This is the 2022-2023 Student Handbook for the Electrical and Computer Engineering Department at Clarkson University. Clarkson’s ECE Department administers three ABET-accredited degree programs, Computer Engineering, Electrical Engineering, and Software Engineering. The first two degree programs reside wholly in the Electrical and Computer Engineering Department, while the Software Engineering Bachelors of Science degree program is an interdisciplinary program of the ECE Department in the School of Engineering and the Computer Science Department in the School of Arts and Sciences.

This handbook is viewable on our internal Department home page; https://intranet.clarkson.edu/academic/school-of-engineering/electrical-computer-engineering/
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I. ECE Department Mission and Objectives

The mission of the undergraduate programs in electrical, computer, and software engineering is to prepare students for careers as professional engineers, and to provide a base for graduate study and lifelong learning in new and developing specialties. To achieve this mission, we have developed sets of Program Educational Objectives for each of our programs, which in turn are supported by Program Outcomes.

Program Educational Objectives

Computer Engineering

PEO1: Graduates are expected to have advanced their careers as contributing professionals who apply hardware and software knowledge strengthened with analytical problem-solving skills in a wide variety of practical applications.

PEO2: Graduates are expected to have become well-rounded citizens who rely on their engineering education to serve society with an understanding of their professional and ethical responsibilities.

PEO3: Graduates are expected to have become effective and responsible collaborators who function well in diverse team environments. Some graduates will have emerged as leaders in their field.

PEO4: Graduates are expected to have exhibited intellectual growth and pursue continual innovation in computing systems. Those graduates who are extraordinarily talented and motivated to pursue a graduate degree should be successful at entering and completing graduate studies.

Electrical Engineering

PEO1: Electrical engineering graduates are expected to apply fundamental electrical engineering knowledge and analytical problem-solving skills in a wide variety of practical applications.

PEO2: Electrical engineering graduates are expected to become well-rounded citizens who rely on their electrical engineering education to serve society with an understanding of their professional and ethical responsibilities.

PEO3: Electrical engineering graduates are expected to contribute their Electrical Engineering expertise effectively as members of engineering teams in diverse environments through communications, teamwork and leaderships.

PEO4: Electrical engineering graduates are expected to continuously engage in professional development, to exhibit intellectual growth, and to pursue life-long learning through educational endeavors and participation in professional societies and organizations.
**Software Engineering**

PEO1: Graduates of the Software Engineering Program are expected to have advanced their careers as contributing professionals in the software industry who apply fundamental software engineering knowledge and analytical problem-solving skills in a wide variety of practical applications.

PEO2: Graduates of the Software Engineering Program are expected to have become well-rounded citizens who rely on their education to serve society with an understanding of their professional and ethical responsibilities.

PEO3: Graduates of the Software Engineering Program are expected to have become effective and responsible collaborators who function well in diverse team environments in the software industry. Some graduates will have emerged as leaders.

PEO4: Graduates of the Software Engineering Program are expected to have exhibited intellectual growth and pursue continual innovation in software engineering. Those graduates who are especially talented and motivated to pursue a graduate degree should be successful at entering and completing graduate studies.

**Learning Outcomes**

*Computer Engineering-Electrical Engineering-Software Engineering*

Upon graduation, Clarkson Computer, Electrical and Software Engineering students are expected to possess:

1. An ability to identify, formulate, and solve engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply both analysis and synthesis in the engineering design process, resulting in designs that meet desired needs.
3. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
4. An ability to communicate effectively with a range of audiences.
5. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
6. An ability to recognize the ongoing need for additional knowledge and locate, evaluate, integrate, and apply this knowledge appropriately.
7. An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.
In assessing the relationship of these Learning Outcomes to our Program Educational Objectives (PEO), the ECE faculty has identified the following minimum linkages:

<table>
<thead>
<tr>
<th>PEO</th>
<th>Program Educational Objective Summary</th>
<th>Related Learning Objective(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEO 1</td>
<td>Those that foster the technical proficiency necessary to become contributing professionals.</td>
<td>1,2,3,4,5,7</td>
</tr>
<tr>
<td>PEO 2</td>
<td>Those that foster the attainment of well-rounded citizen engineers</td>
<td>4,7</td>
</tr>
<tr>
<td>PEO 3</td>
<td>Those that foster the abilities necessary to become effective and responsible collaborators.</td>
<td>3,4,5</td>
</tr>
<tr>
<td>PEO 4</td>
<td>Those that foster continued intellectual growth.</td>
<td>4,6,7</td>
</tr>
</tbody>
</table>

II. Choosing a Major

There are many choices of major at Clarkson— it is essential that you find the major that best suits both your interests and your aptitudes.

Computer Engineering, Electrical Engineering, Software Engineering, and Computer Science are related fields — so what are the differences among them? Electrical Engineering is a broad field with many different specializations. At Clarkson, our major areas of specialization within Electrical Engineering are Communications, Computer Hardware, Computer Software, Control and Robotics, Microelectronics, Power Equipment and Systems, and Signal Processing. We also have a keen interest and expertise in the multi-disciplinary area of Biomedical Engineering.

To further examine each program of study:

- The Electrical Engineering (EE) program has required courses in multiple areas and students can choose one of these areas to develop a depth of understanding through area elective courses.

- The Computer Engineering (CompE) degree is a unique mix of hardware and software topics that allow students to become proficient in both areas, and learn how to develop and design integrated hardware/software systems.

- The Software Engineering (SoftE) program has more emphasis on the software life cycle, software reliability, and managing the software development and application process. Computer Science requires more theory and liberal arts than Computer Engineering or Software Engineering, and less breadth in the engineering sciences. All three computer degree programs provide a broad and solid exposure to computer software.
It is not unusual to find overlap in industry. For example, computer hardware designers often come from either Electrical Engineering or Computer Engineering backgrounds. Those who hold the job title of software engineer hold degrees in computer engineering, software engineering, computer science, or electrical engineering. You will find people with other backgrounds as well. Many job titles are suitable for people from any one of these disciplines.

It is also not unusual for students to take some time to decide between these degree programs. In this case, it is good to keep the following things in mind:

1. The freshman year curriculum is common for all engineering programs. This means that no matter which direction you choose, everyone will have the same foundation.

2. There are also common courses in the sophomore year curricula that are included in all three degree programs. Those are MA232, EE262, EE264, and ES250. You will be ready to take the required spring semester coursework in all three majors with these four courses.

3. If you are considering Computer Engineering and Software Engineering, you should take MA 211.

4. If you are undecided among these majors in the spring semester, sophomore year, take the Computer Engineering courses (EE 221, EE324, EE 260, EE 211, and MA 231). With these courses, you will be on schedule for the EE and COMPE degrees, and you will be short only a Common Experience course in the SOFTE program.

You will likely have decided on your major by your sophomore year. If you are not sure at this point, it is highly recommended that you discuss your situation in detail with your advisor or the Department Chair or Executive Officer. While it may not be impossible to keep on schedule for two of the three majors through careful choices there is a strong likelihood that you will be taking only one or two courses that do not contribute to your ultimate major.

