

MUSIC

Emeriti: (Professors) John M. Chowning, Albert Cohen, George Houle, William H. Ramsey, Leonard G. Ratner, Sandor Salgo, Leland C. Smith; *(Professors, Performance)* Arthur P. Barnes, Marie Gibson, Andor Toth; *(Professor, Research)* Max V. Mathews

Chair: Stephen M. Sano

Professors: Karol Berger, Chris Chafe, Brian Ferneyhough, Stephen Hinton, Julius O. Smith

Associate Professors: Jonathan Berger, Thomas Grey, Heather Hadlock, William P. Mahrt

Assistant Professor: Mark Applebaum

Professor (Teaching): George Barth (Piano)

Associate Professor (Teaching): Stephen Sano (Director of Choral Studies)

Associate Professor (Performance): Jindong Cai (Director of Orchestral Studies)

Senior Lecturers: Giancarlo Aquilanti (Director of Theory; Wind Ensemble), Stephen Harrison (Violoncello), Gennady Kleyman (Violin, Viola), Thomas Schultz (Piano), Gregory A. Wait (Voice; Director of Vocal Studies), Frederick R. Weldy (Piano)

Lecturers: Kumaran Arul (Piano), Carey Bell (Clarinet), Talya Berger (Theory), Fredrick Berry (Jazz Ensemble), Frances Blaisdell (Flute), Mark Brandenburg (Clarinet), Marjorie Chauvel (Harp), Tony Clements (Tuba), Laura Dahl (Resident Collaborative Pianist), John Dornenburg (Viola da Gamba), Charles A. Ferguson (Guitar), Debra Fong (Violin), Claire Giovannetti (Voice), Dawn Harms (Violin, Viola), Alexandra Hawley (Flute), Melody Holmes-Schaeffe (Flute), Robert Hubbard (Oboe), Joyce Johnson-Hamilton (Trumpet), Christopher Jones (Composition, Theory), Jay Kadis (Audio Recording), McDowell Kenley (Trombone), Mary Linduska (Voice), Fernando Lopez-Lezcano (CCRMA), Murray Low (Jazz Piano), Janet Maestre (Flute), Anthony Martin (Baroque Violin), James Matheson (Oboe), Robert Huw Morgan (University Organist, Organ), Bruce Moyer (Contrabass), Herbert Myers (Early Winds), James Nadel (Jazz), Rufus Olivier (Bassoon), Larry S. Ragent (French Horn), Amy Schneider (Voice), Harold Stein (Saxophone), Elaine Thornburgh (Harpsichord), Erik Ulman (Composition, Theory), Linda Uyechi (Taiko), Mark Veregge (Percussion), William L. Verplank (Human Computer Interface Design), Timothy Zerlang (University Carillonneur, Piano)

Consulting Professors: Jonathan Abel (CCRMA), David Berners (CCRMA), Marina Bosi-Goldberg (CCRMA), Walter Hewlett (Computer-Assisted Research in the Humanities), Eleanor Selfridge-Field (Computer-Assisted Research in the Humanities), Malcolm Slaney (CCRMA)

Visiting Professors: Jean-Claude Risset (CCRMA), Thomas Rossing (CCRMA), Richard Taruskin (Music History), Izaly Zemtsovsky (Music History)

Artists-in-Residence (St. Lawrence String Quartet): Geoff Nuttall (Violin 1), Scott St. John (Violin 2), Lesley Robertson (Viola), Christopher Costanza (Cello)

Mellon Fellows: James Kennaway (Music History), Michael Markham (Music History)

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Courses given in Music have the subject code MUSIC. For a complete list of subject codes, see Appendix.

The Department of Music's aims are to provide specialized training for those who plan careers in music as composers, performers, teachers, and research scholars; and to promote the understanding and enjoyment of music in the University at large through its courses and abundant performance offerings.

Varied opportunities for instrumental and vocal study and performance are available to majors and nonmajors alike. Students wishing to obtain individual instruction, to participate in chamber music, or to play in departmental ensembles should note that auditions are held during registration week in Autumn Quarter. While there may be openings in some private studios and ensembles for qualified students during other quarters, it is to the student's advantage to audition in autumn, as most slots are filled for the entire year.

The department is housed in Braun Music Center, Dinkelspiel Auditorium, and The Knoll, including three concert halls for concert and recital productions, two rehearsal halls, a small chamber hall, and a state-of-the-art, heptagonal listening/research room. Pianos, organs, harpsichords, and a variety of early stringed and wind instruments are available for student use. In addition, advanced students may use fine old stringed instruments and bows from the Harry R. Lange Historical Collection (<http://music.stanford.edu/DeptInfo/Langecol.html>).

The Music Library (<http://www-sul.stanford.edu/depts/music/index.html>) contains a comprehensive collection of scores, books, and recordings with an emphasis on Western art music. In addition, the Department of Special Collections holds an invaluable collection of musical manuscripts and first and early editions, and the Archive of Recorded Sound has a superb collection of historical recordings of all types.

The Stanford Center for Computer Research in Music and Acoustics (CCRMA) is a multidisciplinary facility where composers and researchers work together using computer-based technology both as an artistic medium and as a research tool. Areas of ongoing interest at CCRMA include: composition, applications hardware, applications software, synthesis techniques and algorithms, physical modeling, real-time controllers, signal processing, digital recording and editing, psychoacoustics and musical acoustics, music manuscripting by computer, and real-time applications.

The CCRMA community consists of administrative and technical staff, faculty, research associates, graduate research assistants, graduate and undergraduate students, visiting scholars, visiting researchers and composers, and industrial affiliates. Center activities include academic courses, seminars, small interest-group meetings, summer workshops, and colloquia. Concerts of computer music are presented several times each year with an annual outdoor computer-music festival in July.

CCRMA houses studios, computing facilities, and a networked system of software that includes programs and tools for editing, viewing, synthesizing, and analyzing sound. For a detailed and up-to-date description of facilities available, see the CCRMA home page at <http://ccrma.stanford.edu/>.

The Center for Computer-Assisted Research in the Humanities (CCARH), located in Braun Music Center, conducts research focused on constructing computer databases for music and on creating programs that allow student and staff researchers to access, analyze, print, and electronically perform the music. For more information, see the CCARH home page at <http://www.ccarh.org/>.

UNDERGRADUATE PROGRAMS BACHELOR OF ARTS

The undergraduate major in Music is built around a series of foundation courses in theory, musicianship, and music history, in addition to performance and the proficiency requirements outlined below. Because of the sequence of courses, it takes more than two years to complete the requirements for the major. Prospective majors are urged to consult the undergraduate student services officer in the department as early as possible in order to plan a program that allows sufficient time for major course work, practice, and University requirements outside the major. Early planning is especially important for students wishing to double-major, for those contemplating overseas study during their undergraduate years, for those wishing to do an in-depth concentration in the Music major, and for those with particular musical talents and interests. All required courses for the B.A. in Music and in the Music, Science, and Technology specialization must be taken for a letter grade. Electives may be taken credit/no credit, but any courses taken towards concentration requirements must also carry a letter grade.

1. Students are required to include the following foundation courses in their programs:
 - a) Theory: MUSIC 21, 22, 23
 - b) History: MUSIC 40, 41, 42, and three from the series 140-148 Writing in the Major (WIM) courses (two of which must be taken as 4-unit WIM courses)
 - c) Analysis: MUSIC 121 and two from 122A, B, or C
2. Additionally, Music majors must fulfill the following two performance requirements:
 - a) Instruction in instrumental and/or vocal performance: minimum of five quarters, comprising a minimum of 15 units.
 - b) Ensemble: five quarters (5 units minimum) of work in one or more of the department's organizations or chamber groups. MUSIC 156, "sic": Improvisation Collective, and MUSIC 157, Mariachi Band, do not satisfy this requirement. MUSIC 181 may count for up to two of the ensemble-unit requirements for the Music major. To fulfill the ensemble requirement, Music majors need to participate at least three quarters in the department's traditional large ensembles (MUSIC 159-167), with the exception of students whose primary instrument is harp, keyboard, or guitar, who need to participate at least one quarter in the ensembles above, but who may fulfill the rest of the requirement with chamber music (171).
3. Majors are required to pass a Piano Proficiency examination as part of the music theory core (MUSIC 21, 22, 23). The examination is given in the first two weeks of MUSIC 21. Students who do not pass the Piano Proficiency examination are required to enroll in MUSIC 12 concurrently with the music theory core until they are able to pass. The examination consists of scales and arpeggios, performance of a simple tune to be set by the examiner, sight reading, and the performance of prepared pieces (consult the department undergraduate adviser for details).
4. Majors must also pass an Ear-Training Proficiency examination, which is part of the requirements to complete MUSIC 23. It may be taken by arrangement, demonstrating a student's ability to hear music accurately and to perform it at sight.

