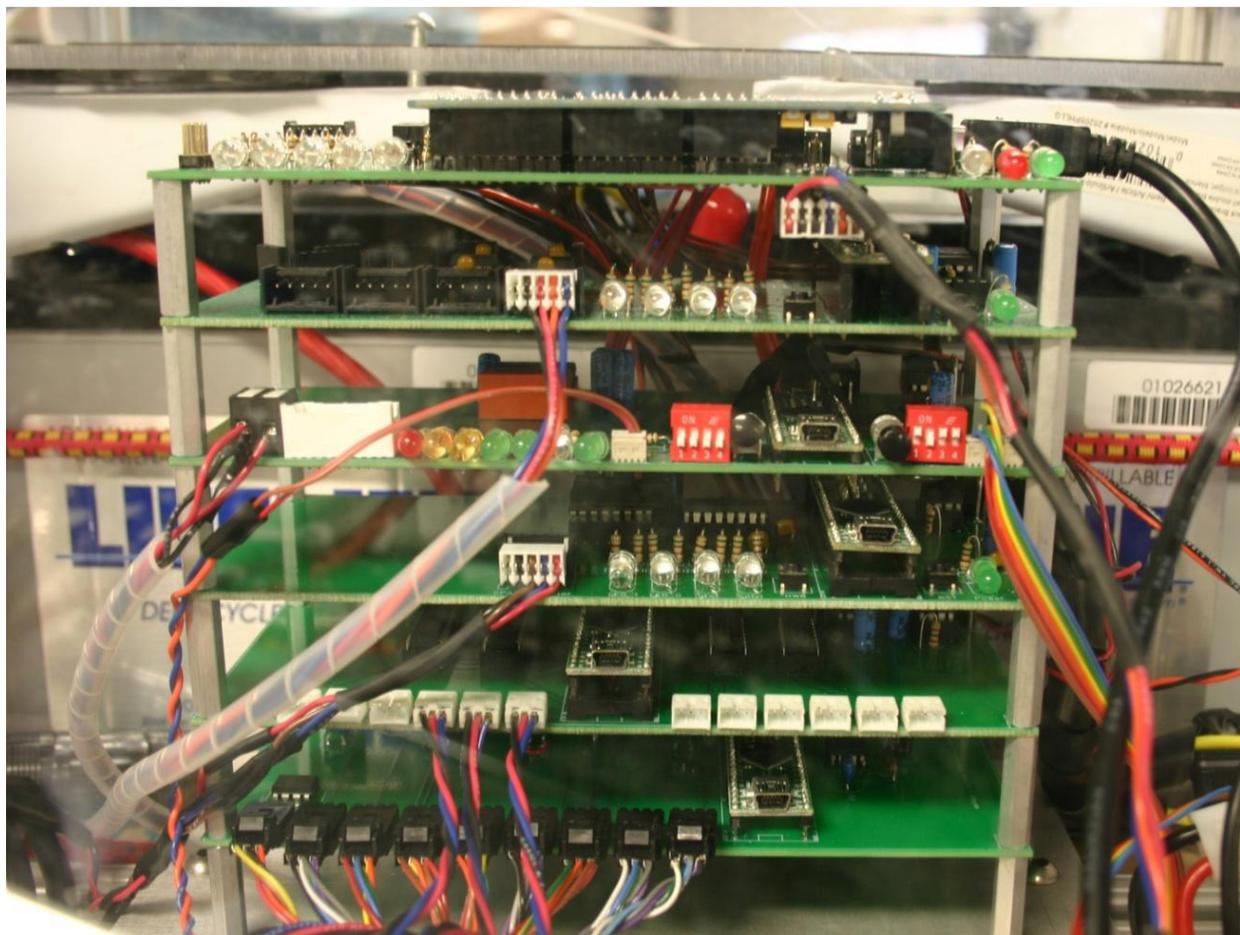




YORK COLLEGE
OF PENNSYLVANIA



Electrical and Computer Engineering Student Policy Manual

Revised June 2017

Welcome to the Electrical and Computer Engineering Program

This manual is intended to make students aware of policies and practices specific to the electrical engineering and computer engineering majors. This manual should be used in conjunction with the College Catalog and College Student Handbook which also delineate important student policies and procedures.

This document was prepared on the basis of the best information available at the time of publication. The College reserves the right to change any provisions, regulations, or requirements set forth within, without notice.

