

Genetic Counseling

at Arcadia University

Global Perspectives...Personal Attention...Real-World Integrative Learning Experiences

Faculty

Program Director

Kathleen D. Valverde, M.S., C.G.C., earned a B.S. in Psychology from Binghamton University and an M.S. in Human Genetics and Genetic Counseling from Sarah Lawrence College. She returned to Sarah Lawrence College as the Fieldwork Facilitator for the Genetic Counseling Training Program before joining Arcadia University as the Assistant Director in 1995. In 2004 she assumed the role of Program Director. She has worked in the genetic counseling field for more than 25 years with extensive expertise in cystic fibrosis. She has served on the National Society of Genetic Counselors Board of Directors and is on the task force to establish a new accreditation agency for genetic counseling programs. She is actively involved with pursuing licensure for genetic counselors in the Commonwealth of Pennsylvania. She has published extensively and has a special interest in clinical supervision and cancer counseling.

Faculty

Ian Krantz, M.D., is the Medical Director of Arcadia's Genetic Counseling program. He is an Associate Professor of Pediatrics, an attending physician in Genetics Services, and director of the genetics residency/fellowship program at the Children's Hospital of Philadelphia (CHOP). Dr. Krantz serves on the Clinical Advisory Board for the Cornelia de Lange Syndrome (CdLS) Foundation, the Foundation for the Advancement of International Medical Education and Research, and the Alagille Syndrome Alliance. In May 2004, a research team led by Dr. Krantz reported in *Nature Genetics* that they had identified a gene on chromosome 5 which, when altered, causes CdLS. Dr. Krantz has been the course director for the Medical Genetics courses GC 550 and 551 since 2002. He regularly supervises students in clinic and provides thesis advising and mentoring.

Laura Conway, Ph.D., C.G.C., is the Academic Coordinator of Research and Laboratory Education. She earned received a Ph.D. in Biochemistry from the University of Wisconsin-Madison. She engaged in research for several years before attending the Genetic Counseling graduate program at Arcadia University. After graduating in 1999, she practiced as a prenatal genetic counselor for five years. Dr. Conway has served as an abstract reviewer for the National Society of Genetic Counselors, and she is a grant reviewer and finance chair for the Jane Engelberg Memorial Fellowship. Her primary interest is how genetic counselors can incorporate changes in technology.

Kathryn Spitzer Kim, M.S., C.G.C., is Coordinator of Counseling Education. She has more than 20 years of experience in the genetic counseling field in a variety of settings (prenatal, hospital-based and private practice). She has focused on teaching and supervising genetic counseling students for more than 15 years. Her primary interests are the psychological aspects of genetic counseling and multiculturalism. She recently wrote a chapter on interviewing techniques in the second edition of *A Guide to Genetic Counseling*.

Adjunct Faculty

Barbara Bernhardt, M.S., C.G.C., University of Pennsylvania
Melanie Corbman, Cancer Treatment Center of America
Brenda Finucane, M.S., C.G.C., Director of Genetics Services, Elwyn Training and Research Institute
Andrea Forman, M.S., C.G.C., Family Risk Assessment Program, Fox Chase Cancer Center
Kristi Fitzgerald, M.S., C.G.C., Biochemical Genetics, Children's Hospital of Philadelphia
Paige Kaplan, M.D., Biochemical Genetics, Children's Hospital of Philadelphia
Wenda Long, Ph.D., University of Pennsylvania

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Donna McDonald-McGinn, M.S., C.G.C.,
Associate Director Clinical Genetics,
Children's Hospital of Philadelphia
Livija Medne, M.S., C.G.C., Genetics,
Children's Hospital of Philadelphia
Kate Nathanson, M.D., Cancer Genetics,
Hospital of the University of
Pennsylvania
Steven Robbins, Ph.D., Department of
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Cynthia Rutherford, M.A., Counselor,
Arcadia University Counseling Center
Sheryl Smith, Ph.D., Department of Biology,
Arcadia University
Nancy Spinner, Ph.D., Department of
Human Genetics, Children's Hospital of
Philadelphia
Susan Walther, M.S., CGC University of
Pennsylvania Molecular Laboratory
Maren Westphal, Ph.D., Counseling
Psychology, Arcadia University
Alisha Wilkens, M.S., CGC, Children's
Hospital of Philadelphia

Master's Degree

Master of Science in Genetic Counseling

About the Genetic Counseling Master's Degree

National Recognition, Local Support

Arcadia's Genetic Counseling program is one of only 28 accredited programs in North America. Established in 1995, the program has graduated more than 150 students and is the second largest program in the country. Accepting 12-14 students annually, Arcadia provides personal attention and access to clinical opportunities at some of the nation's premier healthcare facilities.

