

Elective Courses Taught by Faculty of the Program

Biology (BIOL)

- 109. Molecular Evolution with Laboratory: The Tree of Life
- 164. Genetic Regulation in Eukaryotes with Laboratory
- 165. Molecular Genetics of Cancer
- 167. Microbial Genetics with Laboratory
- 169. Developmental Biology with Laboratory
- 170. Drosophila Genomics with Laboratory
- 173. Genomics and Bioinformatics with Laboratory
- 178. Neurobiology with Laboratory
- 189A. Advanced Topics in Molecular Biology

Chemistry (CHEM)

- 174. Bio-Organic Chemistry
- 175. Introduction to Medicinal Chemistry
- 180. Advanced Biochemistry
- 185. Soft Nanomaterials
- 187. Proteins and Enzymes

Neuroscience (NEUR)

- 103. Neuropharmacology

MUSIC DEPARTMENT

Professors Tom Flaherty (Spring 2010), Genevieve Lee, department chairs

Professor Emeritus Bailey

Professor and College Organist Peterson

Professors Di Grazia, Flaherty, Hagedorn, Lee², Lytle

Director of Music Programming and Facilities Professor Beeks

Associate Professors Cramer¹, Lindholm

Assistant Professor Rockwell

Visiting Assistant Professor Byl

Lecturers Addington, Wenten

Lecturer and Jazz Ensemble Director Bradford

Performance Music Faculty:

Voice: Ms. Lytle, Mr. Geiger, Ms. Kleinecke, Ms. Price. **Organ:** Mr. Peterson. **Piano:** Ms. G. Lee, Ms. Blankenburg, Ms. M. Kohn, Mr. Young, Ms. Zoolalian. **Fortepiano:** Ms. de Silva (SC).

Harp: Ms. de Silva (SC). **Violin:** Mr. Pelev. **Viola:** Ms. Fogg. **Violoncello:** Mr. Lebow.

String Bass: Mr. Tinsley. **Flute:** Ms. Rudich. **Oboe:** Mr. Castillo. **Clarinet:** Mr. Boyer. **Basoon:** Ms. Beck. **Saxophone:** Mr. Foerch. **French Horn:** Mr. Klintworth. **Trumpet:** Mr.

Burkhardt. **Trombone:** Mr. Keen. **Tuba and Euphonium:** Mr. Klein. **Guitar:** Mr. Sanders,

Mr. Benzant-Feldra, Mr. Yoshida. **Timpani and Percussion:** Ms. Dimond. **Harp:** Ms. Dropkin.

¹On leave Fall 2009

²On leave Spring 2010

The Music Department offers instruction for students who wish to study music as one of the liberal arts, as well as for those who are seeking a professional career in musical performance, scholarship or related fields. Students from widely divergent musical backgrounds are encouraged to become involved in the study and practice of the musical arts at Pomona. They may enroll in private instrumental or vocal lessons at beginning or more advanced levels. Courses without prerequisites are designed specifically for students who possess little or no musical background; courses in the major curriculum are of interest to music majors and any other students with musical training and experience. Students may fulfill Area I (Creative Expression) of the Breadth of Study Requirements by the study and practice of the musical arts. In order to do so, students must complete the equivalent of one course credit through Music Department offerings. This may be accomplished by enrolling in history, appreciation, ethnomusicology, theory or performance courses. If a student chooses to fulfill this requirement through performance courses, one course credit (four cumulative courses, two half-courses, etc.) must be earned by enrolling either in applied music lessons (individual instruction) or ensemble courses, all of which must be sponsored by the Music Department. For students satisfying the requirement through individual instruction, any combination of Music (MUS) 10, 20 or 100 adding up to one credit fulfills the Area I requirement, provided that the lessons are all on the same instrument. Enrollment in ensembles or lessons must be in consecutive semesters.

Requirements for the Major in Music

Students majoring in music are expected to integrate their studies in performance, theory and musicianship, music history and ethnomusicology. By the end of the music program, students are expected to have developed the knowledge, skills, concepts and sensitivities necessary to enter the real world as informed musicians who are able to make a personally expressive contribution to society. The music major should have acquired the necessary background to continue music studies at the graduate level.