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1.0 Progression Policy

1.1 Introduction and Purpose

Students who show strong potential to be successful in the Electrical Engineering or Computer Engineering major by satisfying the admissions requirements for these programs will be initially admitted into the major. However admission into either major does not automatically ensure progression through to graduation.

Engineering studies are among the most challenging of college majors and not all students who show the potential for success in an engineering program are in the end successful. A primary goal of the ECE program as it pertains to students in academic difficulty is to:

- Provide thoughtful and forceful advising to students;
- Ensure that students are aware of and encourage access to academic and counseling support programs at the college;
- Urge students to critically reflect on the causes of academic difficulty and to develop an intentional plan to recover so that they may ultimately be successful college graduates.

To this end the ECE program has developed a progression policy of academic requirements that students must satisfy in order to remain within their major. The requirements of this policy were developed based on historical performance of students who were ultimately unsuccessful in an engineering major. While it is our desire that everyone who enters into an engineering program be a successful graduate, the fact is that some will not be successful. Recognizing the financial impact of extended stays in college past the normal 4 years, we want to be good stewards of the finite financial resources that students and their families have to pay for college tuition. Consequently it is important to intervene early enough in the student's college education and once it becomes clear that a student will with near certainty not be successful in an engineering major so that a student can select an alternative major and still graduate in four years.

Students who do not meet the requirements of this progression policy will be given a notice of dismissal from the major as described in the following sections. Students who believe that the academic difficulty they have encountered is due to one-time factors or who believe that they will be able to remedy the root cause of their academic difficulties are encouraged to appeal their dismissal. We recognize that some students will take longer to acclimate themselves to the rigor and expectations of college academics but will ultimately be successful students. Consequently the contents of each appeal will be evaluated on its own merits.

Students who successfully appeal their dismissal will be provided more intensive academic advising and a plan of action that they are expected to follow in order to return to a "good standing" status within the major. Failure to complete this plan will result in dismissal from the major.

1.2 Freshman Year Requirements

This section applies to first-time college students. Students who transfer to YCP from another college or who transfer into the major as an existing YCP student will follow the requirements found in the relevant section of this policy.

In order to be a student in good standing within the electrical engineering or computer engineering major, the student must:

- Have attempted all of the courses listed in Table 1 for which the student is eligible to take.
- Have a GPA of 2.5 or better.
- Have no more than two grades of W, 0, or 1 in the courses listed in Table 1.

Students who do not meet all of these criteria upon completion of their first two semesters at YCP will be dismissed from the major.

Table 1. Required Freshman Level Courses.

Technical Courses	General Education Courses
CHM134/5 (General Chemistry I)	FYS100 (First Year Seminar)
CS101 (Fund. Of Computer Science I)	FCO105 (Rhetorical Communications)
ECE100 (Intro to Electrical Engineering)	One Foundations or Disciplinary Perspectives course
EGR100 (EPADS I)	
MAT171 (Calculus I)	
MAT172 (Calculus II)	
PHY160 (Engineering Physics: Mechanics)	

1.3 Ongoing Requirements

In order to be a student in good standing within the electrical engineering or computer engineering major, the student must:

- Maintain an overall GPA of 2.5 or better.
- Have no more than two grades of 0, or 1 in the courses listed in Table 2 for their respective major.
- Have no more than two withdrawals in the courses listed in Table 2 for their respective major.
- Pass (grade 2 or better) each course in Table 2 within two attempts, including withdrawals.
- Pass each co-op assignment (EGR491, EGR492, EGR493) on the first attempt.

Students who do not meet all of these criteria will be dismissed from the major.

