

Arts and Letters—AL

- 445 Writing in American Cultures: Rhetoric and Music**
Spring of even years. 3(3-0) P:M: (IAH 201) and completion of Tier I writing requirement. RB: (AL 260) R: Open only to juniors and seniors.

Exploration of forms of writing about music, including links between music and oral cultures. Practice in modes of writing about and evaluating critiques of music.

- 446 American Indian Rhetorics (N)**
Spring. 3(3-0) P:M: Completion of Tier I writing requirement. RB: (AL 260 or AL 360) or 3 credits in other ethnic studies coursework. Theoretical approaches to Native rhetorics. Historical and contemporary debates about the production and reception of visual and written Native texts.

- 451 Managing Large-Scale Publication Projects**
Spring of even years. 3(3-0) P:M: (AL 202 or AL 320) and completion of Tier I writing requirement.

Design theory, task management research, collaborative problem-solving approaches, and team processes involved in designing and creating large-scale publications.

- 453 Grant and Proposal Writing**
Fall. 3(3-0) P:M: (AL 202) and completion of Tier I writing requirement.

Researching and writing grants and proposals for corporations, nonprofit organizations, businesses, and government agencies.

- 455 Portfolio Seminar**
Fall, Spring. 3(3-0) P:M: Completion of Tier I writing requirement.

Workshop for students preparing professional document portfolios in print and digital formats, including application materials for career, graduate study, and professional positions.

- 485 Museum Studies**
Fall. 3(3-0) Interdepartmental with History of Art. Administered by Department of Art and Art History. R: Not open to freshmen or sophomores. Not open to students with credit in AL 485.

Activities, functions and organization of museums; the changing role of museums as cultural institutions.

- 487 Approaches to Museum Education**
Spring, Summer. 3(3-0) Interdepartmental with History of Art. Administered by Department of Art and Art History. R: Open only to juniors or seniors or graduate students. Not open to students with credit in AL 487.

Theoretical and practical approaches to the design and development of interpretive materials and programs within museums. Design and development of research and projects.

- 488 Museum Curatorial Practices**
Fall, Summer. 3(3-0) Interdepartmental with History of Art. Administered by Department of Art and Art History. RB: (HA 485) R: Open only to juniors or seniors or graduate students.

Methods and practices for the development, care, and use of museum collections in research, education, and exhibition activities.

- 490 Independent Study**
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 8 credits in all enrollments for this course. P:M: Completion of Tier I writing requirement. R: Approval of college.

Special project, directed reading and research arranged by an undergraduate student and a faculty member in areas supplementing regular course offerings.

- 491 Special Topics**
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Approval of college.

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

- 492 Special Topics in Museum Studies**
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. Interdepartmental with History of Art. Administered by Department of Art and Art History. R: Open only to juniors or seniors or graduate students.

Special topics supplementing regular course offerings.

- 493A Arts and Letters Internship**
Fall, Spring, Summer. 2 to 8 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Not open to freshmen and sophomores. A student may earn a maximum of 8 credits in AL 493A and AL 493B combined. Completion of Tier I writing requirement, 12 credits in the major. Approval of college.

Supervised preprofessional field experience in the arts and humanities.

- 493C Museum Internship**
Fall, Spring, Summer. 2 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. Interdepartmental with History of Art. Administered by Department of Art and Art History. R: Not open to freshmen or sophomores. Approval of college.

Activities, functions and organization of a museum.

- 493D Internship in Professional Editing and Publishing**
Spring of odd years. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P:M: Completion of Tier I writing requirement. RB: (AL 370 and AL 355) R: Approval of college.

Supervised work in editing and publishing arranged with instructor prior to enrollment.

- 493E Internship in Professional Writing**
Spring. 3 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P:M: (AL 202) and completion of Tier I writing requirement. RB: Web-authoring course or experience. R: Approval of college.

Supervised work as writers and editors in a corporate or organizational setting. Required workshop component.

- 494 Museum Exhibitions: Theory and Development**
Spring. 3(2-2) Interdepartmental with History of Art. Administered by Department of Art and Art History. R: Open only to juniors or seniors or graduate students. Not open to students with credit in AL 486.

Theoretical and practical approaches to the planning, design, development, installations, and evaluation of museum exhibitions. Field trip required.

- 495 Research-Mentoring in Black American and Diasporic Studies**
Fall, Spring. 3(3-0) RB: Courses in African American Literature, African American History, African American Language Use, other courses in the Black American and Diasporic Studies Program. R: Open only to students in the Specialization in Black American and Diasporic Studies.

