

A graduate program

Courses of Study:
Master of Science

Genetic Counseling

Objectives

Graduate Program in Genetic Counseling

The Master's Degree Program in Genetic Counseling is a two-year course of study integrating course work with clinical experience in an environment that encourages close student/faculty interaction. The program places a strong emphasis on human molecular genetics while providing in-depth coursework in counseling theory and technique as well as extensive clinical training. Graduates of the program are expected to have a clear understanding of human and medical genetics, recombinant DNA technology, gene mapping, and developmental biology; a familiarity with many genetic diseases and birth defects and the various techniques used to detect and/or treat them; an understanding of how genetic counselors function in a variety of work settings and their roles and responsibilities within a medical team; the ability to present relevant genetic information to individuals and families from diverse cultural backgrounds in an informed, compassionate manner and to help families obtain the medical and social services they may need; a sensitivity to the needs and options of children and adults (including parents and potential parents) with mental retardation, developmental disabilities, and other genetic disorders; an awareness of the legal, ethical, and public policy issues raised as a result of new DNA and reproductive technologies and the Human Genome Project; an understanding of research methodology, experience in the design and execution of research projects, and in the preparation of completed projects for professional publication and presentation; and finally a familiarity with the relevant scientific literature and computer-based tools.

Ordinarily the program is completed in two academic years and the intervening summer. The program is accredited by the American Board of Genetic Counseling and prepares graduates for the certification examination in genetic counseling and employment as genetic counselors.

How to Be Admitted to the Graduate Program

The general requirements for admission to the Graduate School, given in an earlier section of this *Bulletin*, apply to candidates for admission to this area of study. The specific requirements for admission to this program are: one year of general chemistry, one year of biology, and one semester each of genetics (course should include Mendelian and molecular genetics), organic chemistry, biochemistry, psychology, and statistics. Applicants lacking one or more of these courses are invited to consult the program's director on how to fulfill these requirements. Volunteer or work experience in an area related to counseling, developmental disabilities, or genetics is recommended.

Applications should include three letters of reference, the results of the General Graduate Record Examination, and a personal statement describing your interest in the field of genetic counseling. After initial review of applications, potential candidates will be invited to Brandeis for a personal interview.

Partial scholarship assistance is available for a limited number of exceptional applicants.

Faculty Advisory Committee

Judith Tsipis, Chair and Graduate Advising Head
(Biology)

Joseph Cunningham
(Psychology)

James Haber
(Biology)

Elaine Hiller
(Biology)

Marty Wyngaarden Krauss
(Heller School)

Barbara Lerner
(Biology)

Natalie McIntosh
(Biology)

David Rintell
(Biology)

Gretchen Schneider
(Genetic Counseling)

Joan Stoler
(Genetic Counseling)

Lawrence Wanhg
(Biology)

Kalpana White
(Biology)

Requirements for the Degree of Master of Science

Program of Study

The academic component of the curriculum consists of the following: graduate-level courses in molecular biology, human genetics, medical genetics, human reproductive biology, counseling skills, research methodology, and biomedical law and ethics; two seminars in genetic counseling; and one or two electives chosen from the biological sciences, medical sociology, psychology, and health policy. Student participation in a proseminar and journal club are required as well.

Fieldwork and clinical internships are an important, integral part of the program. First-year students carry out rotations in genetics clinics, with genetic research teams and in clinical genetics laboratories. Students also participate in community-based education and healthcare programs and meet periodically with a family raising a child with a genetic disorder. Starting in the summer following the first year and continuing through the second year, students participate in three intensive clinical internships at prenatal, pediatric, general, cancer, or specialty genetic clinics. Satisfactory completion of the three clinical internships is required for graduation from the program. Attendance at two professional meetings is also required in the second year. Funds are available to defray costs.

Residence Requirement

The residence requirement for this program is two years of full-time study.

Language Requirement

There is no foreign language requirement for the master's degree.