Table 2. Electrical/Computer Engineering Technical Courses

Electrical Engineering Major	Computer Engineering Major
CS201 (Fund. Of Computer Science II)	CS201 (Fund. Of Computer Science II)
ECE220 (Design & Analysis of Digital Circuits)	CS320 (Software Eng. & Design)
ECE260 (Fund. Of Computer Engineering)	CS350 (Data Structures)
ECE270 (Waves & Optics)	CS360 (Analysis of Algorithms)
ECE280 (Fund. Of Electrical Engineering)	CS420 (Operating Systems)
ECE310 (Design & Analysis of Analog Circuits)	ECE220 (Design & Analysis of Digital Circuits)
ECE332 (Intro. To Signal Processing)	ECE260 (Fund. Of Computer Engineering)
ECE335 (Discrete Mathematics w/Applications)	ECE280 (Fund. Of Electrical Engineering)
ECE340 (Random Signals)	ECE310 (Design & Analysis of Analog Circuits)
ECE350 (Electromagnetic Fields)	ECE332 (Intro. To Signal Processing)
ECE400 (Capstone Design I)	ECE335 (Discrete Mathematics w/Applications)
ECE402 (Capstone Design II)	ECE340 (Random Signals)
EGR240 (Math Methods in Engineering)	ECE370 (Microprocessor System Design)
EGR290 (Engineering Career Seminar)	ECE380 (Communication Networks)
EGR342 (System Modeling & Analysis)	ECE400 (Capstone Design I)
MAT272 (Differential Equations)	ECE402 (Capstone Design II)
PHY260 (Engineering Physics: E&M)	ECE420 (Embedded System Design)
Engineering Stem #1 (two courses)	EGR240 (Math Methods in Engineering)
Engineering Stem #2 (two courses)	EGR290 (Engineering Career Seminar)
Engineering Electives (two)	MAT272 (Differential Equations)
	PHY260 (Engineering Physics: E&M)
	Engineering Electives (two)

1.4 Process for Dismissal from the Major

Students who do not meet the requirements listed above for “good standing” status will be dismissed from the major.

Students will be evaluated under this policy at the end of each academic semester. If a student does not meet the “good standing” status, he or she will be notified via e-mail to their York College e-mail address no later than two weeks following the end of the semester, as defined by the Fall or Spring graduation commencement dates, or the last day of the Summer term.

1.5 Appeals Process

Students have the right to appeal dismissal from the major and must submit their appeal in writing. Written appeals must be submitted to the ECE program coordinator within 10 business days of the e-mail notification of dismissal. If sent via e-mail, the written appeal must be attached as a separate document.

The appeal should contain a clear and concise justification for an exception to the applicable policy. The appeal must also include a reflection and assessment by the student of the root cause of the student’s failure to meet the “good standing” requirement as well as specific actions the student will take to be more successful in the future.

Students will be notified of the outcome of their appeal within 10 business days after the appeal has been received.

Students whose appeal is successful will be placed on probationary status within the major for either one or two semesters and be required to complete a prescribed plan of action. Students who do not satisfactorily complete the plan of action will be dismissed from the major.

2.0 Change of Major Policy

Current York College students will only be allowed to switch into the electrical or computer engineering major if space is available. Students who would like to change majors into the electrical engineering or computer engineering major must have a 2.5 or better overall GPA and no more than two grades of 0, 1, or W on courses taken at York College. In addition, the student must either:

- Satisfy the original York College admissions requirement for the major by having a math SAT score of 620 or better (26 or better math ACT), or
- Show by completing technical coursework (as determined by the program coordinator) at York College that the student has strong potential to be successful in the major.

In order to be a student in good standing within the electrical engineering or computer engineering major, the student must meet the Freshman Year Requirements listed above by completion of their second semester in the major as well as the Ongoing Requirements listed above following their second semester in the major.

This change of major policy does not apply to major changes between electrical engineering and computer engineering.

3.0 Transfer Student Policy

Students transferring to YCP from another college will be admitted to the electrical engineering or computer engineering major upon approval of the program coordinator based on space availability and the student's prior record of academic performance. All transfer students must submit an official application through the York College Admissions Office with either electrical engineering or computer engineering listed as their intended major.

In order to be a student in good standing within the electrical engineering or computer engineering major, transfer students must:

- Maintain an overall GPA of 2.5 or better.
- Have no more than two grades of 0, or 1 in the courses listed in Tables 1 and 2 for their respective major.
- Have no more than two withdrawals in the courses listed in Tables 1 and 2 for their respective major.
- Pass (grade 2 or better) each course in Table 2 within two attempts, including withdrawals.
- Pass each co-op assignment (EGR491, EGR492, EGR493) on the first attempt.

These requirements will be enforced upon the completion of the second semester at York College and will only apply to those classes taken at York College. Failure to meet one or more of these requirements will result in dismissal from the major.

