Syllabus for CH 6800, Chemistry of Biocomposites

Fall 2011 (1 Credit)

Pre-Requisites: Polymer Chemistry (CH/CM 4620) and a strong organic chemistry background are required
Book: The primary resources will be handouts and journal articles.
Class Meetings: These will be by arrangement and will consist of discussions and questioning about reading assignments and homework assignments.

Course Objective: The objectives of this course are to introduce the student to the issues and complexities of dealing with biomaterials, and address specific issues and methods used to chemically modify and/or blend biobased materials to obtain useful properties, and introduce the topic of biobased fillers in biocomposites. Additional objectives are for the student to become accomplished at reading, comprehending, and critiquing professional literature, and to be able to compile information from different sources and write a review of a topic. At the end of this course a successful student should have knowledge of the chemical modifications, blending, characterization, uses, and environmental implications of using biobased resources in place of petroleum resources for materials. Specific readings will focus mostly on soy based materials, but other materials may also be discussed. This is a new course still being developed so student feedback and input for improvements are welcome at anytime.

Instructor: Dr. Patricia Heiden (paheiden@mtu.edu)
Office: Chem Sci 415, Ph. 7-3452
Office Hours: By Appointment or Walk-in (Usually unavailable on Thursdays)
Meeting Times and Location: TBA. Total over the semester will be 14 hours.

Grading
Quizzes and homework. 25%
Written and verbal critiquing and discussions of reading 25%
Written review of no fewer than 8 papers on an approved topic: The written review must assess the papers quality, strengths and weaknesses. The papers must be related so you can compare them. You should complete this review summing up this area and then assess where future research should be directed. Finally, suggest your own improvement for this future area, for example such as a new synthetic route to achieve desired properties. This is due in the 13th Week of class. 30%
Week 14: Do a 0.5h powerpoint presentation on this topic in Group Meeting. 20%
Letter Grades will be awarded as follows:

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<th>Grade</th>
<th>Range</th>
<th>GPA</th>
<th>Description</th>
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<tbody>
<tr>
<td>A</td>
<td>92-100%</td>
<td>4.00</td>
<td>Excellent</td>
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<tr>
<td>AB</td>
<td>85-89%</td>
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<tr>
<td>B</td>
<td>80-84%</td>
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<td>BC</td>
<td>75-79%</td>
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<td>C</td>
<td>70-74%</td>
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<td>CD</td>
<td>65-69%</td>
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<td>F</td>
<td>&lt; 55%</td>
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Rules for Assignments, Quizzes, and Exams

Use word processing for all assignments and Take Home Quizzes. However I will deduct for illegibility. Handwritten reaction schemes and chemical drawings are permitted, but they must be neat. All chemical structures must be neat and correct, and all chemical equations must balance mass, charge, etc.

Unless specifically stated otherwise you are welcome to discuss any and all assignments and take home quizzes with others, though you must turn in your own work. In class quizzes are individual work unless otherwise stated, and both exams are to be your individual work.
Collaboration/Plagiarism Rules
Cell phones, Blackberries, iPods, PDAs, or any other electronic devices are not to be used in the classroom. Information exchanges on these devices during class are prohibited and violate the Academic Integrity Code of Michigan Tech. Rules

University Policies
Academic regulations and procedures are governed by University policy. Academic dishonesty cases will be handled in accordance the University’s policies. If you have a disability that could affect your performance in this class or that requires an accommodation under the Americans with Disabilities Act, please see me as soon as possible so that we can make appropriate arrangements. The Affirmative Action Office has asked that you be made aware of the following:

Michigan Tech complies with all federal and state laws and regulations regarding discrimination, including the Americans with Disabilities Act of 1990. If you have a disability and need a reasonable accommodation for equal access to education or services at Michigan Tech, please call the Dean of Students Office, at 487-2212. For other concerns about discrimination, you may contact your advisor, department head or the Affirmative Action Office, at 487-3310

Academic Integrity:
http://www.studentaffairs.mtu.edu/dean/judicial/policies/academic_integrity.html

Affirmative Action:
http://www.admin.mtu.edu/aaq/

Disability Services:
http://www.admin.mtu.edu/urel/studenthandbook/student_services.html#disability

Equal Opportunity Statement: