

## Arts and Letters—AL

**893A Internship in African American and African Studies I**  
Fall, Spring, Summer. 1 to 2 credits. RB: Courses in African American and African Studies. R: Open to students in African American and African Studies.

Supervised field work in an African American organization or institution. Direct and practical involvement in the community.

**893B Internship in Professional Writing**  
Spring. 3 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Permission of instructor required.

Internship in a corporate, organizational, or publishing setting. Classroom discussion of workplace issues and documents.

**893C Internship in African American and African Studies II**  
Fall, Spring, Summer. 1 to 2 credits. RB: Courses in African American and African Studies. R: Open to students in African American and African Studies.

Supervised field work in a Black organization or institution outside of the United States. Direct and practical involvement in a community outside of the United States.

**893D Internship in Literacy and Pedagogy**  
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to graduate students in the Critical Studies in Literacy and Pedagogy major. Approval of college.

Supervised graduate practicums, observations, or internships in secondary or college writing and literacy classrooms

**898 Master's Research**  
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 3 credits in all enrollments for this course.

Directed research in support of Plan B Master's program requirements

**899 Master's Thesis Research**  
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 15 credits in all enrollments for this course.

Directed research leading to a master's thesis, used in partial fulfillment of plan A master's degree requirements.

**980 Studies in Rhetoric**  
Spring. 3(3-0) A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to doctoral students in the College of Arts and Letters, the College of Education or approval of college. SA: ENG 980

Theories of rhetoric in historical and cultural context. Seminar topics variable by term.

**992 Seminar in Language Literacy and Pedagogy**  
Fall. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. R: Open only to doctoral students in the College of Arts and Letters or College of Education or approval of college. SA: ENG 992A

Teaching English literature, language, and composition.

**999 Doctoral Dissertation Research**  
Fall, Spring, Summer. 1 to 12 credits. A student may earn a maximum of 50 credits in all enrollments for this course.

Doctoral dissertation research.

## ASIAN LANGUAGES ASN

### Department of Linguistics and Germanic, Slavic, Asian and African Languages College of Arts and Letters

**290 Independent Study**  
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 9 credits in all enrollments for this course. R: Approval of department.

Special projects in an Asian Languages arranged by an individual student and a faculty member in areas supplementing regular course offerings.

**291 Special Topics in Asian Languages**  
Fall. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. Not open to students with credit in ASN 491.

Special topics supplementing regular course offerings proposed by faculty on a group study basis.

**401 East Asian Cultures (W)**  
Fall. 3(3-0) A student may earn a maximum of 6 credits in all enrollments for this course. P:M: (IAH 211B) and completion of Tier I writing requirement. SA: AL 401

Selected topics in the history and culture of China, Japan, and Korea. Topics vary.

**464 Studies in the Literature of Asia and the Asian Diaspora (W)**  
Spring. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. Interdepartmental with English. P:M: Completion of Tier I writing requirement.

Selected writers, genres, themes, or regions in Asian and Asian diasporic literature.

**490 Independent Study**  
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 9 credits in all enrollments for this course. R: Open only to juniors or seniors. Approval of department.

Special projects in Asian Languages arranged by an individual student and a faculty member in areas supplementing regular course offerings.

**491 Special Topics in Asian Languages**  
Fall, Spring. 1 to 6 credits. A student may earn a maximum of 9 credits in all enrollments for this course. R: Open only to juniors or seniors. Approval of department.

Special topics supplementing regular course offerings proposed by faculty on a group study basis.

## ASTRONOMY AND ASTROPHYSICS AST

### Department of Physics and Astronomy College of Natural Science

**101 The Celestial Clockworks**  
Spring. 1(1-0)

Relationship between ancient skylore and timekeeping. Establishment of a calendar and celestial navigation. Development of the Greek horoscope as a time recorder and coordinate system.

**207 The Science of Astronomy**  
Fall. 3(3-0) P:M: (PHY 231 or concurrently or PHY 231B or concurrently or ISP 205 or concurrently or PHY 181B or concurrently or PHY 183 or concurrently or PHY 183B or concurrently or LBS 271 or concurrently or PHY 231C or concurrently) and (MTH 116 or concurrently or MTH 114 or concurrently or LBS 117 or concurrently) Not open to students with credit in AST 201.

In-depth study of one topic in astronomy with emphasis on key discoveries. Topics may be cosmology, the solar system, and the life of stars. Observing with portable telescopes.

**208 Planets and Telescopes**  
Spring. 3(2-2) P:M: (PHY 183 or PHY 183B or PHY 193H) and (MTH 132 or MTH 152H or LBS 118) RB: (AST 207) Not open to students with credit in AST 303.

Origin and nature of the solar system. Planets of the solar system and other star systems. Determination of time and celestial coordinates. Astronomical instruments and observational methods.

**301 Junior Research Seminar**  
Fall, Spring. 1(1-0) P:M: Completion of Tier I writing requirement.

Preparation and presentation of a review paper on a current topic in astronomy or astrophysics.

**303 Planetary System Astronomy**  
Fall of even years. 3(3-0) P:M: (PHY 183 or PHY 193H or PHY 183B) and (MTH 132 or MTH 152H or LBS 118) SA: AST 201

Origin and nature of the solar system. Planets of the solar system and other star systems. Asteroids, meteorites, and comets. Determination of time and celestial coordinates.

**304 Stars**  
Fall of even years. 3(3-0) P:M: (AST 208) and (PHY 215) and (PHY 321 or concurrently) SA: AST 401

Physical processes that determine the structure and evolution of stars. Observations of stars and star clusters. Spectra of stars.

**307 The Milky Way**  
Fall of odd years. 3(3-0) P:M: (PHY 183 or PHY 193H or PHY 183B) and (MTH 132 or MTH 152H or LBS 118) SA: AST 202

Structure and history of the Milky Way Galaxy. Stellar populations. Interstellar medium.

**308 Galaxies and Cosmology**  
Spring of odd years. 3(3-0) P:M: (AST 208) and (PHY 215) and (PHY 321 or concurrently) SA: AST 402

The Milky Way. Structure and content of galaxies. Active galaxies and quasars. The expanding universe. Modern cosmological models.