Students gain basic technical and conceptual competence in an instrument (or voice), a condensed and selective knowledge of music and music literature, the ability to integrate musical knowledge and skills, sensitivity to Western and non-Western musical styles and an insight into the role of music in intellectual and cultural life. By the end of their studies in our department, students:

1. Develop the ability to hear, identify and work conceptually with elements of music such as rhythm, melody, harmony, timbre, texture and form
2. Develop an understanding of and the ability to read and realize musical notation
3. Develop an understanding of compositional processes, aesthetic properties of style and the ways these shape and are shaped by artistic and cultural forces
4. Develop knowledge of a wide selection of musical literature and its associated eras, genres and cultural sources
5. Refine the ability to develop and defend musical judgments
6. Learn to interpret, analyze and perform a variety of musical styles

These goals are pursued through making, listening to and studying music. Instruction in a performing medium, participation in ensembles and public performance are vital to the music major's experience in our program.

Requirements for the major consist of the following.

1. Music in Theory and Practice (86), Music Theory courses (80, 81, 82), Music History courses (120A,B) and 20th Century Music History and Theory (184)
2. Four semesters in a Pomona College music ensemble, e.g., choir (31), orchestra (33), etc. and four semesters of Music Performance at level II (20 or 100) on the same or related instruments, for which the qualifying examination should be passed in the first or sophomore year

3. At least one elective in Ethnomusicology (65, 70, 72, 73, 74, 76, 78, 89A)
4. Senior Seminar (190)

The requirements above (totaling 12 to 13 course credits, depending upon the length of lessons at level II of applied study) are sufficient to satisfy the Music Department's major requirements. It is possible to combine this basic major with one from another department or program to create a double major. In any case, students are encouraged to take additional elective courses offered by the Music Department. It is possible to pursue an area of specialization by augmenting the core curriculum as detailed below. If a student chooses one of the following concentrations, the Music Department will provide certification that the appropriate requirements have been met.

Concentration Requirements. Music majors should discuss a proposed concentration with their advisors.

1. *Composition:* Electronic Music Studio (96A), Composition (118), Orchestration and Instrumentation (113) and 192 (full course) for the preparation of a senior composition. Performance of work not required but highly encouraged. Conducting (117) also recommended.
2. *History:* At least one elective from the History and Appreciation of Music section with a course number above 100. 191 for the preparation of a senior historical thesis. Art history courses suggested.
3. *Performance:* The four required semesters of Music Performance must be hour lessons, all of which must be at Level II. Ensemble participation increased to six semesters. One music elective with a course number above 100. Four performances from: student recitals, chamber music recitals, senior compositions, senior recitals of colleagues or competition-winning appearances. 192 (half course) for the preparation and performance of a senior recital, with program notes and text/translations if needed. 192 and 20 or 100 are normally taken the same semester as the senior recital is given. Presentation of a junior recital recommended.
4. *Ethnomusicology:* Introduction to Ethnomusicology (70), 192 for the preparation of a senior research project and at least one elective in Ethnomusicology with a course number above 100. (Note that 70 could simultaneously satisfy core requirement 3 above.)
5. *Special Research:* For students interested in theory, electronic music, music education, journalism/criticism, library studies, management or any individually designed music specialization. Two music electives with a course number above 100, one of which is not Independent Study (199). 192 is required for the preparation of a senior research project.

Recitals. All students are encouraged to perform in public student recitals sponsored by the department, provided they obtain the approval of their instructors. Full- or half-length recitals require approval of the instructor and permission of the department.

Considerations. Students who expect to major in music should possess or develop the ability to read music at the keyboard. They should take 86 and the required Theory and History courses (80, 81, 82, 120A,B, 184) as soon as possible. In rare cases, and with permission of the department, one of the required Music Theory courses may be satisfied by examination, without credit. All new students, both first-year students and those transferring from other institutions, are placed in Theory and History classes according to their experience and ability. For graduate work in music, languages (e.g., Latin, Italian, French and German) are important, depending upon the area of specialization.

All courses required for the Music Major that are offered for a letter grade must be taken for a letter grade. Students are encouraged to consult with the Music Department in advance to determine whether academic work completed on study abroad, at one of the other Claremont Colleges or at another institution can fulfill the major requirements.

