I. COURSE NUMBER AND TITLE:

Marine Chemistry (Online - Blackboard)
Course Number: OCOR 5605 (DE 1) CRN – 31204
Semester: Summer 2015.
Dates: May 11 to July 31, 2015.

II. INSTRUCTOR:

Valentina Caccia, Ph.D.
Email: vcaccia@nova.edu
Office Hours: By appointment & Check blackboard: Tuesdays & Fridays.

III. COURSE DESCRIPTION:

A study of the properties, composition and origin of seawater; the chemical processes in the oceans; the importance, distribution, relationships, and cycling of the major inorganic nutrients, trace metals, dissolved oxygen, salinity, temperature, density, pH, carbonate parameters and climate change.

IV. LEARNING OUTCOMES:

At the conclusion of this course the student will be able to:

1) Explain the concepts of salinity and composition of the major seawater ions.
2) Describe the distribution of salinity, temperature and density in the oceans.
3) Compare and contrast the physical properties of seawater and freshwater.
4) Describe the distribution of dissolved oxygen in the oceans, seasonal variations, physical and biological processes affecting oxygen concentrations and its importance for marine life.
5) Demonstrate an understanding of the importance, major forms, distribution, measurement and cycling of inorganic forms of phosphate, nitrogen and silicate (nutrients) and trace elements in the oceans.
6) Explain the carbonate system, pH distribution in the oceans and the concept of ocean acidification as well as its implications in marine life.
7) Correctly determine the pH of seawater and interpret the meaning of pH fluctuations in biological or ecological terms.
8) Explain the distribution of nutrients in the oceans & describe the importance to measure water quality parameters in coastal areas
9) List the chemical methods and oceanographic instrumentation used to analyze chemical parameters in seawater.
V. REQUIRED TEXTBOOK:

ISBN: 9781466512498

VI. COURSE SCHEDULE AND TOPIC OUTLINE (there will be more assignments than listed, such as discussion boards (DB) and short presentation for W-8 Ocean Acidification).

<table>
<thead>
<tr>
<th>WEEK</th>
<th>TOPICS</th>
<th>CHAPTER READING</th>
<th>ASSIGNMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>W-1</td>
<td>Introduction</td>
<td></td>
<td>Participate in the discussion board DB</td>
</tr>
<tr>
<td>W-2</td>
<td>Chemical Composition &amp; Major Components of Seawater</td>
<td>Chapter 2 (partial)</td>
<td>Study PPT and complete HW (3 points)</td>
</tr>
<tr>
<td>W-3</td>
<td>Salinity, Temperature &amp; Density</td>
<td>Chapter 1 &amp; 2 (partial), plus additional material</td>
<td>Study PPT and complete HW (5 points)</td>
</tr>
<tr>
<td>W-4</td>
<td>Minor Elements in Seawater (Trace Metals)</td>
<td>Chapter 3 (partial) &amp; additional material</td>
<td>Study PPT and participate in DB (4 points)</td>
</tr>
<tr>
<td>W-5</td>
<td>Dissolved Oxygen in Seawater</td>
<td>Chapter 6 (partial) &amp; additional material</td>
<td>Study PPT and complete HW (4 points)</td>
</tr>
<tr>
<td>W-6 &amp; 8</td>
<td>Midterm Exam</td>
<td>Chapter 1, 2, 3 &amp; 6. All additional material</td>
<td>Study, learn &amp; obtain a good grade (35 points)</td>
</tr>
<tr>
<td>W-7</td>
<td>The Carbonate System</td>
<td>Chapter 7 &amp; additional material</td>
<td>Study PPT and participate in DB (4 points)</td>
</tr>
<tr>
<td>W-9</td>
<td>pH &amp; Ocean Acidification</td>
<td>Chapter 7 &amp; additional material</td>
<td>Study PPT and participate in DB (4 points)</td>
</tr>
<tr>
<td>W-10</td>
<td>Nutrients in the oceans</td>
<td>Chapter 8 &amp; additional material</td>
<td>Study PPT and complete HW</td>
</tr>
<tr>
<td>W-11</td>
<td>Nutrients &amp; Water Quality</td>
<td>Chapter 8 &amp; additional material</td>
<td>Study PPT and complete HW (4 points)</td>
</tr>
<tr>
<td>W-12</td>
<td>Final Exam (Proctored, submit form 2W before)</td>
<td>Chapter 7 &amp; 8. All additional material</td>
<td>Study, learn &amp; obtain a good grade (35 points)</td>
</tr>
</tbody>
</table>
This online course will use **Blackboard** as a platform of teaching, learning and interacting with classmate and professor. Make sure to get familiar with this software. **This course is organized by week (Monday to Sunday-11:59pm),** you should study and complete assignments every week to have a successful outcome. **Course material will be posted online in My Course Content every week:** PDFs lectures (Weekly Presentation) and additional reading material can be downloaded. You are expected to complete any assignments such as: homework and participate in topics discussion on time. Contributing to group and class discussion will enrich this class and yourself. You are expected to show respect for your classmates and professor all time, and to assist in the establishment and maintenance of a positive learning environment.

For successful learning you need to devote at least 3 hours every week to read materials plus few hours to complete homework, this is a 3 credit course.

