A practical introduction to using the Synthetic Derivative and BioVU

All faculty, students, and research staff are welcome to attend the BioVU course as needed. Graduate students who wish to have credit for the course should register, but it is expected that many people will just sit in on the course.

All people who are interested in attending any sessions of this course should complete this short form to be put on an email list for notifications of class topics, dates, and locations as well as for access to the BioVU training set.

The course will be M-Tu-F 12-1 in Light Hall. Two hours per week (usually Monday-Tuesday) will be lecture/discussion and one hour (usually Friday) will be practicum involving hands-on experience with BioVU.

HGEN8391 BioVU Study Design

This is a practical course designed to train you to conduct research using the de-identified version of Vanderbilt's electronic medical record (Synthetic Derivative, SD) and DNA biorepository (BioVU). After completion of this course you will have the skills to independently execute SD/BioVU projects and assist colleagues who wish to utilize the resource. Through a combination of lectures, demonstrations, and hands-on workshops, you will develop competence in all aspects of the BioVU research process, including project design, data extraction and cleaning, and analysis. You will also become familiar with practical aspects of using BioVU, including administrative/regulatory requirements and basic use of bioinformatics tools. Topics covered will include:

- Overview of the clinical data available in the Synthetic Derivative (SD),
- Techniques for defining phenotypes within the SD,
- Working with the BioVU programmers,
- Proper control definition,
- Limitations of BioVU for research,
- Available genetic data,
- Common problems with BioVU study design and how to address them,
- Population stratification,
- IRB approval procedures and other RCR topics,
- The BioVU application process.

This is a practical course aimed at learning how to use the Synthetic Derivative and BioVU for biomedical research. Students will have access to a test set of 1000 BioVU participants, in order to gain practical experience in extracting useful research data from the SD. The goal of the course is to develop your own BioVU proposal. Students taking the course for a grade will receive written feedback on the proposal.

SPRING [3 credit], Monday, Tuesday, Friday, 12-1.

Instructors: David Samuels and Quinn Wells