

Program Approval

I. General Information

A. Institution University of Kansas Medical Center

B. Program Identification

Degree Level: Master's degree
Program Title: Genetic Counseling
Degree to be Offered: Master of Science in Genetic Counseling
Responsible Department or Unit: Dept. Clinical Laboratory Sciences, School of Health Professions
CIP Code: 51.1509
Modality: Face-to-Face
Proposed Implementation Date: Fall 2022 (initial enrollment of students)

Total Number of Semester Credit Hours for the Degree: 57

C. Contact

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II. Clinical Sites: Does this program require the use of Clinical Sites? **YES**

KU Medical Center is party to the Inter-Institutional Non-Binding Memorandum of Understanding for Clinical Affiliation Site Cooperation.

The program will be offered in the Department of Clinical Laboratory Sciences in the School of Health Professions (SHP) on the University of Kansas Medical Center (KUMC) campus in Kansas City, KS. The Genetic Counseling program's curriculum is designed to capitalize on the strengths of the academic and clinical environments present at KUMC and the Children's Mercy Hospital (CMH) system.

We will recruit Kansans and others attracted to the variety of practice settings existing in Kansas. The focus on interprofessional education and teamwork at both KUMC and CMH offers a firm foundation for later clinical learning and practice. We will leverage an extensive network of sites and supervisors already associated with the institutions' programs, actively seeking opportunities for interprofessional clinical settings to engage students and advance the range of their skills and experiences. To limit the training burden at sites already supporting students, we are proactive in discussions with other clinical directors at KUMC and our clinical affiliates in the University of Kansas Health System (UKHS) and Children's Mercy Hospital. We will arrange placements at sites in the KUMC/UKHS/CMH network strategically, to limit burdening the clinic settings while reinforcing the interprofessional and teamwork skills essential for modern medical practice.

III. Justification

Genetic counseling is both a science and an art, involving not only the use of technical genetic knowledge and precise medical diagnosis, but also accurate dissemination of genetic information in a sensitive, empathetic manner. Genetic counseling programs are accredited through the Accreditation Council for Genetic Counseling¹. Genetic counselors are licensed and board-certified professionals with specialized graduate training in molecular genetics, in grief and crisis counseling, and in genetic disorders. The practice of genetic counseling involves the application of knowledge pertaining to genetic mechanisms of disease, but also accompanying knowledge and competencies pertaining to psychosocial and ethical issues. Certified genetic counselors are key

members of health care teams, skilled in risk assessment, interpretation of genetic test results, and in integrating and conveying complex information to patients and health providers. Genetic counselors function in many areas including cancer centers, perinatal centers, internal medicine clinics, pediatric genetics and specialty clinics, and laboratory settings.

The School of Health Professions will offer the only professional degree program leading to a Master of Genetic Counseling degree within the University of Kansas system, and in the State of Kansas. There are currently 32 fully accredited genetic counseling education programs in the United States and four programs in Canada². There are no accredited programs in Kansas or Missouri; nearby accredited programs are at the University of Nebraska – Omaha, University of Colorado Denver and the University of Oklahoma Health Sciences Center.

Institutional Advantages

- This program is consistent with KU Medical Center's strategic plan and mission statement
- This program strengthens an existing relationship between KUMC and CMH
- This program will contribute to the clinical and scholarly missions of both institutions
- This program will strengthen and enhance genetics education content in KUMC curricula
- This program will promote interprofessional collaborations within KUMC and CMH
- This program will increase access to training in Genetic Counseling for regional students

Community and National Visibility

- This program will establish visibility of KUMC within a context of a growing and maturing Clinical Genetic Division
- This program will advance opportunity for increased scholarly activity at KUMC
- This program will promote Genetic Counseling as a career option to previously untapped potential students
- This program will strengthen collaborative relations of KUMC and the KU Health System with other health systems in the KC Metro region.