Project

A master's project is required. Students may work with a genetic counselor to design and evaluate an innovative educational tool or counseling strategy relevant to their clinical work, or should their interest lean toward basic research, they may pursue either a laboratory-based project, or a qualitative or quantitative study in the field.

Courses of Instruction**(100-199) For Both Undergraduate and Graduate Students****BIOL 105b Molecular Biology**

(formerly BIBC 105b)

[sn]

Prerequisites: BIOL 22a (formerly BIBC 22a) and BIOL 22b. Section 2 is open only to students in the Genetic Counseling Program. Class work for this section is supplemented by special readings and lectures with a clinical focus.

Examination of molecular processes in replication and expression of genetic information and techniques by which this understanding has been achieved. Topics include recombinant DNA and other molecular biological techniques, structure and organization of DNA in chromosomes, DNA replication, transcription and regulation of gene expression, RNA structure and processing, mRNA stability, and other mechanisms of post-translational control. Usually offered every year. Messrs. Rosbash and Sen

BIOL 128a Human Genetics

[sn]

Prerequisites: BIOL 22a (formerly BIBC 22a) and BIOL 22b. Enrollment limited to 50.

Survey of classical and non-classical patterns of inheritance; cytogenetics; applications of molecular genetics techniques in human genetics, analysis of variation, gene mapping, identification of candidate genes and genetic disease diagnoses; single gene vs. complex gene inheritance; issues in human population genetics; and hands-on use of computer tools in human genetics. Usually offered every year. Will be offered in the fall of 2002.

Ms. Hiller

BIOL 160b Human Reproductive and Developmental Biology

[wi sn]

Prerequisites: BIOL 22a (formerly BIBC 22a) and BIOL 22b. Signature of the instructor required.

This course deals with hormonal, cellular, and molecular aspects of gametogenesis, fertilization, pregnancy, and birth. Pathological and abnormal variations that occur and the available medical technologies for intervention, correction, and facilitation of these processes are also discussed. Usually offered every year. Will be offered in the fall of 2002.

Mr. Wangh

(200 and above) Primarily for Graduate Students**BIOL 202d Introduction to Genetic Counseling**

A two-semester sequence that provides the historical and theoretical foundations for the practice of genetic counseling and the role of genetic services within the healthcare delivery system. Introduces students to some of the practical aspects of genetic counseling, including case preparation, pedigree construction/interpretation, and medical documentation. Usually offered every year.

Ms. McIntosh

BIOL 203a Proseminar: The Molecular Basis of Genetic Diseases

The course covers the molecular basis of muscular dystrophy, fragile X syndrome, cystic fibrosis, Huntington disease, and several inherited cancer syndromes. A historical perspective is used for each topic; molecular diagnostics and genetic counseling issues are addressed as well. Usually offered every year.

Ms. Tsipis

BIOL 204b Clinical Genetics I

Introduction to basic concepts of biochemical genetics, cytogenetics, and clinical molecular genetics. Makes use of clinical cases ranging from single gene disorders to multifactorially determined conditions and includes problems in dysmorphology, inborn errors of metabolism, and cancer genetics. A problem-solving approach is emphasized. Usually offered every year.

Ms. Schneider and Ms. Stoler

BIOL 205b Counseling Theory and Technique

A comprehensive overview of counseling theory and practice. Topics include listening, observation, and interview skills and strategies; family dynamics and development; coping and adaptation processes; referral and consultation procedures; and ethical principles. Students are provided an opportunity to integrate clinical experiences with the coverage of topics. Usually offered every year.

Mr. Rintell

BIOL 206d Genetic Counseling Journal Club

Noncredit. Informal biweekly meeting of students and faculty at which recent papers are discussed. Usually offered every year.

Staff

BIOL 207a Genetic Counseling: Case Conferences and Family Counseling

Taught by a team of health care professionals. Case studies provide the basis for discussion of a variety of genetic disorders and the application of counseling modalities. Students have an opportunity to share experiences gained during clinical internships. Discussions emphasize the interplay of medical, psychological, ethical, legal, social, and cultural factors in genetic counseling. Usually offered every year.

