study abroad and I have 6 AP courses already. Does that mean I can only take 8 credits abroad?
A: No. Courses taken at affiliated institutions are considered as courses taken at Rensselaer. For a list of affiliated institutions go to the Office of International Programs https://info.rpi.edu/international-programs