Requirements for a Minor in Music

Requirements total eight to nine course credits.

- Four semesters of Applied Study: 10, 20 or 100 (a cumulative total of one or two course credits)
- Four semesters of Ensemble: 31, 32, 33, 35, 37, 40, 41, 42. Students may fulfill this requirement with a combination of different ensemble courses.
- Two courses in History and Appreciation, selected from the following: 52, 53, 54, 55, 56, 57, 58, 60, 61, 62, 64, 68, 75, 86, 120A, or 120B
- Two courses in Theory: 4, 80, 81, 82, 86 or 184
- One course in Ethnomusicology: 65, 70, 72, 73, 74, 76, 86, 89A or other ethnomusicology course with written permission

Courses appearing in more than one category cannot be counted more than once toward the minor.

Ordinarily all courses required for the Music Minor that are offered for a letter grade should be taken for a letter grade. Students may petition the Music Department for exceptions to this rule. Students are encouraged to consult with the Music Department in advance to determine whether academic work completed on study abroad, at one of the other Claremont Colleges, or at another institution can fulfill the minor requirements.

Courses

History and Appreciation of Music

- 52. Musical and Cultural Currents in Paris, 1870–1930.** *Mr. Peterson.* A study of music in Paris within its cultural context. Examination of works by Debussy and Ravel, as well as other notable composers (including Fauré, Satie, Milhaud, Poulenc and Lili Boulanger). Consideration of Impressionism, Symbolism, musical life in the shadow of World War I and the formulation of post-war neo-classicism. Spring 2011; offered alternate years.
- 53. The Symphony and Related Forms.** *Mr. Lindholm.* To be announced.
- 54. Nationalism and Music.** *Mr. Peterson.* Study of nationalism in music from 1830s to 1930s through examination of representative composers and their works (including Liszt, Verdi, Smetana, Dvorak, Moussorgsky, Sibelius and Ives) and different ways in which socio-political groups or their leaders have discerned “nationalistic” meaning in music, whether in revolution, in war or in totalitarian systems (e.g., National Socialists’ administration of German musical life in 1930s). Fall 2010; offered alternate years.
- 55. Seven Musical Wonders of the Western World.** *Ms. Lee.* Historical, analytical and aural study of seven major works from the Western European and American concert tradition. Genres include symphony, opera, solo and chamber, vocal and instrumental music. Some field trips. No previous musical experience required. Spring 2011.
- 56. Words and Music: History of Black Song.** *Ms. Lytle.* Study of the development of the solo song in Western art music. Students will learn how to analyze texts and compositional techniques. Examines the works of selected African-American composers. The ability to read music would be helpful, but it is not required. Spring 2010; offered alternate years.
- 57. A Survey of Western Music.** *Mr. Peterson.* Historical survey of Western art music from chant to recent compositions. Study of selected works by Bach, Mozart, Beethoven, Wagner, Stravinsky, Adams and others that illustrate significant stylistic and historical developments. This course enriches the student’s experience of music by emphasizing the refinement of listening skills. Lecture, discussion, guided listening, musical score-reading; listening assignments, writing assignments and selected readings. Each fall.
- 58. Beethoven.** *Ms. Di Grazia.* An examination of Beethoven’s life and creative output. Works from Beethoven’s entire career (including symphonies, concertos, sonatas, chamber music and vocal music) will be studied in the context of the political and social milieu of his time. Discussions will include music by Mozart and Haydn, from which Beethoven drew considerable inspiration and works by later 19th century masters, whose music owes a significant debt to Beethoven’s genius. Fall 2010; offered alternate years.