Workforce Enhancement

- This program will create professionals who are more likely to fill local positions, allowing for greater access to care for Kansans and others in the region
- This program will attract genetics professionals with an interest in education to our region
- This program will decrease overall healthcare costs by adding professionals to the healthcare workforce knowledgeable about appropriate use of genetic and genomic diagnostic tools
- This program will be an initial and essential milestone in the eventual development of a clinical genetics residency training program

IV. Program Demand:

There presently are 50 genetic counselor programs in the United States. Of these, 15 are newly accredited and three are in the candidacy stage of the accreditation process. There is no other genetic counseling program in Kansas, with the nearest programs located at the University of Oklahoma Health Science Center, University of Arkansas Medical Sciences Center, Washington University in St. Louis (candidacy), University of Nebraska Medical Center, and the University of Colorado Denver.

The interest and need for training of new genetic counselors was gauged by inviting regional members of genetic counseling professional societies to participate in an on-line survey (REDCap) in December 2019. There were 60 invitations delivered, and 24 responses. All respondents are certified genetic counselors practicing in the Midwest; 13 located within five miles of KU Medical Center, five within 5-25 miles, and four at a distance of more than 100 miles (two did not answer the question). All respondents indicated there is a need to training more genetic counselors and 23 of 24 said they would advise students interested in a health care career to consider genetic counseling, with the remaining respondent indicating they also would so advise a student, but only if the

student already was informed about this career path. The majority of respondents (18 of 24, or 75%) also indicated their clinical site is open to supporting student training experiences and internships.

When asked to elaborate on their answers or provide suggestions to consider in developing the curriculum, the following comments were submitted:

- *It can be difficult to attract genetic counselors to the Midwest. If we were able to train them here, we will likely have more success of enticing them to work locally.*
- *Any training in laboratory/industry roles that can be provided to students is beneficial, as this specialty of genetic counseling is growing rapidly. Working through cases as a small team of 2-3 students in a workshop-style class helped me learn case prep and other valuable skills. Using standardized patients (if available) is great practice for students. Begin thesis groundwork as soon as possible; we had a research methods/development class our first semester and it was very helpful.*
- *This is wonderful news! I feel like what I benefited the most from during my training is having access to a large number of GCs (professors and from satellite clinics, in- and out--of-state). Genetic counseling has a vast amount of counseling styles and it is important for students to have the opportunity to rotate with clinics not directly in the KU health system. This will help them learn how different corporations and hospital systems operate. Opportunities for contracts with out-of-state clinics (i.e., clinics closer to a student's home or in locations of future work interest for a student) would greatly help with this endeavor.*
- *It will be essential to involve all GCs in the region and create healthy collaboration between sites. Children's Mercy has a robust clinical molecular genetics laboratory, so the inclusion of a laboratory rotation would be both important to the education of the students as well as give the program a competitive edge against other programs*
- *It may be helpful to consider some flexibility in balancing coursework and rotations. If rotation sites seem limited, setting up a program with the vast majority of coursework in the first year to open up the rotation sites mostly to the second years who could be more fully immersed.*
- *Currently I host students from the UAMS program and cannot take on any others, sorry. I do know there is a desire for more training programs in the Midwest, and especially with the number of patients in the KC area.*
- *I work as a laboratory representative and am more than happy to host a student for a rotation, it would just be an outside of the box rotation and not include direct exposure to patients. Thank you for seeing this huge need and acting on it! I would be happy to be involved training our next generation of GCs in any way possible.*
- *I think having a MSGC program in this area is a great idea. We have several groups of genetic counselors in the area and there are no close programs nearby.*
- *I don't do any clinical work so could not host a student for clinical rotations, but I expect others in my department who do clinical work would be open to discussions about this. I'd be happy to support student research projects.*
- *I think we are an excellent location to grow a GC program, as we have a wealth of GC experience in the KC area.*
- *A program in KC and even Missouri/Kansas is definitely important, very exciting to see this possibility! I think a well-rounded GC program is the most important aspect to consider. Meaning exposure to adult genetics, prenatal, cancer, pediatric-including sub-specialties, and a laboratory/testing component is critical to giving students a good foundation. Another aspect to consider are alternative classroom/online experiences. As GC grows in profession, adult learners are interested in pursuing a degree and this can help accommodate their schedules.*
- *I am fully supportive of more training sites in the Midwest, and in KC specifically.*