Note that there may not be a single correct choice for you—for example, if you have interests in computer hardware, either the COMPE or EE degree is a perfectly acceptable alternative, and your final decision will likely involve issues other than hardware—the software courses of the COMPE degree versus the signal processing courses of the EE degree, for example.

Another option for those with broad interests is to consider adding a minor program of study to their major. The ECE Department offers minors in Electrical Engineering and Software Engineering, with requirements posted on the ECE Department web site. Additional minors across the University also complement our major courses of study. Details can be found in the University catalog.
III. Being a Student at Clarkson in the ECE Department

Introduction

You may have already heard from friends, family members, or guidance counselors that you will experience a different form of education when you enter college; it is not like high school. Now, that does not imply that you should be apprehensive about college, but it does suggest that you embrace the new environment and learn to adjust.

Self-reliance

During the next four years, you should gain more and more self-reliance. But self-reliance does not mean that you have to do everything yourself; it does mean that you ask for help when you need it and stand on your own two feet when you do not. Developing self-reliance should be one of your goals in college.

Professionalism

One adjustment to college is to think of yourself as a student – professional, a student who will be a professional engineer. Like any professional position, there are certain expectations that you must fulfill. The best way to meet these expectations is to keep on top of things; do not let yourself fall behind. Also, go to classes prepared; have all your work and reading done, and have questions ready. Participate in the discussions, practice the problems the professors assign and push yourself to do your best. Make the best of every opportunity presented to you. You are building the base for your professional career; build a strong base.

The professors may not always cover everything you need to know in class, so study beyond the lecture. You will find that the professors are more like guides, and you have to be both the teacher and the student more than you had to in high school. That is not saying they do not want to help or teach; they are just forcing you to take a stronger and more active part in your education. They prepare you for the professional world where there are no apparent teachers. While discussing course material, you need to realize that, in most cases, individual professors do not establish the content of courses. To complete successfully with your peers once you enter the workforce, you need to achieve a basic level of competence in many areas. Many courses build upon other courses to achieve this basic level. Therefore, certain topics must be covered in courses to ensure your ability to complete them successfully. While you may feel some courses tax your talents, the faculty strives to give you the best opportunities for your careers.

Near the end of each semester, you will receive instructions to evaluate the instructor and the course. This is done in myCU. Your constructive comments regarding the course and the professor are important. The faculty benefits from student feedback and improves the course when they teach again. Furthermore, each professor's salary, tenure, and promotion are influenced by the information on the course evaluation forms. In addition to your evaluations, there is a constant peer review of faculty in our Department. The review consists of assessments by other faculty who sit in on classes and meet with groups of students in the classes to discuss
the teaching abilities of the faculty members under review. Reports from these reviews are used as a basis to improve teaching performance if necessary.

**Code of Ethics**

Clarkson values personal integrity. Matriculation at Clarkson carries with it the obligation that a student will not claim as his or her own, the work of another, or any work that has not been honestly performed, will not take any examination by improper means, and will not aid and abet another in any dishonesty.

Violations of the Code of Ethics are regarded as the most serious offenses and render the offenders liable to severe disciplinary action. Alleged violations of the Code of Ethics are dealt with according to the section on the Academic Integrity Committee found in "Clarkson's Regulations", which you can find on the web by selecting “Regulations” at: [https://www.clarkson.edu/student-achievement-services-sas/clarkson-regulations](https://www.clarkson.edu/student-achievement-services-sas/clarkson-regulations)

In addition to the University’s Code of Ethics, professional societies have adopted codes of ethics for those who practice engineering in their respective disciplines. The Code of Ethics of the Institute of Electrical and Electronics Engineers is located online at: [https://www.ieee.org/about/corporate/governance/p7-8.html](https://www.ieee.org/about/corporate/governance/p7-8.html)
IV. Rules, Regulations and Pertinent Student Information

The Clarkson Catalog

The Clarkson Catalog is the rule book for your curriculum and the contract between you and the University regarding what it will take to earn your degree. The Catalog that applies to you is the one that is in place during the academic year at the time you enter Clarkson as an Undergraduate student. This document is available online at: https://www.clarkson.edu/clarkson-catalog

University Regulations

The regulations that you are expected to follow are in a publication of the College Regulations that you received electronically upon entering the University. Undergraduate Regulations may be viewed on the internet here: https://www.clarkson.edu/student-administrative-services-sas/clarkson-regulations

Course List and Course Descriptions

The most current listing of courses offered at Clarkson can be found online at: https://intranet.clarkson.edu/student-life/sas/classes-schedules/

Telephone Directory

On-campus telephone numbers can be found online at: https://intranet.clarkson.edu/directory/Department/
V. Advisors and Advising

Introduction

The ECE Department has assigned each student an academic advisor and that advisor is a faculty member of the ECE Department. The faculty photos and office numbers are posted online at: https://www.clarkson.edu/academics/engineering/electrical-computer-engineering/faculty-staff. You can also find room numbers on the board on the wall outside of the ECE Office 156 CAMP.

If you wish to change your advisor, perhaps because you have developed career interests that overlap those of another member of the ECE faculty, or for any other reason, you may do so. To request a change please contact the ECE Department Office.

Advisor - Student Relationship

Visit your advisor more frequently than once a semester. Your advisor will become familiar with you, and you with your advisor. This will make the advising process more accessible and more productive. For example, your advisor will be able to write more effective employment recommendations for you if they know you well. Advisors want to help, but it is important to note that they also have many other things to do. Like you, their time is limited. So, please contact them ahead of time for an appointment. This enables your advisor to prepare for the meeting with you. Remember -- when they are out of their office or out-of-town it is usually on professional business that increases the University’s reputation and, therefore, the value of your degree.

What is the Advisor's Responsibility?

The advisor is there to help you; help may include career advice or guidance in choosing courses. Each advisor will meet with each advisee during course selection week. The advisor will typically schedule appointments with you during the designated advising period. This could be through a sign-up sheet posted outside their office door the week prior or through an online meeting scheduling tool (often using the Google calendar appointment sign-up tool). It is always good to contact them to see how they would like to schedule your appointment. The advisor prepares for these meetings by knowing the curriculum well. That means knowing substitute courses, options, and the best courses for a specific area of interest. Finally, the advisor must know you, the student. Understanding your goals and interests will help them to suggest courses that suit you. After discussing your curriculum, the advisor will electronically acknowledge that the advising meeting has taken place, authorizing you to self-enroll in the selected courses. During this meeting, you should expect to fill out a course enrollment worksheet, which lists the courses to be taken in the next semester. At the end of the meeting, the advisor will electronically acknowledge that the advising meeting has taken place thereby authorizing you to self-enroll in the selected courses.
What is the Student's Responsibility?

