Courses

Do you have DNA test results from AncestryDNA, Family Tree DNA, and/or 23andMe, and are you...

*frustrated with understanding the interpretations?*

*uncertain how to apply the findings in family history research?*

*wanting guidance for insight into your results?*

**Genetics for Genealogy** Workshops are designed to build knowledge of the genetic principles upon which commercial DNA testing platforms are established, while using the platform as a tool for learning and discovery. The goals of the courses are twofold: 1) encourage understanding of the biological basis of DNA test results, and 2) foster proficiency navigating the web interface and interpreting DNA test results. Classes will involve a mix of presentation, demonstration, and guided activities. Class size is limited. Each student will have access to a computer that can be used to work on activities using your own DNA test results.

**Instructor:** Bryant McAllister, PhD

Dr. McAllister is an Associate Professor in the Department of Biology at The University of Iowa. He teaches core undergraduate courses in genetics and evolution subject areas and has particular scientific expertise in the organization of genomes at a chromosomal level. He developed and teaches a seminar course for first-semester undergraduate students titled, *Who are You: Revelations from The Personal Genome*, which explores human genetics through the interpretation of 23andMe results. Dr. McAllister actively uses the tools available in the direct-to-consumer genetic testing marketplace (e.g., 23andMe, AncestryDNA, and Family Tree DNA) to investigate the intersection between biological and historical inferences of family history - a pursuit commonly known as genetic genealogy. The design of these courses addresses common gaps in background knowledge of genetic and evolutionary principles needed to fully utilize results of commercial DNA tests and reflects a commitment to facilitated learning through guided engagement.

### Course Schedule, Fees, Registration

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Want to be notified of future course offerings? Complete this [information form.](#)
### Introductory Course - 2 classes; 3 hours each

#### Getting to Know Your DNA Relatives

**Course Objectives**

- Conceptualize the organization of the human genome and properties that contribute to its variability among individuals
- Build proficiency in the data, methods and interpretation of test results of human ancestry and biological relationships
- Introduce the principles of discovering relationships among individuals
- Interpret individual DNA matches and navigate lists of DNA relatives
- Recognize patterns of autosomal identity produced by fundamental principles of inheritance
- Cluster DNA relatives into family groups having common ancestry

**Course Requirements**

- Interest in using DNA test results in family history research
- Test results from AncestryDNA, 23andMe, or Family Finder test of Family Tree DNA (course is not appropriate for individuals that have tested only the Y chromosome and/or mitochondrial DNA)

### Intermediate Course - 2 classes; 3 hours each

#### Building DNA Families

**Course Objectives**

- Build proficiency in the data, methods and interpretation of test results of biological relationships
- Interpret patterns of autosomal and X chromosome identity produced by fundamental principles of inheritance
- Cluster DNA relatives into family groups having common ancestry
- Organize DNA matches into family groups to support genealogical research
- Evaluate the information provided by shared matching within chromosomal regions (i.e., triangulation)

- DNA Family Worksheet
- Family DNA Summary Excel Spreadsheet

**Course Requirements**

- Interest in using DNA test results in family history research
- While taking the Getting to Know Your DNA Relatives is not required, a good understanding of the fundamentals of DNA testing and the interpretation of reported results is expected
- Test results from 23andMe or Family Finder test of Family Tree DNA (course is not appropriate for individuals that have tested only the Y chromosome and/or mitochondrial DNA)
- Alternative option: AncestryDNA data uploaded to GEDmatch

- AncestryDNA testers
- Procedures to download AncestryDNA data and upload to Family Tree DNA will be covered in the Getting to Know Your DNA Relatives course
- Procedures to upload data to GEDmatch will be covered in the Getting to Know Your DNA Relatives course