V. Projected Enrollment for the Initial Three Years of the Program

Year	Headcount Per Year		Sem Credit Hrs Per Year	
	Full- Time	Part- Time	Full- Time	Part- Time
Implementation	0	0	0	0
Year 2	6	0	174	0
Year 3	(9+6) = 15	0	429	0
Year 4	(12+9) = 21	0	601	0
Year 5 (capacity)	(12+12) = 24	0	685	0

Proposed enrollment is based on accreditation standards¹, available clinical rotation sites, and projected faculty resources, and is congruent with enrollment at University of Kansas Board of Regent peer institutions, Big Ten institutions, and universities in contiguous states offering genetic counseling education programs. The initial year of the program will focus on hiring faculty, who will consult with regional genetic counselors to design a curriculum aligned with accreditation standards for the profession and to formalize the clinical affiliations necessary to support practical training for genetic counseling students. The program proposes to enroll six students in the second year of the program, nine students in year three, and 12 students in the fourth year of the program, for a total ongoing enrollment of 12 students annually at full implementation.

VI. Employment

The workforce demand for master's prepared genetics counselors continues to accelerate nationally, commensurate with the tremendous explosion of knowledge in the field of genetics and genetic testing. Factors driving demand include, 1) personalized disease management, 2) emerging specialty areas for genetic counselors (e.g., cancer, cardiovascular, neurologic and genetic disorders), 3) increasing use of genetic testing as a component of high quality care, 4) the increasing number of new genetic tests, and 5) the demographic trend of delayed child-bearing.³

Projections vary regarding the exact increase in demand for genetic counselors as a result of these factors. The U.S. Department of Labor, Bureau of Labor Statistics⁴ reports a 2018 median pay of \$80,000 annually for genetics counselors and a national increase in demand of 29% during the decade from 2014-2024, whereas the average growth rate for all occupations is projected at 7%. Rapidly accelerating advances in genomics and gene-editing capabilities, and the associated bioethical challenges these advances pose, will require highly-trained, deeply-knowledgeable, yet compassionate and empathetic counselors to serve as resources for future medical professionals and the lay public.⁵

VII. Admission and Curriculum

A. Admission Criteria

The Master's in Genetic Counseling program is designed for individuals having an undergraduate degree and background in genetics, biology, bioethics, public health, and counseling, who also wish to obtain a clinically oriented master's degree.

- **Transcript(s):**
 - Transcripts from all prior institutions attended
 - BS degree from a regionally-accredited institution
 - Science courses up to and including biochemistry
 - At least one upper-level human genetics course
 - General statistics
 - Minimum GPA of 3.0

- **Curriculum Vita**
- **GRE:** Verbal >150; Quant >150; Writing >4.0; all within the last five years
- **Personal statement** (750 words): personal characteristics and perspective on potential challenges, and a description of motivating factors in career choice as genetics counselor
- **Advocacy experience:** Compensated or volunteer advocacy experience(s) in a counseling or support role related to health care, health behaviors, or interpersonal/family dynamics. Ideally, the experience should include ongoing supervision and some form of performance review.
- **Three Letters of Recommendation:** One letter must be from a mentor in the applicant's advocacy experience.

Required prior to matriculation into the program:

- **Background Check**
- **Health and other certifications** (immunizations, basic life support training, drug screening)
- **Technical Standards**

B. Curriculum

The curriculum for this professional master's program will be delivered at KUMC, primarily via classroom delivery, with selected content provided through synchronous and asynchronous online delivery. Clinical education components of the curriculum will take place at KUMC's clinical partners, at CMH and at existing clinical affiliate sites.

The proposed program is a 57-credit (five terms over 21 months, full-time enrollment) post-baccalaureate course of study for individuals with career goals focused on patient care in the field of genetic counseling, genetic testing, public health, and/or bioethics. We propose a concise and efficient academic plan to facilitate a rapid path to degree completion and optimal preparation for professional certification. The proposal addresses student fiscal burden by identifying courses and clinical experiences that acknowledge prior coursework, experiences, or specialized training these students already may possess. This flexibility acknowledges the heterogeneous backgrounds of potential students and is strategic about course content and sequence, thereby streamlining the curriculum while delivering the specialized training required by this career path.