The student, not the advisor, is responsible for meeting Clarkson's graduation requirements. Therefore, begin now to plan your Clarkson career. Then you can go into the course selection meeting with your choices for classes pre-selected. Try to see your advisor early in the semester so many details and problems can be ironed out before the busy course selection period. Course selection for the fall term is held in March and for the spring term in October. Consult the curriculum sheet relevant to you major. All courses offered by the ECE Department are posted at course selection time. Planning is often of particular importance to transfer students. Within the two and sometimes fewer years that transfer students need to complete degree requirements, a carefully planned sequence of courses is often necessary to take the prerequisite courses required for more advanced courses of particular interest. Each semester the course offerings can be found here: https://intranet.clarkson.edu/student-life/sas/classes-schedules/

Degree Audit

An essential part of the PeopleSoft academic system is the degree audit. This degree audit will become increasingly important as you progress towards your degree. You should make a practice of checking your degree audit every semester to make sure that the course work that you have taken is marked as satisfying the degree requirements as you expect. If there is any discrepancy between the degree audit software and your understanding of the course requirements, you should discuss this with your advisor as soon as possible to determine the correct solution. In particular, you should check the status of any advanced placement courses, transfer courses, and directed study courses in the degree audit software.
VI. Curricula

This section contains information on the curricular requirements of the Computer Engineering, Electrical Engineering, and Software Engineering degree programs.

The first two semesters are identical in the undergraduate engineering curricula. Therefore, students may defer the selection of a major field of study until the sophomore year. In the junior year, a significant amount of specialized material is incorporated into each curriculum. In the senior year, coursework is concentrated in the student’s chosen field. Courses in humanities and social sciences are taken throughout the four-year program.

For students with interests across these areas, there is not necessarily a single “correct” choice—many positions in the computer hardware area, for example, can be filled by both computer engineers and electrical engineers. There are also minors available in electrical engineering and software engineering, which can broaden your background to cover your range of interest. For further information, see the section of this handbook entitled Making a Choice, or consult with your advisor.

Engineering Electives

Area elective (Electrical Engineering) and professional elective (Computer and Software Engineering) courses enable a student to create a program of study that satisfies their particular interests. These courses are also intended to provide both depth and breadth in the student's preparation for professional practice.

Elective Specifics in Regards to Program

By and large area and professional Electives are 300 level and above courses with an EE designator or BR400. This is true for all three of the ECE programs. However, in the Electrical Engineering Program and the Software Engineering Program, there are also a few other key things to remember:

1. Those in the Electrical Engineering program are required to take five area electives. These must consist of at least two courses in the same depth area, with at least one of the five being different. Other courses outside of the EE designator can be considered as an area elective on a case-by-case basis. This is on the condition that both the student and advisor agree that the course is professionally relevant, is of reasonable rigor, and does not contain a significant amount of material already in the student’s program, with the Department Chair or the Executive Officer making the final endorsement. The Area Elective Plan (given by the Department Administration) needs to be processed and filed in the student’s Departmental file.
2. Professional electives for the Software Engineering program may be any 300 level or above course designated as EE, CS, MS, AS, or BR400, ME444, COMM442, COMM444, or CS242.

**ES or Science Elective**

An ES or Science Elective course is required for those in either the Electrical Engineering or Computer Engineering program. In this case, ES courses are preferred; however, students who switched from another major may use one of their previously required science courses to fulfill this requirement. i.e. BY140, BY160, or CM132. For Electrical Engineering, there is an additional ES course required as well. Examples of eligible ES courses are listed below. Please note that some of these courses may have prerequisites.

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>When Typically Offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>220</td>
<td>Statics</td>
<td>Every Semester</td>
</tr>
<tr>
<td>222</td>
<td>Strength of Materials</td>
<td>Every Semester</td>
</tr>
<tr>
<td>223</td>
<td>Rigid Body Dynamics</td>
<td>Spring and Summer Semesters</td>
</tr>
<tr>
<td>241</td>
<td>Solid-State Material Systems for Advanced Technologies</td>
<td>Fall Terms</td>
</tr>
<tr>
<td>260</td>
<td>Materials Science and Engineering I</td>
<td>Every Semester</td>
</tr>
<tr>
<td>330</td>
<td>Fluid Mechanics</td>
<td>Every Semester</td>
</tr>
<tr>
<td>340</td>
<td>Thermodynamics</td>
<td>Every Semester</td>
</tr>
<tr>
<td>360</td>
<td>Materials Science and Engineering II</td>
<td>Spring Semesters</td>
</tr>
<tr>
<td>361</td>
<td>Fine Particle Technology</td>
<td>Fall Semesters</td>
</tr>
<tr>
<td>365</td>
<td>Polymer Materials</td>
<td>Even Fall Semesters</td>
</tr>
<tr>
<td>400</td>
<td>Numerical and Engineering Computing</td>
<td>Given When Needed</td>
</tr>
<tr>
<td>402</td>
<td>Biomedical Engineering Fundamentals</td>
<td>Fall Semesters</td>
</tr>
<tr>
<td>422</td>
<td>Signal Processing and Applications</td>
<td>Even Fall Terms</td>
</tr>
<tr>
<td>432</td>
<td>Risk Analysis</td>
<td>Spring Semesters</td>
</tr>
<tr>
<td>452</td>
<td>Biomaterials and Biomedical Engineering Applications</td>
<td>Even Spring Terms</td>
</tr>
<tr>
<td>459</td>
<td>Electrochemical Processes for Sustainability</td>
<td>Even Spring Terms</td>
</tr>
<tr>
<td>464</td>
<td>Corrosion of Metals</td>
<td>Fall</td>
</tr>
<tr>
<td>485</td>
<td>Neural Engineering</td>
<td>Fall Semesters</td>
</tr>
</tbody>
</table>

**Clarkson Common Experience**

The Clarkson Common Experience provides a common set of learning expectations and outcomes for all Clarkson students. Each student must complete a set of courses and professional experience to achieve these outcomes. Course work consists of required and elective courses both from within a student's major field and from across the spectrum of all disciplines in the University.

In particular, the Clarkson Common Experience impacts the graduation requirements in three specific areas: Knowledge Areas, Communications, and Professional Experience. Other components of the Common Experience are woven into the respective curricula of our degree...
Knowledge Area.

Common Experience includes six specific Knowledge Areas. Students are required to take at least five courses that have Knowledge Area designators, and the five courses must cover at least four of the six Knowledge Areas listed below:

- Contemporary/Global Issues (CGI)
- Cultures and Societies (CSO)
- Imaginative Arts (IA)
- Economics/Organizations (EC)
- Science, Technology, and Society (STS)
- Individual and Group Behavior (IG)

Additionally, at least one of these five courses must be a university course with two Knowledge Area designators. University Courses are multidisciplinary and address learning outcomes in two of the six areas of knowledge, and students observe and participate in the interaction of disciplines.

Furthermore, the Economics/Organizations Knowledge area is required in The Coulter School of Engineering’s core engineering curriculum, and it is strongly recommended that course be EC 350 Micro- and Engineering Economics.

The Knowledge Area/ University courses are essential for every student’s program. These courses should be selected carefully for two reasons—first, to get the maximum benefit from these courses, and second, so that you meet graduation requirements by choosing the courses to meet the program requirements. This should be done in consultation with your academic advisor. However, the ultimate choice lies with you—as does the responsibility for ensuring that you meet graduation requirements.

