MUSIC (MUSI)

*MUSI 006a, Musical Genius  Lindsay Wright
Is there such a thing as “musical genius”? What exactly are the qualifications, and who gets to decide? In this course, we explore how the answers to these questions have shifted in the past three centuries, investigating when and where—and especially how and why—the notion of musical genius became so pervasive and powerful. To this end, class discussions draw upon a range of materials: we listen to music; parse primary historical sources; analyze news coverage and podcast episodes; and read from a range of academic subfields, including music history, ethnomusicology, sociology, psychology, philosophy, disability studies, critical race studies, gender and sexuality studies, and music education. We compare and critically analyze discourse about a range of figures dubbed musical geniuses, from L. v. Beethoven and W. A. Mozart to Thomas “Blind Tom” Wiggins, Aretha Franklin, and Vijay Iyer. Building upon this historical context, we also interrogate the significance of musical genius in today’s world, considering the proliferation of genius-themed self-help literature, the politics and procedures of the MacArthur Genius Grant, invocations of genius and talent on social media, and additional issues of interest to students. Beyond gaining a robust understanding of the history of ideas like genius and talent, we contemplate the benefits and challenges of conceptual history as a scholarly enterprise more broadly.  **HU**

*MUSI 035b / CPSC 035b, Twenty-First Century Electronic and Computer Music Techniques  Scott Petersen
Exploration of twenty-first century electronic and computer music through the diverse subjects and issues at the intersection of technology and new music. How computers have changed and challenged the analysis, composition, production, and appreciation of music over the last fifty years. Knowledge of basic music theory and the ability to read Western musical notation is assumed. Enrollment limited to first-year students. Preregistration required; see under First-Year Seminar Program.  **QR**

*MUSI 050a, Transformations in 20th and 21st Century Music  Trevor Baca
Introduction to outstanding pieces of 20th- and 21st-century instrumental music. Students examine details of the music and the social/historical context of each piece, in chronological order: one piece for each of the twelve decades from 1900 to the present. Composers include Mahler, Stravinsky, Ravel, Varèse, Copland, Cage, Reich, Xenakis, Eastman, Takemitsu, Czernowin, and Monk. Enrollment limited to first-year students. Preregistration required; see under First-Year Seminar Program.

*MUSI 081a / ER&M 081a / SOCY 081a, Race and Place in British New Wave, K-Pop, and Beyond  Grace Kao
This seminar introduces you to several popular musical genres and explores how they are tied to racial, regional, and national identities. We examine how music is exported via migrants, return migrants, industry professionals, and the nation-state (in the case of Korean Popular Music, or K-Pop). Readings and discussions focus primarily on the British New Wave (from about 1979 to 1985) and K-Pop (1992-present), but we also discuss first-wave reggae, ska, rocksteady from the 1960s-70s, British and American punk rock music (1970s-1980s), the precursors of modern K-Pop, and have a brief discussion of Japanese City Pop. The class focuses mainly on the British New Wave and K-Pop because these two genres of popular music have strong ties to particular geographic areas, but they became or have become extremely popular in other parts of the world. We also investigate the importance of music videos in the development of these genres. Enrollment limited to first-year students. Pre-registration required: see under First Year Seminar Program.  **SO**

*MUSI 087b, Music, Memes, and Digital Culture  Braxton Shelley
How are contemporary expressive cultures shaped by the virtual venues in which they circulate—Twitter, Instagram, TikTok, YouTube, WhatsApp, and Facebook, among many others? What force sustains the constant flurry of images and videos, hashtags and challenges? In pursuit of these questions, this first-year seminar grapples with the musicality of internet culture, attending to the ever-expanding virtual archive of memes, GIFs, and other digital media. Our examination of the production, modification, and distribution of these contagious, and frequently-humorous, items advance two queries: 1) What modes of creativity do these digital artifacts reveal? 2) What ways of listening do these potentially-viral objects solicit? Drawing together resources from musicology, ethnomusicology, music theory, media studies, visual culture, and philosophy, we evaluate antiphony as a rubric for digital culture. Can the phrase “digital antiphony” elucidate the emphatically intertextual and intermusical product and process of meme culture, the rich, emergent conversation that simultaneously materializes and refrigures social categories of race and gender, concepts of belief and authorship? If antiphony is the logic of contemporary internet culture, then the meme is its animating force. With its generative interpenetration of call and response, the meme evidences a distinctly digital preoccupation with form, offering one sense of what it means to be musical in the 21st century. Enrollment limited to first-year students. Preregistration required; see under First-Year Seminar Program.  **HU**

MUSI 110a or b, Elements of Musical Pitch and Time  Ian Quinn
The fundamentals of musical language (notation, rhythm, scales, keys, melodies, and chords), including writing, analysis, singing, and dictation. Intended for students who have no music reading ability.