Degree Requirements

The curriculum will include both didactic and clinical education in a variety of settings intended to expose students to evidence-based practice, interprofessional collaboration, patient-centered care, and informatics. The required curriculum includes specialized coursework not currently offered through other KUMC programs. This content will be developed and delivered by program faculty, genetic counselors, and other genetics professionals.

Program Outcomes

Graduates will have the education, clinical experience, and applied research skills to:

- deliver genetic counseling to patients and families in the areas of prevention;
- deliver counseling for care and recurrence in disease states across the age continuum;
- apply risk assessment skills to improve disease management for patients and their families in clinical and research settings;
- become clinical faculty in genetic counseling programs;
- translate research findings generated by other basic and clinical scientists into direct patient care;
- meet accreditation requirements for an entry-level degree in genetic counseling and successfully complete the state licensure examination.

Year 1: Fall**SCH = Semester Credit Hours**

Course #	Course Name	SCH
GENC 600	Introduction to Genetic Counseling	2
GENC 605	Psychosocial Genetic Counseling	3
GENC 610	Human Reproduction & Embryology	3
GENC 615	Prenatal Genetic Counseling	2
GENC 620	Molecular Genetics & Genomics I	3
GENC 625	Clinical Observation I	1
	Total Credit Hours	14

Year 1: Spring

Course #	Course Name	SCH
GENC 630	Molecular Genetics & Genomics II	2
GENC 635	Cancer Genetic Counseling	2
GENC 640	Principles of Medical Genetics I	3
GENC 650	Research Methods	3
GENC 655	Ethical Issues in Genetic Counseling	3
GENC 660	Clinical Observation II	2
	Total Credit Hours	15

Year 2: Summer

Course #	Course Name	SCH
GENC 657	Clinical Clerkship I	4
	Total Credit Hours	4

Year 2: Fall

Course #	Course Name	SCH
GENC XXX	Biochemical Genetics	3
GENC 710	Principles of Medical Genetics II	2
GENC 720	Teratology	2
GENC 730	Clinical Clerkship II	3
GENC 740	Capstone Project I	2
	Total Credit Hours	12

Year 2: Spring

Course #	Course Name	SCH
GENC 760	Professional Development	3
GENC 770	Genetic Counseling and the Community	3
GENC 780	Clinical Clerkship III	3
GENC 790	Capstone Project II	3
	Total Credit Hours	12

VIII. Core Faculty

Faculty Name	Rank	Highest Degree	Tenure Track Y/N	Academic Area of Specialization	FTE to Proposed Program
Meghan Strenk, MS	Assoc/Full (Clinical track)	MS	Y	Program Director; genetics counselor	1.0
Lauren Bartik, MS	Assistant (Clinical track)	MS	N	Clinical Coordinator; genetics counselor	0.5
TBD	Assistant (Clinical track)	MS	N	Adjunct faculty; genetics counselor	0.5
Eric Rush MD, FAAP, FACMG	Assoc/Full	MD	N	Medical Director	0.05

Number of graduate assistants assigned to this program **0**

IX. Expenditure and Funding Sources (List amounts in dollars. Provide explanations as necessary.)

# students/year	0	6+0	9+6	12+9	12+12
total # students/year	0	6	15	21	24
credits	0	29	57	57	57
Master of Genetic Counseling	<i>our goal is to enroll a maximum of 12 students each year, based on projected availability of practicum sites & capacity for clinical supervision</i>				<i>(enrollment capacity)</i>
	pre-launch AY	AY2022	AY2023	AY2024	AY2025
I. EXPENDITURES	First FY	Second FY	Third FY	Fourth FY	Fifth FY
Personnel – Reassigned or Existing Positions*					
Faculty	\$0	\$0	\$0	\$0	\$0
Administrators (<i>other than instruction time</i>)	\$0	\$0	\$0	\$0	\$0
Graduate Assistants	\$0	\$0	\$0	\$0	\$0
Support Staff for Administration (<i>e.g., secretarial</i>)	\$0	\$0	\$0	\$0	\$0
Fringe Benefits (<i>total for all groups</i>)	\$0	\$0	\$0	\$0	\$0
Other Personnel Costs	\$0	\$0	\$0	\$0	\$0
Total Existing Personnel Costs – Reassigned or Existing	\$0	\$0	\$0	\$0	\$0
Personnel – New Positions* (explanation attached...)					
Faculty	\$181,250	\$181,250	\$181,250	\$181,250	\$181,250