Communications Requirement

Good communication abilities are essential for all engineers. The development of excellent communication skills is mainly taught, practiced, and documented in courses that have either one or two communication points. A total of six communication points are required for graduation. These communication points will be obtained within your required engineering courses. At the time of this writing, the following can be expected in our three majors:

- Computer Engineering: 7 points (ES110, EE211, EE264, EE321, EE365, EE416, EE464)
- Electrical Engineering: 6 points (ES110, EE211, EE264, EE311, EE321, EE412)
- Software Engineering: 6 points (ES110, MA211 (2), EE264, EE418 (2))

Your responsibility is to make sure that you have completed six communication points before graduation.
Professional Experience

Every Clarkson student must complete a Professional Experience to fulfill degree requirements.

The Professional Experience requirement of the Clarkson Common Experience curriculum is the following: All students participate in a project-based professional experience such as co-op, internship, directed research, or community project related to the student's professional goals.

Engineering majors can fulfill this requirement by one of the following:

a) A meaningful professional experience, such as an internship in an industry or a government facility or ROTC field training. These activities would typically take place during the summer, but could be a semester co-op assignment.

b) Participation in an independent research project under the direction of a qualified mentor. This could be at Clarkson or elsewhere, could be a summer experience or during the academic year, for pay or course credit.

c) Serving as a leader or taking on a role with significant responsibility in a professional or community service organization or another volunteer activity.

d) Taking on a role with significant responsibility in an appropriate team project. For example, this could be a part of a project such as those that fall under the SPEED program or other similar experiences.

e) Any other activity or collection of activities where a student can demonstrate that they have met the objectives of the Professional Experience.

ES 499 Professional Experience for Engineering Majors, is a 0-credit pass/no entry course used to matriculate the Professional Experience requirement. Students will typically enroll in ES499 during the junior or senior year.

The Career Development Center provides help and guidance for finding appropriate co-ops and internships. Often it is before summer that this becomes most critical. Regardless of choice made, you must document this experience as part of the following process and pass ES499.

The reporting of professional experience is done online through Handshake. The steps you must follow are below.

1. Log into Handshake (http://clarkson.joinhandshake.com) using the same sign-on you would use for PeopleSoft or Moodle.
2. Click "Career Center" in the top right corner, then "Experiences”, and "Request an Experience."
3. This will bring you to the form you will fill out completely document your experience entirely.
4. Once you submit the experience, you will receive an email outlining your next steps.

Co-op Students Only: Your paperwork should include an Academic Plan form (located under the Career Center, Resources section, located at the bottom center of the page), completed through a meeting with your advisor. If you do not have all of this right away, you can always
fill out as much information as possible, "save as draft", and then complete the paperwork at a later date. Your academic plan should be completed either before you go on co-op or, at the latest, just as you start your semester on co-op.

Choosing among the Professional Experience Options: How you fulfill your professional experience requirement is your choice. For example, undergraduate research may be preferred by students who plan to go directly to graduate school. However, it is common for our students to develop an interest in and want to dig deeper into the subject than is allowed in the standard undergraduate course offerings. This can be done through directed study, undergraduate research, or finding an internship offering industrial experience in that area.

The ECE Department encourages its students to complete an internship or co-op working with practicing engineers before graduation. These experiences can be valuable in shaping future choices on the area of ECE that you prefer to work in, the type of engineering career that you want to pursue, and the professional attitudes and demeanor that are part of being a successful and productive professional. Therefore, by the sophomore year at the latest, you should be developing a plan to seek and obtain an internship or other professional experience option. A part of the initial planning process is registering with the Career Center and attending the Career Fairs. While internships and co-ops may be more commonly offered to upper-level students, we regularly find students who obtain internships after their sophomore or freshmen year.

There are several other options that you may wish to explore. For example, government laboratories regularly offer internships to undergraduate engineering students. You can learn of these opportunities through web searches or posters displayed around the CAMP building.

In the summers, research projects are commonly available at Clarkson and other universities—these are widely termed REU’s (Research Experience for Undergraduates). These allow an extended period when you can focus solely on learning and expanding on the state of knowledge in an area. These can be invaluable experiences, particularly for our students who are thinking about going to graduate school. You will find these opportunities posted around your Department early in the spring semester.
## Computer Engineering Curriculum
### Class of 2021 -

<table>
<thead>
<tr>
<th>FALL____</th>
<th>GR</th>
<th>FRESHMAN</th>
<th>SPRING____</th>
<th>GR</th>
<th>FRESHMAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM131 Chemistry I</td>
<td>(4 credits)</td>
<td>CS141 Intro to Comp Sci.</td>
<td>(4 credits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PH131 Physics I</td>
<td>(4 credits)</td>
<td>PH132 Physics II</td>
<td>(4 credits)</td>
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<td>(3 credits)</td>
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<tr>
<td>UNIV190 Clarkson Seminar</td>
<td>(3 credits)</td>
<td>ES110 Engineering and Society (STS)(C1)</td>
<td>(3 credits)</td>
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<tr>
<td>FY100 Transitions</td>
<td>(1 credit)</td>
<td>ES100 Intr. Engr. Use Comp #</td>
<td>(2 credits)</td>
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<tr>
<td>MA232 Differential Eqns.</td>
<td>(3 credits)</td>
<td>MA231 Calculus III</td>
<td>(3 credits)</td>
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<tr>
<td>EE262 Intro Obj. Ornt. Prgrm &amp; Sftw Des</td>
<td>(3 credits)</td>
<td>EE211 Elec. Engr. Lab I (C1)</td>
<td>(3 credits)</td>
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</tr>
<tr>
<td>EE264 Intro to Digital Design (C1)</td>
<td>(3 credits)</td>
<td>EE221 Linear Circuits</td>
<td>(3 credits)</td>
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</tr>
<tr>
<td>ES250 Electrical Science</td>
<td>(3 credits)</td>
<td>EE260 Embedded Systems</td>
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<td>KA/UC Elective*</td>
<td>(3 or 4 credits)</td>
<td>KA/UC Elective* (Economics KA)</td>
<td>(3 credits)</td>
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<tr>
<td>STAT383 Applied Statistics I</td>
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<td>MA211 Foundations</td>
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<tr>
<td>EE321 Syst. &amp; Sig Processing (C1)</td>
<td>(3 credits)</td>
<td>EE316 Computer Engr. Jr Lab</td>
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<tr>
<td>EE341 Microelectronics</td>
<td>(3 credits)</td>
<td>EE466 Computer Architecture</td>
<td>(3 credits)</td>
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<tr>
<td>EE363 Sftw Comp and Generic Prog</td>
<td>(3 credits)</td>
<td>EE462 Software Syst. Arch</td>
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<td>EE365 Adv Dig Circuit Design (C1)</td>
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<td>(3 credits)</td>
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<td>EE464 Digital Systems Design (C1)</td>
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<td>ES or Science Elective</td>
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<td>CS Elective</td>
<td>(3 credits)</td>
<td>Undesignated Elective</td>
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<td>KA/UC Elective*</td>
<td>(3 credits)</td>
<td>Undesignated Elective</td>
<td>(3 credits)</td>
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</table>
Computer Engineering Prerequisites

The following flowchart and table display the prerequisites of required Computer Engineering courses.