RECOMMENDED SCHEDULE FOR THE MUSIC MAJOR

The following sample schedule shows how a student may include substantial work on a major in Music while also fulfilling the University General Education Requirements during the freshman and sophomore years. The schedule also includes foreign language study, which is strongly recommended for all Music majors and especially for those expecting to continue into graduate work in any area of music.

FIRST YEAR

<i>Subject and Catalog Number</i>	<i>Quarter and Units</i>		
	A	W	S
PWR as assigned	3		3
MUSIC 19 (if needed), 21, 22	(3)	4	4
Individual Instruction and/or Ensemble	1-4	1-4	1-4
Introduction to the Humanities	3-5	3-5	3-5
Choice of Foreign Language, General Education Requirement, or Stanford Introductory Seminar	3-5	3-5	3-5

SECOND YEAR

MUSIC 23, 40, 41, 42	8	4	4
Individual Instruction and/or Ensemble	1-4	1-4	1-4
General Education Requirement, or Stanford Introductory Seminar	3-5	3-5	3-5
Elective	(3)	(3)	(3)

THIRD AND FOURTH YEARS

MUSIC 121 and two from 122A, B, or C	4	4	4
Three from MUSIC 140-148	4-8	4-8	4-8
Elective	(4)	(4)	(4)
Senior Year: Concentration Project (if selected)	(4)		

MUSIC, SCIENCE, AND TECHNOLOGY

The specialization in Music, Science, and Technology is designed for those students with a strong interest in the musical ramifications of rapidly evolving computer technology and digital audio, and in the acoustic and psychoacoustic foundations of music. The program entails a research project under faculty guidance and makes use of the highly multidisciplinary

environment at CCRMA. This program can serve as a complementary major to students in the sciences and engineering.

1. Students in the program are required to include the following courses in their studies:
 - a) Theory: 21, 22, 23, 121, 151 (WIM) (4 units each); 150 (3 units); 220A,B,C (4 units each); 250A (4 units)
 - b) History: two from 40, 41, 42
 - c) Applied: individual studies in performance (6 units) or 192A,B; and Ensemble or 192C (5 units)
 - d) Research project: 220D (4 units)
2. Students in Music, Science, and Technology must also pass the Piano and Ear-Training Proficiency examinations required of all Music majors.

MINORS

Minors in Music and in the Music, Science, and Technology specialization provide the student with a core of essential Music courses in the disciplines that establish both a foundation for informed appreciation of music and a basis for more advanced study, should the student wish to pursue it. Students minoring in Music or in the Music, Science, and Technology specialization must also pass the Piano and Ear-Training Proficiency examinations required of Music majors.

MUSIC

<i>Subject and Catalog Number</i>	<i>Units</i>
MUSIC 21, 22, 23. Elements of Music	12
MUSIC 40, 41, 42. Music-History Survey	12
Choice of one (WIM):	
MUSIC 140-148. Studies in Music History	4
Two quarters:	
MUSIC 159-171. Ensemble	2
MUSIC 172-177. Individual Instruction	6
Total	36

MUSIC, SCIENCE, AND TECHNOLOGY

MUSIC 21, 22, 23. Elements of Music	12
MUSIC 150. Musical Acoustics	3
MUSIC 151. Psychophysics and Cognitive Psychology for Musicians (WIM)	4
MUSIC 220A,B. Fundamentals of Computer-Generated Sound	8
MUSIC 192A,B. Theory and Practice of Audio Recording	6
MUSIC 192C. Session Recording (two quarters, 1 or 2 units/qtr.)	3
Total	36

CONCENTRATIONS

Concentrations are offered in performance, conducting, composition, or history and theory. In each concentration, 6 additional course units in the area of concentration beyond the basic requirements for the major are required. In addition, each concentrator registers for an independent project (198, 4 units) in the senior year under faculty supervision, leading to a senior recital, a composition, a conducting project, or a senior research paper. Students wishing to pursue the concentration in performance must demonstrate private-lesson-level proficiency on their instrument. Specific guidelines and information on the concentration tracks are available from the Department of Music office and students are urged to select this option no later than the middle of their junior year in order to complete all of the requirements in a timely manner.

HONORS PROGRAM

Honors in Music is awarded by the faculty to concentrators who have produced an independent project of exceptional quality and meet certain departmental standards in musicianship, scholarship, and academic standing. The conferral of honors is done solely through faculty consultation. Students do not petition for honors.

OVERSEAS STUDIES

Courses in Music are often available at Stanford overseas programs, especially in Berlin, Paris, and Oxford. See the Overseas Studies Program section of this bulletin immediately following this section for this year's listings. Music majors and minors should talk to the Department of Music undergraduate administrator prior to going overseas.

GRADUATE PROGRAMS

University requirements for the M.A., D.M.A., and Ph.D. degrees are described in the “Graduate Degrees” section of this bulletin.

The following statements apply to all the graduate degrees described below, unless otherwise indicated.

Admission—Applicants are required to submit evidence of accomplishment (scores, recordings, and/or research papers, according to the proposed field of concentration) when they return the application form. Applicants should arrange to take the Graduate Record Examination (GRE) well in advance of the December 12 application deadline. All components of the application are due by December 12. International students whose first language is not English are also required to take the TOEFL exam (with certain exceptions: see <http://gradadmissions.stanford.edu/>).

Department Examinations—All entering graduate students except those in the M.A./MST program are required to take: (1) a diagnostic examination testing the student in theory (counterpoint, harmony, and analysis) and (for musicologists only) the history of Western art music, and (2) a proficiency examination in sight-singing and piano sight-reading. These exams are given at the beginning of study in the department (usually the week before school begins).

None of Stanford’s required undergraduate courses may be credited toward an advanced degree unless specifically required for both degrees. Only work that receives a grade of ‘A,’ ‘B,’ or ‘Satisfactory’ (a passing grade in an instructor-mandated credit/no credit course) in music courses numbered 100 or higher taken as a graduate student is recognized as fulfilling the advanced-degree requirements. Students may need to devote more than the minimum time in residence if preparation for graduate study is inadequate.

MASTER OF ARTS

Residence—A minimum of 45 academic units is required for the master’s degree in Music.

MUSIC

Students in the doctoral programs who enter directly from the bachelor’s level may, upon completing 45 units and advancing to candidacy, be recommended for the M.A. degree. The Department of Music does not accept students for study only towards the M.A. degree except in the Music, Science, and Technology program, described below.

MUSIC, SCIENCE, AND TECHNOLOGY

This is a one-year program of 45 units focusing on the integration of music perception, music-related signal processing and controllers, and synthesis. The program is designed for students having an undergraduate engineering or science degree, or a degree that includes course work in engineering mathematics.

Required are:

<i>Subject and Catalog Number</i>	<i>Units</i>
MUSIC 151. Psychophysics and Cognitive Psychology for Musicians	4
MUSIC 154. Composition and Performance of Instrumental Music with Electronics	3
MUSIC 192A. Foundations of Sound-Recording Technology	3
MUSIC 192B. Advanced Sound-Recording Technology	3
MUSIC 220A. Fundamentals of Computer-Generated Sound	4
MUSIC 220B. Compositional Algorithms, Psychoacoustics, and Spatial Processing	4
MUSIC 220C. Research Seminar in Computer-Generated Music	4
MUSIC 250A. HCI Theory and Practice	4
MUSIC 320. Introduction to Digital Audio Signal Processing	4
MUSIC 420. Signal Processing Models in Musical Acoustics	3
MUSIC 421. Audio Applications of the Fast Fourier Transform	3
Elective	6
Total	45

DOCTORAL PROGRAMS

Residence—The candidate must complete a minimum of 135 academic units (see Residency under the “Graduate Degrees” section of this bulletin). Doctoral candidates working on Ph.D. dissertations or Doctor of Musical Arts (D.M.A.) final projects that require consultation with faculty members continue enrollment in the University under Terminal Graduate

Registration (TGR), after they have reached the required 135 academic units and have completed their Special Area examinations.