Focus on readings and research in the human arts and sciences. Each student works with a black American and diasporic studies faculty mentor in the student's area of study. Training in knowledge creation, production and dissemination.

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.

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
 Spring of odd years. 3(3-0) P:M: (PHY 184 or PHY 184B or PHY 294H) and (AST 303) and (MTH 234 or concurrently or MTH 254H or concurrently or LBS 220 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 even years. 3(3-0) P:M: (AST 307) and (PHY 184 or PHY 184B or PHY 294H) and (MTH 234 or concurrently or MTH 254H or concurrently or LBS 220 or concurrently) SA: AST 402
 Structure and content of galaxies beyond the Milky Way. Active galaxies and quasars. The expanding universe. Modern cosmological models.

310 Directed Studies
 Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 4 credits in all enrollments for this course. R: Approval of department.
 Individual study or project in astronomy or astrophysics under the direction of a faculty member.

312 Observational Astronomy
 Spring. 1(0-2) P:M: (AST 303 or AST 307)
 Basic observational techniques in astronomy. Stellar photometry and spectroscopy.

410 Senior Thesis
 Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 5 credits in all enrollments for this course. P:M: (AST 301) and completion of Tier I writing requirement.
 Design and execute an original experiment or computation. A written and oral report of the research is required.

AUDIOLOGY AND SPEECH SCIENCES ASC

Department of Audiology and Speech Sciences College of Communication Arts and Sciences

203 Introduction to Communication Sciences and Disorders
 Fall, Spring. 3(3-0) Not open to students with credit in ASC 403.
 Survey of research and practice regarding speech, hearing and language disorders in children and adults.

214 Anatomy and Physiology of the Speech and Hearing Mechanism
 Fall. 4(3-2) P:M: (ASC 203 or concurrently)
 Structural and functional analyses of the central and peripheral auditory mechanisms, and of the respiratory, phonatory, and articulatory mechanisms for speech.

232 Descriptive Phonetics
 Fall, Spring. 2(1-2)
 Principles of speech production. Transcription of speech using the International Phonetic Alphabet.

303 Hearing Science
 Fall. 3(2-2) P:M: (MTH 106 or MTH 152H or MTH 110 or MTH 201 or MTH 116 or STT 200 or MTH 124 or STT 201 or MTH 132) RB: Completion of one ISP course. SA: ASC 255
 Physical and psychological aspects of sound and their measurement. Emphasis on the understanding of human communication and its disorders.

313 Speech Science
 Spring. 3(2-2) P:M: (ASC 214 and ASC 232 or concurrently) RB: Completion of one ISP course SA: ASC 255
 Processes underlying the production and perception of speech. Understanding human communication and its disorders.

333 Oral Language Development
 Fall, Spring. 3(3-0) P:M: (PSY 101) and (LIN 401 or ENG 302 or LIN 200) R: Not open to freshmen.
 Development of receptive and expressive aspects of child language.

344 Evaluation Procedures in Audiology
 Spring. 4(3-2) P:M: (ASC 303) and completion of Tier I writing requirement.
 Classification of hearing disorders. Behavioral and electrophysiological measurement of hearing, including subjective and objective testing procedures.

364 Evaluation Procedures in Speech-Language Pathology
 Fall. 4(3-2) P:M: (ASC 313) and completion of Tier I writing requirement.
 Evaluation procedures in speech-language pathology. Test procedures. Analysis of results. Report writing.

394 Observation and Analysis of Clinical Practice
 Fall, Spring, Summer. 1(0-2) P:M: (ASC 344 and ASC 364)
 Case presentations. Interviewing techniques. Behavioral observation and data collection. Behavior management. Counseling. Session plan and report writing.

403 Communication Sciences and Disorders
 Fall. 3(3-0) R: Not open to freshmen or sophomores. Not open to students in the Department of Audiology and Speech Sciences. Not open to students with credit in ASC 203.
 Research and practice regarding communication disorders and the professions of speech-language pathology and audiology.

433 Language Dialect Differences in Applied Contexts
 Spring. 3(3-0) P:M: (ASC 364)
 Regional, ethnic, and cultural characteristics of American English. Comparison of speech-language differences and disorders.

443 Rehabilitative Audiology
 Fall. 3(3-0) P:M: (ASC 344)
 Fundamental aspects of auditory rehabilitation. Individual and group amplification systems, auditory training, speechreading, and counseling with children and adults.

463 Intervention Procedures in Speech-Language Pathology
 Spring. 3(3-0) P:M: (ASC 364)
 Intervention procedures for individuals with developmental and acquired communication disorders.