About the Program

The 21-month MSGDA program combines coursework from life sciences and health sciences, practical experience through a summer internship, and hands-on learning in clinical genetics, DNA sequencing, and data analysis to prepare students for careers in human genomics. Upon completion of the program, students will be able to utilize their foundation in genetics and genomics, practical knowledge of data analytics and bioinformatics, and their industry experience to be able to translate patient sequencing data into actionable clinical recommendations or novel precision medicine approaches.

Year 1

In the first year, students gain a solid foundation in human genetics and genomics, medical genetics, bioinformatics, and an introduction to working in the bioscience industry and clinical settings. Students also learn about clinical trial design and data systems used in the bioscience industry and gain hands-on laboratory experience by generating and manipulating next-generation sequencing data.

In the summer, students will gain experience in human genomic data analysis by completing an internship in an industry or clinical laboratory setting.

Year 2

In the second year, students pursue in-depth courses in next-generation sequencing technologies, DNA variant interpretation, and genomic data visualization. Emerging topics in genomics, such as pharmacogenomics and genetic engineering, are covered and prepare students for their capstone industry-sponsored project or research thesis.

For more information, please visit kgi.edu/msgda.
Why Pursue a Degree in Genomic Data Analytics at KGI?

• Join the growing field of genomics and help create effective and appropriate treatments for patients
• Learn to harness the power of Big Data to help patients through personalized precision medicine
• Distinguish yourself on the job market through team project experiences and internships with genetics companies
• Understand how emerging companies (like 23andMe.com and ancestry.com) translate genotype data
• Help people on a large scale by improving clinical results
• Be at the forefront of next-generation sequencing technology
• Experience inter-professional education through collaboration with students from other KGI programs
• Combine your passions to make a broad-scale impact in the world of genetics and genomics

MSGDA Concentrations
We have three concentrations depending on student interest: clinical decision support, clinical trial design, and assay development.

• Clinical decision support
  Designed for those interested in helping clinicians interpret patient data for personalized medicine in careers such as clinical variant curator or genomic data scientist.

• Clinical trial design
  Designed for those interested in contributing to personalized medicine by working at a pharmaceutical or biotech company in the drug development pipeline.

• Assay development
  Designed for those interested in using genomics knowledge to develop new clinical assays or products for the diagnosis of disease.

All three concentrations prepare students for a variety of roles in not just the genomics industry, but also academia, pharmacogenomics, and more.

How to Apply

Dates and Deadlines
Start Terms: Fall
Application Deadline: Rolling

Prerequisites
The following courses are required for admission with a grade of C or better:

• Chemistry
• Biology
• Genetics

Courses in statistics, computer science, biochemistry, and social science are highly recommended.

Visit kgi.edu/msgda for credit hour requirements.

Application Requirements
An online application form is required that contains questions about your personal and educational background. Additional requirements can be submitted along with your online application or separately:

• Official transcript(s)
• Current CV or resume
• Personal statement
• Three letters of recommendation

Admission Interviews
Once reviewed, applicants are selected for an interview by the admissions committee. Those selected will interview with one or more faculty members in the MSGDA program.

Visit kgi.edu/msgda for a list of all requirements.

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