Foreign Language Requirement—At the time of advancement to candidacy, all D.M.A. students, and Ph.D. students in the Computer-Based Theory and Acoustics program, are required to have demonstrated a reading knowledge of one language other than English and the ability to translate into idiomatic English. Ph.D. students in Musicology are required to demonstrate proficiency in German and a similar competence in a second language, chosen from French, Italian, or Latin (or, on a case-by-case basis, another language, if it has significant bearing on the candidate’s field of study).

Qualifying Examination—A written and oral examination for admission to candidacy is given just prior to the fourth quarter of residence for D.M.A. students and Ph.D. students in the Computer-Based Music Theory and Acoustics programs; for Ph.D. students in Musicology, the exams are given just prior to the eighth quarter of residence. This exam tests knowledge of history, theory, repertory, and analysis.

Teaching—All students in the Ph.D. or D.M.A. degree programs, regardless of sources of financial support, are required to complete six quarters of supervised teaching at half time. Music 280 (given in Spring Quarter and taken at the end of the first year) is a required course for Teaching Assistants. Additional quarters of teaching may be required by the department.

Basic Requirements—Doctoral programs in the Department of Music do not require a master’s degree as a prerequisite. All students entering directly from the bachelor’s degree level are required to take the following course (which is, however, required of all students in musicology, regardless of entering degree level):

<i>Subject and Catalog Number</i>	<i>Units</i>
200. Graduate Proseminar	4
All doctoral candidates must take:	
301A,B,C. Music Analysis: Modal, Tonal, and Post-Tonal	12

DOCTOR OF MUSICAL ARTS IN COMPOSITION

The Doctor of Musical Arts (D.M.A.) degree in Composition is given breadth through collateral studies in other branches of music and in relevant studies outside music as seems desirable.

Examinations—A written Special Area examination in the candidate’s field of concentration, including a final project proposal, is required to be completed during the fourth year of study, no later than the last day of classes in Autumn Quarter of that year. A public lecture/demonstration is also required during the last quarter of residence. It should be one hour in length, treating aspects of the final project.

Requirements—Besides those requirements listed above, candidates are expected to produce a number of works demonstrating their ability to compose in a variety of forms and for the common media: vocal, instrumental, and electronic music. If possible, the works submitted are presented in public performance prepared by the composer. Annual progress is reviewed by the composition faculty. The final project in composition is an extended work for instruments, voices, electronic media, or a combination of these. MUSIC 323, Doctoral Seminar in Composition (16 units), is a required course.

DOCTOR OF PHILOSOPHY

The Ph.D. in Music can be pursued in two concentrations: Musicology or Computer-Based Music Theory and Acoustics.

Examinations—

1. **Special Areas:** a written and oral examination testing the student’s knowledge of music and research in the student’s field of concentration is completed during the fourth year of study, no later than the last day of classes in Autumn Quarter of that year. This includes an oral defense of the dissertation proposal. The examining committee comprises prospective readers of the dissertation.
2. **Ph.D. Orals:** the University oral examination, taken once the dissertation is substantially underway, is an oral presentation and defense of dissertation research methods and results.

Requirements—Besides those requirements listed above, other requirements by concentration are:

MUSICOLOGY

<i>Subject and Catalog Number</i>	<i>Units</i>
221A. History of Music Theory: Ancient Through Baroque	4
221B. History of Music Theory: Classical Through Modern	4
269A. Seminar in Performance Practices	4
300A,B. Seminar in Notation	8
310. Research Seminars in Musicology*	24-40
312A,B. Aesthetics and Criticism of Music	8

* The requirement is for eight seminars of 3-5 units each. Students may petition to take up to two graduate seminars in other departments, in consultation with their adviser.

COMPUTER-BASED MUSIC THEORY AND ACOUSTICS

220A,B,C. Computer-Generated Music Seminars	12
220D. Research in Computer Music	12
221A. History of Music Theory: Ancient Through Baroque	4
221B. History of Music Theory: Classical Through Modern	4
320. Introduction to Digital Audio Signal Processing	4

JOINT PH.D. IN MUSIC AND HUMANITIES

The department participates in the Graduate Program in Humanities leading to a joint Ph.D. degree in Music and Humanities. For a description of the program, see the "Interdisciplinary Studies in Humanities" section of this bulletin.

COURSES

WIM indicates that the course satisfies the Writing in the Major requirements. (AU) indicates that the course is subject to the University Activity Unit limitations (8 units maximum).

Many Music courses have web pages linked to the Music home page. Courses with web sites at press time are noted in their entries below.

GENERAL

MUSIC 2C. Men, Women, and Opera—An introduction to opera through the lenses of gender and sexuality. The doomed heroines of Italian tragic operas by Verdi and Puccini; the battle of the sexes in Mozart's comedies *The Marriage of Figaro* and *Don Giovanni*; and ambiguous representations of masculinity in serious opera from Handel to Rossini, where heroes were played by high-voiced men and crossdressing women. Literary and historical background; feminist and queer critiques of opera's misogynist plots and stereotypes. Students attend an opera performance. GER:DB-Hum, EC-Gender

3 units, Spr (Hadlock, H)

MUSIC 8A. Rock, Sex, and Rebellion—Development of critical listening skills and musical parameters through genres in the history of rock music. Focus is on competing aesthetic tendencies and subcultural forces that shaped the music. Rock's significance in American culture, and the minority communities that have enriched rock's legacy as an expressively diverse form. Lectures, readings, listening, and video screenings. GER:DB-Hum, EC-AmerCul

3 units, Spr (Applebaum, M)

MUSIC 9A. Tchaikovsky, Stravinsky, Shostakovich, and Beyond: A History of Russian Music—Introduction to Russian culture through classical music and folklore, including sacred, secular, oral, and written music. The variety of Russian sung folklore in its traditional context, and how it is reflected in the music of Russian composers including Glinka, Mussorgsky, Rimsky-Korsakov, Tchaikovsky, Skryabin, Stravinsky, Prokofiev, and Shostakovich. Listening assignments include fieldwork data and video recordings. GER:DB-Hum, EC-GlobalCom

3 units, Spr (Zemtsovsky, I)

MUSIC 11N-36N. Stanford Introductory Seminars

MUSIC 13Q. Classical Music and Politics: Western Music in Modern China—Stanford Introductory Seminar. Preference to sophomores. For students interested in social history, cultural studies, China studies, international relations, and music. From the Italian Jesuit, Matteo Ricci who presented a clavichord to the Chinese emperor, to

the emergence of a modern generation of Chinese musicians. GER:DB-Hum, EC-GlobalCom

3 units, Spr (Cai, J)

MUSIC 14N. Women Making Music—Stanford Introductory Seminar. Women's roles as composers and performers across history and cultures. Music from diverse cultures, styles, and eras as a medium for women to express individuality and build community. Women's musical activities in folk and art music of Japan, India, Ireland, and Albania; women in popular music in America, Egypt, and Africa; female musicians of the medieval, Renaissance, Romantic, and contemporary eras. GER:DB-Hum, EC-Gender

3 units, Aut (Hadlock, H)

MUSIC 15Q. Topics in American Music—Stanford Introductory Seminar. American music as a central element in the quest for a national artistic expression that reflects the social order that forms it: pluralistic, multicultural, largely immigrant, democratic, and combining elements of its cultivated and vernacular traditions. Ballads, blues, band music, musical comedy, minstrel, missions music, American Indian music, country music, rags, rock, rhythm-and-blues, jazz, spirituals, swing, shape-notes. GER:DB-Hum, EC-AmerCul

