

Welcome to BIOS 567

Mikhail Dozmorov

Fall 2016

Course logistics

Instructor: Mikhail G. Dozmorov mikhail.dozmorov@vcuhealth.org,
Ph.D.; Jin Liu (TA)

Schedule: Monday, Wednesday 1:00pm – 2:20pm

Classroom: One Capital Square (OCS) 5009

Office hours: Mon, Wed 2:30pm – 4:00pm, OCS 730; TA: Mon, Wed
10:30am - 12:00pm

Course documents: <https://blackboard.vcu.edu>,
<https://mdozmorov.github.io/BIOS567/>

Course prerequisites

Prerequisites: BIOS 524 Biostatistical Computing, BIOS 553 Linear Regression, and BIOS 554 ANOVA

Required text: Sorin Draghici “Statistics and Data Analysis for Microarrays Using R and Bioconductor”, 2nd Ed., Chapman & Hall/CRC Press, 2012. ISBN-978-1-4398-0975-4, Supplemental course materials provided in-class

Software: The R programming environment

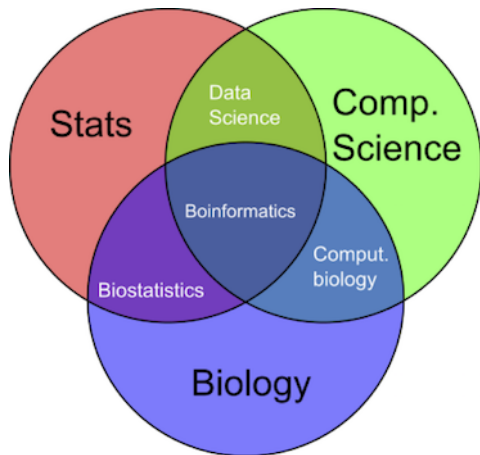
Genomics/Bioinformatics (general)

- Generation, organization, and analysis of biological data (initially genomic data)

Biostatistics

- Class of statistical methods for dealing with large biological data sets
- Goal: statistically identify significant changes in biological processes to answer relevant biological questions.
- High-throughput studies; get data matrix; mine the matrix for information

Bioinformatics



Data Scientist = statistician + programmer + coach + storyteller + artist

- Shlomo Aragon

<https://genomejigsaw.wordpress.com/2015/09/27/faq>

Microarrays

Counts of papers per year in PubMed having microarray word