4.0 Co-op Eligibility

In order to take EGR290 students must meet the following requirements:

- Have a cumulative GPA of at least 2.5.
- Completed (with a grade of 2 or better) PHY160 (Engineering Physics: Mechanics) and ECE100 (Introduction to Electrical Engineering)

In order to be eligible for the first cooperative work experience (EGR491) students must meet the following requirements:

- Have a cumulative GPA of at least 2.5
- Have completed a minimum of 64 credits of coursework
- Completed (with a grade of 2 or better) or be currently enrolled in ECE280 (Fundamentals of Electrical Engineering) and ECE260 (Fundamentals of Computer Engineering)

5.0 Professionalism Policy

One of the goals of the Electrical and Computer Engineering program at York College is to train students on the standards and expected behavior of a professional engineer in the field. With this in mind, the Engineering faculty expect as a minimum the following from every student, consistent with the conduct of a practicing engineer:

- Respect for and courteous interaction with peers, faculty and facilities;
- Integrity, which includes at its core honesty, responsibility and accountability for one's own actions;
- Sensitivity and appreciation for diverse cultures, backgrounds, and life experiences which promote engineering excellence;
- Constructive evaluation, which means that criticism is offered and accepted in a productive manner;
- Self-reflection and identification of one's own strengths and weaknesses;
- Responsibility for one's own education and learning;
- An attitude that fosters professional behavior in colleagues and peers;
- Punctuality at meetings and class sessions;
- Attentive behavior during class sessions, avoiding personal or social use of mobile devices, laptops, or other electronic devices;
- Acknowledgment of the Kinsley Engineering Center as a professional workplace, and treatment of this facility as a business or office space, not as an informal space.

The faculty reserve the right to enforce this code through the York College Code of Student Conduct, including but not limited to removal of offending students from meetings, classes or from the program entirely.

6.0 Laboratory and Workspace Policy

The following rules were developed by the faculty to manage use of laboratory and work spaces, protect the health and safety of all users, and to promote appropriate laboratory practices within the space. This policy applies to all laboratory rooms in the Kinsley Engineering Center as well as the Project Workspace (KEC138).

Students are expected to treat laboratories and work spaces as a professional environment and above all are expected to use good judgment when working in the space. Professionalism includes wearing clothing appropriate for the work you are doing, using respectful and courteous language at all times (including both oral and written communication), keeping your workspace tidy, and respecting the work environment of the people around you. If problems arise, please notify a faculty member and we will be able to help you resolve any issues.

- **Proper safety equipment and procedures must be used at all times!**
- Do not touch anything that is not yours.
- Clean up your workspace when you are finished each day.
- All tools obtained from a laboratory, stockroom, or shop area must be returned each day.

- Keep your project within its space. If you think your project needs more space, ask.
- Never block the walkways
- Use of flammables or other chemicals must be approved.
- No painting in any of the ECE laboratories or the project workspace
- No grinding, sanding, welding or other dust producing activities are permitted in any of the ECE laboratories or the project workspace. Use the designated areas in the machine shop.
- Food, drink and chewing tobacco are prohibited in the project workspace
- Access is restricted to those with approved card-swipe access. Do not prop doors open or let students in without card access.
- The last person to leave should verify all doors and windows are secured and lights turned out.
- If in doubt, ask.

7.0 Machine Shop Policy

General Shop Rules:

- Students are not allowed in the machine shop without supervision.
- Students are required to obey all posted shop signs and to follow all instructions specified by the machine shop managers
- Students may not use the machine shop without the permission/approval of the shop managers
- Failure to follow any of the machine shop policies may result in loss of shop privileges

Shop Dress Code and Safety:

- No shorts
- No open-toe shoes
- No loose clothing
- Safety glasses must be worn at all times

Tool Room:

- Students are not permitted in the tool room unless escorted by the shop supervisor or faculty member
- Any tools that leave the machine shop must be signed out with the shop supervisor or a faculty member
- Report any damages or worn tools to the shop supervisor

Clean Up:

- Students must clean up their work areas when done
- Students must clean up all chips/debris from the machines and surrounding areas including the floor
- All tools and tooling must be returned to the return cart

8.0 Locker Policy

- Lockers will be issued to sophomores, juniors, and seniors only* on a first come/first served basis.
- One locker per student.
- Students can request a specific locker and it will be assigned if available.
- Graduating seniors must check out of their locker before the last day of final exams for the semester in which they graduate.
- Students changing majors or leaving the college must clean out their lockers and notify the department administrative assistant (Dixie Loser) by the end of the semester.
- Should you choose to stop using a locker, you must vacate that locker and notify the department administrative assistant so that the locker can be reassigned to another student.
- Faculty/staff may open and inspect lockers at any time should a problem be suspected. Students have no expectation of a right to privacy regarding their locker contents.
- Remove perishable items each day.
- NO flammable items may be stored in the lockers
- NO stickers, decals, etc. may be attached to the inside or outside of the locker.
- Students who abandon lockers, fail to clean out their lockers, or damage the lockers will be subject to fines. Such fines may restrict registration for courses or graduation until the fines are paid

* Lockers may be temporarily assigned to freshmen EPADS teams (one locker per project team) at the discretion of the faculty members teaching the courses. These lockers must be vacated upon the completion of the semester.

