Course Offering
Winter 2018
Applied Bioinformatics
BB485/585

Time: MWF 11:00-11:50 am
Location: MF BEXL 416, W BEXL 324
Professor: David Hendrix
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Applied Bioinformatics gives a thorough, hands-on introduction to the problems and methods of the bioinformatics of nucleic acid sequences and proteins. The goal of this course is to teach you the fundamentals of bioinformatics and enable you to understand and employ software and methods used in answering contemporary questions in bioinformatics. The student will gain a working knowledge of the bioinformatics analysis of contemporary techniques such as sequence alignment, BLAST, motif finding, databases, phylogenetic tree construction, GO Terms, ChIP-Seq peak identification, transcriptome profiling by RNA-Seq, and predicting RNA interactions and structure. Students will gain familiarity with BioPython and the GNU/Linux command line interface. Now with supplementary video lectures!

Topics will include:
- BioPython
- Sequence Alignment
- RNA structure and interactions
- Gene Annotations
- Noncoding RNAs
- GNU/Linux command line
- Motif finding
- Databases, gene models, and genomes
- ChIP-Seq
- Transcriptomics

Prerequisite: BI/BB 314 or equivalent

David Hendrix is an Assistant Professor in BB and EECS who has worked on DNA motif finding in enhancers and core promoters, microRNA discovery and the identification of other small RNAs, paused polymerase, and the role of small and long noncoding RNAs in the regulation of chromatin modifications. Questions? Contact David Hendrix at david.hendrix@oregonstate.edu