*MUSI 115a, The Mathematics of Music  Richard Cohn
An introduction to applied mathematics in the context of music theory and analysis. Concepts from algebra, modular arithmetic, set theory, geometry, and elementary topology are applied to the study of musical rhythms, melodies, and chords across a wide repertoire of classical, atonal, and popular musics. Prerequisite: ability to read music.  **QR, HU**

*MUSI 137a / HUMS 139a, Western Philosophy in Four Operas 1600-1900  Gary Tomlinson
This course intensively study\ies four operas central to the western repertory, spanning the years from the early 17th to the late 19th century: Monteverdi’s *Orfeo*, Mozart’s *Don Giovanni*, Wagner’s *Die Walküre* (from *The Ring of the Nibelungs*), and Verdi’s *Simon Boccanegra*. The course explores the expression in these works of philosophical stances of their times on the human subject and human
society, bringing to bear writings contemporary to them as well as from more recent times. Readings include works of Ficino, Descartes, Rousseau, Wollstonecraft, Schopenhauer, Kierkegaard, Douglass, Marx, Nietzsche, Freud, and Adorno. We discover that the expression of changing philosophical stances can be found not only in dramatic themes and the words sung, but in the changing nature of the musical styles deployed. UH

* MUSI 185a / THST 236a, American Musical Theater History  Dan Egan
Critical examination of relevance and context in the history of the American musical theater. Historical survey, including nonmusical trends, combined with text and musical analysis. Limited enrollment. Interested students should contact dan.egan@yale.edu for application requirements. WR, HU

* MUSI 189b / HUMS 189b, Music & Jane Austen  Jessica Peritz
This course takes Jane Austen as a guide to the world of early nineteenth-century music culture in Britain, exploring through her novels the relationships between music, gender, and class in the decades around 1800. We approach this period of music history by delving into how “regular people”—especially women—consumed, curated, and created music in their everyday lives. Austen, an accomplished musician herself, wove music into her novels in ways that reveal much about contemporary practices of (and prejudices against) music making. We focus on three of Austen’s novels (Pride & Prejudice, Sense & Sensibility, Emma) and excerpts from her music manuscript collections, alongside recent scholarship and modern film adaptations, which taken together raise a series of interdisciplinary questions. By learning about Austen’s musical milieu, we open up the musical lives of Regency-era women and the “middling sort,” while becoming more attuned to the social critiques embedded in Austen’s representations of music, ultimately enriching our engagement with the novels themselves. The ability to read musical notation is not required, but will be helpful. UH

* MUSI 207a or b, Commercial and Popular Music Theory  Staff
An introduction to music-theory analysis of commercial and popular song (with a focus on American and British music of the past 50 years, across multiple genres). Coursework involves study of harmony, voice leading and text setting, rhythm and meter, and form, with assigned reading, listening, musical transcription and arranging, and written/oral presentation of analysis. Prerequisite: Completion of a 100- or 200-level music theory course or the corresponding placement exam, and/or permission of instructor. HU 0 Course cr

* MUSI 208b, Commercial and Popular Music Theory II  Nathaniel Adam
This course is a continuation of MUSI 207 Commercial and Popular Music Theory I. While 207 covered fundamentals of analysis, 208 will involve further research and more complex analysis, with more presentations and transcription projects in addition to a final paper. Beyond harmonic and formal analysis, 208 will explore intersectional topics such as history, video, politics, race, gender, and sexuality in the context of popular music. Completion of MUSI 207 (Seniors and Graduate students may request instructor’s permission without taking 207). HU

* MUSI 210b, Counterpoint, Harmony, and Form: 1500–1800  Staff
A concentrated investigation of basic principles and techniques of period musical composition through study of strict polyphonic voice leading, figuration, harmonic progression, phrase rhythm, and small musical forms. HU