9.0 Minors and Double Majors

Students interested in pursuing a dual major (either CE/CS, EE/CS, or EE/CE) must recognize that the awarding of a second major will require a significant amount of additional coursework. In order for the second major to indicate that the student has mastered additional disciplinary content and skills above and beyond the first major, the amount of coursework that can count towards both majors will be limited.

9.1 Computer Science Minor

Electrical Engineering or Computer Engineering majors planning to minor in Computer Science (CS) will need to take two additional courses, beyond those required of their major, in order to earn the minor. This is due to the restriction that at most 9 credits from a student's major can be used to fulfill the CS minor requirements. This includes the restriction that a CS course taken as an engineering elective cannot also count towards a CS minor.

9.2 Dual Electrical Engineering and Computer Science Majors

Students double majoring in Electrical Engineering (EE) and Computer Science (CS) must meet all of the requirements for each major, subject to the following rules. These rules assume that the student's primary major is Electrical Engineering.

- EE program requirement EGR100 (EPADS) will also satisfy the CS program CS100 (CPADS) requirement.
- EE program requirement ECE335 (Discrete Mathematics with Applications) will also satisfy the CS program requirement MAT235 (Discrete Mathematics).
- EE program requirement ECE340 (Random Signals) will also satisfy the CS program requirement MAT350 (Probability and Statistics).
- EE program requirements for engineering co-ops will also satisfy the CS program requirement for an internship. No more than one of the engineering co-ops can be involved in work appropriate to the CS discipline, but which would otherwise not be appropriate for an engineering co-op.
- Two of the CS program electives can also count towards engineering electives, provided the courses taken are on the listing of approved engineering electives for the EE major. Courses required for the CS major (other than CS electives) may not satisfy the engineering elective requirements for the electrical engineering major.

The additional CS coursework needed for the second major will require an estimated additional 30-36 credits beyond that needed for the EE major.

9.3 Dual Computer Engineering and Computer Science Majors

Students double majoring in Computer Engineering (CE) and Computer Science (CS) must meet all of the requirements for each major, subject to the following rules. These rules assume that the student's primary major is Computer Engineering.

- CE program requirement EGR100 (EPADS) will also satisfy the CS program CS100 (CPADS) requirement.
- CE program requirement ECE335 (Discrete Mathematics with Applications) will also satisfy the CS program requirement MAT235 (Discrete Mathematics).
- CE program requirement ECE340 (Random Signals) will also satisfy the CS program requirement MAT350 (Probability and Statistics).
- CE program requirements for engineering co-ops will also satisfy the CS program requirement for an internship. No more than one of the engineering co-ops can be involved in work appropriate to the CS discipline, but which would otherwise not be appropriate for an engineering co-op.
- Two of the CS program electives can also count towards engineering electives, provided the courses taken are on the listing of approved engineering electives for the CE major. Courses required for the CS major (other than CS electives) may not satisfy the engineering elective requirements for the CE major.

The additional CS coursework needed for the second major will require an estimated additional 18-24 credits beyond that needed for the CE major.

9.4 Dual Electrical Engineering and Computer Engineering Majors

Students double majoring in Electrical Engineering (EE) and Computer Engineering (CE) must meet all of the requirements for each major, subject to the following rules.

- The embedded systems stem (ECE370 and ECE420) will not count towards the EE stem requirements. To satisfy EE stem concentration areas, the student must take two stems from the Power, Communications, and Controls stem areas.
- At most one of the two engineering electives in one major can count as an engineering elective in the other major provided the course satisfying this requirement is on the list of allowed engineering elective courses for each major.
- Courses taken to satisfy required courses or stems concentration areas for one major may not also be counted as an engineering elective for the other major.

The additional coursework needed for the second major will require an estimated additional 21-24 credits beyond that needed for the first major.

10.0 General Education Requirements

Under the General Education system (GenNext), students are required to take a set of 4 classes from a single constellation. Details of this requirement can be found in the college catalog for the year you first entered York College.

Constellations are groupings of courses around broad themes that can be addressed using multi-and interdisciplinary perspectives. A set of courses reside in each constellation from which a student can choose. Students must choose constellation courses from the list that span at least three different disciplines. Students can choose from 12 different constellations. Transfer students entering YCP with 60 or more transfer credits are not required to take a constellation.