Arcadia's program has the full support of the genetics community in the greater [Philadelphia area](#). [Clinical training](#) is one of the program's greatest strengths, with individualized clinical opportunities at clinical genetics sites throughout the Delaware Valley. Access to so many [clinical training centers](#) allows students to broaden their educational experience beyond traditional clinics to research in medical subspecialties, health care management, and non-traditional genetic counseling roles. In addition, students

participate in a variety of [community service](#) projects.

[Arcadia alumni](#) are working across the country in diverse genetic counseling roles. Overall, [employers](#) have been extremely pleased with the Arcadia graduates' work ethic and performance. In fact, several institutions employ multiple Arcadia graduates.

The Master of Science in Genetic Counseling program offers a degree in a recognized specialty in medical genetics. The two-year, full-time graduate program is designed to provide students with the proficiencies and knowledge base required of a successful practitioner. The program includes scientific, medical, psychological and clinical courses combined with practical experience.

Students will be trained to understand the complex environment in which the genetic counselor must operate and learn to apply knowledge from the life sciences and psychology in order to address the needs of patients, community lay groups, and health and human services professionals. A research project/thesis during the second year is required for graduation.

The program meets the requirements of the American Board of Genetic Counseling (ABGC) for curriculum content, clinical experience and overall program design and has been granted full accreditation status. Therefore, students who graduate from the Arcadia University Genetic Counseling program are qualified to sit for the certification examination offered by the ABGC.

A Growing Profession: Genetic Counseling is a growing profession that combines expertise in scientific knowledge and finely developed counseling abilities. The majority of graduates work in major medical centers, primarily in reproductive medicine. The range of positions open to genetic counselors continues to expand and now includes general genetics services (pediatric and adult), clinical services devoted to one diagnosis (a specialty clinic), community support organizations, public health departments and services, administration, research, commercial laboratories, and private practice. The continuing growth in understanding inherited conditions predicts expansion for the profession.

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Recent data suggest that there are sufficient numbers of positions available for new graduates in the field. The mean starting salary for a genetic counselor with a master's degree is \$64,870, as stated by the American Medical Association (2008). A strong professional organization, the National Society of Genetic Counselors (NSGC), provides ongoing education and communication for genetic counselors through annual conferences, a newsletter and a journal.

Potential applicants are urged to contact the NSGC for information about careers in genetics at www.nsgc.org.

Academic and Clinical Facilities: Arcadia's typical class size is 12-14 students per year. A genetic counseling program house serves as a central location for students to meet and obtain information about conferences, positions available, and other opportunities.

US News & World Report named "genetic counselor" as a 2009 top 10 best career in terms of job satisfaction and job market outlook, with the national median pay at \$71,000. The NSGC 2010 Professional Status Survey reports an average salary for clinical genetic counselors as \$62,000.

The wealth of genetics services in the Philadelphia area provides students with a broad range of clinical experiences in settings that include community hospitals and university-based medical centers. All clinically oriented courses are taught by experienced members of the genetics community.

Practica and Clinical Internships: The first-year practica are based at any of 24 different institutions throughout the Philadelphia area. In the second year, a total of 58 clinical internship sites are available. These sites include 22 prenatal, eight pediatric, 11 cancer, and numerous specialty clinics in the areas of reproductive genetics, neurogenetics, metabolic genetics, cardiovascular genetics and others. The clinical internships are supervised by board-certified genetic counselors and/or board-certified clinical geneticists. The location of these sites extends from Trenton, N.J., to Newark, Del., and from Camden, N.J., to Harrisburg, Pa.

The Arcadia University Genetic Counseling program has graduated more than 150 students who are working in more than 28 states. Arcadia graduates have achieved

professional recognition in various areas. Many students have had thesis projects presented as abstracts or published in professional journals.

100 Percent of Alumni Recommend Arcadia's Program: Results of the 2007 Alumni Survey found that 100 percent of those who completed the survey would recommend Arcadia's Genetic Counseling program to prospective students. Ninety-eight percent also felt that their Arcadia training had prepared them well for work in the field. Employment rates were high, with 72 percent finding work within three months of graduation and 94 percent hired within 12 months.

Genetic Counseling Frequently Asked Questions

When are applications due? Applications are due on January 15.

What are the Graduate Record Examination (GRE) codes? Arcadia University's GRE code is 2039.

Where do I send applications and supporting documents? Applications and supporting documents should be sent to:

Arcadia University
Enrollment Management Office
450 S. Easton Road
Glenside, PA 19038-3295

Can I still apply even if I haven't finished all the pre-requisite courses? Yes, applications will be reviewed from applicants who have not completed all of the pre-requisite courses with the understanding that an accepted student must complete these courses before classes start in September.

When will I be notified if I am offered an interview? Invitations for interviews are generally mailed in March.

