Cross Listing:

Prerequisite:


Methods and presentation; for non-scientists. Companion course for

Black Holes; emphasis on the evidence-based decision making process,

Hands-on understanding of the concepts surrounding the Big Bang and
galaxies; introduction to cosmology; physical makeup of individual
galaxies and large scale structure in the universe; origin and eventual fate
of the universe; interpretation of observational data as it relates to baryonic
matter, Dark Matter and cosmological models with Dark Energy.

Prerequisite: ASTR 314.

ASTR 485 Directed Studies

Credits 1 to 4. 1 to 4 Other Hours.

Special work in laboratory or theory to meet individual requirements in
cases not covered by regular curriculum; intended for use as lower-level
credit.

Prerequisite: Approval of department head.

ASTR 289 Special Topics in...

Credits 1 to 4. 1 to 4 Lecture Hours. 0 to 4 Lab Hours.

Selected topics in an identified area of astronomy. May be repeated for
credit.

Prerequisite: Approval of instructor.

ASTR 291 Research

Credits 0 to 4. 0 to 4 Other Hours.

Research conducted under the direction of faculty member in astronomy.
May be repeated 2 times for credit.

Prerequisites: Freshman or sophomore classification and approval of
instructor.

ASTR 314 Survey of Astronomy

Credits 3. 3 Lecture Hours.

Primarily for majors in science and engineering. Kepler's laws, law
of gravitation, solar system, stars, stellar evolution, nucleosynthesis,
cosmology, clusters, nebulae, pulsars, quasars, black holes.

Prerequisite: PHYS 208.

ASTR 320 Astrophysical Research Methods

Credits 2. 2 Lecture Hours.

Background and tools used by astronomical researchers in performing
analyses; topics include reduction of photometric and spectroscopic
data, bivariate and multivariate statistical methods and chi-squared
minimization.

Prerequisites: ASTR 314.

ASTR 401 Stars and Extrasolar Planets

Credits 3. 3 Lecture Hours.

How stars are born, how internal structure changes, nuclear fuel burned
and ultimate fate; extrasolar planet detection, formation, properties and
habitability.

Prerequisite: ASTR 314.

ASTR 403 Extragalactic Astronomy and Cosmology

Credits 3. 3 Lecture Hours.

Physical makeup of individual galaxies and large scale structure in the
universe; origin and eventual fate of the universe; interpretation
of observational data as it relates to baryonic matter, Dark Matter and
cosmological models with Dark Energy.

Prerequisite: ASTR 314.

ASTR 485 Directed Studies

Credits 1 to 4. 1 to 4 Other Hours.

Special work in laboratory or theory to meet individual requirements in
cases not covered by regular curriculum.

Prerequisite: Approval of department head.

ASTR 489 Special Topics in...

Credits 1 to 4. 0 to 4 Lecture Hours. 0 to 4 Lab Hours.

Selected topics in an identified topic of astronomy. May be repeated for
credit.

Prerequisite: Approval of instructor.
ASTR 491 Research
Credits 0 to 4. 0 to 4 Other Hours.
Research conducted under the direction of faculty member in astronomy.
May be repeated for credit. Registration in multiple sections of this course is possible within a given semester provided that the per semester credit hour limit is not exceeded.
Prerequisites: Junior or senior classification and approval of instructor.