PHYSICS MAJOR CHECKLIST

Fill in term and year in the blank next to the course and credits. You must have a total of at least 120 credits, with at least 42 credits at the 300 level or above. To aid in planning, Fall/Spring only courses are indicated by (F) or (S) after the course title.

1. Physics (41 credits)

PH 141 (Phys. Sci. Engr. I) 5 ______ PH341 (Mechanics) (F) 4 ______
PH 142 (Phys. Sci. Engr. II) 5 ______ PH351 (Electricity & Magnetism) (S) 4 ______
PH 245 (Electronics) (F) 3 ______ PH353 (Optics & Waves) (F) 4 ______
PH 293 (Selected Topics) 1 ______ PH 361 (Thermodynamics) (S) 3 ______
PH 314 (Modern Physics) 4 ______ PH 425 (Advanced Lab) (S) 2 ______
PH 315 (Modern Physics Lab) (S) 2 ______ PH 451 (Quantum Mech. I) (F) 3 ______
PH 492 (Seminar) (S) 1 ______

2. Related Courses (30-31 credits)

CHEM 111 (Chemistry I) 4 ______ MATH 160 (Calculus I) 4 ______
CHEM 112 (Chemistry Lab I) 1 ______ MATH 161 (Calculus II) 4 ______
CO 150 (Composition) 3 ______ MATH 261 (Calculus III) 4 ______
CO 300 or other selected AUCC Category 2 3 ______ MATH 340 or 345 (Differential Eqs.) 4 ______
CS 155/6/7 or 160 or 163 or 164 3 or 4 ______

Notes: CS 160 is being replaced by CS 163 (Java: No Prior Programming) and CS 164 (Java: Prior Programming) in Fall 2016. Novice programmers should take CS163; experienced programmers can take CS164 or the three one-credit courses CS 155, 156, 157 (Unix shell-scripting and C programming, all intended to be taken in one term as sequential 5-week courses). MATH 369 and MATH 332, or PH 327, are recommended as useful preparation for PH 451, but are not required. CHEM 301, CO 301B, and LB 300 are the “other selected AUCC Category 2” courses; JTC300 requires permission of the Key Advisor.

3. All University Core Curriculum (15 credits)

3B (Arts/Hum.) 6 ______ 3C (Soc/Behav. Sci.) 3 ______
3D (Hist. Perspect.) 3 ______ 3E (Glob/Cult. Awareness) 3 ______

**Physics Concentration**

- PH 452 (Quantum Mech. II) (S) 3
- PH 462 (Statistical Physics) (F) 3

*Either* PH 327 (Analytical Techniques) (F) 3

*Or* Math & Statistics Electives (2 courses) 6

Technical Electives 6

**Applied Physics Concentration**

From one of the Fields (12) (must include at least 6 credits at the 300 level or above)

*Either* PH 327 (Analytical Techniques) (F) 3

*Or* Applied Physics Technical Electives (List 1) 3 (List 2) 3

5. **Unrestricted Electives (15-19 credits)**