When do interviews take place? Interviews are scheduled on Mondays and Fridays throughout the months of March and April. Applicants will be instructed to call the Genetic Counseling Department office to schedule an interview.

When will I be notified whether I've been accepted to the program? There is a universal acceptance date for all Genetic Counseling programs approved by the

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American Board of Genetic Counseling. This date is usually the first Friday in May. The universal acceptance date for 2012 is April 23.

How many students apply to Arcadia's program? How many students are accepted? The Arcadia University Genetic Counseling program receives more than 100 applications per year, and 12-14 students are accepted for the incoming class.

What are the average GPA and GRE scores of accepted students? A minimum GPA of 3.0, minimum combined GRE score of 1000 on Quantitative and Verbal sections, and minimum of 4.0 on the Analytical section are recommended. However, multiple factors are considered during the admissions process. The admissions committee weighs many variables when selecting a student, so students who do not have these minimum requirements are still welcome to apply.

What type of volunteer experience do I need? The admissions committee would like to see that the applicant has observed some genetic counseling sessions prior to applying to the program. However, due to many constraints, this type of opportunity is not available to all applicants. In lieu of genetic counseling observations, work in other health-related fields will be considered.

Are scholarships or financial aid available to students? For the past two years, partial scholarships have been awarded to 90% of the incoming students.

Does Arcadia accept international students? If so, are there additional entrance exams? The Arcadia Genetic Counseling program does admit international students. International applicants should visit www.arcadia.edu/international for detailed information on admission requirements and application procedures. Official results from the TOEFL or IELTS are required for all students for whom English is a second language except for non-native speakers of English who hold degrees or diplomas from post-secondary institutions in English-speaking countries (e.g. the United States, Canada, England, Ireland, Australia, and New Zealand). A course-by-course evaluation of all transcripts by an independent evaluation service based in the United States also is required.

Whom should I ask for letters of recommendations? Three personal letters of recommendation are required for admissions,

including at least one from a college professor and one from a practicing genetic counselor or comparable health professional.

Can I visit Arcadia's Genetic Counseling program? [Graduate Open Houses](#) are held three times a year in the months of April, August and November. Other dates can be arranged by contacting the program Director.

Is there a thesis requirement? Each student develops and performs an independent research project. The projects are initiated in the second semester of the first year and written up as a thesis by the end of the second year. Many of these projects are subsequently submitted for presentation at national meetings or for publication.

Master of Science in Genetic Counseling Admissions Requirements

In addition to the general admission requirements, the following requirements must be met. All application materials must be in the Office of Enrollment Management by January 15.

1. A Genetic Counseling application, including personal statements, to be completed online at www.arcadia.edu/gradapp.
2. A bachelor's degree from an accredited institution with a recommended GPA of 3.0 or better.
3. One official transcript from each college, university or professional school attended. Transfer credits included on a transcript must include grades earned; if not, an official transcript from the original school must be submitted. Transcripts must be sent from the issuing school in a sealed envelope and contain the appropriate signatures and seals to be considered official.
4. The prerequisite courses listed below. All courses used toward the minimum prerequisites must be taken through the appropriate departments, e.g., Biology, Chemistry, and Psychology. All prerequisite courses must be completed prior to the start of the Genetic Counseling program. One-

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half of the prerequisite courses must have been taken within 10 years prior to application.

- a. Biological Sciences—four courses in Biology, including General Genetics. (Human Genetics should not be substituted for a General Genetics course.)
 - b. Chemistry—three courses, to include at least one semester of General Chemistry and Organic Chemistry. Biochemistry is not required but is strongly recommended and will fill the requirement for the third Chemistry course.
 - c. Psychology—two courses.
 - d. Statistics—one course, which should include descriptive statistics, differences between two means, correlation and beginning concepts of analysis of variance.
5. Three letters of recommendation, at least one from a professor and one from a practicing genetic counselor or comparable health professional.
 6. Test scores for the Graduate Record Examination (GRE), taken within the last five years. A minimum total score of 1000 is required for the verbal and quantitative portions of the test with no single score below 450. A minimum score of 4 is required for the analytical writing portion of the test.
 7. A personal interview with the program Director.
 8. Knowledge of the profession through work or volunteer experience. A broad overview of the profession is preferable to experience in a limited area.
 9. A high degree of both physical and emotional health.
 10. International applicants should visit www.arcadia.edu/international for detailed information on admission requirements and application procedures. Official results from the TOEFL or IELTS are required for all students for whom English is a second language or who have not earned degrees or diplomas from post-secondary institutions in English-speaking countries (e.g. the United States, Canada, England, Ireland, Australia and New Zealand). A course-by-course evaluation of all transcripts by an independent

evaluation service based in the United States also is required.

All application materials must be sent to the Office of Enrollment Management.