- 60. History of Jazz.** *Mr. Bradford.* History of jazz from its roots in blues and ragtime through New Orleans jazz, Dixieland, bebop, cool jazz, free jazz and contemporary styles. Emphasis on innovators, characteristics of style and jazz as a reflection of the Black perspective. Each fall and alternate springs; not offered spring 2010.
- 61. Musical Theatre in America.** *Mr. Bailey.* Survey of the development of musical theatre in 20th century America through the study of selected musical works involving theatre, dance and mixed media. Previous musical experience not required but helpful. Fall 2009; offered alternate years.
- 62. Survey of American Music.** *Ms. Lytle.* Introduction to the contributions that specific ethnic cultures have made to the diverse fabric of American music. Examines two ethnic populations and the elements which make up the musical life of each group. Lectures, guest presentations and concerts. Spring 2011; offered alternate years.
- 64. Johann Sebastian Bach.** *Mr. Peterson.* Study of J.S. Bach and of his instrumental and vocal music. Emphasis on the Brandenburg Concertos, the Mass in B Minor and on Bach's keyboard works. Examination of performance issues, with emphasis on the keyboard instruments he knew (notably harpsichords and organs). Discussion of the critique made of Bach's music by composers, performers and historians. Spring 2010; offered alternate years.
- 65. Introduction to World Music.** *Ms. Byl.* Functional approach to studying the diversity of musical traditions. Focuses on the function and context of performance in geographically representative samples. Examines such issues as gender, religion, politics and ethnicity through the lens of specific performance traditions. Each fall; spring 2010.
- 68. Listening to American Popular Music.** *Mr. Rockwell.* Examines the varied soundscape of popular music in the United States. Through listening, analysis and criticism, the course draws connections between music and meaning in genres ranging from 19th century song through early blues, hillbilly music, rock, folk, funk, metal, megapop and rap. Fall 2009; offered alternate years.
- 70. Ethnomusicology in Theory, Method and Practice.** *Ms. Byl (Fall 2009), Staff.* Examines ethnomusicology as a changing and vital discipline. Weekly focus on different case studies to highlight particular issues, including defining ethnomusicology and its practitioners; changing ideologies of the field and field work; feminist approaches to ethnomusicology; performance of healing; and notion of authenticity. Course includes performance, proposal for musical ethnography and guest lecturers. Fall 2009, Spring 2011.
- 72. Gendering Performance.** *Staff.* How are issues of gender manifested and constructed through performance and how do we perceive these issues, as performers and as an audience? Weekly units focus on such topics as rap, taiko, salsa and performance art. Spring 2011.
- 73. Music, Gender and Ritual in Latin America.** *Ms. Hagedorn.* To be announced.
- 74. Music on the Margins: Roma Performance in Europe.** *Ms. Hagedorn.* To be announced.
- 75. Opera.** *Staff.* To be announced.
- 76. Performing the Sacred: Toward a Theology of Sound.** *Ms. Hagedorn.* This course explores how musical sound and other related performative phenomena are perceived and employed across a variety of religious practices—as sonic representations of the divine, as mystical evocations and as facilitators for ecstatic experience. Fall 2010.
- 78. Performance Traditions of the African Diaspora: Shango in the New World.** *Staff.* Introduction to the vast legacy of the African diaspora, approached through its performance traditions. Comparison of West African performance contexts and aesthetics with those of the Caribbean, Black America and Afro-Latin America. Prerequisite: written permission of instructor. A background in music or social sciences is recommended. Not open to first-year students. Fall 2010.
- 89A. The Islamic Voice.** *Ms. Byl.* The voice plays an important role in Islamic societies, as a medium for learning the Qur'an, calling a community to worship and expressing personal

experiences. We will consider the role of music in the Muslim world by listening to different voices, young and old, from Egypt to Indonesia to Detroit. Fall 2009.

- 91. Sites of Sound: Music, Technology, Aural Culture, Film.** *Mr. Cramer.* A study of the position of sound and music on the boundary between media and content of media. Topics include theories of sound in culture; historical conceptualizations and experiences of sound in early modern Europe and other sites; sound and music in the context of 19th-century representational technologies from *tableaux vivants*, stenography and opera to telephone and phonograph; and film soundtracks. Spring 2011; offered alternate years.
- 120A,B. History of Western Music.** *Ms. Di Grazia, Mr. Peterson.* Study of Western music from Middle Ages to the 20th century, with reference to influence, stylistic development, reception history, performance practice, history of instruments and relevant theoretical writings. Readings, listening, discussion, oral presentations, class performance and analytical projects. Prerequisite for 120A: 80. Prerequisite for 120B: 120A and 80; 81 strongly recommended. 120A, each fall; 120B, each spring.

All courses numbered 152-179 require written permission of instructor for enrollment.