3 units, Win (Cohen, A)

MUSIC 16N. Music, Myth, and Modernity: Wagner's Ring Cycle and Tolkien's Lord of the Rings—Stanford Introductory Seminar. Preference to freshmen. Roots of Wagner's operatic cycle and Tolkien's epic trilogy in a common core of Norse, Germanic, and Anglo-Saxon mythology. The role of musical motive and characterization in Wagner's music dramas and the film version of Tolkien's trilogy. Music as a key element in the psychological, political, and cultural revision of ancient myth in modern opera and film. GER:DB-Hum, EC-GlobalCom

3 units, Spr (Grey, T)

MUSIC 17N. The Operas of Mozart—Stanford Introductory Seminar. Preference to freshmen. Four of Mozart's mature operas, the earliest works in the operatic repertoire never to go out of fashion. What accounts for this extraordinary staying power? Focus on the history of their composition, performance, and reception, and their changing significance from Mozart's time to the present. GER:DB-Hum

3 units, Win (Berger, K)

MUSIC 17Q. Perspectives in North American Taiko—Stanford Introductory Seminar. Preference to sophomores. Taiko, or Japanese drum, is a newcomer to the American music scene. Emergence of the first N. American taiko groups coincided with increased Japanese American activism, and to some it is symbolic of Japanese American identity. N. American taiko is associated with Japanese American Buddhism. Musical, cultural, historical, and political perspectives of taiko. Hands-on drumming. Japanese music and Japanese American history, and relations among performance, cultural expression, community, and identity. GER:DB-Hum, EC-AmerCul

4 units, Spr (Sano, S)

MUSIC 35N. The Music and Ideas of Charles Ives—Stanford Introductory Seminar. Preference to freshmen. The life and work of Charles Ives, and the polarized reception his compositions received. Music includes Ives' Victorian songs and his symphonic works; his philosophical and political writings, historic recordings, oral and photographic histories, and live performances. Hands-on work with original manuscripts and editions. Recommended: ability to read music. GER:DB-Hum

3 units, Aut (Barth, G)

MUSIC 36N. Experimental Instruments—Stanford Introductory Seminar. The design of new, experimental musical instruments emphasizing sound-sculpture instruments and their sonic capabilities and visual appeal. Lab in the recently renovated CCMRA; students design and build their own instruments, and form a performing ensemble. Historical readings, the evolution of traditional instruments, concert events, museum visits and guest lecturers. Recommended: experience with music, visual art, or power tools.

4 units, Aut (Applebaum, M)

MUSIC 18A. Jazz History: Ragtime to Bebop, 1900-1940—From the beginning of jazz to the war years. GER:DB-Hum, EC-AmerCul
3 units, Win (Berry, F)

MUSIC 18B. Jazz History: Bebop to Present, 1940-Present—Modern jazz styles from Bebop to the current scene. Emphasis is on the significant artists of each style. GER:DB-Hum, EC-AmerCul
3 units, Spr (Berry, F)

MUSIC 20A. Jazz Theory—Introduces the language and sounds of jazz through listening, analysis, and compositional exercises. Students apply the fundamentals of music theory to the study of jazz. Prerequisite: 19 or consent of instructor. GER:DB-Hum
3 units, Aut (Nadel, J)

MUSIC 20B. Advanced Jazz Theory—Approaches to improvisation through listening and transcribing, and developing familiarity with important contributors to this music. Topics: scale theory, altered dominants, and substitute harmony. Prerequisite: 20A or consent of instructor. GER:DB-Hum
3 units, Win (Nadel, J)

MUSIC 20C. Jazz Arranging and Composition—Jazz arranging and composition for small ensembles. Foundation for writing for big band. Prerequisite: 20A or consent of instructor.
3 units, alternate years, not given this year

MUSIC 127. Instrumentation and Orchestration—Individual instruments, instrumental groups within the orchestra, and combinations of groups. Arrangements from piano to orchestral music. Score analysis with respect to orchestration. Practical exercises using chamber ensembles and school orchestra. Prerequisite: 23. GER:DB-Hum
3 units, Win (Jones, C)

FOUNDATION FOR B.A. MAJOR

Students with training in theory should take the placement exam given at the beginning of each quarter for admission to more advanced courses. Students must not assume that they may begin study with MUSIC 21.

MUSIC 19. Introduction to Music Theory—For non-music majors and Music majors or minors unable to pass the proficiency test for entry to MUSIC 21. The fundamentals of music theory and notation, basic sight reading, sight singing, ear training, keyboard harmony; melodic, rhythmic, and harmonic dictation. Skill oriented, using piano and voice as basic tools to develop listening and reading skills. GER:DB-Hum
3 units, Aut, Spr (Berger, T)

MUSIC 21,22,23. Elements of Music—Melody, harmony, counterpoint, and rhythm are studied through analysis, composition, and exercises in practical musicianship. Emphasis is on tonal theory with components in melody, counterpoint, and harmony. Analytical and practical musicianship skills are taught, with analysis and compositional projects in historical styles. Students with previous training in theory should take the placement exam given at the beginning of each quarter for admission to more advanced courses. Students must not assume that they may begin study with MUSIC 21.

MUSIC 21. Elements of Music I—Preference to majors. Introduction to tonal theory. Practice and analysis. Diatonic harmony focusing on melodic and harmonic organization, functional relationships, voice-leading, and tonal structures. Ear-training and keyboard-harmony skills; analytical methods and listening strategies. Concurrent enrollment in MUSIC 12 (Piano) or demonstration of keyboard skills sufficient to pass the Piano Proficiency Exam within the first two weeks of the term is required. Enrollment limited to 40. Prerequisite: pass a basic musical skills proficiency examination on first day of class; students who do not pass may take MUSIC 19. GER:DB-Hum
4 units, Aut (Aquilanti, G), Win (Berger, T)

MUSIC 22. Elements of Music II—Preference to majors. Introduction to chromatic harmony focusing on secondary functions, modulations, harmonic sequences, mode mixture, and the Neapolitan, and augmented sixth chords. Analysis of musical forms and harmonizations

complemented by harmonic and melodic dictation, sight singing, and other practical skills. Prerequisites: 21 or consent of instructor; demonstration of keyboard skills sufficient to pass the Piano Proficiency Exam within the first two weeks of the term is required, or concurrent enrollment in MUSIC 12. GER:DB-Hum

4 units, Win (Aquilanti, G), Spr (Berger, T)

MUSIC 23. Elements of Music III—Preference to majors. Continuation of chromatic harmony, complex forms, and introduction to early 20th-century techniques. Satisfactory passage of ear-training proficiency exam, part of the course's final, is a requirement for course completion and for continuation in the major sequence. Prerequisites: 22 or consent of instructor; demonstration of keyboard skills sufficient to pass the Piano Proficiency Exam within the first two weeks of the term is required, or concurrent enrollment in MUSIC 12. GER:DB-Hum

4 units, Aut (Jones, C), Spr (Aquilanti, G)

MUSIC 40, 41, 42. Music History—The history of Western art music from Gregorian chant to the present, stressing major styles and genres in their intellectual and institutional settings. Pre- or corequisite: 23. GER:DB-Hum

MUSIC 40. Music History to 1600

4 units, Aut (Markham, M)

MUSIC 41. Music History 1600-1830

4 units, Win (Hadlock, H)

MUSIC 42. Music History Since 1830

4 units, Spr (Kennaway, J)

MUSIC 121. Analysis of Tonal Music—Complete movements, or entire shorter works of the 18th and 19th centuries, are analyzed in a variety of theoretical approaches. Prerequisites: 23 or consent of instructor; and pass the ear-training and piano-proficiency examinations. GER:DB-Hum

4 units, Win (Barth, G)

MUSIC 122A. Eighteenth-Century Counterpoint—Analysis and composition of two- and three-part inventions and three- and four-voice fugues. Use of keyboard, ear training, and sight singing. Prerequisites: 23 or consent of instructor; and pass the ear-training and piano-proficiency examinations. GER:DB-Hum

4 units, Spr (Jones, C)

MUSIC 122B. Harmonic Materials of 19th Century—Analysis of 19th-century music, with compositional exercises based on 19th-century models. Prerequisites: 23 or consent of instructor; and pass the ear-training and piano-proficiency examinations. GER:DB-Hum

4 units, Win (Ulman, E)

MUSIC 122C. Introduction to 20th-Century Composition—Contemporary works, with emphasis on music since 1945. Projects in free composition based on 20th-century models. Prerequisites: 23 or consent of instructor; and pass the ear-training and piano-proficiency examinations. GER:DB-Hum

4 units, Aut (Ferneyhough, B)

COMPOSITION

MUSIC 123. Undergraduate Seminar in Composition—Current trends in composition. May be repeated for credit. Prerequisites: Music major; 23 or consent of instructor.

