Chemistry 490 – Chemistry and Biochemistry Seminar

Class Time and Location: 12:15-1:15 pm, SSMB 129

Instructor: Dr. Marcello Forconi
Office Hours: T 11-12; W 2-3 pm; F 10-11 am and by appointment.

Course Catalog Description: A weekly seminar to prepare students for careers in chemistry and biochemistry and to present recent advances in the field. One hour per week. May be repeated once for credit.

Pre-requisites: Junior or Senior standing

Student Learning Outcomes:
- To summarize current research trends in chemistry and biochemistry
- To articulate experimental strategies being used to address questions important to the discipline of chemistry

Instructional Objectives:
- Read, extract information, and discuss scientific papers
- Attend seminars given by research and industrial chemists from a variety of chemistry sub-disciplines
- Participate in class discussions and give an oral presentation about a scientific paper

Attendance Policy: This seminar course is an experiential learning course. Thus, attendance is mandatory. Each unexcused absence will result in a 1.5% deduction of your final grade. Tardiness to seminar, or leaving early, will result in a 50% deduction in that week’s attendance/participation grade. Students should avoid making appointments during the scheduled seminar class time. Non-emergency physician and dental appointments will not be excused.

WA Policy: This seminar course is an experiential learning course. Thus, attendance is mandatory. In all cases, if a student misses 3 classes whether these absences are excused or unexcused, that student will receive a WA for a final grade.

Disability Services: If you are a student with a documented disability registered with the SNAP office and will require accommodations in this course, please provide the proper documentation in the form of a Professor Notification Letter (PNL) during the first week of class.

Class policies: The following rules will be enforced rigorously.
- Fill the seats from the third row back. Do not sit in the last five rows of the lecture room.
- Turn off all cell phones before entering the lecture room.
- No headphones/earbuds are allowed during the seminar.
- Texting is not allowed during seminar.
- Food and drink are allowed in SSMB 129 as long as the room is clean when we leave it.
- Do not have individual conversations during the seminar.

Faculty members have been advised to report any violations of these policies.

College of Charleston Honor Code and Academic Integrity: Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when identified, are investigated. Each incident will be examined to determine the degree of deception involved.

Incidents where the instructor determines the student’s actions are related more to a misunderstanding will be handled by the instructor. A written intervention designed to help prevent the student from repeating the error will be given to the student. The intervention, submitted by form and signed both by the instructor and the student, will be forwarded to the Dean of Students and placed in the student’s file.
Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found responsible by the Honor Board for academic dishonesty will receive a XXF in the course, indicating failure of the course due to academic dishonesty. This grade will appear on the student’s transcript for two years after which the student may petition for the XX to be expunged. The F is permanent. The student may also be placed on disciplinary probation, suspended (temporary removal) or expelled (permanent removal) from the College by the Honor Board.

Students should be aware that unauthorized collaboration--working together without permission-- is a form of cheating. Unless the instructor specifies that students can work together on an assignment, quiz and/or test, no collaboration during the completion of the assignment is permitted. Other forms of cheating include possessing or using an unauthorized study aid (which could include accessing information via a cell phone or computer), copying from others’ exams, fabricating data, and giving unauthorized assistance. Research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class without obtaining prior permission from the instructor.

Students can find the complete Honor Code and all related processes in the Student Handbook at: http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php.

Grading Scheme:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Grade Percentage</th>
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</thead>
<tbody>
<tr>
<td>Seminar Summaries</td>
<td>30%</td>
</tr>
<tr>
<td>Scientific Paper Assignments</td>
<td>30%</td>
</tr>
<tr>
<td>Oral Presentation of assigned paper</td>
<td>15%</td>
</tr>
<tr>
<td>Attendance and Class Participation</td>
<td>25%</td>
</tr>
</tbody>
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Assignments: Half of our class time will involve attending seminars given by a variety researchers. Assignments will include writing summaries of these seminars as well as reading and discussing papers suggested by the speakers, participating in class discussions, and completing written and oral assignments related to these papers. Students will give one 5-10 minute oral presentation of an assigned article during the semester (see below).

Oral Presentation: we will not have time to have actual oral presentations in the class. You will have to prepare your presentation using a software such as Screencast-O-Matic and upload it on OAKS. Your presentation should last a maximum of 10 minutes. Students are required to watch all the presentations. Screencast-O-Matic screen recorder can be accessed using this link https://screencast-o-matic.com/screen_recorder. Tutorials are here http://help.screencast-o-matic.com/. Due dates for the presentations will be announced in class.

Letter Grades and Percentage Ranges

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>XXF</th>
<th>F</th>
<th>D-</th>
<th>D+</th>
<th>D</th>
<th>C-</th>
<th>C</th>
<th>C+</th>
<th>B-</th>
<th>B</th>
<th>B+</th>
<th>A-</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerical grade</td>
<td>Failure due to dishonesty</td>
<td>Below 60</td>
<td>60-62</td>
<td>63-66</td>
<td>67-72</td>
<td>70-76</td>
<td>73-79</td>
<td>77-82</td>
<td>80-86</td>
<td>83-89</td>
<td>87-92</td>
<td>90-92</td>
<td>92-100</td>
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# LIST OF CLASSES

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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</thead>
<tbody>
<tr>
<td>8/24</td>
<td>Discussion</td>
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</table>
| 8/31   | Matthew Knowe & Thomas Struble Johnston Lab, Department of Chemistry, Vanderbilt University  
“Desymmetriyation of a carboxylic acid by chiral Brønsted base activation”  
“Mechanistic Insights of the Bisamidine Catalyzed Stereodivergent Synthesis of α-Substituted α,β-Diamino Acids Unveiled by DFT Calculations” |
| 9/7    | Discussion                                                           |
| 9/14   | Douglas Masterson Department of Chemistry and Biochemistry, University of Southern Mississippi  
“Utilizing Pig Liver Esterase to Prepare Novel Amino Acids” |
| 9/21   | Discussion                                                           |
| 9/28   | Daniel Kraut College of Liberal Arts and Sciences, Villanova University  
“Control of Proteasomal Processivity by Substrate Ubiquitination” |
| 10/5   | Jennifer Fox Department of Chemistry and Biochemistry, College of Charleston  
“Discovering the Biological Roles of Proteins” |
| 10/12  | Discussion                                                           |
| 10/19  | Steven Benner Foundation for Applied Molecular Evolution  
“Redesigning DNA - Artificial Darwinian Systems” |
| 10/26  | Michael Harris Department of Chemistry, University of Florida  
TBA |
| 11/2   | Discussion                                                           |
| 11/9   | SERMACS, no class                                                  |
| 11/16  | Heather Abbott-Lyon Department of Chemistry and Biochemistry, Kennesaw State University  
“The Role of Reduced Phosphorus Minerals in Prebiotic Chemistry” |
| 11/23  | Thanksgiving, no class                                              |
| 11/30  | Dan Biggerstaff O2si Smart Solutions  
TBA |