Application Deadline

All application documents, along with a \$50 (\$25 online application) non-refundable application fee, must be submitted to the Office of Enrollment Management by January 15 of the year in which the applicant is seeking admission.

Notification of admission is made to applicants by telephone, letter, or e-mail on the universal acceptance date in late spring, and candidates are expected to reply by the date indicated in their notification. A \$500 deposit must accompany the acceptance reply. This deposit is applied to the first semester tuition, and it is non-refundable if students fail to enter the program on the date for which they are accepted.

Expenses

Tuition for 2011: \$27,500

Fees

Parking, registration, student liability insurance \$130 (per year).

Additional Expenses:

Books and supplies (estimated): Year one – \$500; Year two – \$400

Room and Board: Off Campus

Travel: Varies

Upon enrollment into their programs, all students must provide proof of medical insurance and also provide information about their health and medical history. If needed, medical insurance can be purchased through the University. Information and applications are available at Student Health Services.

Financial Aid and Scholarships

Several partial-tuition scholarships are available for Genetic Counseling students. Upon acceptance into the program, students will be reviewed automatically for these scholarships, which are based upon financial need and academic achievement and are renewable for two years.

Graduate Assistantships

In addition to partial scholarships awarded to all qualified students, graduate assistantships

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are available. Select students automatically are awarded graduate assistantships upon acceptance, but any full-time graduate student may apply for an assistantship, which offers a credit toward tuition costs in exchange for working a specified number of hours per week for a department. Questions regarding graduate assistantships should be directed to the Office of Graduate and Undergraduate Studies at 215-572-2925.

Outside Scholarships

Additionally, students are encouraged to contact outside organizations to apply for outside scholarships. For more scholarship opportunities, refer to the National Association of Genetic Counselors at www.nsgc.org.

Master of Science in Genetic Counseling Requirements (M.S.G.C.)

(75 credits)

Program Requirements

- A minimum of 75 credits including coursework practica, clinical internships, and thesis.
- Satisfactory completion of four clinical internships at approved sites with participation in at least 50 supervised cases.
- A research paper (thesis) satisfactorily completed during the second year.
- An overall minimum GPA of 3.0 maintained throughout the program.
- A grade below "C" is not acceptable toward the degree.
- Continuous enrollment.

First Year

Fall Semester (21 credits)

GC 501	Advanced Genetics (4 credits)
GC 502	Medical Physiology (4 credits)
GC 503	Laboratory and Diagnostics I (2 credits)
GC 509	Introduction to Genetic Counseling (2 credits)
GC 510	Practicum (3 credits)
PY 521	Research Design, Methods and Evaluation (3 credits)

PY 685	Psychopathology and Theories and Techniques for Genetic Counselors (3 credits)
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Spring (15 credits)

GC 504	Laboratory and Diagnostics II (2 credits)
GC 505	Clinical Applications (2 credits)
GC 506	Topics in Human Genetics (2 credit)
GC 507	Human Embryology and Teratology (4 credits)
GC 511	Practicum (3 credits)
GC 540	Introduction to Cancer Genetics (2 credits)
PY 688	Cultural Bases of Counseling (3 credits)

Second Year

Summer I (6 credits)

GC 530	Introduction to Thesis (1 credit)
GC 541	Reproductive Genetics (2 credits)
GC 542	Clinical Internship (3 credits)

Fall Semester (16 credits)

GC 545	Clinical Internship (3 credits)
GC 550	Medical Genetics I (3 credits)
GC 552	Genetic Counseling Techniques I (2 credits)
GC 554	Grand Rounds I (1 credit)
GC 558	Thesis I (2 credits)
GC 565	Biochemical Genetics (2 credits)
HE 575	Family in Contemporary Society (3 credits)

Spring Semester (14 credits)

GC 546	Clinical Internship (3 credits)
GC 551	Medical Genetics II (3 credits)
GC 553	Genetic Counseling Techniques II (2 credits)
GC 555	Grand Rounds II (1 credit)
GC 556	Topics in Professional Development (2 credits)
GC 557	Ethical Issues in Genetic Counseling (1 credit)
GC 559	Thesis II (2 credits)

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Elective Courses Up to 3 elective courses
from the following can be taken:

- PY 605 Addictive Behaviors:
Substance Abuse and
Eating Disorders
Counseling (3 credits)
- PY 610 Group Counseling
(3 credits)
- PY 611 Couples and Family
Therapy (3 credits)
- HE 560 Issues in Community and
Environmental Health
(3 credits)
- HE 530 Theories of Health
Behavior and Health
Education (3 credits)
- HE 573 Human Sexuality
(3 credits)
- HE 578 Stress: Use and Misuse
(3 credits)
- HE 583 Contemporary Health
Topics (3 credits)