Ms. McIntosh and Mr. Rintell

BIOL 211a Genetic Counseling Fieldwork Placement: Part I

Students work one day per week in a community-based health service organization, school, clinic, or public health agency to develop awareness of disability-related issues and the variety of community-based services for individuals with special needs. Students also observe in a genetics clinic 20-30 hours over the course of the semester to gain exposure to concepts learned in BIOL 202d (Introduction to Genetic Counseling). Periodic course discussions supplement the fieldwork experience.

Ms. Lerner

BIOL 211b Genetic Counseling Fieldwork Placement: Part II

To begin preparing for clinical genetics internships, students participate in a variety of experiences that serve to foster and integrate the concepts introduced in courses and presentations. Students are exposed to procedures in clinical labs through lectures, site visits, and/or lab work. In addition, students continue observations in a genetics clinic and meet several times with a family with a child with a disability. Periodic course discussions supplement the fieldwork experience.

Ms. Lerner

BIOL 212a Genetic Counseling Internship I

Starting in the summer and continuing through the fall semester, students work two to three days a week under the supervision of a genetic counselor or clinical geneticist in a prenatal, pediatric, general, cancer, or specialty genetics clinic. Usually offered every year.

Ms. McIntosh

BIOL 212e Genetic Counseling Internship II

Students work two to three days a week under the supervision of a genetic counselor or clinical geneticist in a prenatal, pediatric, general, cancer, or specialty genetics clinic and meet once a week to discuss cases and develop counseling protocols for some common genetic disorders. Usually offered every year.
Ms. McIntosh

BIOL 213d Genetic Counseling Research Project

Students are introduced to the basic techniques of social science research and their grounding principles in a series of seminars. In consultation with the program's research coordinator, each student designs and carries out a project under the supervision of a research committee. Usually offered every year.
Ms. Lerner

BIOL 214c Genetic Counseling Process Group

In this small group setting, students can share and learn from their collective experiences in their field placements, courses, and individual lives and have the opportunity to process and integrate the experience of becoming a genetic counselor. Usually offered every semester.
Mr. Cunningham

BIOL 215b Readings in Molecular Biology

A combination of readings and clinical laboratory work to provide students with an in-depth understanding of the molecular biology of several human genetic diseases and the techniques used for their diagnosis. Usually offered every year.
Ms. Tsipis

BIOL 220a Clinical Genetics II

Prerequisite: Completion of BIOL 204b or permission of the instructor.
Continuation of BIOL 204b with emphasis on the genetic and developmental disorders of most major organ systems. A case-based, problem-solving approach is emphasized. Usually offered every year.
Mr. Korf or Staff

BIOL 236b Genetics, Law, and Social Policy

Explores advances in human genetics, the clinical and economic benefits promised by new tests, problems generated by our new ability to manipulate our biological future. Analyzes the role of government in regulating technological development and the legal doctrines of privacy, informed consent, and professional liability. Usually offered every second year.
Ms. Roche

German Language and Literature

Courses of Study:
Minor
Major (B.A.)

Objectives

The German section of the Department of German, Russian, and East Asian Languages and Literature offers instruction in the German language and literature aimed at providing access to many aspects of the culture, past and present, of Germany, Austria, and parts of Switzerland. German has always been one of the prime languages of international scholarship, and the reunification of Germany in 1990 has drawn renewed attention to the European and worldwide importance of that country. German majors have gone on to graduate school in German literature to prepare for a career of teaching and research or to professional schools in law, medicine, or business, entered government work, or found employment with publishing companies or business firms with international connections.

Requirements for the Major in German

A. ECS 100a (European Cultural Studies: The Proseminar) to be completed no later than the junior year.

B. Advanced language and literature study: Required are: GER 103a, GER 104a, and GER 105b, plus any five German literature/culture courses above GER 105b, at least two of which must be conducted in German.