**Computer Engineering Prerequisite Flowchart**

<table>
<thead>
<tr>
<th>Class</th>
<th>Course</th>
<th>Course</th>
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<td>Sophomore Fall</td>
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<td>EE 262</td>
<td>EE 264</td>
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<td>Junior Fall</td>
<td>STAT 389</td>
<td>EE 321</td>
<td>EE 363</td>
<td>EE 365</td>
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<td>Junior Spring</td>
<td>MA211</td>
<td>EE361</td>
<td>EE462</td>
<td>EE316</td>
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<td>Prof Elective</td>
<td>KA Elective</td>
<td>Undsgn Elective</td>
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## Electrical Engineering Curriculum
### Class of 2021 –

**FALL GR FRESHMAN** | **SPRING GR FRESHMAN**
--- | ---
CM131 Chemistry I | (4 credits) CS141 Intro to Comp Sci. | (4 credits)
PH131 Physics I | (4 credits) PH132 Physics II | (4 credits)
MA131 Calculus I | (3 credits) MA132 Calculus II | (3 credits)
UNIV190 Clarkson Seminar | (3 credits) ES110 Engineering and Society (STS)(C1) | (3 credits)
FY100 Transitions | (1 credit) ES100 Intro Engr. Use Comp # | (2 credits)

**FALL GR SOPHOMORE** | **SPRING GR SOPHOMORE**
--- | ---
MA232 Differential Eqns. | (3 credits) MA231 Calculus III | (3 credits)
EE262 Intro Obj. Ornt Prgm & Sftw Des | (3 credits) EE211 Elec. Engr. Lab I (C1) | (3 credits)
EE264 Intro to Digital Design (C1) | (3 credits) EE221 Linear Circuits | (3 credits)
ES250 Electrical Science | (3 credits) EE260 Embedded Systems | (3 credits)
KA/UC Elective* | (3 or 4 credits) EE324 Dynamical Systems | (3 credits)

**FALL GR JUNIOR** | **SPRING GR JUNIOR**
--- | ---
STAT383 Applied Statistics I | (3 credits) Math Elective | (3 credits)
EE311 Elec Engr. Lab II (C1) | (3 credits) EE381 EM Fields and Waves | (3 credits)
EE321 Syst. & Sig Processing (C1) | (3 credits) Area Elective | (3 credits)
EE331 Energy Conversion | (3 credits) ES or Science Elective | (3 credits)
EE341 Microelectronics | (3 credits) KA/UC Elective* (Economics KA) | (3 credits)
ES499 Sec03 Professional Experience |  |  |

**FALL GR SENIOR** | **SPRING GR SENIOR**
--- | ---
EE412 Elec Engr. Sr. Lab (TECH)(C1) or Area Elective | (3 credits) Area Elective or EE412 Elec Engr. Sr. Lab (TECH)(C1) | (3 credits)
Area Elective | (3 credits) Area Elective | (3 credits)
Area Elective | (3 credits) KA/UC Elective* | (3 credits)
ES Elective | (3 credits) Undesignated Elective | (3 credits)
KA/UC Elective* | (3 credits) Undesignated Elective | (3 credits)
Electrical Engineering Prerequisites

The following flowchart and table display the prerequisites of required Electrical Engineering courses.

**Electrical Engineering Prerequisite Flowchart**

<table>
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<tr>
<th>Freshman Fall</th>
<th>MA 131</th>
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<th>CM 131</th>
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<td>EE 260</td>
<td>EE 324</td>
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<td>STAT 389</td>
<td>EE 311</td>
<td>EE 321</td>
<td>EE 331</td>
<td>EE 341</td>
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<td>Junior Spring</td>
<td>EE 381</td>
<td>MA Ellective</td>
<td>Area Ellective</td>
<td>ES/Sci Ellective</td>
<td>KA Ellective</td>
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<td>EE 412</td>
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<td>Area Ellective</td>
<td>KA Ellective</td>
<td>Undsgn Ellective</td>
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<td>FALL</td>
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<td>SPRING</td>
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<tr>
<td>CM131 Chemistry I</td>
<td>(4 credits)</td>
<td>CS141 Intro to Comp Sci.</td>
<td>(4 credits)</td>
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<td>PH131 Physics I</td>
<td>(4 credits)</td>
<td>PH132 Physics II</td>
<td>(4 credits)</td>
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<tr>
<td>MA131 Calculus I</td>
<td>(3 credits)</td>
<td>MA132 Calculus II</td>
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<tr>
<td>UNIV190 Clarkson Seminar</td>
<td>(3 credits)</td>
<td>ES110 Engineering and Society (STS) (C1)</td>
<td>(3 credits)</td>
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<tr>
<td>FY100 Transitions</td>
<td>(1 credit)</td>
<td>ES100 Intr. Engr. Use Comp #</td>
<td>(2 credits)</td>
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<tr>
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<tr>
<td>MA232 Differential Equations</td>
<td>(3 credits)</td>
<td>MA231 Calculus III</td>
<td>(3 credits)</td>
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</tr>
<tr>
<td>EE262 Intro Obj. Ormt. Prgm &amp; Sftw Des</td>
<td>(3 credits)</td>
<td>EE221 Linear Circuits or ES or Sci. Elective</td>
<td>(3 credits)</td>
<td></td>
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</tr>
<tr>
<td>EE264 Intro to Digital Design (C1)</td>
<td>(3 credits)</td>
<td>EE260 Embedded Systems</td>
<td>(3 credits)</td>
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<td>ES250 Electrical Science</td>
<td>(3 credits)</td>
<td>MA211 Foundations (C2)</td>
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<td>KA/UC Elective*</td>
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<tr>
<td>STAT383 Applied Statistics I or MA381 Probability</td>
<td>(3 credits)</td>
<td>CS344 Algorithms</td>
<td>(3 credits)</td>
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<td>EE363 Sftw Comp &amp; Generic Prog</td>
<td>(3 credits)</td>
<td>EE361 Fund of Software Engr.</td>
<td>(3 credits)</td>
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<tr>
<td>EE407 Computer Networks</td>
<td>(3 credits)</td>
<td>EE368 Software Engineering</td>
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<tr>
<td>EE408 Soft. Des. For Visual Env.</td>
<td>(3 credits)</td>
<td>EE462 Software Syst. Arch</td>
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<tr>
<td>KA/UC Elective*</td>
<td>(3 credits)</td>
<td>EE468 Database Systems</td>
<td>(3 credits)</td>
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<tr>
<td>ES499 Sec04 Professional Experience</td>
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<tr>
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<tr>
<td>EE418 Senior Design (TECH) (C2)</td>
<td>(3 credits)</td>
<td>CS444 Operating Systems</td>
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<td>CS341 Programming Languages</td>
<td>(3 credits)</td>
<td>CS458 Form. Meth. &amp; Prog. Verif.</td>
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<tr>
<td>Professional Elective**</td>
<td>(3 credits)</td>
<td>EE466 Computer Architecture</td>
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<tr>
<td>Undesignated Elective</td>
<td>(3 credits)</td>
<td>Professional Elective**</td>
<td>(3 credits)</td>
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<td>KA/UC Elective*</td>
<td>(3 credits)</td>
<td>Undesignated Elective</td>
<td>(3 credits)</td>
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</tbody>
</table>
Software Engineering Prerequisites

The following flowchart and table display the prerequisites of required Software Engineering courses.