3 units, Aut (Ulman, E), Win (Applebaum, M)

MUSIC 125. Individual Undergraduate Projects in Composition—May be repeated for credit. Prerequisites: Music major and one quarter of 123.

1-3 units, Aut, Win, Spr (Staff)

MUSIC 323. Doctoral Seminar in Composition—Illustrated discussions of compositional issues and techniques. Students present their own work to the class, and individually to the instructor.

4 units, Aut (Applebaum, M), Win (Ferneyhough, B)

MUSIC 325. Individual Graduate Projects in Composition

1-5 units, Aut, Win, Spr, Sum (Staff)

HISTORY AND LITERATURE

MUSIC 140-148. Seminars in Music History—Specialized topics in music history are each offered at least once within any two-year period. Topics vary each year. May be repeated for credit. Music majors may repeat the same seminar in music history only once for credit towards the major and must turn in different papers the second time. Pre- or corequisite: 23. GER:DB-Hum, WIM

MUSIC 140/240. Studies in Medieval Music

3-4 units, alternate years, not given this year

MUSIC 141. Studies in Renaissance Music

3-4 units, alternate years, not given this year

MUSIC 142. Studies in Baroque Music

3-4 units, Spr (Hadlock, H), alternate years, not given next year

MUSIC 143. Studies in Classic Music

3-4 units, alternate years, not given this year

MUSIC 144. Studies in Romantic Music

3-4 units, alternate years, not given this year

MUSIC 145. Studies in Modern Music—May be repeated for credit.

3-4 units, Win (Ulman, E), alternate years, not given next year

MUSIC 148. Musical Shakespeare: Theater, Song, Opera, and Film—(Same as HUMNTIES 192G.) The role of music in productions, adaptations, and interpretations of Shakespeare's plays as theater, opera, and film from the Elizabethan era through the present. Emphasis is on the role of songs, stage music, and music in operatic and film adaptations. Incidental music, orchestral tone poems, and art-song settings of lyrics from the plays. Plays include *Romeo and Juliet*, *Othello*, *Macbeth*, *Hamlet*, *The Tempest*, *Midsummer Night's Dream*, and *Twelfth Night*. Pre- or corequisite: 23. GER:DB-Hum, WIM at 4- or 5-unit level only.

3-5 units, Aut (Grey, T), alternate years, not given next year

MUSIC 221A,B. History of Music Theory—Principal theories, theorists, and treatises of Western art music. Issues and controversies. Two quarter sequence. A: Ancient Through Baroque, B: Classical Through Modern.

4 units, alternate years, not given this year

MUSIC 240-248. Seminars in Music History—For graduate students; topics as in 140-145. Participation in upper-class seminars, with additional in-depth research. Specialized topics in music history are each offered at least once within any two-year period. Topics vary each year. Pre- or corequisite: 23.

MUSIC 240. Studies in Medieval Music

3-4 units, alternate years, not given this year

MUSIC 241. Studies in Renaissance Music

3-4 units, alternate years, not given this year

MUSIC 242. Studies in Baroque Music

3-4 units, Spr (Hadlock, H), alternate years, not given next year

MUSIC 243. Studies in Classic Music

3-4 units, alternate years, not given this year

MUSIC 244. Studies in Romantic Music

3-4 units, alternate years, not given this year

MUSIC 245. Studies in Modern Music

3-4 units, Win (Ulman, E), alternate years, not given next year

MUSIC 248. Musical Shakespeare: Theater, Song, Opera, and Film—(Graduate section; see 148; same as HUMNTIES 192G.)

3-5 units, Aut (Grey, T), alternate years, not given next year

MUSIC 310. Research Seminar in Musicology—For graduate students. Topics vary each quarter. May be repeated for credit.

3-5 units, Aut (Mahrt, W), Win (Taruskin, R), Spr (Grey, T)

MUSIC 310H. Modern Seminar—(Same as HUMNTIES 325.) How the Romantics saw aesthetic experience, emphasizing music, as a means of reading the self and defining the individual subject, community and nation. These complementary functions of music, drama, and myth in modern culture epitomized in Wagner's *Tristan und Isolde* and *Die*

Meistersinger. Nietzsche and Mann's notion that the conflicting claims of subjective and collective identity generate tensions that threaten the survival of culture. Primary readings include: stories and criticism of E.T.A. Hoffmann; Wagner's music dramas; poetry and essays of Charles Baudelaire; Nietzsche's *Birth of Tragedy*, *Beyond Good and Evil*, and *The Case of Wagner*; Mann's *Death in Venice* and *Doctor Faustus*; and Adorno's criticism.

3-5 units, Win (Grey, T)

MUSIC 312A,B. Aesthetics and Criticism of Music—For graduate students. Primary texts focusing on the nature, purposes, and uses of music and other arts. A: Ancients and Moderns: Plato to Nietzsche, B: Contemporaries: Heidegger to Today.

4 units, A: Win, B: Spr (Berger, K)

COMPUTER MUSIC AND APPLICATIONS

MUSIC 120. Auditory Remapping of Bioinformatics—Representation of data related to bioinformatics and medical imaging. Physiological and perceptual perspectives. Representations of complexity in sound and types of auditory display applied to representation of data sets. Term project involving developing tools for sonification and/or applying these tools to a representation problem. Recommended: basic knowledge and interest in music, computer programming, or one of the biological sciences.

1-3 units, Aut (Yeo, W)

MUSIC 150. Musical Acoustics—The physics of vibrating systems, waves, and wave motion. Time- and frequency-domain analysis of sound. Room acoustics, reverberation, and spatialization. The acoustics of musical instruments: voice, strings, and winds. Emphasis is on the practical aspects of acoustics in making music. Hands-on and computer-based lab. See <http://ccrma.stanford.edu/courses/150/>. Prerequisites: music performance/composition experience, basic algebra, calculus, and physics. GER:DB-EngrAppSci

3 units, Win (Rossing, T)

MUSIC 151. Psychophysics and Cognitive Psychology for Musicians—Concepts and experiments relevant to the use of sound, especially synthesized, in music. Listening to sound examples. Emphasis is on salience and the importance of various auditory phenomena in music. See <http://ccrma.stanford.edu/>. Prerequisite: basic knowledge of music. GER:DB-Hum, WIM

4 units, Spr (Berger, J)

MUSIC 154. Composition and Performance of Instrumental Music with Electronics—Aesthetic and analytical issues of mixed instrumental and electronic works. Focus is on one or a few works leading to a public performance at the end of the quarter. Prerequisite: experience in analysis of contemporary music and in electronic music.

