

Graduate Council Report
February 7, 2013

New Course Requests

ASTR 601. Extragalactic Astronomy. (3-0). Credit 3. Overview of observations of galaxies and large-scale structures in the Universe to understand their formation and evolution from theoretical and observational perspectives. Galaxy luminosity functions; evolution of stellar populations and chemical enrichment; clusters and AGN. Prerequisite(s): PHYS 601; or ASTR 314 and PHYS 302; or permission of instructor. Cross-listed with PHYS 641.

ASTR 602. Astronomical Observing Techniques and Instrumentation. (3-0). Credit 3. Theory and practice of obtaining and analyzing astrometric, photometric, spectroscopic, and interferometric measurements of astronomical sources across the electromagnetic spectrum. Principles of design, fabrication, assembly, test, deployment, and use of astronomical instruments. Prerequisite(s): PHYS 615 or equivalent; or permission of instructor. Cross-listed with PHYS 642.

ASTR 603. Stellar Astrophysics. (3-0). Credit 3. Theoretical and observational aspects of stellar astrophysics. Thermodynamic properties of stellar interiors; energy sources; nuclear processes and burning stages; convective and radiative energy transport; evolutionary models; atmospheres; stability and pulsations; chemical enrichment processes; population synthesis. Prerequisite(s): PHYS 606 and PHYS 607 or equivalents; or permission of instructor. Cross-listed with PHYS 643.

ASTR 604. Cosmology. (3-0). Credit 3. Basic principles of modern cosmology and particle physics. General relativity; cosmic inflation; Big Bang nucleosynthesis; expansion of the universe; cosmic microwave background; large-scale structure of the Universe; properties of particles; dark matter; dark energy. Prerequisite(s): PHYS 615 or equivalent; or permission of instructor. Cross-listed with PHYS 644.

ASTR 605. Galactic Astronomy. (3-0). Credit 3. Basic nature and structure of constituents of Milky Way galaxy. Distribution and motions of stars and gas; origin evolution and distribution of large-scale chemical abundances and kinematic patterns across populations; models of galaxy formation and implications of modern observations. Prerequisite(s): PHYS 601 and PHYS 607 or equivalents; or permission of instructor. Cross-listed with PHYS 645.

ASTR 606. Radiative Transfer. (3-0). Credit 3. Fundamental radiative processes in stellar and planetary atmospheres. Radiative fields; Stokes parameters; Mueller matrix formalism; radiation from moving charges; Compton scattering; plasma effects; atomic structure and radiative transitions; molecular structure and spectra; multiple scattering. Prerequisite(s): PHYS 302, PHYS 304, PHYS 408 and PHYS 412 or equivalents; or permission of instructor. Cross-listed with PHYS 646.

ECMT 674. Economic Forecasting. (3-0). Credit 3. Empirical application of econometric techniques to prediction in economics; model building and specification; examination of various modern forecasting techniques. Prerequisite(s): Graduate level; must be enrolled in the M.S. program in the department of economics; or approval of instructor.

EDTC 641. Educational Game Design. (3-0). Credit 3. Formal and dramatic elements of successful non-educational games for principles of effective game design; application principles to the critique of existing educational games; examination commercial games originally designed for entertainment and their use to address educational objectives; games through the lens of multiple theories of learning and motivation, including situated cognition, flow, and systems theory. Prerequisite(s): Graduate classification; approval of department head.

PHYS 641. Extragalactic Astronomy. (3-0). Credit 3. Overview of observations of galaxies and large-scale structures in the Universe to understand their formation and evolution from theoretical and observational perspectives. Galaxy luminosity functions; evolution of stellar populations and chemical enrichment; clusters and AGN. Prerequisite(s): PHYS 601; or ASTR 314 and PHYS 302; or permission of instructor. Cross-listed with ASTR 601.

PHYS 642. Astronomical Observing Techniques and Instrumentation. (3-0). Credit 3. Theory and practice of obtaining and analyzing astrometric, photometric, spectroscopic, and interferometric measurements of astronomical sources across the electromagnetic spectrum. Principles of design, fabrication, assembly, test, deployment, and use of astronomical instruments. Prerequisite(s): PHYS 615 or equivalent; or permission of instructor. Cross-listed with ASTR 602.

PHYS 643. Stellar Astrophysics. (3-0). Credit 3. Theoretical and observational aspects of stellar astrophysics. Thermodynamic properties of stellar interiors; energy sources; nuclear processes and burning stages; convective and radiative energy transport; evolutionary models; atmospheres; stability and pulsations; chemical enrichment processes; population synthesis. Prerequisite(s): PHYS 606 and PHYS 607 or equivalents; or permission of instructor. Cross-listed with ASTR 603.

PHYS 644. Cosmology. (3-0). Credit 3. Basic principles of modern cosmology and particle physics. General relativity; cosmic inflation; Big Bang nucleosynthesis; expansion of the universe; cosmic microwave background; large-scale structure of the Universe; properties of particles; dark matter; dark energy. Prerequisite(s): PHYS 615 or equivalent; or permission of instructor. Cross-listed with ASTR 604.

PHYS 645. Galactic Astronomy. (3-0). Credit 3. Basic nature and structure of constituents of Milky Way galaxy. Distribution and motions of stars and gas; origin evolution and distribution of large-scale chemical abundances and kinematic patterns across populations; models of galaxy formation and implications of modern observations. Prerequisite(s): PHYS 601 and PHYS 607 or equivalents; or permission of instructor. Cross-listed with ASTR 605.

PHYS 646. Radiative Transfer. (3-0). Credit 3. Fundamental radiative processes in stellar and planetary atmospheres. Radiative fields; Stokes parameters; Mueller matrix formalism; radiation from moving charges; Compton scattering; plasma effects; atomic structure and radiative transitions; molecular structure and spectra; multiple scattering. Prerequisite(s): PHYS 302, PHYS 304, PHYS 408 and PHYS 412 or equivalents; or permission of instructor. Cross-listed with ASTR 606.

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Course Change Requests

PHYS 606: Quantum Mechanics

CREDIT HOURS:

FROM: Lecture: 4, Lab: 0, SCH: 4

TO: Lecture: 3, Lab: 0, SCH: 3

PHYS 607: Statistical Mechanics

CREDIT HOURS:

FROM: Lecture: 4, Lab: 0, SCH: 4

TO: Lecture: 3, Lab: 0, SCH: 3

PHYS 611: Electromagnetic Theory

CREDIT HOURS:

FROM: Lecture: 4, Lab: 0, SCH: 4

TO: Lecture: 3, Lab: 0, SCH: 3

PHYS 615: Methods of Theoretical Physics I

CREDIT HOURS:

FROM: Lecture: 4, Lab: 0, SCH: 4

TO: Lecture: 3, Lab: 0, SCH: 3

PHYS 619: Modern Computational Physics

CREDIT HOURS:

FROM: Lecture: 3, Lab: 0, SCH: 3

TO: Lecture: 2, Lab: 2, SCH: 3

PHYS 624: Quantum Mechanics

CREDIT HOURS:

FROM: Lecture: 4, Lab: 0, SCH: 4

TO: Lecture: 3, Lab: 0, SCH: 3

VLCS 622: Equine Disease and Epidemiology

COURSE TITLE:

FROM: Equine Disease and Epidemiology

TO: Equine Epidemiology and Infectious Diseases

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Special Consideration Item

The College of Liberal Arts is requesting that a name change for the Master of Arts in Modern & Classical languages with an emphasis in Spanish to a Master of Arts in Hispanic Studies.