**Software Engineering Prerequisite Flowchart**
Minors
Clarkson offers a number of minors, which also allow you to broaden your area of study. In particular, the ECE Department offers minors in Software Engineering and Electrical Engineering. These two minors are open to our students majoring in the other majors within the Department, as well as to students outside of the ECE Department. Among the different choices, there are interdisciplinary minors in:

Biomedical Engineering
Sustainable Energy Systems
Robotics

For all minors, and these five in particular, it is best to investigate the minor as early in your academic career as possible. This will allow you to work out a schedule that will work best to coordinate the courses required in your major and the minor. In some cases, a minor requirement will be an elective course in your major. In other cases, some of the courses that are either required or elective for the minor may be offered every other year. Planning will allow you to minimize the time it will take to complete the minor while also completing your major course of study.

Details on these minors, and the full list of minors available to our students are contained in the Clarkson catalog or at https://www.clarkson.edu/undergraduate/minors.

Electrical Engineering Minor Curriculum

Required Courses
- ES250 Electrical Science (corequisites: MA232, PH132)
- EE264 Introduction to Digital Design (prerequisites: none)
- EE331 Energy Conversion (prerequisite: ES250)
- EE381 Electromagnetic Fields and Waves (prerequisites: MA231, PH132)

Elective Courses
(Choose two)
- EE221 Linear Circuits (prerequisite: ES250)
- EE321 Systems and Signal Processing (corequisite: EE221)
- EE324 (ME324) Dynamical Systems (prerequisite: MA232)
- EE333 Power System Engineering (prerequisite: EE221)
- EE341 Microelectronic Circuits (prerequisite: ES250)
**Software Engineering Minor Curriculum**

1. CS141
2. CS142 OR CS341
3. CS242 or EE408
4. EE368 or CS350
5. One of EE465/CS452, CS455/EE407, EE468/CS460
   - Or courses approved by the Software Engineering Program Committee.

**Electric Power Engineering Concentration**

By selection of a specific set of elective courses, EE students can formally declare an Electric Power Engineering Concentration that will provide both depth and breadth in the EE area of power and still meet the guidelines required by our ABET-accredited program. When the appropriate courses are completed, as described below, a certificate from the Chair of Electrical and Computer Engineering is awarded, noting completion of the concentration. For students who would like to pursue a power engineering concentration, it is suggested to take EE333 Power System Engineering in the Spring Semester of the Junior Year.

It should be noted that various Departments in the Coulter School of Engineering and others at Clarkson offer several concentrations and academic minors. For further information on concentrations and minors outside of the ECE Department, see the Clarkson University General Catalog, visit: [https://www.clarkson.edu/undergraduate/minors](https://www.clarkson.edu/undergraduate/minors), or contact the Dean of the School or the Chair of the Department offering the concentration or minor.

**Electric Power Engineering Concentration Curriculum**

Required Courses:
1. EE 331 Energy Conversion
2. EE 333 Power System Engineering
3. EE 431 Power Transmission and Distribution
4. 2 Power elective courses
5. 1 Breadth elective course

Typical Power Electives
- EE 430 High Voltage Techniques and Measurements
- EE 439 Dielectrics
- ES 340 Thermodynamics
- Any power engineering graduate course w/dept. approval
Typical Breadth Electives
• EE 450 Control Systems
• EE 451 Digital Control
• EE 401 Digital Signal Processing
• EE 407 Computer Networks
• EE 365 Advanced Digital Circuit Design

The ECE Department must approve electives not on these lists.

Other Options in the ECE Curricula

You are not limited to only one degree or one specific study area. You may decide to obtain a minor, dual degrees, a double major, or a second degree. Clarkson also offers an array of graduate degrees, including the MS and ME degrees in engineering, a 4+1 MBA program, and a 4+2 MBA/MS Engineering program. You can add a minor, another major or a concentration on myCU, and the instructions for doing so (as well as many other references and answers to FAQs) are listed on our internal webpage: https://intranet.clarkson.edu/academic/school-of-engineering/electrical-computer-engineering/

Dual Degree
Dual degrees are two different bachelor's degrees; for instance, an Electrical Engineering Degree and a Computer Engineering degree or a Software Engineering Degree and a Mechanical Engineering Degree. You must complete at least 150 credit hours with at least 30 credit hours unique to each program. To obtain a dual degree you must complete a form found on myCU, using the procedure indicated above under How to Sign-up for a Concentration, Minor, Dual Major, Dual/Second Degree, or another Major.

Second Degree
Some students may desire to obtain two degrees in fields of study that are not similar or aligned with another. For example, a degree in Electrical Engineering and a degree in History. This is possible at Clarkson through the pursuit of a Second Degree. A second degree means that you could receive two degrees, most likely, at two different commencements. To do this, you need at least 150 credit hours with at least 30 credit hours unique to each program. Also, at least 12 credit hours (6 of which are upper-level courses) toward the second degree must be completed in residence after the awarding of the first degree. To obtain a second degree you have to be readmitted to Clarkson through the office of Student Achievement Services.

Double Majors
You may decide to pursue two majors while at Clarkson. A double major degree requires completion of all requirements for both programs before graduation. Always discuss any curriculum additions or changes with your advisor. The Undergraduate Double Major Degree Form, which is found on myCU, using the procedure indicated above, under How to Sign-up for a Concentration, Minor, Dual Major, Dual/Second Degree, or another Major, must be completed to establish your double major.
Engineering MBA-MS 4 + 1 Program

The Schools of Business and Engineering have an option that allows a freshman undergraduate engineer who wants an MBA or Master of Science in Management Systems to plan required courses. The graduate degree can be completed at Clarkson in one year beyond the baccalaureate. Students in this option will be in a dual major (engineering and either MBA or MS). They will be classified as engineering students with engineering advisors. Their admission to the MBA/MS program is conditional until they meet the traditional School of Management admission requirements (GMAT’s, etc.). Interested students should contact the Director of Graduate Business Programs, 329 Bertrand H. Snell Hall.

Making the Choice

Any of these choices can restrict the elective courses that you would take with a single major, and this factor should be considered in your decision. Also, in the likely event that taking a dual degree or double major will take extra time, taking a single BS degree followed by an MS degree should be considered. Your academic advisor(s) and/or faculty members in your areas of interest will be able to discuss the range of options available and their implication to make an informed decision as to which course suits you best. When you sign up for a second major, minor, or concentration, you will be assigned an advisor for the degree as well, and you will need to work with both advisors to ensure that you are on track for both degrees.

Changing Majors

You may decide to change majors. This is accomplished by notifying the Department you wish to enter and signing an "Undergraduate Change of Major" form prepared by that Department, along with the approval of the Chair of the Department to which the student is requesting admittance. There is no need to notify the Department you are leaving as SAS will inform them. The form for changing your major is found on myCU, using the procedure indicated above, under How to Sign-up for a Concentration, Minor, Dual Major, Dual/Second Degree, or another Major.

