

Module description:

The OMICSS NGS module covers the fundamental concepts of NGS required to conduct research in the field of Bioinformatics. Paired with the other modules in the OMICSS course, students will have a solid foundation not only in the field of NGS, but Bioinformatics as a whole.

Module duration:

3 weeks, average 2 hours per week

Module Outline:

Week 1	Topics Covered	<ol style="list-style-type: none"> 1. Basic Unix Commands 2. Sequences and Genomic Features 3. FastQC
	Learning Activities	<ul style="list-style-type: none"> • Online lecture videos • Online exercises
	Estimated duration	3 hours
Week 2	Topics Covered	<ol style="list-style-type: none"> 1. BEDtools 2. Alignment and Sequence Variation 3. Integrated Genomics Viewer
	Learning Activities	<ul style="list-style-type: none"> • Online lecture videos • Online exercises
	Estimated duration	2 hours
Week 3	Topics Covered	<ol style="list-style-type: none"> 1. Variant Calling With GATK
	Learning Activities	<ul style="list-style-type: none"> • Online tutorial
	Estimated duration	45 minutes