Physics Major: Foundation
(August 2019)

For students enrolling in Math 110, 114, or above in the fall of the first year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
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</thead>
<tbody>
<tr>
<td>Year 1:</td>
<td></td>
</tr>
<tr>
<td>Physics 110</td>
<td>Physics 117</td>
</tr>
<tr>
<td>CSP Seminar</td>
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<tr>
<td>Core Distribution</td>
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</tr>
<tr>
<td>(Math 110, 114)</td>
<td>Math 120</td>
</tr>
<tr>
<td>CS 165*†</td>
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| Year 2:                           |                                    |
| Physics 230                       | Physics 240                        |
| Foreign Language 1                | Foreign Language 2                 |
| Core Distribution                 | CS 131#                            |
| (Math 212, 214)†                  | (Math 212, 214)†                   |

See Physics Major: Concentrations for required and suggested coursework in Years 3, 4

* Students are strongly encouraged to take this course by the end of their sophomore year.

† Two-credit course

‡ These courses may be taken in either order.

(...) One of the courses given in parentheses should be taken.

# Recommended, but not required for the Major.

1. Students who wish to take courses without the prerequisites must petition the Physics Department.

2. If language proficiency is met with fewer courses than shown, additional electives may be chosen.
Physics Major: Concentrations
(August 2019)

Note: All Concentrations require Senior Seminar: Physics 490 and 491 (two credits each)

Physics: Physics 310, 315*, 316*, 320, 330, 340, 350; one Selective*

Year 3:
- Physics 310
- Physics 320

Year 4:
- Physics 315†
- Physics 350
- Physics 490

Mathematics: Physics 310, 320, 350; one Selective*; 8 units in both Physics and Math above 300 (excl. Senior Seminar)

Year 3:
- Physics 310
- {Physics 320/Math-CS}

Year 4:
- {Math-CS/Physics 320}
- Physics 315‡
- Physics 350
- Physics 490

Chemistry: Physics 310, 320, 330 or 350; 340; Chemistry 120 or 130; 220, 221, and 240

Year 3:
- Physics 310
- Chem I
- {Physics 320}

Year 4:
- Chem III
- Physics 490
- {Physics 320}

Geology: Physics 310; Two of 320, 330, or 350; Geo 105, 225, 235; 245 or one 300-level Geology course

Year 3:
- Physics 310
- [Physics 320] Geology 105
- [Physics 350] Geology 225

Year 4:
- [Physics 350] Geology 225
- [Physics Selective] Geology 245

Comp Sci: Physics 310; Two of 320, 330, 340, 350; Math 210; CS 131, 229, 239, and one 300-level (excl. Practicum, Senior Seminar)

Year 3:
- Physics 310
- [Physics 320] CS 131

Year 4:
- [Physics 350] CS 239/CS 300-level
- Physics 490
- [Physics Selective]

Education: Physics 320, three Selectives*; Ed 201; Ed 207; and 4 units of Ed 300

Year 3:
- Physics 320
- Ed 201

Year 4:
- Ed 300
- Physics 490

A “Physics Selective” is a 260/360 series course, or any 300-level physics course not otherwise required for the Concentration.

A two-credit course.

Recommended courses for the eight Physics units above 300 required for the Math Concentration.

Physics 350 is only offered in the fall; Physics 330 is only offered in the spring

Strongly recommended course, but not required for the Concentration.

(…) Only one of the courses given in parentheses is required for the Concentration.

(…) Course sequences listed in curly brackets may be taken in either junior or senior year.

[...] A course listed in square brackets may be taken at any time.
Combined Plan (3-2 Program)
Physical Sequence
(August 2019)

The Physical Sequence is appropriate for all areas of engineering. Prospective 3-2 students are urged to meet with the 3-2 Liaison Officer before the end of sophomore year to identify any additional required courses specific to their chosen field.

Note that beginning with incoming Fall '19 students, Columbia no longer guarantees admission.

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<td>(Foreign Language 2/Elective)</td>
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<td>(CS 229/Math 341/Math 342)</td>
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Notes:
1. Prospective 3-2 students must place into Math 110 or above. Please consult the Mathematics Department for details.
2. Econ 101 is required to qualify for Columbia’s guaranteed admission.
4. Students considering Electrical or Biomedical Engineering should take Physics 262: Electronics.

* A course from the 260/360 series, or any 300-level physics course not otherwise required for the 3-2 Program.
† Two-credit course
‡ Students should complete both these courses by the end of sophomore year.
# These courses may be taken in either order.
(…) One of the courses given in parentheses should be taken.
(...) Courses in curly brackets are not actually required of 3-2 students, but are strongly recommended since they allow for an easy transition into the physics major should the student decide not to continue in the 3-2 program.