

# “I Can't Really Be A Physics Major, Can I?”

(Play to the tune of *Battle without Honour*, by Tomoyasu Hotei)

## Freshmen Year

### Fall

Math 1131 (Calc I)  
Course for old major  
Course for old major  
Course for old major

### Spring

Physics 1601 (Intro Mechanics)  
Math 1132 (Calc II)  
Course for old major  
Course for old major

## Sophomore Year

### Fall

Course for old major  
Physics 1602 (Intro E&M)  
Gen Ed  
Gen Ed

### Spring

Physics 2300 (Dev of Quantum)  
Math 2110 (Calc III)  
Course for old major  
Gen Ed  
Gen Ed

## Junior Year

### Fall

Physics 2501 (Lab)  
Physics Elective  
Physics Elective  
Math 2410 (Differential Eqtns)  
Gen Ed

### Spring

Study Abroad%  
(all Gen Eds)

## Senior Year

### Fall

Physics 3101 (Mechanics I)  
Physics 3201 (E&M I)  
Physics 3401 (QM I)  
Math 2210 (Linear Alg)  
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### Spring

Physics 3202 (E&M II)  
Physics 3300 (Stat Mech)  
Physics 3402 (QM II)  
Physics 4095 (Math Methods)  
Physics 3102 (Mechanics II)\*

## Super Senior

### Fall

Physics 2502/3150/4150 (Adv Lab)  
Physics 4099 (Independent Study)+  
Physics 5101/5201(Grad Course) ^  
Physics Elective  
Finish Gen Eds  
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### Spring

Physics 4096 (Thesis Writing)  
Physics 5401 (Quantum Mechanics)  
Physics Elective@  
Physics Elective@

Why does this plan of study span five years? Because, not everybody knows what they want to do right off the bat, or they thought they did and had a change of heart. With that in mind, this is meant to guide students in their 2<sup>nd</sup> to 4<sup>th</sup> semesters and, up until now, were in a related field (engineering, math, chemistry, biology) and realized that physics is right for them. You will be prepared to enter a Ph.D. program by the time you graduate.

If you are in the middle of your fifth semester or later, I suggest getting advice from the Associate Department Head for Undergraduate Education (currently Barry Wells) to figure out how to graduate within 4-5 years. Have hope, it has been done, but it requires careful planning and coordination with the department.

Depending on which courses you took and when, you may be finished with all your requirements to graduate in 4½ years. Keep in mind though, most graduate schools do not admit students in the spring, and the extra semester in graduate courses (notably Mechanics and Quantum) will prepare you for your first year of graduate school.

% By not studying abroad at this point, it is possible to graduate in four years, but no non-required courses can be taken and the required courses will be piled on top of each other. However, the remainder of this plan of study is geared to a student who does something not related to physics for a semester (take a semester off, medical emergency, study abroad, work, etc).

\* Only audit mechanics II, but actually go to the audit!! There is a lot of overlap with Theoretical Mechanics, which will be taken during the fifth year and/or in graduate school.

! You should start doing research now. Do it for work-study instead of credit if you have to, or see if you can get funds from your professor's grants (hint: you can't). The important thing is you start research now so you get excited about it throughout fall and spring semesters and can continue over the summer on an REU or SURF grant, and finally write a thesis the next year (and hence, write about writing a thesis on your graduate school applications, which looks très good).

+ Recommendation: do the independent study on the same topic as your ongoing research, and with either your research advisor or a professor in his workgroup. Only attempt to take this on if you really like your research thus far.

^ Take either theoretical mechanics or math methods, depending on who is teaching it. Ask current 1<sup>st</sup> and 2<sup>nd</sup> year grad students to get the dirty on the current professors.

# Do not, under any circumstances, underestimate the time the GRE, physics GRE, and graduate school application process take out of your semester. Those three things together take about 5 credits worth of time this semester.

@ These physics electives should be upper level electives that are half graduate students and half undergraduate students. i.e. Astro, Particles and Nuclei, Lasers, Solid States, etc.

Good luck, physics-major late comer! Don't ever let the people on the regular track get you down!  
-RMD