MUSI 211a, Systematic Theory for Music: 1800 to the present  Daniel Harrison
Standard harmonic analysis of music by Robert Schumann, Clara Schumann, Franz Liszt, and others from the mid 19th-century using Roman-numeral labels. Modal mixture and special chromatic chords are especially highlighted. Inadequacy of this system for enharmonic music of Liszt and Bruckner leads to the introduction of formal models of equal-tempered pitch space and the algebraic relations realized within them. Extensions of harmonic practice experienced in the music of Debussy and Rebecca Clarke presage additional attempts at formalizing pitch and rhythm relations in the music of Scriabin and Messiaen. Complete systems of atonal pitch deployment are surveyed in works by Schoenberg and Webern. A short introduction to microtonal scales and compositional systems concludes the course. Prerequisite: MUSI 207 Commercial and Popular Music Theory I. HU 0 Course cr

* MUSI 217a or b, Keyboard Skills for Tonal Music  Staff
This course teaches music-theory keyboard skills such as score reading, melody harmonization, figured-bass realization, and improvisation, and how these topics connect to written music-theory analysis and composition. Prerequisite: Completion of a 100- or 200-level music theory course, intermediate keyboard ability*, and permission of instructor. *eg: 2-octave scales in major and minor keys through 4 sharps/flats; sightread simple hymns/chorales at beat=60; knowledge of roman numerals

* MUSI 218a or b, Aural Skills for Tonal Music  Staff
Tonal music theory topics with an emphasis on sight-sightreading, rhythm, melodic and harmonic dictation, and aural analysis. Prerequisite: Completion of MUSI 110, or any 200-level MUSI course, or the following: ability to match pitch and sing a major scale; knowledge of standard staff notation (treble/bass clefs); knowledge of major/minor key signatures; knowledge of basic time signatures; knowledge of intervals; knowledge of triads. HU RP 0 Course cr

* MUSI 220a and MUSI 221b, The Performance of Chamber Music  Wendy Sharp
Coached chamber music emphasizing the development of ensemble skills, familiarization with the repertoire, and musical analysis through performance. Admission by audition only. May be repeated for credit. For audition information e-mail wendy.sharp@yale.edu. Credit for MUSI 220 only on completion of MUSI 221. ½ Course cr per term

* MUSI 228a / THST 224a, Musical Theater Performance I  Dan Egan and Maria-Christina Oliveras
The structure, meaning, and performance of traditional and contemporary musical theater repertoire. Focus on ways to “read” a work, decipher compositional cues for character and action, facilitate internalization of material, and elicit lucid interpretations. This semester’s
course also embraces the online format to address performing and recording virtually as a vital tool in the current field of musical theater. The course combines weekly synchronous learning and private coaching sessions. For singers, music directors, and directors. Admission by audition and application only. Auditions/interviews will be scheduled during the first two weeks of August. May be repeated for credit. For audition information contact dan.egan@yale.edu. RP

* MUSI 220b / THST 226b, Musical Theater Performance II  Staff
The collaborative process and its effect on musical theater performance. Choreography, music direction, and origination of new works. Analysis of texts, scripts, and taped or filmed performances; applications in students’ own performance. May be repeated for credit. For audition information e-mail dan.egan@yale.edu.   RP

* MUSI 230a, Composing for Musical Theater  Dan Egan and Joshua Rosenblum
This course is open to all students (including graduate programs) and from any major, although priority is given to music majors. Knowledge of the basics of music theory and music notation is required, and some familiarity with the musical theater idiom is expected. Some prior composing experience is recommended. Piano skills are very helpful, but not required. Normally the class size is limited, so that all assignments can be performed and fully considered during the class meeting time. Prerequisite: MUSI 110 or equivalent. Enrollment limited to 12. Please contact joshua.rosenblum@yale.edu with any questions about eligibility. HU RP

* MUSI 238a or b, Contemporary Chamber Music Performance  Maiani da Silva
Contemporary chamber music ensemble that emphasizes collaborative workshop methods for the performance of recent professional repertoire and pieces written by student and faculty composers. Students learn about musical analysis through performance, extended techniques, and the instrumentalists’ role in bringing to life a new piece. Admission by audition only. Students must bring their instruments to class. ½ Course cr

