

Updated May 2019

Hello dear incoming ECE Freshmen,

Welcome to the UIUC ECE department. This recommended plan is suggested because many seniors have found this workload more suited if you wish to:

1. Graduate in 3 years
2. Gain access to more interesting classes early on

Here are the recommended (please take them for your own sake) courses for your first year. Many seniors feel it manageable because of the rigour we received in Singapore.

- ECE 110 – Introduction to Electronics (3 hours)
- ECE 120 – Introduction to Computing (4 hours)
- ECE 210 – Analog Signal Processing (4 hours)
- ECE 220 – Computer Systems & Programming (4 hours)
- PHYS 211 – Univ. Physics: Mechanics (4 hours)
- PHYS 212 – Univ. Physics: Elec & Mag (4 hours)
- PHYS 213 – Univ. Physics: Thermal Physics (2 hours)
- PHYS 214 – Univ. Physics: Quantum Physics (2 hours)
- MATH 231 – Calculus II (3 hours)
- MATH 241 – Calculus III (4 hours)
- MATH 286 – Introduction to Differential Equations Plus (4 hours)
- RHET 105 – Principles of Composition (4 hours)

Notes:

1. *You only need to take RHET 105 if you have not scored at least a 680 for the Verbal section of your SAT.*
2. *You can get credits for PHYS 211 & PHYS 212 if you have taken H2 Physics (A-levels) or have gotten 5 on Physics C AP test. You can get credits for MATH 220 if you have H2 Mathematics (A-levels) or have gotten 5 on Calculus BC.*

The norm for the university is to split half the students to take ECE 110 for the first semester and the other half to take ECE120¹. CompEs start with ECE 120, while EEs start with ECE 110. However, no matter what you do: beg, lie, cheat or steal, you MUST take ECE 110 during your first semester. This is the prerequisite to ALL ECE classes. Therefore, if you don't take it, it will set your ECE classes back by one semester. This is definitely not good idea.

Usually, when you go for advising during your orientation, speak to your advisor about your tight schedule (you have to complete by 3 years due to tight budget, commitments, scholarship requirements, etc.) and they will usually let you take BOTH ECE 110 and ECE 120 together during the first semester. It can be done and has been done many times before by many seniors. Also, speak to

¹ This is primarily due to a demand-supply issue, hence the ECE department came up with this idea.

Professor Schmitz² if you're not scheduled to take it during your first semester. Professor Schmitz is quite a good lecturer for the course.

Note: It is increasingly difficult to take both classes due to the department being increasingly strict about getting students to follow the school's designed ECE curriculum. Even if you can't take both, it only sets you back for some classes by one semester - which isn't actually that big of a deal.

Next is RHET 105. The school normally splits half the freshman based on their University Identification Number (UIN) by even or odd. You could try to appeal or take it the second semester. It will not affect your education path greatly.

PHYS213 and PHYS 214 are half semester courses, and many people take them together in one semester. The first half of PHYS 214 is basic physics: waves and superposition - which you'll find quite familiar as it is similar to 'A' Level physics. The second half will cover more unfamiliar areas such as quantum physics. More often, PHYS 213 will prove to be harder due to its bad course structure and it being offered during the second half of the semester, where all your other classes get harder and more time-consuming.

A typical 1st year schedule will look like:

1st Semester	2nd Semester
ECE 110 (3 hours)	ECE 210 (4 hours)
ECE 120 (4 hours)	ECE 220 (4 hours)
MATH 241 (4 hours)	MATH 286 (4 hours)
RHET 105 (4 hours)	PHYS 213 (2 hours)
Gen. Ed. of your choice (3 hours)	PHYS 214 (2 hours)
TOTAL: 18 hours	TOTAL: 16 hours

Notes:

- For people without credits in MATH 231, you may choose to take the Proficiency Test for it in the first semester when school starts. If you manage to pass it, you can take MATH 241 right away in your first semester. You should first register for MATH 231 and switch over to MATH 241 only after you have gotten the results of the Proficiency Test. Information regarding the proficiency test can be found at <http://www.math.uiuc.edu/UndergraduateProgram/profific.html>
- Also, some people also choose to take Proficiency Tests for PHYS 213 and PHYS 214. So if you want to do that, you can replace them with some Gen. Ed. Modules in your second semester. Information regarding the proficiency test can be found at <http://physics.illinois.edu/courses/proficiency.asp>
- Lastly, for Computer Engineering majors, you might want to take CS 173 in your first year, as that will allow you to take CS 225 as soon as possible. CS 225 is an important foundation course that will prepare you for internships and future coursework. Alternatively, the CS 173 proficiency test is known to be relatively easy as well.

Here is the list of classes you get credit for if you took the subjects in the 'A' Levels:

- Biology – Free Elective
- Math – MATH 220

² <https://www.ece.illinois.edu/directory/profile/cdschmit>

- Physics – PHYS 211, PHYS 212
- Chemistry – CHEM 202, CHEM 203, CHEM 204, CHEM 205

² <https://www.ece.illinois.edu/directory/profile/cdschmit>

- Economics – ECON 102, ECON 103

If anyone took Literature, History and other stuff, it goes towards Free Electives. It is about 8 hours per 'A' Level subject taken, so if you took 4 subjects, you will be up by about 32 hours. You need 128 hours to graduate. That's why it is very possible to graduate in 3 years. Proper planning is needed to make your life easier without taking summer school or overloading (aka killing yourself).

Still, be prepared to work very hard because you are in one of the top engineering schools in the U.S. Nevertheless, don't forget to relax, have some fun and mingle around with the Americans and other International students when you have the time. This is what overseas study is all about.

Good luck!!!

ECE SSA Seniors

TEXTBOOK LIST

(If the course is not listed here, it means either it doesn't require a textbook, OR you will need to buy the notes from the university, OR the textbook is only available in the US)

You can easily borrow textbooks from libraries if you want to save money. It can be renewed like 6 times so you can essentially loan it for the entire semester³. Also, many of us seniors have textbooks passed down from our predecessors. You can get your textbooks from us.

- ECE 120, ECE 220: Patt & Patel, Intro to Computing Systems, 2nd Ed (\$150 brand new)
- ECE 210: Kudeki and Munson, Analog Signal Processing

UNDERGRADUATE MINORS

If you would like to learn more about the undergraduate minors that are available and what the specific course requirements are for those minors, visit this website:

<http://provost.illinois.edu/programs/advising/minors.html>

Some minors that ECE seniors have taken:

- Business Minor
- Psychology Minor
- Computer Science Minor (only for Electrical Engineering major)

USEFUL LINKS

Schedule Planner (made in UIUC!): <https://www.scheedule.com/>

University Bookstores:

1. Illini Union Bookstore: <http://www.uofibookstore.uiuc.edu/>
2. T.I.S. College Bookstore: <http://www.tisbookui.com/>

Website to buy/sell cheap used textbooks: <http://www.illinibookexchange.com/>

Website to see if the professor for your course is good: <http://www.ratemyprofessors.com/>

³ <https://vufind.carli.illinois.edu/all/vf/> Library loans are free. Also, book your loan early!