1-3 units, Spr (Risset, J)

MUSIC 192. Theory and Practice of Audio Recording

MUSIC 192A. Foundations of Sound-Recording Technology—For upper division undergraduates and graduate students; preference given to Music majors with MST specialization. Topics: elementary electronics; the physics of sound transduction and microphone operation, selection, and placement; mixing consoles; connectors and device interconnection; grounding and shielding; principles of analog magnetic recording; operation maintenance of recording equipment; and principles of recording engineering. Enrollment limited. Prerequisites: 151; algebra, physics basics, and consent of instructor. GER:DB-EngrAppSci

3 units, Aut (Kadis, J)

MUSIC 192B. Advanced Sound Recording Technology—Topics: noise reduction techniques; dynamics and time-delay audio effects; the principles of digital audio; disk- and tape-based digital recorders; digital audio workstations and editing; advanced multitrack techniques; SMPTE and MIDI time code and device synchronization; MIDI sequencing and synchronization. See <http://ccrma.stanford.edu/>. Prerequisite: 192A. GER:DB-EngrAppSci

3 units, Win (Kadis, J)

MUSIC 192C. Session Recording—Independent engineering of recording sessions. May be repeated for credit. Prerequisites: 192A,B.
1-2 units, Aut, Win, Spr (Kadis, J)

MUSIC 220A. Fundamentals of Computer-Generated Sound—Techniques for digital sound synthesis, effects, and reverberation. Topics: summary of digital synthesis techniques (additive, subtractive, nonlinear, wavetable, spectral-modeling, and physical-modeling); digital effects algorithms (phasing, flanging, chorus, pitch-shifting, and vocoding); and techniques for digital reverberation. Majors (undergraduate or graduate) must take for 4 units. See <http://ccrma.stanford.edu/>.

2-4 units, Aut (Chafe, C)

MUSIC 220B. Compositional Algorithms, Psychoacoustics, and Spatial Processing—The use of high-level programming language as a compositional aid in creating musical structures. Advanced sound synthesis techniques. Simulation of a reverberant space and control of the position of sound within the space. See <http://ccrma.stanford.edu/>. Prerequisite: 220A.

2-4 units, Win (Lopez-Lezcano, F)

MUSIC 220C. Research Seminar in Computer-Generated Music—Individual projects in composition, psychoacoustics, or signal processing. See <http://ccrma.stanford.edu/>. Prerequisite: 220B.

2-4 units, Spr (Chafe, C)

MUSIC 220D. Research in Computer-Generated Music—Independent research projects in composition, psychoacoustics, or signal processing. May be repeated for credit. See <http://ccrma.stanford.edu/>. Prerequisite: 220C.

1-10 units, Aut, Win, Spr, Sum (Staff)

MUSIC 250A. HCI Theory and Practice—HCI issues as they relate to music applications in composition and performance. Project-oriented, examining issues from the technical and theoretical perspectives of computer science, haptics, and music theory. See <http://ccrma.stanford.edu/>.

3-4 units, Aut, Win (Verplank, W)

MUSIC 253. Musical Information: An Introduction—The kinds of musical information used in sound, graphical, and analytical applications. Emphasis is on independent concepts and principles in music representation and research objectives (repertory analysis, performance analysis, theoretical models, similarity, and stylistic simulation). Examples from Western art music. Prerequisites: one year of music theory or equivalent; methods courses in fields such as musical analysis, symbolic systems, information processing, sound engineering, or intellectual property issues.

1-4 units, Win (Selfridge-Field, E)

MUSIC 254. Applications of Musical Information: Query, Analysis, and Style Simulation—Participants explore the issues introduced in 253 in greater depth and take initiative for research projects related to a theoretical or methodological issue, a software project, or a significant analytical result. Prerequisite: 253 or consent of instructor.

1-4 units, Spr (Selfridge-Field, E)

MUSIC 318. Advanced Acoustics—Current topics. May be repeated for credit.

1-5 units, Win (Rossing, T)

MUSIC 319. Research Seminar on Computational Models of Sound Perception—All aspects of auditory perception, often with emphasis on computational models. Topics: music perception, signal processing, auditory models, pitch perception, speech, binaural hearing, auditory scene analysis, basic psychoacoustics, and neurophysiology. See <http://ccrma.stanford.edu/courses/>.

1-3 units, Aut, Win, Spr (Slaney, M)

MUSIC 320. Introduction to Digital Audio Signal Processing—Digital signal processing for music and audio research. Topics: complex numbers, sinusoids, spectrum representation, sampling and aliasing, digital filters, frequency response, z transforms, transfer-function analysis, and associated Matlab software. See <http://ccrma.stanford.edu/courses/320/>.

3-4 units, Aut (Smith, J)

MUSIC 420. Signal Processing Methods in Musical Acoustics—Computational methods in musical sound synthesis and digital audio effects based on acoustic physical models. Topics: acoustic simulation with delay lines, digital filters, and nonlinear elements; comb filters; allpass filters; artificial reverberation; delay-line interpolation and sampling-rate conversion; phasing, flanging, and chorus effects; efficient computational models of strings, woodwinds, brasses, and other musical instruments. See <http://ccrma.stanford.edu/courses/420/>. Prerequisites: 320 or equivalent; PHYSICS 21 or equivalent course applying Newton's laws of motion; and CS 106B or equivalent programming in C and C++.

3-4 units, Win (Smith, J)

MUSIC 421. Audio Applications of the Fast Fourier Transform (FFT)—Spectrum analysis and signal processing using the FFT with emphasis on audio applications. Topics: Fourier theorems; FFT windows; spectrum analysis; spectrograms; sinusoidal modeling; spectral modeling synthesis; FFT convolution; FIR filter design and system identification; overlap-add and filter-bank-summation methods for short-time Fourier analysis, modification, and resynthesis. See <http://ccrma.stanford.edu/courses/421/>. Prerequisites: 420 or consent of instructor.

3-4 units, Spr (Smith, J)

MUSIC 422. Perceptual Audio Coding—History and basic principles: development of psychoacoustics-based data-compression techniques; perceptual-audio-coder applications (radio, television, film, multimedia/internet audio, DVD, EMD). In-class demonstrations: state-of-the-art audio coder implementations (such as AC-3, MPEG) at varying data rates; programming simple coders. Topics: audio signals representation; quantization; time to frequency mapping; introduction to psychoacoustics; bit allocation and basic building blocks of an audio codec; perceptual audio codecs evaluation; overview of MPEG-1, 2, 4 audio coding and other coding standards (such as AC-3). Prerequisites: knowledge of digital audio principles, familiarity with C programming. Recommended: 320, EE 261. See <http://ccrma.stanford.edu/>.

3 units, Win (Bosi-Goldberg, M)

MUSIC 423. Signal Processing Research—Graduate research seminar. Problems in music and/or audio signal processing. Presentation of research-in-progress by graduate students, visiting scholars, and CCRMA faculty. See <http://ccrma.stanford.edu/courses/423/>.

1-4 units, Aut, Win, Spr (Smith, J)

MUSIC 424. Signal Processing Techniques for Digital Audio Effects—Techniques for dynamic range compression, reverberation, equalization and filtering, panning and spatialization, digital emulation of analog processors, and implementation of time-varying effects. Single-band and multiband compressors, limiters, noise gates, de-essers, convolutional reverberators, parametric and linear-phase equalizers, wah-wah and envelope-following filters, and the Leslie. Students develop effects algorithms of their own design in labs. Prerequisites: digital signal processing, sampling theorem, digital filtering, and the Fourier transform at the level of 320 or EE 261; Matlab and modest C programming experience. Recommended: 420 or EE 264; audio effects in mixing and mastering at the level of 192.

3-4 units, Spr (Berners, D; Abel, J)

PERFORMANCE

GROUP INSTRUCTION

Note—Special fee of \$100 per quarter for 12A, B, C (non-majors); 65A, B; 72, 73, 74, 75, 76, 77.

MUSIC 12A,B,C. Introductory Piano Class—(A = level 1; B = level 2; C = level 3)

1 unit, Aut, Win, Spr, Sum (Zerlang, T)

MUSIC 65A,B. Voice Class I, II—Group (7 students to a section) beginning voice for the non-major (A = level 1; B = level 2).

1 unit, Aut, Win, Spr (Giovannetti, C), Sum (Linduska, M)

MUSIC 65C. Voice Class (Majors and Ensemble Members)—For Music majors and non-majors who are members of departmental choral ensembles.

1 unit, Aut, Win, Spr (Wait, G)

MUSIC 72-77. Small-Group, Intermediate-Level Instruction—Minimum enrollment required. May be repeated for credit.

MUSIC 72A. Intermediate Piano Class—For intermediate students. Prerequisites: 12C or equivalent, audition.