* MUSI 240a or b, The Performance of Early Music  Grant Herreid
A study of musical styles of the twelfth through early eighteenth centuries, including examination of manuscripts, musicological research, transcription, score preparation, and performance. Students in this class form the nucleus of the Yale Collegium Musicum and participate in a concert series at the Beinecke Library. Admission by audition only. May be repeated for credit. For audition information e-mail grant.herreid@yale.edu. HU RP

* MUSI 311a, Fundamentals of Music Technology  Konrad Kaczmarek
Fundamental principles of music technology including sound recording and reproduction, digital audio, digital signal processing, audio synthesis techniques, musical acoustics, and psychoacoustics. Emphasis on the theory of music technology through investigations into the tools used to analyze, perform, and create electroacoustic and computer-generated music. QR, SC  RP

* MUSI 318a, Intermediate Musicianship  Richard Lalli
Training in advanced aural perception, sight-singing, and keyboard skills. Prerequisite: MUSI 219 or equivalent.

* MUSI 320a, Composition Seminar I  Kathryn Alexander
Intermediate analytic and creative projects in music composition, instrumentation, and scoring for visual media. Study of compositional procedures and techniques in different genres and styles. Group and individual lessons to supplement in-class activities. Enrollment limited to 20. Students with questions should contact the instructor at kathryn.alexander@yale.edu. Previously MUSI 312. Prerequisite: MUSI 207 or MUSI 210 or MUSI 211 or equivalent. HU RP

* MUSI 321b, Composition Seminar II  Konrad Kaczmarek
Intermediate analytic and creative projects in music composition and instrumentation, with a focus on jazz harmony, voice-leading, and music production tools. Study of compositional procedures and techniques in different ensemble settings. Group and individual lessons to supplement in-class lectures. Enrollment limited to 20. Students with questions should contact the instructor at konrad.kaczmarek@yale.edu. Prerequisite: MUSI 210 or MUSI 211 and/or MUSI 312. RP

* MUSI 323a, Songs of Schumann and Fauré  Richard Lalli
An in-depth study of the solo vocal works of Robert Schumann and Gabriel Fauré. Cultural and political trends provide context as canonic masterpieces are approached from both theoretical and performative angles. Special consideration is given to literary features and background, including the use of the International Phonetic Alphabet. All singers and pianists with solo performing experience are invited to apply. Music reading ability is required. Completion of application required. HU

* MUSI 328a, Introduction to Conducting  William Boughton
An introduction to conducting through a detailed study of the problems of baton technique. Skills applied to selected excerpts from the standard literature, including concertos, recitatives, and contemporary music.

* MUSI 329b, Intermediate Conducting  William Boughton
Intermediate studies in baton technique and score preparation. After MUSI 323.

* MUSI 330b, Musical Theater Composition II  Staff
Intermediate and advanced project-oriented studies in composition of musical theater. Prerequisite: MUSI 210. May be repeated for credit. Enrollment limited to 12. HU RP

* MUSI 340b / THST 318b, Analyzing, Directing, and Performing Early Opera  Grant Herreid and Toni Dorfman
Study of a seventeenth-century Venetian opera, with attention to structural analysis of text and music. Exploration of period performance practice, including rhetorical expression, musical style, gesture, dance, Italian elocution, and visual design. Production of the opera
in conjunction with the Yale Baroque Opera Project. Open to all students, but designed especially for singers, instrumentalists, and directors. Admission by audition only. May be repeated for credit. For audition information e-mail grant.herreid@yale.edu. HU RP

*MUSI 35a or b, Lessons Kyung Yu
Individual instruction in the study and interpretation of musical literature. No more than four credits of lessons can be applied towards the 36-credit degree requirement. Auditions for assignment to instructors (for both credit and noncredit lessons) are required for first year and some returning students, and are held only at the beginning of the fall term. For details, see the Music department’s program description in the YCPS.