Transfer Credit

Transfer students

For students transferring to Clarkson, transfer credit is evaluated by a faculty member designated by the academic Department you will enter. This will generally include pending credit for courses you may be take when you apply. This credit will be noted on your record when you enter the University, with pending credits noted once SAS receives your final transcript. You need to verify that this record is complete on PeopleSoft before meeting with your advisor to pre-register for your second semester on campus. In particular, note that you will need to submit advanced placement scores for AP credit to SAS, even if your previous institution granted it. Also note that transcripts must come directly to SAS, and will not be accepted otherwise.
Transfer credits—matriculated students

When you are enrolled at Clarkson, you can take courses at other universities, and transfer them for degree credit. Usually, this would be done to make up courses during the summer, or to get ahead in your degree program. The guidelines for doing this are given in the Clarkson catalog. Note well: before taking a course at another University, the Off-Campus Course Work Permission form must be completed. This involves signatures by the student, the course Department chair, the major advisor/Department chair/program director and the Dean of Engineering.

Advanced Placement Credit

With appropriate testing it is possible to receive Advanced Placement (AP) Credit for courses taken before attending University. It is best to do this as soon as possible in your freshman year or even before arriving on campus for your first freshman semester. A minimum AP exam grade of 4 is usually required. Requests to accept AP credits must be initiated at the Student Achievement Services Center.

Cross-Registration

Clarkson has joined with SUNY Potsdam, St. Lawrence University, and SUNY Canton in a program allowing a student to take up to two courses per year at the other institutions of Associated Colleges. Clarkson students typically use this opportunity to take language, art, education, or music courses not offered here. The Cross-Registration Form is available at the Student Administration Services. This form can be found on the SAS intranet forms page at this link: https://intranet.clarkson.edu/student-life/sas/forms/.
VII. Professional and Honor Societies

Professional Societies are an important facet in the practice of engineering. Professional societies are involved with disseminating research findings, the development of standards defining and promoting the acceptable practices in the professional, the development of ethical codes and practices, the accreditation of engineering programs of study, the licensing of practicing engineers, and the continuing education of practicing engineers.

**IEEE and ACM**

The Institute of Electrical and Electronics Engineers (IEEE) is the primary worldwide organization in the Electrical Engineering and Computer Hardware Engineering fields. For the IEEE code of Ethics please see Appendix A.

The Association for Computing Machinery (ACM) is a professional society covering all aspects of computing and computer science. For the ACM Software Engineering Code of Ethics and Professional Practice please see Appendix B.

Both IEEE and ACM are active in the area of software engineering. Most of our alumni will maintain membership in their professional society throughout their careers. Both IEEE and ACM have active on-campus chapters, and you should join one or both of these. Our chapters are involved in participating in campus events, including open houses, advisory council meetings, and meetings on topics of interest to our students.

**Honor Societies**

In addition to the professional societies described above, several academic honor societies also have chapters at Clarkson. Their primary purposes include recognizing and encouraging continued outstanding scholarly achievement and providing a forum for related professional development activities. The honor societies likely to be of most interest to Electrical and Computer Engineering majors would include:

- Eta Kappa Nu (Electrical and Computer Engineering Honor Society)
- Tau Beta Pi (The Engineering Honor Society)
- Phi Kappa Phi (All Engineering Honor Society)
- Phalanx (All Majors)
VIII. Clarkson Services and Resources

Clarkson has many services to help you whether your needs are related to academic or personal issues. For more detailed and broader information than that given here, pick up a copy of the Academic Support Center Pamphlet from the Center, which is located on the second floor of Price Hall. Each of these services maintains an active web site that can be found in the directories under www.clarkson.edu.

Office of AccessAbility Services

<table>
<thead>
<tr>
<th>Services Provided</th>
<th>Contact/Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Assure access to CU &amp; its programs for students with disabilities</td>
<td>• Price Hall 1003</td>
</tr>
<tr>
<td>• Provide appropriate services for students with temporary, long-term &amp; permanent disabilities</td>
<td>• Monday - Friday, 8:00am-4:30pm</td>
</tr>
<tr>
<td>• Educate &amp; advocate for an accessible &amp; hospitable campus</td>
<td>• 315-268-7643</td>
</tr>
<tr>
<td>• Promote responsibility &amp; self-advocacy on the part of individuals served</td>
<td>• <a href="mailto:oas@clarkson.edu">oas@clarkson.edu</a></td>
</tr>
</tbody>
</table>

The Student Health and Counseling Center (SHAC)

<table>
<thead>
<tr>
<th>Services Provided</th>
<th>Contact/Hours</th>
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</thead>
<tbody>
<tr>
<td>• Campus clinic for illness and injury</td>
<td>• ERC 1300</td>
</tr>
<tr>
<td>• Gynecological care, birth control, emergency contraception</td>
<td>• Monday - Friday, 8:00am-4:30pm</td>
</tr>
<tr>
<td>• STD &amp; HIV testing &amp; treatment</td>
<td>• 315-268-6633</td>
</tr>
<tr>
<td>• Immunizations, flu vaccination, allergy injections</td>
<td>• <a href="mailto:shac@clarkson.edu">shac@clarkson.edu</a></td>
</tr>
<tr>
<td>• Confidential counseling: assisting students to reach their full potential</td>
<td>• <a href="http://www.clarkson.edu/SHAC">http://www.clarkson.edu/SHAC</a></td>
</tr>
<tr>
<td>• Guidance to promote responsibility for one’s emotional welfare</td>
<td></td>
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</tbody>
</table>

Student Achievement Services Center (SAS)

<table>
<thead>
<tr>
<th>Services Provided</th>
<th>Contact/Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Financial aid, student loans, tuition bills &amp; payment plans</td>
<td>• Graham Hall</td>
</tr>
<tr>
<td>• Student academic records &amp; transcript services</td>
<td>• Monday – Friday, 9:00am–4:30pm</td>
</tr>
<tr>
<td>• Academic calendar, course information &amp; scheduling</td>
<td>• 315-268-6451</td>
</tr>
<tr>
<td>• Student employment</td>
<td>• <a href="mailto:sas@clarkson.edu">sas@clarkson.edu</a></td>
</tr>
<tr>
<td>• Knight Card management</td>
<td></td>
</tr>
</tbody>
</table>
### Student Success Center

<table>
<thead>
<tr>
<th>Services Provided</th>
<th>Contact/Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Academic skills counseling</td>
<td>• ERC 1400</td>
</tr>
<tr>
<td>• Tutoring Services</td>
<td>• Monday - Friday, 8:00am-4:00pm</td>
</tr>
<tr>
<td>• First-Year Seminar</td>
<td>• SSC: 315-268-2209 (main office)</td>
</tr>
<tr>
<td>• Academic Grant Funded Programming</td>
<td>• HEOP: 315-268-7974</td>
</tr>
<tr>
<td>• Student Support Services (SSS)</td>
<td>• CUPO: 315-268-4039</td>
</tr>
<tr>
<td>• Higher Education Opportunity Program (HEOP)</td>
<td></td>
</tr>
<tr>
<td>• Community of Underrepresented Professional Opportunities (CUPO)</td>
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</tbody>
</table>