1 unit, Aut, Win, Spr, Sum (Zerlang, T)

MUSIC 72B. Organ Class—For beginning organ students who have keyboard skills.

1 unit, Aut, Win, Spr (Morgan, R)

MUSIC 72C. Harpsichord Class—For beginning harpsichord students who have keyboard skills.

1 unit, Aut, Win, Spr (Thornburgh, E)

MUSIC 72D. Jazz Piano Class—By invitation only; priority to majors and jazz-ensemble participants.

1 unit, Aut, Win, Spr (Low, M)

MUSIC 73. Intermediate Voice Class—For intermediate students. Admission by audition.

1 unit, Aut, Win, Spr (Giovannetti, C)

MUSIC 74C. Classical Guitar Class

1 unit, Aut, Win, Spr (Ferguson, C)

MUSIC 74D. Harp Class

1 unit, Aut, Win, Spr (Chauvel, M)

MUSIC 75B. Renaissance Wind Instruments Class

1 unit, Aut, Win, Spr (Myers, H)

MUSIC 76. Brass Instruments Class

1 unit, Aut, Win, Spr (Kenley, M)

MUSIC 77. Percussion Class

1 unit, Aut, Win, Spr (Veregge, M)

INDIVIDUAL INSTRUCTION

MUSIC 172/272-177/277. Individual Vocal and Instrumental Instruction—270-level courses are for advanced students. Weekly lessons throughout the academic quarter. Special fee of \$200 per quarter for majors and \$400 for non-majors (fees remain the same for 1, 2, or 3 units). Prospective students must demonstrate, by audition with the appropriate teacher, a minimum proficiency on instrument. Minimum proficiency requirements for each instrument are posted on the bulletin board outside Braun 102 and at <http://music.stanford.edu/Academics/Auditions.html>. May be repeated for credit.

MUSIC 172/272. Keyboard Instruments

MUSIC 172A/272A. Piano—Private lessons and group master class weekly.

1-3 units, Aut, Win, Spr (Barth, G; Dahl, L; Schultz, T; Weldy, F; Arul, K)

MUSIC 172B/272B. Organ

1-3 units, Aut, Win, Spr (Morgan, R)

MUSIC 172C/272C. Harpsichord

1-3 units, Aut, Win, Spr (Thornburgh, E)

MUSIC 172D/272D. Jazz Piano—By invitation only; priority to majors and jazz-ensemble participants.

1-3 units, Aut, Win, Spr (Low, M)

MUSIC 172E/272E. Fortepiano

1-3 units, Aut, Win, Spr (Barth, G)

MUSIC 172F/272F. Carillon

1-3 units, Aut, Win, Spr (Zerlang, T)

MUSIC 173/273. Voice

1-3 units, Aut, Win, Spr (Giovannetti, C; Wait, G; Schneider, A)

MUSIC 174/274. Stringed Instruments

MUSIC 174A/274A. Violin

1-3 units, Aut, Win, Spr (Kleyman, G; Harms, D; Nuttall, G; St. John, S; Fong, D; Sohn, L)

MUSIC 174B/274B. Viola

1-3 units, Aut, Win, Spr (Kleyman, G; Robertson, L; Harms, D)

MUSIC 174C/274C. Violoncello

1-3 units, Aut, Win, Spr (Harrison, S; Costanza, C)

MUSIC 174D/274D. Contrabass

1-3 units, Aut, Win, Spr (Moyer, B)

MUSIC 174E/274E. Viola Da Gamba

1-3 units, Aut, Win, Spr (Dornenburg, J)

MUSIC 174F/274F. Classical Guitar

1-3 units, Aut, Win, Spr (Ferguson, C)

MUSIC 174G/274G. Harp

1-3 units, Aut, Win, Spr (Chauvel, M)

MUSIC 174H/274H. Baroque Violin

1-3 units, Aut, Win, Spr (Martin, A)

MUSIC 174I/274I. Early Plucked Strings

1-3 units, Aut, Win, Spr (Staff)

MUSIC 175/275. Woodwind Instruments

MUSIC 175A/275A. Flute

1-3 units, Aut, Win, Spr (Blaisdell, F; Hawley, A; Holmes-Schaeffle, M; Maestre, J)

MUSIC 175B/275B. Oboe

1-3 units, Aut (Hubbard, R), Win, Spr (Matheson, J)

MUSIC 175C/275C. Clarinet

1-3 units, Aut, Win, Spr (Brandenburg, M; Bell, C)

MUSIC 175D/275D. Bassoon

1-3 units, Aut, Win, Spr (Olivier, R)

MUSIC 175E/275E. Recorder/Renaissance Wind Instruments

1-3 units, Aut, Win, Spr (Myers, H)

MUSIC 175F/275F. Saxophone

1-3 units, Aut, Win, Spr (Stein, H)

MUSIC 175G/275G. Baroque Flute

1-3 units, Aut, Win, Spr (Staff)

MUSIC 176/276. Brass Instruments

MUSIC 176A/276A. French Horn

1-3 units, Aut, Win, Spr (Ragent, L)

MUSIC 176B/276B. Trumpet

1-3 units, Aut, Win, Spr (Johnson-Hamilton, J)

MUSIC 176C/276C. Trombone

1-3 units, Aut, Win, Spr (Kenley, M)

MUSIC 176D/276D. Tuba

1-3 units, Aut, Win, Spr (Clements, A)

MUSIC 177/277. Percussion

1-3 units, Aut, Win, Spr (Veregge, M)

PERFORMANCE PRACTICES

MUSIC 126. Introduction to Thoroughbass—The development of continuo techniques and skills for figured-bass realization. Performance and analysis of selected repertoire, using thoroughbass principles and exercises based on historical theoretical treatises. Prerequisite: 21.

1-3 units, Win (Berger, T)

MUSIC 130. Elementary Conducting

MUSIC 130A. Introduction to Conducting—Baton techniques and rehearsal procedures. The development of coordination of the members of the body involved in conducting; fluency in beat patterns and meters; dynamics, tempi, cueing, and use of the left hand in conducting. Prerequisites: 121 and diagnostic musicianship exam given first day of class; preference to students who have completed 122B.

3 units, Aut (Aquilanti, G)

MUSIC 130B. Elementary Orchestral Conducting—Prerequisites: 127 or previous orchestral performance experience, 130A.

3 units, Spr (Cai, J)

MUSIC 130C. Elementary Choral Conducting—Techniques specific to the conducting of choral ensembles: warm-ups, breathing, balance, blend, choral tone, isolation principles, recitative conducting, preparation, and conducting of choral/orchestral works. Prerequisite: 130A.

3 units, Win (Wait, G)

MUSIC 131. Intermediate Orchestral Conducting—Prerequisite: 130 A, B, or C, or orchestral conducting experience.

3 units, alternate years, not given this year

MUSIC 169A/269A. Seminar in Performance Practices—Performance techniques, theoretical principles, aesthetics, and musical resources of various historical periods. Graduate students must register for 4 units.

1-4 units, Win (Myers, H; Berger, T)

MUSIC 181. Solo Vocal Repertoire—Solo vocal repertoire for advanced vocal students. Song and operatic literature is studied and performed by class participants. Repertoire varies and/or spans more than one quarter, allowing students to repeat the course for credit.

1 unit, Aut, Win, Spr (Schneider, A)

MUSIC 182. Diction for Singers—The international phonetic alphabet and its application to German, French, and Italian vocal literature. Open also to pianists interested in vocal coaching and choral conducting.

1 unit, Win (Dahl, L)

MUSIC 183. Art Song Interpretation—For advanced singers and pianists as partners. Performance class in a workshop setting. Prerequisite: consent of instructor. Recommended: 170 for pianists or 182 for singers.

MUSIC 183A. German Art Song Interpretation—Including composers from Beethoven and Schubert to Wolf and Strauss.

1 unit, Spr (Dahl, L), alternate years, not given next year

MUSIC 183B. French Art Song Interpretation—Composers include Fauré, Debussy, Ravel, and Poulenc.

1 unit, alternate years, not given this year

MUSIC 230. Advanced Orchestral Conducting—May be repeated for credit. Prerequisite: 130B.