C. Majors wishing to graduate with departmental honors must enroll in and complete GER 99d (Senior Thesis), a full-year course. Before enrolling students should consult with the coordinator. Candidates for departmental honors must have a 3.50 GPA in German courses previous to the senior year. Honors are awarded on the basis of cumulative excellence in all courses taken in the major and the grade on the honors thesis. One semester of the Senior Thesis may be counted towards the six required upper-level courses.

How to Become a Major

The department welcomes all students to become majors in German language and literature. Non-majors and majors are offered computer-aided instruction in German, and work in the classroom and the Language Media Center is supplemented with regular German-speaking events. Majors in German literature are encouraged to spend their junior year in Germany or any other German-speaking countries. In addition to the major in German literature, the section offers a minor in German literature and participates in the program in European cultural studies. (The abbreviation GECS denotes German and European cultural studies courses.)

A major in German may obtain the Massachusetts teaching certificate at the high school level by additionally completing requirements of the Education Program (q.v.). Interested students should meet with the program director.

Requirements for the Minor in German Literature

GER 103a or GER 104a and GER 105b is required, plus two German literature/culture courses above GER 105b. Successful completion of GER 30a, or a departmental language exemption exam is a prerequisite for the minor.

Courses of Instruction

(1-99) Primarily for Undergraduate Students

GER 10a Beginning German

Enrollment limited to 20.

Intended for students with little or no previous knowledge of German. Emphasis is placed on comprehending, reading, writing, and conversing in German and the presentation or basic grammar. Class work is enhanced by various interactive classroom activities and is supplemented by extensive language lab, video, and computer-aided exercises. Usually offered every year in the fall.

Ms. Geffers Browne

GER 20b Continuing German

Prerequisite: GER 10a or the equivalent.

Enrollment limited to 20.

Continuation of comprehending, reading, writing, and conversing in German, with an emphasis on basic grammar concepts. Special attention is paid to the development of speaking skills in the context of cultural topics of the German speaking countries. Extensive language lab, video, and computer-aided exercises are supplementing this course. Usually offered every year in the spring.

Ms. Geffers Browne

GER 30a Intermediate German I

[fl]

Prerequisite: GER 20b or the equivalent.

Enrollment limited to 20.

In concluding the development of the four language speaking skills: comprehending, writing, reading, and speaking, this course focuses on finishing up the solid grammar foundation that was laid in GER 10 and GER 20 as well as endeavoring in additional audio and video material, films, radio plays, newspaper and magazine articles as well as in a variety of extensive interactive classroom activities. Usually offered every year in the fall.

Ms. Geffers Browne

GER 98a Independent Study

May be taken only with the permission of the chair or the advising head. Signature of the instructor required.

Readings and reports under faculty supervision. Usually offered every year.

Staff

GER 98b Independent Study

May be taken only with the permission of the chair or the advising head. Signature of the instructor required.

Readings and reports under faculty supervision. Usually offered every year.

Staff

GER 99d Senior Thesis

Signature of the instructor required.

Students should consult advising head.

Usually offered every year.

Staff

(100-199) For Both Undergraduate and Graduate Students

The abbreviation GECS denotes German and European cultural studies courses.

GER 103a German Grammar and Composition

[fl hum]

Prerequisite: GER 30a, GER 39a, or the equivalent.

Focuses on increasing speed of reading, using literary and nonliterary texts, on grammar, composition, and on further developing oral and written communication skills. Usually offered every year. Will be offered in the fall of 2003.

Ms. von Mering

GER 104a German Readings and Conversation

[fl hum]

Prerequisite: GER 30a, GER 39a, or the equivalent.

Intensive study and exercise of contemporary spoken German with an emphasis on fluency of expression, idiomatic accuracy, and proper pronunciation. Oral reports, discussions, speeches, and debates on a variety of intellectually challenging topics will be based on material derived from dramatic dialogues, radio plays, films, essays, the daily press, and guest speakers. Usually offered every second year. Last offered in the spring of 2002.

Ms. von Mering

GER 105a Learning Language through Literature—Learning Literature through Language

(formerly GER 50b)

[w fl hum]

Prerequisite: GER 30a or the equivalent.