Students are required to declare a constellation by the time they reach 60 credits. To declare a constellation, you will go to the academic advising office in Campbell Hall and fill out a form.

Engineering students have additional constraints in their constellation choice. Specifically, the normal plan of study has engineering students take two of the four constellation courses in the summer of their senior year. In the summer there are fewer courses offered, and so the college has developed a plan to ensure that engineering students have a viable path to complete their constellation requirement over the summer.

The following constellations will have sufficient summer courses for a student to complete their constellation requirement over the senior summer:

- Environmental Sustainability
- Professionalism, Leadership and Entrepreneurship
- Science and Technology

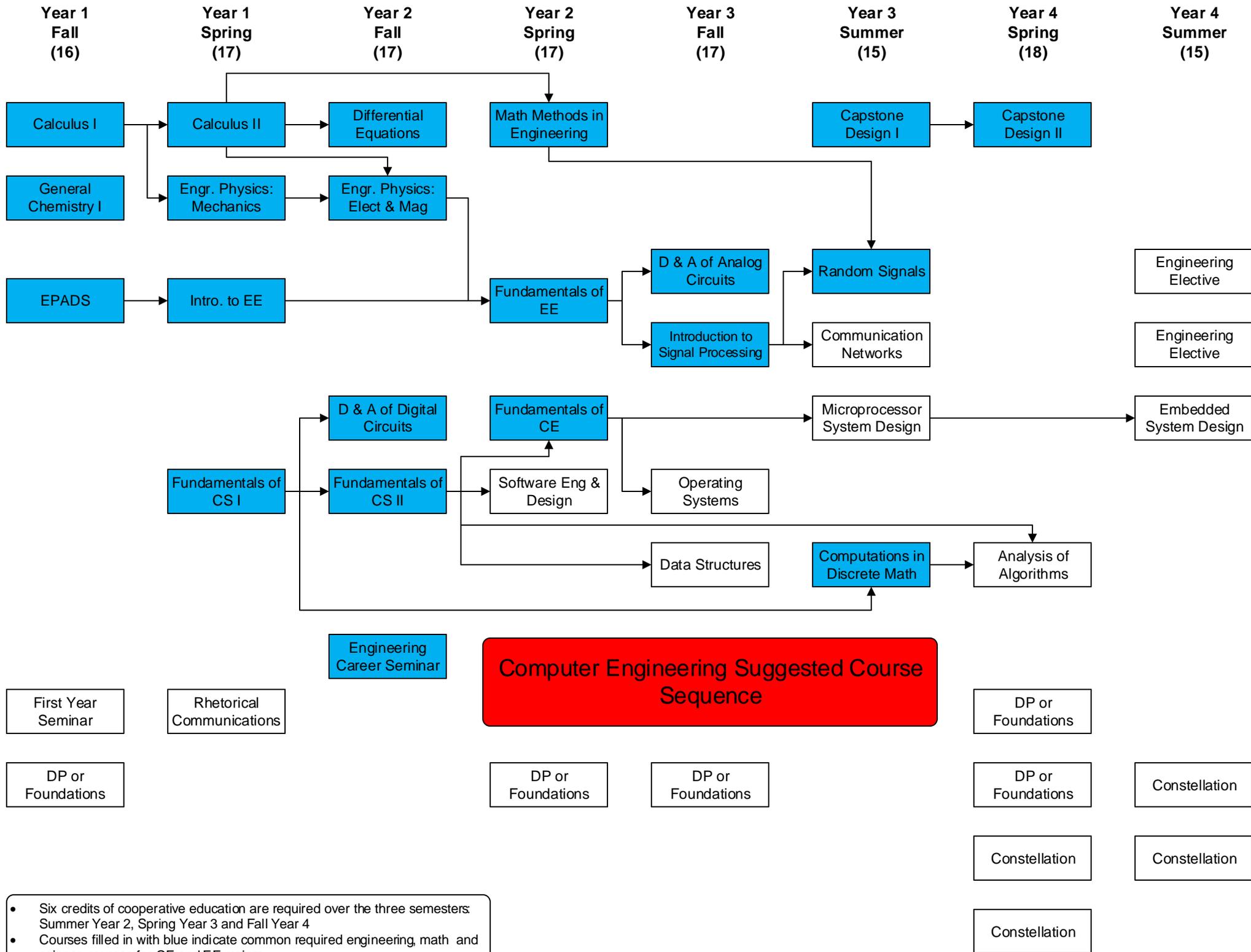
Therefore unless engineering students have special circumstances that allow them to complete their constellation requirement before the senior summer, you must declare and complete one of these three constellations in order to have a viable path to an August graduation date in your senior year.