- 152. Musical and Cultural Currents in Paris, 1870–1930.** *Mr. Peterson.* Same course as 52, but with additional papers and/or projects required. Spring 2011.
- 154. Nationalism and Music.** *Mr. Peterson.* Same course as 54, but with additional papers and/or projects required. Fall 2010; offered alternate years.
- 158. Beethoven.** *Ms. Di Grazia.* Same course as 58, but with additional papers or projects required. Fall 2010; offered alternate years.
- 161. Musical Theatre in America.** *Mr. Bailey.* Same course as 61, but with additional papers and/or projects required. Fall 2009; offered alternate years.
- 164. Johann Sebastian Bach.** *Mr. Peterson.* Same course as 64, but with additional papers and/or projects required. Spring 2010; offered alternate years.
- 180. Advanced Topics in Music History.** *Staff.* To be announced.
- 181. Advanced Topics in Ethnomusicology.** *Staff.* To be announced.
- 184. 20th-Century Music History and Theory.** *Mr. Flaherty.* 20th-century musical techniques and their historical contexts. Prerequisite: 82 and 120B. Each fall.

Theory of Music

- 4. Materials of Music.** *Mr. Lindholm, Mr. Rockwell.* Thorough elementary understanding of the materials of music—harmony, melody and rhythm—and facility in reading and notating music. Discussion from historical and theoretical viewpoints of the factors that enter into the musical experience. Laboratory assignments using computer-assisted instruction. No previous musical experience required. Each semester.

Note: 80, 81, 82 constitute a three-semester sequence. Music writing and analysis, exploring properties of compositional materials: melody, rhythm, meter, harmony, timbre, texture and their relation to formal structure. Focuses on the Western tradition. Music chosen from a broad historical and cultural spectrum. Theory courses are supplemented by two musicianship labs per week.

- 80. Music Theory I.** *Mr. Flaherty, Mr. Rockwell.* Two-part counterpoint, four-part writing, using root position and inverted triads, dominant seventh chords. Small forms. Each semester.
- 81. Music Theory II.** *Staff.* Diatonic and chromatic harmony, in four parts and freer styles. Sonata and related forms. Prerequisite: 80. Each fall.
- 82. Music Theory III.** *Mr. Rockwell.* Late 19th-century harmonic techniques, contrapuntal styles. Prerequisite: 81. Each spring.
- 86. Music in Theory and Practice.** *Mr. Cramer.* A comprehensive and integrated view of music as a field of study. Intensive analysis of concepts involved in the study and practice of Western and non-Western music. Emphasis on current approaches in music history, ethnomusicology and music theory. Critical writing, aural and analytical skills. Some composition. Prerequisite: 4 or 80. Each spring.

- 87. Jazz Improvisation: Theory and Practice.** *Mr. Bradford.* Techniques applicable in jazz and much of today's popular music. Written assignments, tests, analysis of master works and performance in the classroom. Ability to read music and advanced instrumental skills required. Audition required. Spring 2010; offered alternate years.
- 113. Orchestration and Instrumentation.** *Mr. Lindholm.* Instruments of the orchestra, their historical development and current capabilities. Notation and performance practice. Analysis of selected works since 1700 and exercises in scoring and arranging for orchestra and chamber ensembles to develop historical understanding, imagination and practical skill. Prerequisite: MUS 82, or permission of instructor. May be repeated for credit. Spring 2010.
- 118. Composition.** *Mr. Flaherty.* To be announced.
- 149. Music Perception and Cognition.** *Mr. Cramer.* Perceptual and cognitive processes involved in the hearing of music. Emphasis on structural aspects of music that may be understood in terms of cognition. Topics include the perceptual organization of pitch, rhythm and other features; melody, harmony, phrasing and form; music's relatedness to language; musical meaning and affect. Prerequisite: One course in MUS or LGCS. Spring 2011; offered alternate years.
- 184. 20th-Century Music History and Theory.** *Mr. Flaherty.* 20th-century musical techniques and their historical contexts. Prerequisites: 82 and 120B. Each fall.
- 185. Advanced Topics in Theory.** *Staff.* To be announced.

