

**The University of New Mexico**  
**Department of Physics and Astronomy**  
505-277-2616

**Suggested Schedule for BS in PHYSICS with Optics Concentration**

This program is flexible; details MUST be discussed with an advisor. Math Minor is automatic.

**Freshman First Semester**

Physics 160 & 160L	3+1
Physics 167* (Problems)	1
Math 162 (Calc I)	4
Chem. 121 & 123L <sup>#</sup>	3+1
Group Requirement	<u>3</u>
	16

**Sophomore First Semester**

Physics 262 & 262L	3+1
Math 264 (Calc. III)	4
Physics 267* (Problems)	1
Group Requirement	3
Group Requirement	3
Group Requirement	<u>3</u>
	18

**Junior First Semester**

Physics 301 (Thermo) & 311 (Prob)	3+1
Physics 303 (Mech.I) & 313 (Prob)	3+1
Physics 307L (Junior Lab)	3
Math 312 (PDE's)	3
Group Requirement	<u>3</u>
	17

**Senior First Semester**

Physics 302L	3
Physics 406 (E&M II) & 416 (Prob)	3+1
Optics Elective I <sup>**</sup>	3
Group Requirement	3
Science/Eng'g/Math Elective <sup>§</sup>	<u>3</u>
	16

**Freshman Second Semester**

Physics 161 & 161L	3+1
Group Requirement	3
Math 163 (Calc II)	4
Chem. 122 & 124L <sup>#</sup>	3+1
Group Requirement	<u>3</u>
	18

**Sophomore Second Semester**

Physics 330 (Modern Physics))	3
Math 311 (Vector Calc)	3
Math 316 (ODE's)	3
Physics 290 (Matlab)	3
Group Requirement	3
Elective	<u>3</u>
	18

**Junior Second Semester**

Physics 302 (Optics)	3
Physics 304 (Mech II) & 314 (Prob)	3+1
Physics 405 (E&M I) & 415 (Prob)	3+1
Math 321 (Linear Algebra)	3
Group Requirement	<u>3</u>
	17

**Senior Second Semester**

Science/Eng'g/Math Elective <sup>§</sup>	3
Group Requirement	3
Optics Elective II <sup>**</sup>	3
Group Requirement	3
Group Requirement	<u>3</u>
	15

\*Although not required for graduation, these courses are recommended for persons interested in further study of Physics.

<sup>#</sup>Chemistry 131L (4 credits) & 132L (5 credits) are Honors Chemistry classes, and are good alternatives for well-prepared students.

<sup>\*\*</sup>Optics Elective I must be selected from ECE 475 (Optoelectronics), Physics 463 (Adv Optics I), Physics 464 (Lasers I), or Astronomy 426 (Optics & Instrumentation). Optics Elective II must be selected from Physics 430 (Solid State), Physics 477L (Experimental Optics Lab), Physics 493L (Senior Physics Lab), or Physics 554 (Adv Optics II). Either ECE 475 or Physics 430, or both, must be taken to ensure breadth in material physics.

<sup>§</sup>One of the Science/Engineering/Math electives must be at the 200 level or higher while the other must be at the 300 level or higher. See Note F below.

**Notes:**

- A. All students admitted to Arts and Sciences will be required to have a demonstrated competency in English writing. This may be accomplished by passing any one of several standard tests. See the current catalog.
- B. **Group Requirements.** Please see the Undergraduate Catalog for details about core requirements of the university and the College of Arts and Sciences.
- C. Students within 9 hours of the BS degree may petition to receive **graduate credit** for certain courses. (See the Graduate Bulletin.)
- D. The **Departmental Honors Program** requires 2 semesters of an Honors Section of Physics 456. The student and faculty mentor present a mutually-agreeable topic to the department for approval. Also, the University requires a GPA of at least 3.25. See the Honors web page for more information at <http://panda.unm.edu/AcadAdv/honors.html>
- E. Physics 167, 168, and 267 are Recitation Sections associated with Physics 160, 161 and 262, respectively. These recitation sessions are practice in solving problems from the associated lecture courses. They are optional, but very useful.

F. Math 313, Physics 466, Physics 491, and Physics 492 are especially recommended as electives. Math 314 is **not** an acceptable substitute for Math 321. Physics 491 is strongly recommended for students wishing to pursue a graduate degree in optical sciences.