### The Writing Center

<table>
<thead>
<tr>
<th>Services Provided</th>
<th>Contact/Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>• One-to-one, 25-minute sessions with peer tutors</td>
<td>• Snell Hall 139</td>
</tr>
<tr>
<td>• Review all writing from essays to projects; lab reports to business plans, and</td>
<td>• Monday–Thursday: Noon-5:00pm &amp;</td>
</tr>
<tr>
<td>bring the assignment instructions</td>
<td>6:00pm-8:00pm</td>
</tr>
<tr>
<td>• Paper copies or google docs accepted</td>
<td>• Friday: Noon–3:00pm</td>
</tr>
<tr>
<td>• Online resources including style sheets, punctuation rules and self-</td>
<td>• Sunday: 6:00-9:00pm</td>
</tr>
<tr>
<td>editing processes</td>
<td>• <a href="mailto:wcenter@clarkson.edu">wcenter@clarkson.edu</a></td>
</tr>
</tbody>
</table>

### Dean of Students

<table>
<thead>
<tr>
<th>Services Provided</th>
<th>Contact/Hours</th>
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</thead>
<tbody>
<tr>
<td>• Student advocate (facilitates problem-solving across campus)</td>
<td>• Price Hall 1003</td>
</tr>
<tr>
<td>• SafetyNet: reporting &amp; supporting students of concern.</td>
<td>• <a href="https://intranet.clarkson.edu/administrative/safetynet/">https://intranet.clarkson.edu/administrative/safetynet/</a></td>
</tr>
<tr>
<td>• Support, inform &amp; refer students in crisis (academic or personal)</td>
<td></td>
</tr>
</tbody>
</table>

### Student Life

<table>
<thead>
<tr>
<th>Services Provided</th>
<th>Contact/Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Provide support and guidance to all clubs and organizations</td>
<td>• 126 Student Center</td>
</tr>
<tr>
<td>• Assist students interested in starting new clubs</td>
<td>• 315-268-6426</td>
</tr>
</tbody>
</table>
- Advisement for Fraternity & Sorority Organizations, CUSA and CUB
- Responsible for Student Center Operations
- Provide leadership training and opportunities for students

**The Career Center**

<table>
<thead>
<tr>
<th>Services Provided</th>
<th>Contact/Hours</th>
</tr>
</thead>
</table>
| • Career coaching: translating skills, knowledge & experiences into employment opportunities consistent with interests/ambitions  
  • Resume and cover letter writing  
  • Interviewing skills  
  • Co-op, internship & other job opportunities  
  • Career workshops & networking with employers | • ERC 2300  
• Monday - Friday, 8:00am-4:30pm  
• 315-268-6477  
• career@clarkson.edu  
• [http://www.clarkson.edu/career/](http://www.clarkson.edu/career/) |

**Office of Student Diversity and Inclusion Initiatives**

<table>
<thead>
<tr>
<th>Services Provided</th>
<th>Contact/Hours</th>
</tr>
</thead>
</table>
| • Intentional student, faculty, and staff engagement through formal & informal education  
  • Professional development for students & employees to become global citizens  
  • Diversity & Inclusion in campus programming | • Diversity & Inclusion Lounge  
• 110 Student Center  
• Monday – Friday, 8:00 - 4:30pm |

**International Center**

<table>
<thead>
<tr>
<th>Services Provided</th>
<th>Contact/Hours</th>
</tr>
</thead>
</table>
| • Assist with the identification of study & work abroad opportunities  
  • Provide international student & scholar services  
  • Engage and advise international students, faculty & staff  
  • Cultivate international partner relations | • ERC 2300  
• Monday - Friday, 8:00am-4:30pm  
• 315-268-3943 |
IX. Appendix A


IEEE (Institute of Electrical and Electronics Engineers) Code of Ethics

We, the members of the IEEE, in recognition of the importance of our technologies in affecting the quality of life throughout the world, and in accepting a personal obligation to our profession, its members, and the communities we serve, do hereby commit ourselves to the highest ethical and professional conduct and agree:

1. to hold paramount the safety, health, and welfare of the public, to strive to comply with ethical design and sustainable development practices, and to disclose promptly factors that might endanger the public or the environment;
2. to avoid real or perceived conflicts of interest whenever possible, and to disclose them to affected parties when they do exist;
3. to be honest and realistic in stating claims or estimates based on available data;
4. to reject bribery in all its forms;
5. to improve the understanding by individuals and society of the capabilities and societal implications of conventional and emerging technologies, including intelligent systems;
6. to maintain and improve our technical competence and to undertake technological tasks for others only if qualified by training or experience, or after full disclosure of pertinent limitations;
7. to seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, and to credit properly the contributions of others;
8. to treat fairly all persons and to not engage in acts of discrimination based on race, religion, gender, disability, age, national origin, sexual orientation, gender identity, or gender expression;
9. to avoid injuring others, their property, reputation, or employment by false or malicious action;
10. To assist colleagues and co-workers in their professional development and to support them in following this code of ethics.

Changes to the IEEE Code of Ethics will be made only after the following conditions are met:
- Proposed changes shall have been published in THE INSTITUTE at least three (3) months in advance of final consideration by the Board of Directors, with a request for comment, and
- All IEEE Major Boards shall have the opportunity to discuss proposed changes before final action by the Board of Directors, and
- An affirmative vote of two-thirds of the votes of the members of the Board of Directors present at the time of the vote, provided a quorum is present, shall be required for changes to be made.
X. Appendix B.

Software Engineering Code of Ethics and Professional Practice

(Version 5.2) as recommended by the ACM/IEEE-CS Joint Task Force on Software Engineering Ethics and Professional Practices and jointly approved by the ACM and the IEEE-CS as the standard for teaching and practicing software engineering.

Short Version

PREAMBLE
The short version of the code summarizes aspirations at a high level of the abstraction; the clauses that are included in the full version give examples and details of how these aspirations change the way we act as software engineering professionals. Without the aspirations, the details can become legalistic and tedious; without the details, the aspirations can become high sounding but empty; together, the aspirations and the details form a cohesive code.

Software engineers shall commit themselves to making the analysis, specification, design, development, testing and maintenance of software a beneficial and respected profession. In accordance with their commitment to the health, safety and welfare of the public, software engineers shall adhere to the following Eight Principles:

1. PUBLIC – Software engineers shall act consistently with the public interest.
2. CLIENT AND EMPLOYER – Software engineers shall act in a manner that is in the best interests of their client and employer consistent with the public interest.
3. PRODUCT – Software engineers shall ensure that their products and related modifications meet the highest professional standards possible.
4. JUDGMENT – Software engineers shall maintain integrity and independence in their professional judgment.
5. MANAGEMENT – Software engineering managers and leaders shall subscribe to and promote an ethical approach to the management of software development and maintenance.
6. PROFESSION – Software engineers shall advance the integrity and reputation of the profession consistent with the public interest.
7. COLLEAGUES – Software engineers shall be fair to and supportive of their colleagues.
8. SELF – Software engineers shall participate in lifelong learning regarding the practice of their profession and shall promote an ethical approach to the practice of the profession.

This Code was developed by the ACM/IEEE-CS joint task force on Software Engineering Ethics and Professional Practices (SEEPP):
Executive Committee: Donald Gotterbarn (Chair), Keith Miller and Simon Rogerson;
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