Administrators (<i>other than instruction time</i>)	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Graduate Assistants	\$0	\$0	\$0	\$0	\$0
Support Staff for Administration (<i>e.g., secretarial</i>)	\$0	\$0	\$0	\$0	\$0
Fringe Benefits (total for all groups)	\$40,386	\$40,386	\$62,429	\$62,429	\$62,429
Other Personnel Costs	\$0	\$0	\$0	\$0	\$0
Total New Personnel Costs -- New Positions	\$241,636	\$241,636	\$263,679	\$263,679	\$263,679
Start-up Costs – One-Time Expenses*					
Accreditation application fee	\$2,500	–	–	–	–
Accreditation submission fee	\$4,500	–	–	–	–
Accreditation site visit	\$4,500	–	–	–	–
Office equipment (desk, chair, computer, bookcase, file cabinet, etc.)	\$11,500	\$0	\$0	\$0	\$5,500
Physical Facilities: Construction/Renovation	\$50,000	–	–	–	–
Other					
Total Start-up Costs	\$73,000	\$0	\$0	\$0	\$5,500
Operating Costs – Recurring Expenses (<i>explanation attached...</i>)					
OOE – not related to students					
Faculty Travel	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Supplies/Office - stationary, household telephone/networking, IT, videoconferencing	\$500	\$500	\$500	\$500	\$500
postage	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
printing/copying	\$100	\$100	\$100	\$100	\$100
printer/scanner rental	\$200	\$150	\$150	\$150	\$150
copier/scanner rental	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
facilities operations (repair, services)	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
food/university catering	\$500	\$500	\$500	\$500	\$500
Recruitment/advertising	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
OOE – student related					
TYPHON (\$100 ea.)	\$0	\$600	\$1,500	\$2,100	\$2,400
annual accreditation maintenance fee for program	\$0	\$4,000	\$4,000	\$4,000	\$4,000
simulation costs	\$0	\$5,000	\$5,000	\$5,000	\$5,000
travel to recruit clinical sites/preceptor training	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
Total Operating Costs	\$15,800	\$25,350	\$26,250	\$26,850	\$27,150
GRAND TOTAL COSTS	\$330,436	\$266,986	\$289,929	\$290,529	\$296,329

.. II. FUNDING SOURCES*	First AY (pre-launch)	Second AY	Third AY	Fourth AY	Fifth AY
Tuition	\$0	\$73,280	\$180,673	\$252,690	\$288,067
Student Fees	\$0	\$14,808	\$36,684	\$51,324	\$58,560
State funds & Other Sources	\$0	\$0	\$0	\$0	\$0
GRAND TOTAL FUNDING	\$0	\$88,088	\$217,357	\$ 304,014	\$346,627

Projected Surplus/Deficit (+/-) (Grand Total FUNDING minus Grand Total Costs)	-\$330,436	-\$178,898	-\$72,572	\$13,485	\$50,297
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X. Expenditures and Funding Sources Explanations

A. Expenditures

Personnel – Reassigned or Existing Positions

We do not anticipate there will be costs associated with reassigned or existing positions.

Personnel – – New Positions

We expect all faculty will possess at least an MS degree with background in relevant healthcare settings, to be credentialed as a genetic counselor, and to be licensed to practice in both Kansas & Missouri. An advanced academic degree (PhD, MD, or another doctorate) is preferred.