This course may not be repeated for credit by students who have taken GER 50a in previous years. Enrollment limited to 18.

Provides broad introduction to contemporary German literature while, at the same time, further enhancing various language skills through reading, writing, student presentations, class discussion and partner and group activities. "Covers" the entire 20th century, examining ways in which literature reflects culture, history, politics and vice versa. Focuses on a significant expansion of vocabulary as well as ironing out some subtle grammar "traps." Students' writing skills improve by means of numerous creative writing assignments. Speaking skills are challenged in every class since the course is designed as an interactive language/literature course. Usually offered every year. Will be offered in the spring of 2004.

Ms. Geffers Browne

GER 110a Goethe

[hum]

Intensive study of many of Goethe's dramatic, lyric, and prose works, including *Goetz*, *Werther*, *Faust I*, and a comprehensive selection of poetry. Usually offered every third year. Last offered in the fall of 2000.

Mr. Dowden

GECS 118a Seduction and Enlightenment

(formerly GECS 108a)

[hum]

Open to all students. Conducted in English with readings in English translation. This course may not be repeated for credit by students who have taken GECS 108a in previous years.

Explores the dialectic of reason and the irrational from the late 18th century in Germany and Austria until their collapse in World War I. Works by Beethoven, Kant, Mendelssohn, Goethe, Lessing, Mozart, Heine, Novalis, Schopenhauer, Nietzsche, Thomas Mann, and others. Usually offered every third year. Last offered in the fall of 2000.

Ms. von Mering

GECS 119b Nietzsche to Postmodern

(formerly GECS 109b)

[hum]

Open to all students. Conducted in English with readings in English translation. This course may not be repeated for credit by students who have taken GECS 109b in previous years.

Explores the dialectic of reason and the irrational from the late 19th century in Germany and Austria to the present. Works by Adorno, Benjamin, Brecht, Celan, Habermas, Heidegger, Junger, Kiefer, Thomas and Heinrich Mann, Nietzsche, Schoenberg, Spengler, and Expressionist painting and film. Usually offered every second year. Will be offered in the spring of 2004.

Mr. Dowden

GER 120a German Enlightenment and Classicism

[hum]

Prerequisites: GER 39a, A- or better in GER 30a, or the equivalent.

Careful reading and discussion (in German) of some of the most moving dramatic scenes and lyrical poems written by Lessing, Klopstock, Lenz, Goethe, Schiller, Hölderlin, and others will provide an overview of those fertile literary and intellectual movements—Enlightenment, Storm and Stress, and Idealism—that eventually culminated in German Classicism. Usually offered every third year. Last offered in the fall of 2002.

Ms. von Mering

GER 121a German Lyric Poetry

[hum]

Focuses on poets, poems, and cycles of poems in the German lyric tradition since Goethe, and introduces the various forms of poetry. Acquaints the student with some important critics of German lyric, including Adorno, Benn, Gadamer, Heidegger, Heller, Hofmannsthal, Kommerell, Szondi, and others. Usually offered every third year. Last offered in the spring of 2002.
Mr. Dowden

GER 140a Drama und Spektakel

[hum]

Prerequisite: GER 103a or equivalent. Conducted in German.

Examines the role of theater and drama as "moral institution" and entertainment. How does theater hold postwar Germans accountable for remembering the past and promoting social justice? Students will also work collaboratively on a performance project. Usually offered every second year. Last offered in the spring of 2003.
Ms. Von Mering

GECS 150a From Rapunzel to Riefenstahl: Real and Imaginary Women in German Culture

[hum]

Open to all students. Conducted in English with readings in English translation.

Exploring German cultural representations of women and real women's responses. From fairy-tale princess to Nazi filmmaker, from 18th-century infanticide to 20th-century femme fatale, from beautiful soul to feminist dramatist, from revolutionary to minority writer. Readings include major literary works, feminist criticism, and film. Usually offered every third year. Last offered in the fall of 2002.
Ms. von Mering

GECS 155a Modern German Jewish History

[hum]

Course to be taught at Brandeis summer program in Berlin.

