BACHELOR OF ARTS IN ASTRONOMY DEGREE COURSES

Total Hours In Core and Departmental Requirements: 107

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: 17 required, up to 21 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 333 Dark Matter.....(3-0-3)[a]
ASTR 328 Cosmology and the Structure of the Universe .....(3-0-3)[a]
ASTR 351 SAGES Astronomy Capstone..... (4-0-(3-4)[b]

a. 300 level Astronomy Courses: 3 of the following 5 are required: (ASTR 306, 311, 323, 328, 333)
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: 29

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):

CHEM 107 Properties and Structure of Matter I
CHEM 108 Properties and Structure of Matter II
PHYS 204 Advanced Instrumentation Lab
PHYS 316 Introduction to Nuclear and Particle Physics
PHYS 325 E&M II
PHYS 332 QM II