*MUSI 351a, Music in European Court, Church, and Theater, 1600-1800 Staff
A detailed investigation of the history of musical style from 1600 to 1800. Preference to Music majors according to class. HU 0 Course cr

*MUSI 352b, The Western Art-Music Tradition, 1800-2020 Gundula Kreuzer
A survey of musical practices, institutions, genres, styles, and composers in Europe and North America from 1800 to the present. This class is for Music majors and includes obligatory sections that focus on detailed musical discussions. Knowledge of Western musical notation and basic harmony is required. Interested non-majors may enroll with permission from instructor. HU

*MUSI 378b, American Neighborhood Musics Trevor Baca
Introduction to American regional musics. Five units, including go-go in Washington, DC; Tejano music in South Texas; Detroit techno and its influence on global EDM; Puerto Rican reggaeton; and the American reception of K-pop. Extensive listening lists and select readings help students understand both the musical attributes and social context of all musics studied in the course. HU

MUSI 380a / HUMS 381a, Jazz in America 1900-1960 Brian Kane
A course on key moments in the history of jazz in America until 1960 with special focus on the role of jazz within broader streams of American cultural life; improvisation; jazz as popular music and as art music; the racial politics of jazz; and its artistic achievements.

*MUSI 381b / AFAM 353b, Jazz in Transition, 1960–2000 Michael Veal
A survey of musicians, stylistic currents, and critical issues relevant to the evolution of jazz between 1960 and 2000. Topics include Third Stream, free jazz, jazz-rock fusion, the influence of world music, neo-classicism, jazz and hip-hop, and others. HU

*MUSI 414b, Instrumentation and Orchestration Kathryn Alexander
A study of instrumentation and orchestration in a variety of musical periods, genres and styles including arranging and scoring for visual media. Related creative project work. MUSI 210 or equivalent.

*MUSI 416a, Advanced Studies in Musical Meter Richard Cohn
Analytical models of rhythm and meter and their applications to nineteenth- and twentieth-century Western classical repertory (Beethoven, Brahms, Dvorák, Bartók, Reich). Extensions to jazz and to genres from Ghana, India, Indonesia, and southeastern Europe. Prerequisite: MUSI 216, and one of MUSI 207, MUSI 210, or permission of instructor. HU

*MUSI 420a, Composition Seminar III Konrad Kaczmarek
Advanced analytic and creative projects in music composition and instrumentation, with a focus on writing for chamber ensembles. Ongoing study of evolving contemporary procedures and compositional techniques. Group and individual lessons to supplement in-class lectures. Admission by audition only. May be repeated for credit. Enrollment limited to 10. To audition, students should upload two PDF scores and MP3 recordings in a single zip file by 4 p.m. on the second Wednesday of the semester, to the designated Music 420 audition assignment page at the Canvas site. Students with questions should contact the instructor at konrad.kaczmarek@yale.edu. Prerequisites: Both MUSI 320 and 321. RP

*MUSI 421b, Composition Seminar IV Kathryn Alexander
Advanced analytic and creative projects in music composition and instrumentation, with a focus on writing for chamber ensembles. Ongoing study of evolving contemporary procedures and compositional techniques. Group and individual lessons to supplement in-class lectures. Admission by audition only. May be repeated for credit. Enrollment limited to 10. To audition, students should upload two PDF scores and MP3 recordings in a single zip file by the first Friday of the semester to the designated Music 421 audition assignment page at the Canvas site. Students with questions should contact the instructor at kathryn.alexander@yale.edu. Prerequisites: Both MUSI 320 and 321. RP

MUSI 427b / CPSC 432b, Computer Music: Sound Representation and Synthesis Scott Petersen
Study of the theoretical and practical fundamentals of computer-generated music, with a focus on low-level sound representation, acoustics and sound synthesis, scales and tuning systems, and programming languages for computer music generation. Theoretical concepts are supplemented with pragmatic issues expressed in a high-level programming language. Ability to read music is assumed. After CPSC 202 and 223. QR

MUSI 428a / CPSC 431a, Computer Music: Algorithmic and Heuristic Composition Scott Petersen
Study of the theoretical and practical fundamentals of computer-generated music, with a focus on high-level representations of music, algorithmic and heuristic composition, and programming languages for computer music generation. Theoretical concepts are supplemented with pragmatic issues expressed in a high-level programming language. Ability to read music is assumed. After CPSC 202 and 223. QR
* MUSI 445a or b, Advanced Lessons  Kyung Yu
Individual instruction for advanced performers in the study and interpretation of musical literature. No more than four credits of lessons can be applied towards the 36-credit degree requirement. Auditions for assignment to instructors (for both credit and noncredit lessons) are required for first year and some returning students, and are held only at the beginning of the fall term. For details, see the Music department’s program description in the YCPS.