Pre-launch Academic year (prior to enrolling students; curriculum integration; recruiting clinical affiliations; program accreditation)

- 1) Program Director (FTE 1.0): This faculty position (\$100,000) will be the program director (PD) for the GC program. This individual must possess certification as a genetic counselor (CGC) to meet accreditation requirements. It will be preferable for this person to possess a terminal degree and be appointed on the tenure-track at an appropriate rank. Alternatively, the PD may be appointed to a non-tenure modified (clinical) faculty track at an appropriate rank. The salary must be competitive with salaries of practicing CGCs to attract and retain this faculty member (<https://www.bls.gov/ooh/healthcare/genetic-counselors.htm>). The program director will be hired in the first year of the program, to oversee alignment of the curriculum with accreditation requirements. This allows the PD to review and revise the proposed curriculum if necessary, to organize the administrative elements needed to begin teaching the curriculum, to hire new faculty who will begin teaching the next year, and to review applications and select the first cohort of students without delay once accreditation is awarded.
- 2) Clinical Coordinator (FTE 0.5): This non-tenure track, modified title (clinical) faculty position (\$75,000) primarily will focus on identifying and developing relationships with clinical affiliates and supervisors and coordinating contracts with those sites according to institutional protocols. This faculty member also will contribute to a successful accreditation process with close attention to accreditation elements related to student clinical experiences. This faculty member will possess a master's degree and the CGC credential; the role may involve a limited degree of teaching. It will be essential to fill this role as early as possible, prior to the bulk of preparation related to accreditation and prior to arrival of students for classes in the fall of the second year of the program.
- 3) Clinical Faculty member (FTE 0.5): This faculty member (\$75,000) will provide applied knowledge for first-year students related to foundation content, grounding their classroom information with clinical applications of physiology, pharmacology, biochemistry, ethics, and professionalism. This approach to content delivered in the classroom is essential to form an applied understanding of principles prior to patient contact. This faculty member will possess the CGC certification, with at least five years of experience working as a genetic counselor. This faculty member will be hired on the non-tenure modified title (clinical) faculty track. This

position also is critical to the success of the program, and this individual will need to be identified and hired before or early in the 1st year of the program to ensure a successful accreditation of the program.

- 4) **Administrator** (FTE 0.5): This individual (\$20,000) is essential to support the program director in finalizing the Genetic Counseling curriculum, to coordinate administrative tasks (room scheduling for the next year, etc.), to interface with emerging clinical affiliates, and to oversee logistics related to accreditation.

First AY: (*first year of enrolled students; N=6; recruiting additional clinical affiliations*)

No additional faculty or staff are proposed.

Second AY: (*enroll second cohort of students; N=9*)

No additional faculty or staff are proposed.

Third AY: (*enroll third cohort of students; N=12; enrollment cap = 12 students/year thereafter*)

No additional faculty or staff are proposed.

Start-up Costs – One-Time Expenses

Each new faculty member and staff member will require an office equipped with a personal computer (\$2,200 each), office desk (\$1,500 each) and chair (\$500 each), bookcase (\$150 each), and filing cabinet (\$250 each), to support teaching and administrative activities. These will be purchased in the pre-enrollment year. Funds are estimated (\$20,000 each) for office renovations for faculty & staff. Accreditation policy requires approval of program accreditation prior to recruiting and enrolling students. Costs associated with applying for accreditation (\$11,500) will occur during the first (pre-enrollment) year of the program.

Operating Costs – Recurring Expenses

Non-student Operating Costs – Recurring Expenses

- 1) **Faculty travel:** Funds (\$2,500 each) will support faculty travel, initially to consult with existing genetic counseling programs and for on-site visits to clinical sites, and later as a commitment to on-going faculty development supporting faculty to attend meetings or workshops focused on best teaching and clinical practices for students.
- 2) **Office supplies:** Costs of paper, pens and other office supplies consumed by routine activities.
- 3) **Telephone/networking/IT:** Costs associated with digital communications and teaching courses; particularly important for maintaining an ongoing relationship with clinical sites and supervisors, and for mentoring GC students in training at these sites.
- 4) **Postage:** Funds to support program-related correspondence by courier and mail services. (extrapolated from current costs incurred by other programs)
- 5) **Printing/copying:** Funds to support printing costs associated with program management and documentation (extrapolated from current costs incurred by other programs)
- 6) **Copier/scanner rental:** Funds to support copier/scanner rental annually.
- 7) **Accreditation fees:** The Accreditation Council for Genetic Counseling (ACGC; <https://www.gceducation.org/establishing-a-new-program/>) assesses a \$2,500 application fee, a \$4,500 submission fee, and a \$4,500 site visit fee for undertaking accreditation of a new genetic counseling program.
- 8) **Facilities operations:** Funds to support maintenance and repairs exclusive of renovation costs
- 9) **Food/university catering:** Funds to support program-related activities, such as catering costs associated with faculty interviews or seminars.