The college will work with the engineering programs to ensure that a sufficient number of courses and sections within each constellation are available during times students do not have other required courses and which fall within MiniMester, Summer I, and Summer II sessions. These courses should be known by the fall prior to the senior summer so that students can plan all four of their constellation courses (two in the senior spring, and two in the senior summer).

11.0 Suggested Course Sequence (Computer Engineering)

The table below shows the suggested course sequence for computer engineering majors. Students should work with their faculty advisors to determine the schedule that fits best with their circumstances. A flow chart illustrating the prerequisite chain is included on the following page.

	FALL TERM	SPRING TERM	SUMMER TERM
1 st YEAR (33)	Calculus I (4) General Chemistry I (4) EPADS I (2) First Year Seminar (3) DP--Humanities (3)	Calculus II (4) Eng. Physics – Mechanics (5) Intro. to Electrical Eng. (2) Fundamentals of Computer Science I (3) Rhetorical Communication (3)	Summer Break
2 nd YEAR (36)	Differential Equations (4) Eng. Physics – E&M (5) Fundamentals of Computer Science II (3) Design & Analysis of Digital Circuits (4) Eng. Career Seminar (1)	Mathematical Methods in Engineering (3) Fundamentals of Computer Engineering (4) Fundamentals of Electrical Engineering (4) Software Engineering & Design (3) Foundations Course (3)	CO-OP I (2)
3 rd YEAR (34)	Design & Analysis of Analog Circuits (4) Intro to Signal Processing (4) Operating Systems (3) Data Structures (3) Foundations Course (3)	CO-OP II (2)	Capstone Design I (3) Random Signals (3) Microprocessor System Design (3) Discrete Math w/Apps (3) Communication Networks (3)
4 th YEAR (35)	CO-OP III (2)	Capstone Design II (3) Algorithms (3) Disciplinary Perspectives (3) Disciplinary Perspectives (3) Constellation 1 (3) Constellation 2 (3)	Engineering Elective (3) Engineering Elective (3) Embedded Systems Design (3) Constellation 3 (3) Constellation 4 (3)



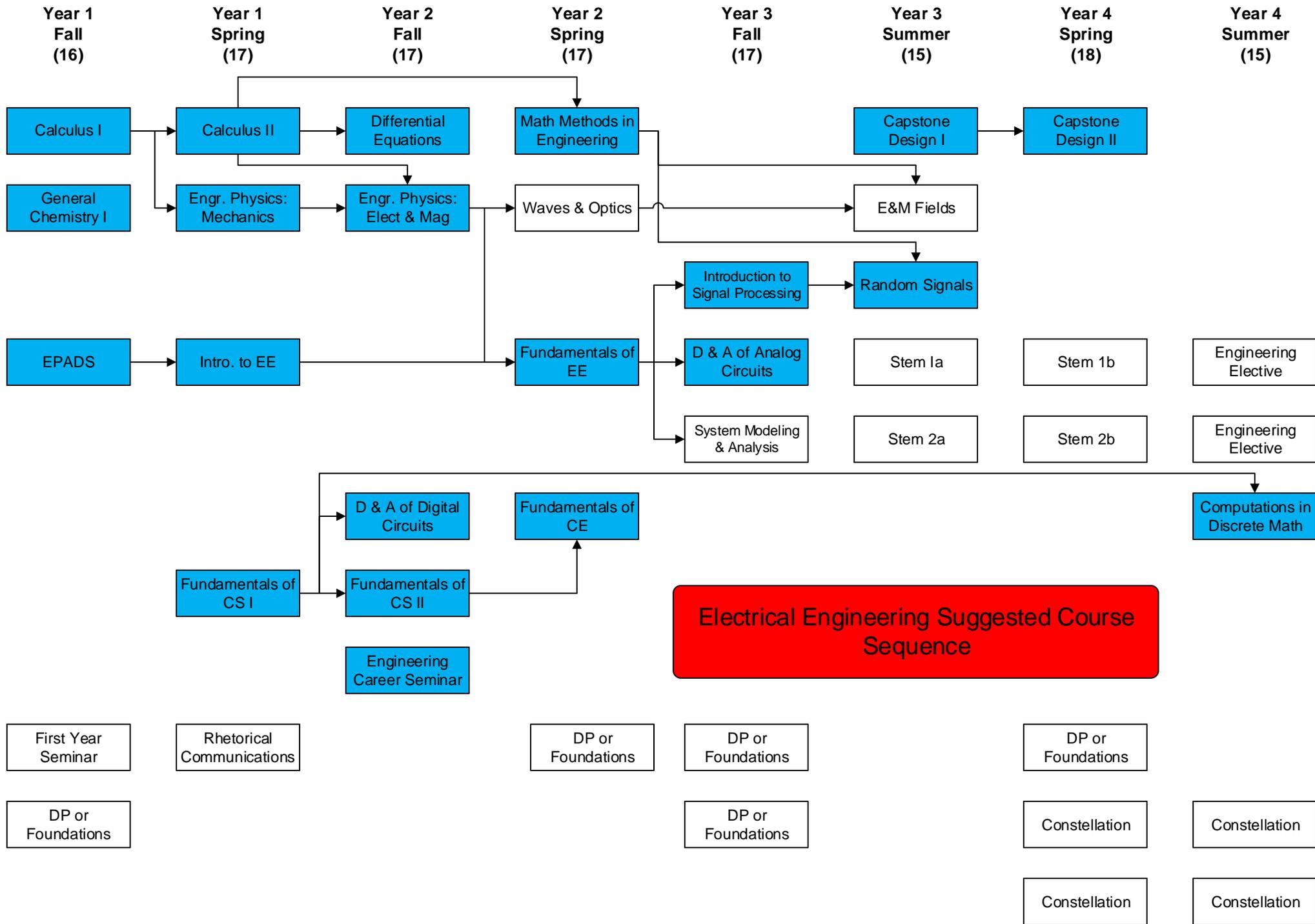
12.0 Suggested Course Sequence (Electrical Engineering)

