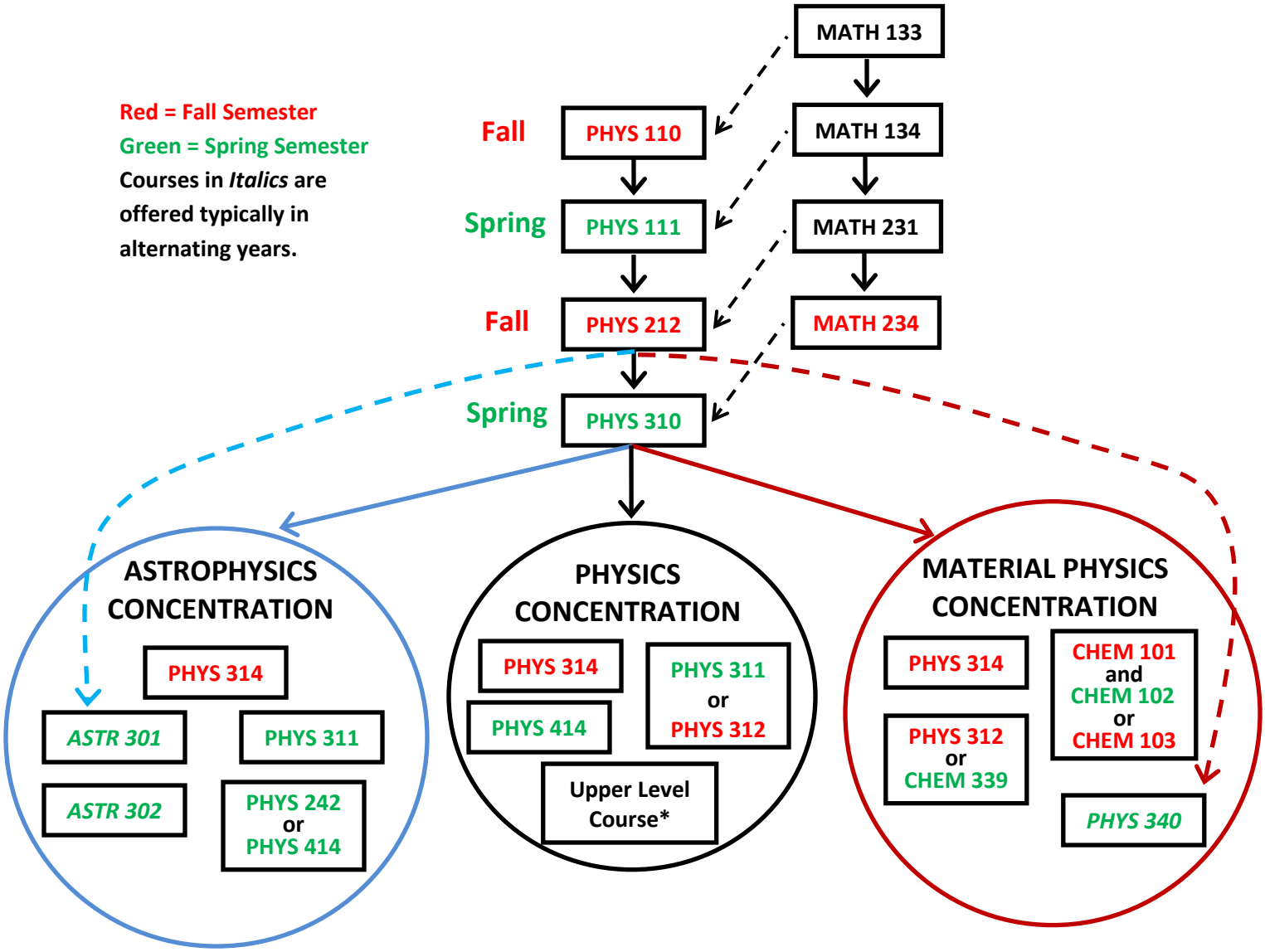
# Physics & Astronomy Major: Concentration Pathways

All versions of the major involve the following first four courses (and associated math courses) taken in sequence. For the remaining courses associated with the three possible concentrations, the sequence is more flexible; some courses, such as CHEM 103, can be taken in a student's very first semester, while others, such as PHYS 414, can only be taken as a junior or senior.




PHYS 110 Mechanics & Relativity
PHYS 111 Electricity,Magnetism, Thermo
PHYS 212 Modern Physics
PHYS 242 Electronics
PHYS 310 Classical Mechanics
PHYS 311 Electricity & Magnetism*
PHYS 312 Quantum Mechanics*

PHYS 314 Intermediate Lab
*PHYS 340 Materials Physics**
PHYS 414 Advanced Lab
*ASTR 301 Stars & Planets**
*ASTR 302 Galaxies & Cosmology**
MATH 133 Calculus I
MATH 134 Calculus II

MATH 231 Multivariable Calc.
MATH 234 Differential Eqns.
CHEM 101 Structure & Reactivity
CHEM 102 Chemical Principles
CHEM 103 Topics in Gen. Chem.
CHEM 339 Quantum Chemistry

**Other Intermediate and Upper Level Electives:**
*ASTR 201 Intro. Astrophysics, PHYS 290 Computational Modelling, PHYS 316 Waves & Optics*, PHYS 321 General Relativity**, PHYS 410 Statistical Mechanics*, PHYS 411/412 Electrodynamics/Applied Quantum Mechanics*