BIMM 194: Advanced Topics – Biofuels and Bioproducts S. Mayfield FA14

GENERAL INFORMATION

Time and Place: **Thursday 4-5:30 pm, Pacific Hall 3500**
Instructor: **Dr. Stephen Mayfield, 858-822-7743 smayfield@ucsd.edu**
Office Hours: **BONNER 2150C, M 3:00 pm or by appt**

ALL CLASS INFORMATION WILL BE POSTED ON BLACKBOARD

Check Blackboard frequently for announcements, syllabus updates, and grades. Please check Blackboard announcements before emailing the professor to see if your question is already answered there.

CLASS CONTENT

The purpose of this course is to provide students with an interdisciplinary exposure to the new biology-based industry of photosynthetic biofuels and bioproducts. A series of outstanding speakers has been assembled to cover diverse topics related to biofuels and bioproducts.

WHAT IS EXPECTED OF YOU

Because this is a seminar course, in which the material is delivered mainly through lectures, *attendance is mandatory*. Only one unexcused absence is permitted without affecting your grade. Attendance will be taken at each class meeting; you need to sign in BEFORE the lecture starts.

Listen attentively to the speakers and ask questions! This course provides you with exceptional access to leaders in the field of photosynthetic biomanufacturing—use the opportunity to learn as much as you can!

COURSE PROJECT

You will select one figure (one main point) from a slide from one of the first 6 lectures. You must research the information presented in that figure and come up with a modification of the figure based on the information from your research. Perform a literature search to find *three primary publications* (research articles) that contain information supporting the figure or perhaps disputing the figure, and cite them appropriately. A news item from the web and Wikipedia are NOT primary publications (although they often cite primary publications) and are not a suitable article, and a URL is not a citation.

A first draft of this project will be due during week 7 of the course, where you will be required to email the figure you have chosen, your 3 primary references and a short statement (2 or 3 sentences) on whether they agree or disagree with the original figure. I will give you feedback in week 8, and the final project will be submitted during week 10 and will include the modified slide, your 3 references and a written explanation of the modifications.

UCSD POLICY ON INTEGRITY OF SCHOLARSHIP

You are expected to read and abide by the UCSD POLICY ON INTEGRITY OF SCHOLARSHIP. Breach of policy will result in a failing grade.
http://www-senate.ucsd.edu/manual/appendices/app2.htm

GRADING POLICY

For an A: Perfect attendance (one unexcused absence allowed), completion of an initial draft and final project with suitable citations, an “A” on the final exam and submission of a completed course survey at the final class, A-, B+, B, C, D, or F grades will be assigned for performance below that which is expected for an A, depending on the performance level.

SCHEDULE

Date	Topic	Speaker
October 2	**Introduction to Energy/Food/Bio-Products**	**Stephen Mayfield Molecular Biology, UCSD**
October 9	**Cyanobacteria as a platform for Biofuels and Bio-Products**	**James Golden Molecular Biology, UCSD**
October 16	**Metabolic Engineering of Green Algae**	**Michael Burkart Chemistry & Biochemistry, UCSD**
October 23	**Algae as Producers of Bio-Products**	**Stephen Mayfield Molecular Biology, UCSD**
October 30	**Aquatic Ecology of Algal Biofuels**	**Jonathan Shurin Ecology, UCSD**
November 6	**Engineering of Higher Plants for Improved Biomass**	**David Songstad Cibus Corporation**
November 13 (draft project due)	**High Value Products from Green Algae**	**Miler Tran and Beth Rasala - Triton Health and Nutrition and Verdant Therapeutics**
November 20	**Jatropha Biofuels Commercialization**	**Bob Schmidt SG Biofuels**
November 27	**Thanksgiving**	
December 4	**Commercial aspect of algae biofuels**	**Chris Yohn Sapphire Energy**
December 11	**TBD**	**TBD**
December 13	**Final Exam – Web based exam**	**Stephen Mayfield**