* MUSI 449a or b, Jazz Improvisation  Wayne Escoffery
In this course students study basic, intermediate, and advanced concepts of improvisation and learn the essentials for the Jazz Language through solo transcription and analysis. Students learn how to use vocabulary (or musical phrases) and a variety of improvisational devices and techniques over common chords and chord progressions. Upon completion of the course students have a deeper understanding of what it takes to become a great improviser, what to practice and how to practice it, and how to go about expanding their Jazz Vocabulary in order to naturally develop a unique improvisational voice. Students are required to bring their instruments to class. Prerequisite: Basic understanding of Jazz nomenclature and some experience improvising is advised. Admission by audition only. Permission of the instructor is required. ½ Course cr

* MUSI 455a, A History of Music Notation  Anna Zayaruznaya
The history of music notation is intimately linked with the histories of musical composition and performance. This course combines a study of musical paleography (i.e. how music is written down) with consideration of the historical and intellectual currents that shaped, and were shaped by, systems of music writing. Among the systems surveyed are the neumes used to preserve early plainchant, the increasingly specific rhythmic notations that recorded Western polyphony from the thirteenth century onward, and the notational puzzles and games of the fourteenth and fifteenth centuries. Final projects may focus on medieval or later music notations. Prerequisite: ability to read modern music notation comfortably.  HU

* MUSI 462b / ENGL 205b / HUMS 200b / LITR 192b, Medieval Songlines  Ardis Butterfield
Introduction to medieval song in England via modern poetic theory, material culture, affect theory, and sound studies. Song is studied through foregrounding music as well as words, words as well as music.  WR, HU

* MUSI 472b / THST 333b, Stephen Sondheim and the American Musical Theater Tradition  Dan Egan
The musical theater of Stephen Sondheim, both as a popular phenomenon of the contemporary Broadway stage and in relation to models and forms employed in the past.  HU, RP

* MUSI 480a / AFAM 479a, Music of the Caribbean: Cuba and Jamaica  Michael Veal
An examination of the Afro-diasporic music cultures of Cuba and Jamaica, placing the historical succession of musical genres and traditions into social, cultural, and political contexts. Cuban genres studied include religious/folkloric traditions (Lucumi/Santeria and Abakuá), rumba, son, mambo, pachanga/charanga, salsa, timba and reggaeton. Jamaican genres studied include: folkloric traditions (etu/tambu/kumina), Jamaican R&B, ska, rock steady, reggae, ragga/dancehall. Prominent themes include: slavery, Afro-diasporic cultural traditions, Black Atlantic culture, nationalism/independence/post-colonial culture, relationships with the United States, music & gender/sexuality, technology.  HU

* MUSI 482a, African Counterpoint  Michael Veal
This course explores the various compositional techniques used in traditional and contemporary music across sub-Saharan Africa and the African diaspora, with an emphasis on the qualities of counterpoint, groove, polyrhythm and texture. Seminar meetings are devoted to discussion of assigned readings, analysis of assigned listenings, student presentations, and, when possible, performance of assigned transcriptions. There are no prerequisites, but the ability to read, transcribe, and analyze music is necessary, and instrumental performance skills will be very helpful.  HU

* MUSI 495a or b, Individual Study  Anna Zayaruznaya
Original essay in ethnomusicology, music history, music theory, or music technology and/or multimedia art under the direction of a faculty adviser. Admission to the course upon submission to the department of the essay proposal by the registration deadline, and approval of the director of undergraduate studies.

* MUSI 496a or b, The Senior Recital  Anna Zayaruznaya
Preparation and performance of a senior recital and accompanying essay under faculty supervision. Admission by permission of the director of undergraduate studies. Prerequisite: MUSI 461.

* MUSI 497a or b, The Senior Project in Composition  Anna Zayaruznaya
Preparation of a senior composition project under faculty supervision. Admission by permission of the composition faculty of the Department of Music. Prerequisites: MUSI 312, 313, 412, and 413.

* MUSI 498a or b, The Senior Project in Musical Theater Composition  Anna Zayaruznaya
Preparation of a senior composition project in the field of musical theater under faculty supervision. Admission by permission of the coordinator of the Shen Curriculum. Two terms of MUSI 314 or equivalent.

* MUSI 499a or b, The Senior Essay  Anna Zayaruznaya
Preparation of a senior essay under faculty supervision. Admission by permission of the director of undergraduate studies.