Performance of Music: Individual and Class Instruction

Students may enroll for instrumental or vocal study in the Music Department. Lessons may be terminated by the instructor, after fair warning, for unsatisfactory preparation or attendance. When lessons must be missed, students should notify the department secretary as far in advance as possible. Students studying privately are expected to participate regularly in the appropriate performing organizations to the full extent of their ability.

Credit with letter-grades is granted for courses in private music instruction. For weekly half-hour lessons (10 and 20), one-quarter (cumulative) course credit is earned. Students at Level I (10) are normally limited to a maximum of four semesters of credit. In order to take Level II lessons, students must pass a qualifying examination. Weekly hour lessons at Level II (100) earn a half-course credit per semester. All enrollment for private music instruction must be made with the Music Department secretary during the regular enrollment periods. (Students planning to take a qualifying examination must consult with the department secretary concerning the requirements.)

If a student chooses to fulfill the Area I Breadth of Study Requirements through performance courses, one course credit (four cumulative courses, two half-courses, etc.) must be earned by enrolling either in applied music lessons (individual instruction) or ensemble courses, all of which must be sponsored by the Department of Music. For students satisfying the requirement through individual instruction, any combination of 10, 20 or 100, adding up to one credit fulfills the Area I requirement, provided that the lessons are all on the same instrument. Enrollment in ensembles or lessons must be in consecutive semesters.

- 10. Individual Instruction, Level I.** *Staff.* Half-hour lesson weekly. Cumulative credit. Each semester.
- 20, 100. Individual Instruction, Level II.** *Staff.* Initial enrollment is dependent upon successful completion of a qualifying examination. 20: half-hour lesson weekly, cumulative credit, each semester; 100: hour lesson weekly, half-course, each semester. Satisfactory grades required for continued study. More information is available from the Music Department secretary. Each semester.
- 87. Jazz Improvisation: Theory and Practice.** *Mr. Bradford.* Techniques applicable in jazz and much of today's popular music. Written assignments, tests, analysis of master works and performance in the classroom. Ability to read music and advanced instrumental skills required. Audition required. Spring 2010; offered alternate years.

117. **Conducting.** *Mr. Lindholm.* Half-course. To be announced.

183. **Advanced Topics in Performance.** *Staff.* To be announced.

Performance of Music: Ensembles

The performing ensembles sponsored by the Music Department are open to all qualified students of The Claremont Colleges. Credit may be granted for regular attendance and participation in each ensemble. To obtain credit, students must enroll during the regular enrollment periods. Auditions are normally held during the opening weeks of each academic year. Each ensemble may be taken for credit no more than four times (for the equivalent of two course credits); however, the course will appear on the transcript for each semester in which it is taken.

31. **Pomona College Choir.** *Ms. Di Grazia.* A large chorus which draws its membership from the College and the community. Rehearses two evenings a week and generally presents two concerts a year of major choral works. Audition required. Half-course. P/NC grading only. Each semester.
32. **Pomona College Glee Club.** *Ms. Di Grazia.* The Glee Club, a chamber choir of 20–30 members, performs classical music from many historical periods and styles. Concurrent membership in the College Choir throughout the academic year required (except for students who spend their fall semester on study abroad or on official leave from the colleges). Audition required. Half-course. P/NC grading only. Each spring.
33. **Pomona College Orchestra.** *Mr. Lindholm.* Performance of major works of the orchestral repertoire and training in orchestral techniques. Enrollment by audition. Half-course. P/NC grading only. Each semester.
35. **Pomona College Band.** *Mr. Beeks.* Rehearsal and performance of original compositions and arrangements for concert band. Two rehearsals per week. Half-course. P/NC grading only. Each semester.
37. **Jazz Ensemble.** *Mr. Bradford.* Rehearsal and public performance with opportunity for original work. Enrollment by audition. Half-course. P/NC grading only. Each semester.
40. **Chamber Music.** *Staff.* Program for vocal and instrumental students who participate in small ensembles under the direction of a faculty coach. Students typically form ensembles before enrolling. The department will ensure that an appropriate coach is assigned. Weekly rehearsals and at least one performance required. Half-course. (May not be taken more than once per semester, regardless of participation.) P/NC grading only. Each semester.
41. **Balinese Gamelan Ensemble.** *Mr. Wenten.* Introduction to the Balinese gong kebyar gamelan ensemble and its related performance traditions. As is customary in Bali, students learn to play nearly all the instruments in the ensemble. Attendance is mandatory. Performance emphasized, with some guided listening. No musical experience required. Half-course. P/NC grading only. Each semester.
- 42A-Z. **Ensembles in Residence.** *Staff.* Introduction to non-Western ensemble performance. Ensemble changes each year. Linked with offerings of Dance Department. Weekly rehearsals culminate in end-of-semester performance. Attendance is mandatory. Year-long participation recommended. Some musical background preferred. Permission of instructor is required. P/NC grading only. Half-course. Each semester.
- 42A. **Flamenco Guitar and Percussion.** *Staff.* To be announced.
- 42B. **Afro-Cuban Music Ensemble.** *Mr. Addington.* Fall 2009, Spring 2010.
- 42C. **West African Drumming Ensemble.** *Staff.* To be announced.
- 42D. **Hindustani Music Ensemble.** *Staff.* To be announced.
- 42E. **Balkan Music Ensemble.** *Staff.* To be announced.