Student-related Operating Costs – Recurring Expenses

1. **Accreditation process:** Includes training, documentation, tracking, and visits. Training of the program director and other faculty will be essential to ensure faculty are prepared to teach students to meet rigorous examination standards, and in preparation for initial visits by accreditation teams. Familiarity with the standards, with the documentation required, and ongoing tracking of program components will be accomplished by visits to other accredited genetic counseling programs to consult with experienced program directors.

2. *Program Review*: We will host a formal review session for students in the second year of their program of study, prior to when they undertake their national certification exam. We anticipate this directly will enhance student success upon an initial attempt at the exam, particularly for the first several cohorts of students passing through the new curriculum. Feedback from these reviews will inform the Program Director about changes to content delivery needed in subsequent years.
3. *TYPHON*: This comprehensive software platform allows for efficient tracking of student clinical placements, student performance at these placements, and feedback from supervisors about students. This documentation is useful in planning clinical placements and also will provide a source for documentation required by the accreditation process.
4. *Faculty travel to recruit clinical sites/preceptor training*: It will be essential for faculty to establish relations with clinical training sites, to engage regularly with ongoing relations, and to train new preceptors prior to the arrival of students at each site. Preparing preceptors for needs and expectations of students will be a crucial step toward successful clinical experiences. These activities taking place at more remote distances will be conducted virtually when possible, although we anticipate a need for in-person contact during the initial phases of program implementation and when establishing a new clinical site. Ongoing and regular contact with preceptors and clinical site administrators will further the goals of maintaining good relations and enhancing student outcomes.
5. *Accreditation fees*: To be eligible for the certification exam, students must graduate from an accredited Genetic Counseling program. The accreditation process is governed by Accreditation Council for Genetic Counseling (ACGC; <https://www.gceducation.org>).
 - a. The cost of the accreditation process is \$15,000, and the award of accreditation must occur prior to recruiting and enrolling students.
 - b. Once the program is accredited, there will be an annually-recurring fee of \$4,000 for accreditation maintenance.
6. *Simulation costs*: Annually recurring cost (\$5,000) based upon the current cost for use of the ZIEL and NICE simulation teaching environments by the School of Health Professions Clinical Lab Sciences program. This amount will be tracked and examined closely to confirm the accuracy over time. Note that simulation costs are assessed to programs separately, even when multiple programs participate in interprofessional simulation activities (e.g., these are not shared costs).
7. *Recruitment/advertising*: We will support recruiting of new students through visits to campuses and military bases, career fairs, and alumni publications, and we will purchase advertising in nationally visible venues.

B. Revenue: Funding Sources

The costs of starting the new degree program will initially be supported by the University of Kansas Medical Center and by endowment funds from a generous donor. Program costs will be offset by tuition revenue and student fees in the third year of enrolling students.

The tuition rate and student fees will be similar to those of other graduate-level clinical courses now offered in the School of Health Professions. Tuition is \$421.15 per credit hour for residents and course fees are \$56 per credit hour plus a KUMC campus fee of \$422 per semester. The course fee revenue will be managed in a restricted fee (RFF) account set up for this specific purpose and governed by the fiscal accounting policies now employed by other programs offered at KU Medical Center.

C. Projected Surplus/Deficit

Given these sources, the program is expected to have a positive revenue stream in the fourth year of the program (the third year of enrolling students).

