

BIMM 185 Course Syllabus

Advanced Bioinformatics Lab (4 units)

Professor
Steve Briggs

Course Website: bioinformaticslab.ucsd.edu

Course Summary

This is the last required course in the bioinformatics series. As prerequisites you have already mastered the fundamentals of computer science, molecular biology, and bioinformatics. To prepare you for a professional career BIMM185 challenges you to use your bioinformatics knowledge at the highest level you are capable and to integrate your knowledge with skills in project management and peer review. Whether you pursue a career in academia, industry, or government your success will be determined by your ability to integrate these skill sets.

Required materials: You should have access to a computer and the internet.

Course Requirements

Your grade will be based on your performance as a Project Leader and as a member of a Bioinformatics Management Team. As a Project Leader you will be responsible for conceiving, planning, setting goals, and executing a Bioinformatics Project that requires the creation and application of an original bioinformatics tool. As a member of the Bioinformatics Management Team you will be responsible for providing peer review to your classmates about all aspects of their projects.

Homework: In addition to continuous tool development, on a weekly basis you must post a PowerPoint (.ppt) detailing your progress and anonymous peer reviews for half the class.

Class participation: You will detail your progress in an in-class oral presentation, and provide verbal feedback to your peers.

Grades

Your grade will be the sum of credit for tool development and peer review. Only one class absence will be excused.

Tool development: **75%** of your grade is based on tool development. Your tool will be judged according to originality, technical sophistication, scale of effort, and performance against your goals. Code documentation (ie. commenting) as well as tool documentation (tool use description) is required. Software must run on the BIMM185 server for evaluation. Performance of your tool must be measured against a *benchmark* and assessed by a *beta-tester* in a real-world application; results must be included in the final weeks' progress report.

Peer review: **25%** of the grade is based on the quality of oral and written peer review given by the student. Quality is judged by the magnitude of positive impact that it has.