2-4 units, Aut, Win, Spr (Cai, J)

MUSIC 231. Advanced Choral Conducting—May be repeated for credit. Prerequisite: 130C.

2-4 units, Aut, Win, Spr (Sano, S)

ENSEMBLE

An audition is required for admission to any University musical ensemble; audition schedules are posted during the registration period in Autumn Quarter. Audition is by appointment in Winter and Spring quarters: contact the ensemble director. Membership is open to all students including those who do not register for credit, although these courses may be repeated for credit. Many Department of Music ensembles tour on a regular basis, usually after Commencement in June.

MUSIC 156. “sic”: Improvisation Collective—Small ensemble devoted to learning trans-idiomatic improvisation techniques and composing indeterminate pieces in a workshop setting. One major concert. Prerequisite: access to an instrument. Improvisational experience and conventional instrumental virtuosity not required.

1 unit, Win (Applebaum, M)

MUSIC 157. Introduction to Mariachi Ensemble—Introduction to the practice of mariachi music, tradition, and history. Focus is on learning traditional sones, rancheras, huapangos, and boleros. Requirements: ability to play and access to instruments (violin, trumpet, guitar, vihuela, and guitarrón). (AU)

1 unit, Aut, Win, Spr (Staff)

MUSIC 159. Early Music Singers—Small choir specializing in Medieval, Renaissance, and early Baroque vocal music. One major concert per quarter.

1 unit, Aut, Win, Spr (Mahrt, W)

MUSIC 160. University Orchestra—70- to 100-member ensemble performing major orchestral works; minimum one concert per quarter.

1 unit, Aut, Win, Spr (Cai, J)

MUSIC 161. University Bands

MUSIC 161A. Stanford Wind Ensemble—40- to 50-member ensemble performing transcriptions of symphonic music, brass band music, and repertoire composed specifically for symphonic band. One concert per quarter.

1 unit, Aut, Win, Spr (Aquilanti, G)

MUSIC 161B. Jazz Orchestra—Big band format. Repertoire drawn primarily from the contemporary jazz-ensemble literature. One formal concert per quarter.

1 unit, Aut, Win, Spr (Berry, F)

MUSIC 161C. Red Vest Band—A small ensemble of the Leland Stanford Junior University Marching Band open to members of the LSJUMB by audition and consent of instructor. Members perform at all men's and women's home basketball games and travel to some away and post-season games. Twice-weekly rehearsals focus on introduction of new student arrangements and the LSJUMB's repertoire of rock, funk, and traditional styles.

1 unit, Win (Aquilanti, G)

MUSIC 162. Symphonic Chorus—100- to 150-voice ensemble, performing major choral masterworks with orchestra. One concert per quarter.

1 unit, Aut, Win, Spr (Sano, S)

MUSIC 163. Memorial Church Choir—Official choir of Memorial Church, furnishing music for Sunday services and special occasions in the church calendar.

2 units, Aut, Win, Spr (Wait, G)

MUSIC 165. Chamber Chorale—Select 24-voice chamber ensemble, specializing in virtuoso choral repertoire from all periods of Western art music.

1 unit, Aut, Win, Spr (Sano, S)

MUSIC 167. University Singers—Mixed-repertoire chorus, performing choral repertoire from all periods of Western art music and other world cultures.

1 unit, Aut, Win, Spr (Morgan, R)

MUSIC 169. Stanford Taiko—Select North American taiko ensemble, performing traditional and contemporary repertoire for Japanese drums. Multiple performances in Winter and Spring quarters, also touring; instrument construction and maintenance. Admission by audition in Autumn Quarter only.

1 unit, Aut, Win, Spr (Sano, S; Uyechi, L)

MUSIC 170. Collaborative Piano—Performance class in a workshop setting. Techniques of collaboration with vocalists and instrumentalists in repertoire ranging from songs and arias to sonatas and concertos. Prerequisite: private-lesson proficiency level in piano, or consent of instructor.

1 unit, Aut (Dahl, L)

MUSIC 171. Chamber Music—Small combinations for strings, winds, and keyboard instruments. Open to students at the private-lesson-proficiency level to hone ensemble skills, preferably while taking private lessons. Selected string instrument participants are invited to participate in a chamber orchestra, led by members of the St. Lawrence String Quartet, without conductor. Winter Quarter: chamber orchestra in conjunction with chamber chorale performing choral sacred music of the Baroque period, led by members of the St. Lawrence. All new and returning students are required to audition.

1 unit, Aut, Win, Spr (Staff)

UNDERGRADUATE DIRECTED READING AND RESEARCH

MUSIC 197. Undergraduate Teaching Apprenticeship—Work in an apprentice-like relationship with faculty teaching a student-initiated course. Prerequisite: consent of instructor.

1-2 units, Aut, Win, Spr (Staff)

MUSIC 198. Concentrations Project—For concentration program participants only. Must be taken in senior year.

4 units, Aut, Win, Spr (Staff)

MUSIC 199. Independent Study—For advanced undergraduates and graduate students who wish to do work outside the regular curriculum. Before registering, student must present specific project and enlist a faculty sponsor.

1-5 units, Aut, Win, Spr, Sum (Staff)

GRADUATE RESEARCH AND SPECIAL STUDIES

MUSIC 200. Graduate Proseminar—Required of first-year graduate students in music. Introduction to research in music, bibliographical materials, major issues in the field, philosophy, and methods in music history. Guest lecturers and individual research topics.

4 units, Aut (Berger, K; McBride, J)

MUSIC 269B. Research in Performance Practices—Directed reading and research.

1-5 units, Aut, Win, Spr, Sum (Staff)

MUSIC 280. TA Training Course—Required for doctoral students serving as teaching assistants. Orientation to resources at Stanford, guest presentations on the principles of common teaching activities, supervised teaching experience. Students who entered in the Autumn should take 280 in the Spring prior to the Autumn they begin teaching.

1 unit, Spr (Lee, H; Losness, E)

MUSIC 300. Seminar in Notation—Western notation of the Middle Ages and Renaissance: principles, purposes, and transcription.

MUSIC 300A. Medieval Notation

4 units, alternate years, not given this year

MUSIC 300B. Renaissance Notation

4 units, Aut (Mahrt, W)

MUSIC 301. Analysis of Music—Current trends, issues, and methods.

MUSIC 301A. Analysis of Music: Modal

4 units, Win (Mahrt, W)

MUSIC 301B. Analysis of Music: Tonal

4 units, Aut (Berger, J)

MUSIC 301C. Analysis of Music: Post-Tonal—Current analytical trends, issues, and methods.

4 units, Spr (Ferneyhough, B)

MUSIC 302. Research in Musicology—Directed reading and research.

1-5 units, Aut, Win, Spr, Sum (Staff)

MUSIC 321. Readings in Music Theory—Directed reading and research.

1-5 units, Aut, Win, Spr, Sum (Staff)

MUSIC 322. Directed Readings in German Language—Students create reading lists relevant to their studies in Music in conjunction with instructor. May be repeated for credit.

1 unit, Win (Kennaway, J)

MUSIC 341. Ph.D Dissertation—May be repeated for credit.

1-10 units, Aut, Win, Spr, Sum (Staff)

MUSIC 399. D.M.A. Final Project—May be repeated for credit.

1-10 units, Aut, Win, Spr, Sum (Staff)

COGNATE COURSES

See respective department listings for course descriptions and General Education Requirements (GER) information. See degree requirements above or the program's student services office for applicability of these courses to a major or minor program.

HUMNTIES 321. Classical Seminar—(Same as CLASSGEN 321.)

3-5 units, Aut (Nightingale, A)

HUMNTIES 322. Medieval Seminar—(Same as MEDVLST 322, RELIGST 338.)

3-5 units, Win (Gelber, H)

HUMNTIES 323. Renaissance/Early Modern Seminar

3-5 units, Spr (Brooks, H)

HUMNTIES 324. Enlightenment Seminar—(Same as HISTORY 334.)

3-5 units, Aut (Riskin, J)

RELIGST 159/359. Music and Religion in South Asia

4-5 units, not given this year