XI. References

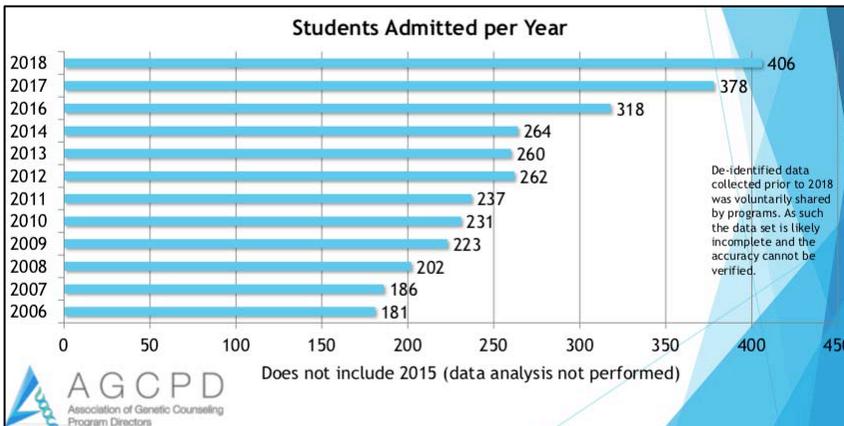
1. [Accreditation Council for Genetic Counseling](#) (ACGC), Accreditation Council for Genetic Counseling, Inc, 7918 Jones Branch Drive, Ste 300, McLean, VA 22102. Telephone: (703) 506 - 7667.
2. Accreditation Council for Genetics Counseling: Program Directory webpage. <http://gceducation.org/Pages/Accredited-Programs.aspx>; accessed July 26, 2019.
3. Hoskovec JM, Bennett RL, Carey ME, DaVanzo JE, Dougherty M, Hahn SE, LeRoy BS, O'Neal S, Richardson JG, Wicklund CA (2018) Projecting the Supply and Demand for Certified Genetic Counselors: a Workforce Study. *J Genet Couns.*, 27(1):16-20. doi: 10.1007/s10897-017-0158-8. Epub 2017 Oct. 20.
4. United States Department of Labor, Bureau of Labor Statistics: Occupational Outlook Handbook – Genetic Counselors. <https://www.bls.gov/ooh/healthcare/genetic-counselors.htm>; accessed July 15, 2019.
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Supplemental information

- U.S. Bureau of Labor Statistics: *Occupational Outlook Handbook*
(<https://www.bls.gov/ooh/healthcare/genetic-counselors.htm>) <updated: 09/04/2019>

Quick Facts: Genetic Counselors	
2018 Median Pay	\$80,370 per year \$38.64 per hour
Typical Entry-Level Education	Master's degree
Work Experience in a Related Occupation	None
On-the-job Training	None
Number of Jobs, 2018	3,000
Job Outlook, 2018-28	27% (Much faster than average)
Employment Change, 2018-28	800

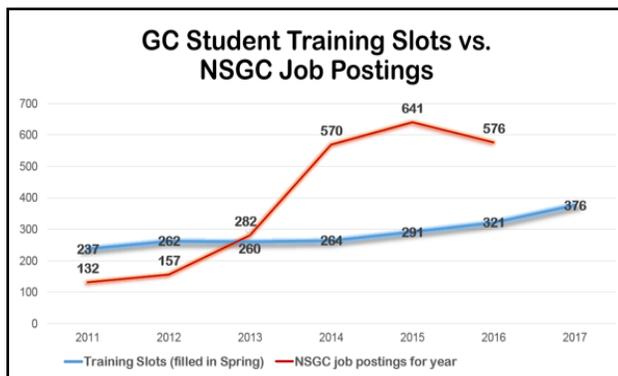
- 2006 - 2018 Genetic Counseling Applicant Pools, Assoc. Genetic Counselor Program Directors 2019 Annual Report (<https://agcpd.org/Member/Default.aspx>)



In 2018:

- 87% of GC students were employed before they graduated
- There were more than 4,600 certified Genetic Counselors now in practice.
- 90% of practicing GCs report being highly satisfied with their career choice

- National Society for Genetic Counselors (@GeneticCounselors)



- Midwestern Genetic Counseling programs (<https://www.gceducation.org/program-directory/>)