The table below shows the suggested course sequence for electrical engineering majors. Students should work with their faculty advisors to determine the schedule that fits best with their circumstances. A flow chart illustrating the prerequisite chain is included on the following page.

	FALL TERM	SPRING TERM	SUMMER TERM
1 st YEAR (33)	Calculus I (4) General Chemistry I (4) EPADS I (2) First Year Seminar (3) DP—Humanities (3)	Calculus II (4) Eng. Physics – Mechanics (5) Intro. to Electrical Eng. (2) Fundamentals of Computer Science I (3) Rhetorical Communication (3)	Summer Break
2 nd YEAR (36)	Differential Equations (4) Eng. Physics – E&M (5) Fundamentals of Computer Science II (3) Design & Analysis of Digital Circuits (4) Eng. Career Seminar (1)	Mathematical Methods in Engineering (3) Fundamentals of Computer Engineering (4) Fundamentals of Electrical Engineering (4) Waves & Optics (3) Foundations Course (3)	CO-OP I (2)
3 rd YEAR (34)	Design & Analysis of Analog Circuits (4) Intro to Signal Processing (4) System Modeling (3) Disciplinary Perspectives (3) Foundations Course (3)	CO-OP II (2)	Capstone Design I (3) Random Signals (3) Electromagnetic Fields (3) Stem 1a (3) Stem 2a (3)
4 th YEAR (35)	CO-OP III (2)	Capstone Design II (3) Stem 1b (3) Stem 2b (3) Foundations Course (3) Constellation 1 (3) Constellation 2 (3)	Engineering Elective (3) Engineering Elective (3) Discrete Math w/Apps (3) Constellation 3 (3) Constellation 4 (3)

Engineering Stems (Choose two, 6 credits each) (12 credit hours)

<i>Automation and Control Systems:</i> EGR392 Automatic Controls (3) EGR442 Applied Controls (3)	<i>Embedded Systems:</i> (Required for CE Majors) ECE370 Microprocessor System Design (3) ECE420 Embedded Systems Design (3)
<i>Communication Systems:</i> ECE380 Communication Networks (3) ECE430 Communication Systems (3)	<i>Power Systems:</i> ECE360 Power Systems (3) ECE410 Power Electronics (3)



- Six credits of cooperative education are required over the three semesters: Summer Year 2, Spring Year 3 and Fall Year 4
- Courses filled in with blue indicate common required engineering, math and science courses for CE and EE majors

- Stems are:
- Automation & Control Systems: Automatic Controls; Applied Controls
 - Communication Systems: Communication Networks; Communication Systems
 - Embedded Systems (required for CE): Microprocessor System Design; Embedded System Design
 - Power Systems: Power Systems; Power Electronics

Stem Course and Capstone Design Prerequisite Flow

