

BACHELOR OF ARTS IN ASTRONOMY DEGREE COURSES

Open Electives to be added as appropriate to bring the total number of hours to the minimum of 120 needed for graduation with a B.A.

Six hours of Mathematics and Natural Science (Physics) double counted towards SAGES Breadth Requirement and 1 required math course double counted towards SAGES Quantitative Reasoning requirement.

Astronomy Hours: 20 required, up to 23 with Astronomy capstone

ASTR 151 Doing Astronomy (1) (Suggested but Not Required For the Major)

ASTR 221 Stars and Planets.....(3-0-3)

ASTR 222 Galaxies and Cosmology.....(3-0-3)

ASTR 306 Astronomical Techniques (SAGES Dept Seminar)....(3-0-3)^a

ASTR 309 Astrophysics Seminar I.....(1-0-1)

ASTR 310 Astrophysics Seminar II.....(1-0-1)

ASTR 311 Stellar Physics.....(3-0-3)^a

ASTR 323 The Local Universe(3-0-3)^a

ASTR 328 Cosmology and the Structure of the Universe(3-0-3)^a

ASTR 333 Dark Matter.....(3-0-3)^a

ASTR 351 SAGES Astronomy Capstone..... (4-0-(3-4)^b

a. 300 level Astronomy Courses: 4 of the following 5 are required: (ASTR 306, 311, 323, 333, 328)

b. A SAGES Capstone Experience is required of all students. The Astronomy BA does *not* require the Astronomy Capstone but only that a Capstone be taken. The Astronomy Capstone requires 1 hour in the Senior Fall Semester and 2-3 hours in the Senior Spring Semester. If another Capstone is taken the number of hours may be different.

Physics Hours: 26

PHYS 121 General Physics I: Mechanics.....(4-0-4)

PHYS 122 General Physics II: Electricity and Magnetism..... (4-0-4)

PHYS 221 General Physics III: Modern Physics.....(3-0-3)

PHYS 250 Mathematical Physics & Computing.....(3-0-3)

PHYS 310 Classical Mechanics.....(3-0-3)

PHYS 313 Thermodynamics & Statistical Mechanics(3-0-3)

PHYS 324 Electricity & Magnetism I.....(3-0-3)

PHYS 326 Contemporary Physical Optics.....(3-0-3)

PHYS 331 Quantum Mechanics I.....(3-0-3)

Math Hours: 14

MATH 121 Calculus for Science & Engineering I.....(4-0-4)

MATH 122 Calculus for Science & Engineering II.....(4-0-4)

or MATH 124 Calculus II.....(4-0-4)

MATH 223 Calculus for Science & Engineering III.....(3-0-3)

or MATH 227 Calculus III.....(3-0-3)

MATH 224 Elementary Differential Equations.....(3-0-3)

or MATH 228 Differential Equations.....(3-0-3)

ENGR/Computing Hours: 3

ENGR 131 Elementary Computer Programming.....(3-0-3)

Technical Electives Hours: 6

Technical Electives are additional courses which satisfy interests of the student but also fall within the science / mathematics objectives of the major. For a complete list of approved technical electives see advisor.

Approved Technical Electives - B. A. In Astronomy (This is not an exhaustive list):

EEPS 345 Planetary Materials..... (1-3)

MATH 201 Intro to Linear Alg for Appl..... (3)

PHYS 204 Advanced Instrumentation Lab..... (4)

PHYS 316 Introduction to Nuclear and Particle Physics..... (3)

PHYS 325 Electricity and Magnetism II (3)

PHYS 326 Physical Optics (3)

PHYS 332 Intro to Quantum Mechanics II..... (3)

PHYS 349 Meth of Mathematical Phys I..... (3)

PHYS 350 Meth of Mathematical Phys II (3)