Study of Germany and the European Jews from the period of emancipation in the late 18th and early 19th century to the present. Examines the role of German Jews in German politics, economic life, and culture; the rise of anti-Semitism in the 19th century; the Nazi government's anti-Jewish policies to the post-war period. Usually offered every year. Will be offered in the summer of 2003.

Mr. Sheppard and Ms. Von Mering

GECS 167a German Cinema: Vamps and Angels

[hum]

Open to all students. Conducted in English with readings in English translation. This course may not be repeated for credit by students who have taken GECS 165a in fall of 2001.

From silent film to Leni Riefenstahl and Nazi cinema, from post-war cinema in East and West to *New German film* after unification, this course traces aesthetic strategies, reflections on history, memory, subjectivity, political, cultural, and film-historical contexts. Usually offered every second year. Will be offered in the spring of 2004.

Ms. von Mering

GECS 170a Viennese Modernism 1890-1938

[hum]

Open to all students. Conducted in English with readings in English translation. Enrollment limited to 20.

An interdisciplinary exploration of cultural and intellectual life in Vienna from the end of the Habsburg era to the rise of Nazism: film, music, painting, theater, fiction, philosophy, psychology, and physics. Works by Berg, Broch, Canetti, Freud, Hofmannsthal, Klimt, Kraus, Mach, Mahler, Musil, Schoenberg, Webern, Wittgenstein, and others. Usually offered every fourth year. Last offered in the fall of 2001.
Mr. Dowden

GECS 180b European Modernism and the German Novel

[hum]

Open to all students. Conducted in English with readings in English translation.

A study of selected novelists writing after Nietzsche and before the end of World War II. This course will explore the culture, concept, and the development of European modernism in works by Broch, Canetti, Döbblin, Jünger, Kafka, Mann, Musil, Rilke, and Roth. Usually offered every second year. Last offered in the spring of 2001.

Mr. Dowden

GER 181a Franz Kafka Erzählungen

[hum]

Prerequisites: B- or better in GER 39a, or the equivalent. (GER 103b is recommended.)

A detailed exploration of Kafka's works, life, and thought. Emphasis will be given to his place in the larger scheme of literary modernism. Usually offered every third year. Last offered in the spring of 2001.

Mr. Dowden

GECS 182a Franz Kafka

[hum]

Open to all students. Conducted in English. Enrollment limited to 20.

A detailed exploration of Kafka's works, life, and thought. Emphasis is given to his place in the larger scheme of literary modernism. Usually offered every third year. Will be offered in the fall of 2003.

Mr. Dowden

GECS 185b Contemporary German Fiction

[hum]

Open to all students. Conducted in English with readings in English translation.

Explores the postmodernist rejection of the German tradition in fiction after World War II, a multi-faceted confrontation with German history and organized amnesia that has continued into the present. Works by Koeppen, Grass, Johnson, Bernhard, Handke, Bachmann, Seghers, Treichel, Sebald, and others. Usually offered every year. Last offered in the spring of 2003.

Mr. Dowden

GECS 190b German Masterworks

[hum]

Offers students the opportunity to immerse themselves in the intensely detailed study of a single masterpiece of pivotal importance. Any one of the following works, but only one, is selected for study in a given semester: Goethe's *Faust* (parts I and II); Nietzsche's *Thus Spake Zarathustra*; Kafka's *Castle*; Musil's *Man Without Qualities*; Thomas Mann's *Doctor Faustus*; Walter Benjamin's *Origin of German Tragic Drama*; Celan's *Sprachgitter*. Usually offered every year. Last offered in the spring of 2003.

Mr. Dowden

Cross-Listed Courses**FA 177b**

Twentieth-Century European Art and Architecture in Berlin

ECS 100a

European Cultural Studies: The Proseminar

MUS 65a

The Music, the Arts, and Ideas in *Fin-de-Siècle* Vienna