Special Topics

PHYS 3. **The Physics of Music.** *Ms. Zook.* Each fall.

90. **Luthier Arts Workshop.** *Mr. Sanders.* To be announced.

- 96A,B. Electronic Music Studio.** *Mr. Flaherty.* Laboratory course designed to develop electronic compositions using techniques of analog and digital synthesis. Permission of instructor required. 96B may be repeated once for credit. 96A, each fall; 96B, each spring.
- 190. Senior Seminar.** *Mr. Beeks.* Directed study for majors who are completing the senior exercise (expanded description available in Music Department main office). A seminar for review and discussion of major topics in music theory, history, performance and ethnomusicology, culminating in a paper. Required of senior majors. Each fall.
- 191. Senior Thesis.** *Staff.* Required for the history concentration and written under faculty guidance in the senior year. Each semester.
- 192. Senior Project.** *Staff.* Half- or full course, depending on concentration. Prepared under faculty guidance. 1) Half-course: senior recital; required for Performance concentration. 2) Full course: senior composition; required for Composition concentration. 3) Full course: senior research project; required for Ethnomusicology or Special Research concentration. Each semester.
- 99/199. Reading and Research.** *Staff.* Self-directed study of advanced topics under faculty guidance. Open to sophomores, juniors and seniors whose written project proposals have been submitted to the department chair at least one week prior to pre-enrollment and have been approved by the Music Department. Prerequisite: permission of instructor. 99, lower-level; 199, advanced work. Course or half-course. May be repeated. Each semester. (Summer Reading and Research taken as 98/198.)

NEUROSCIENCE PROGRAM

Associate Professor Rachel Levin, coordinator

Assistant Professor Jonathan King, director

Steering Committee: Karl Johnson, Jonathan King, Rachel Levin, Richard Lewis, Jonathan Matsui, Karen Parfitt, Nicole Weekes

Neuroscience is the study of the nervous system and its relationship to mental processes and behavior. The study of neuroscience has revolutionized the fundamental way in which we think about what it means to be human. Because many of the emerging approaches to understanding brain function require a firm foundation in biology, chemistry, physics, psychology, mathematics and computer science, students majoring in neuroscience are required to take basic courses in a wide variety of science disciplines.

Neuroscience not only serves as an intersection between traditional disciplines but has become a discipline in its own right. As such, it changes the way in which we approach those disciplines on which it was founded. Neuroscientists study such issues as the molecular and cellular basis of neuronal function, nervous system structure, how systems of neurons process information, the way in which functions are represented in the brain, the evolutionary development of the nervous system, neural correlates of behavior and mechanisms of nervous system disorders. The Neuroscience Major prepares students for graduate study in neuroscience, medicine and for other careers that benefit from a solid foundation in science.

Requirements for the Major in Neuroscience

1. Neuroscience majors are required to take the following basic science courses.
 - a. BIOL 40 and 41C
 - b. CHEM 1A,B or 51
 - c. MATH 30 or any one higher-level course depending upon placement
 - d. MATH 58 or HM BIOL 153
 - e. PSYC 51
2. Majors are required to take Introductory Neuroscience, NEUR 101. This is ordinarily taken in the fall of the sophomore year.