Feel free to communicate with me by using **Course e-mails** (blackboard navigation bar - left side). I will be checking it twice per week, on Tuesdays and Fridays. If you need special assistance we can also arrange an online meeting, chat or telephone call.

**COURSE TIPS:**

- Inform me **early** and **often** when you have questions.
- Check your email and the course discussion boards **regularly**.
- **Emails** to the instructor must include a **subject line** that begins with the course number and your name.
- **Submit** the **proctor approval** form at **least two weeks** before the exam date.

**BLACKBOARD:**

Regular online participation via the **Blackboard** course interface is **required**. Official course announcements, lecture materials, assignments, and help archives will all be on-line at this site. Be sure to resolve any software difficulties no later than the first week of classes. Questions regarding Blackboard itself should be directed to Computing Help Line desk at (954)-262-4357 (http://www.nova.edu/help/blackboard/index.html)

**COPYRIGHT:**

All materials in this course are copyrighted. They are intended for use only by students registered and enrolled in this course and only for instructional activities associated with and for the duration of the course. **They should not be retained in another medium or disseminated further.** They are provided in compliance with the provisions of the Teach Act.
VIII. GRADING CRITERIA AND POLICIES:

Grades will be calculated according to the following:

1. Midterm Exam: 35% (35 points)
2. Final Exam: 35% (35 points)
3. Weekly Assignments: Homework and Discussion boards: 30% (30 points)

Percentage          Grade
90-100%            A
80-89%             B
70-79%             C
60-69%             D
<60%               F

Assignments should be submitted every week by the due date (Sunday by 11:59pm) to receive full credit. Late assignments will be assessed, but reduce at 10% penalty per day. Assignments later than one week will not be graded. Plagiarism and overuse of “Google” will be penalized. It is expected that students will conduct themselves in an academically honest and ethical manner. Those caught copying & plagiarizing will receive a ZERO on the appropriate assessment.

* With regard to exams, no make-ups will be given without written justification and notification prior to the time of the exam.

Students need to submit the proctor approval form at least two weeks before the exam date.

Exam Makeup:
An exam missed without an acceptable excuse will be recorded as a grade of zero (0). The following are the only acceptable excuses:

- If submitted prior to the day of the scheduled exam:
  - A written and signed explanation as to why the exam will be missed. Illness or required professional travel are acceptable, while discretionary or personal travel are not. In any case the explanation should be accompanied by corroborating documentation, including names and contact information, and the explanation must be accepted by the instructor prior to missing the exam.
  - Evidence from a university official that you will miss the exam due to university sanctioned travel or extracurricular activity.
• If submitted on or after the day of the scheduled exam:
  o A note from a physician, university dean, spouse, parent, or yourself indicating an illness or other extraordinary circumstance that prevented you from taking the exam, and that could not have been planned for in advance. Again, corroborating information should be supplied.

All excuses must be submitted in writing, must be signed by the excusing authority, and must include complete contact information for the authority, including telephone numbers and address. **Missed exams with acceptable excuses will be the option of the course instructor.**

**Syllabus change policy:**
Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and **is subject to change with advance notice.**

**IX: UNIVERSITY-WIDE POLICY STATEMENTS**

**A. Academic Misconduct:** Academic misconduct appears in a variety of forms (including plagiarism). It is a violation of NSU academic policy and may be punished in a variety of ways, from failing the assignment and/or the entire course to academic probation, suspension or expulsion. If you have questions about what constitutes academic misconduct before handing in an assignment, see your instructor or the NSU Student Handbook at [http://www.nova.edu/cwis/studentaffairs/forms/ustudenthandbook.pdf](http://www.nova.edu/cwis/studentaffairs/forms/ustudenthandbook.pdf).

**B. ADA Policy:** Nova Southeastern University provides accommodations for students with documented disabilities. If you have a disability for which you believe you require accommodation, please contact Academic Services ([http://www.nova.edu/disabilityservices/](http://www.nova.edu/disabilityservices/), 954-262-7189).

**C. Last Day to Withdraw:** It is your responsibility to formally withdraw from this course by completing the appropriate forms before the fourth week of the quarter in order to receive a partial refund ([http://www.nova.edu/ocean/coursepolicy.html](http://www.nova.edu/ocean/coursepolicy.html)). A request for tuition refund must be made in writing at the time of withdrawal. Refunds will be made solely at the option of the university and will be based on the legitimacy of the reason for withdrawal. Should you fail to appropriately withdraw from this course, and then earn a grade below your expectations, I will do what I can to see that the grade is reported on your transcript. I will **NOT** backdate paperwork so that you can avoid earning a grade lower than you like.

**D. Email Policy:** All email communications between students and faculty must be conducted via NSU email accounts ([http://www.nova.edu/common-lib/policies/emailcomm.policy.html](http://www.nova.edu/common-lib/policies/emailcomm.policy.html)). This requirement will assist NSU in
communicating more effectively and protecting your privacy. Emails sent to faculty from non-NSU accounts will be returned to the sender with instructions to resend the communication from your NSU account. To set up an NSU email account or to get help with an existing account, go to https://www.nova.edu/sbin/account_request. Also, the computer help desk is available to assist you with questions regarding your NSU email account. It can be reached at 954-262-HELP (4357).

E. Student Course Evaluations: Student comment and feedback evaluating each college class is an important tool to evaluate program effectiveness. Participation in this process is a responsibility of each student.