Oceanography Lab Syllabus Spring 2018 Mira Costa College

OCEA 101L - INTRODUCTORY OCEANOGRAPHY (LABORATORY) – CRN 1114 – Tuesday Lab
3 Laboratory Hours; 1 Unit; Letter Grade; Student may petition for Credit/No Credit

PREREQUISITES: Previous completion or current enrollment in the parent course OCEA101
January 23 to May 22 – Tuesdays 1:30 to 4:20 pm – Room OC4529

INSTRUCTOR: Ray Rector

CONTACT: phone# -760-942-9201, e-mail – **oceanprof@seascisurf.com**

OFFICE HOURS: Tuesdays and Thursdays 5:50 pm to 6:35 pm; Room OC4529; or by appointment

REQUIRED LABORATORY TEXT: Introduction to Oceanography Laboratory Worksheets
By Keith Meldahl, Ray Rector, Patty Anderson, John Turbeville, Cari Gomes, and Chris Metzler
Can only be bought at the MC College Bookstore

CLASSROOM RESOURCE WEBSITE: **www.seascisurf.com/** Click the **MiraCosta Ocea101 Tu Lab** link

COURSE DESCRIPTION: This course is designed to accompany the Oceanography 101 lecture course. It offers hands-on experience with oceanographic materials and techniques in both the laboratory and field. Topics include reading navigational charts and topographic maps, interpreting sea floor features, analysis of seawater chemistry, and study of waves and tides using the Internet. On field trips, students will study waves, currents, and coastal processes, and examine organisms in coastal marine habitats and at an aquarium. Students will also participate in a half-day oceanographic floating lab voyage.

STUDENT LEARNING OUTCOMES: Students will be able to:

1. Use and interpret information on nautical maps and charts, including contour lines, map scales, latitude and longitude, identification of seabed features, bathymetric profiles, and application of navigational skills to nautical problems.
2. Analyze seawater samples for salinity and oxygen content, and interpret the results using oceanographic concepts.
3. Evaluate the dynamics of waves, tides and ocean currents, and interpret the results using oceanographic concepts.
4. Evaluate biological data from tide pool and nearshore marine communities, and apply oceanographic concepts to data.
5. Interpret oceanographic observations made in the field, including analysis of coastal bluff erosion, measurement and analysis of ocean waves, assessment of factors controlling beach size, and analysis of data collected during a half-day ocean expedition.

CLASS ENROLLMENT NOTES: It is the student's responsibility to add, drop, or withdraw from classes before the deadlines stated in the class schedule. Petitions to add, drop, or withdraw after the deadline will not be approved without written proof of circumstances beyond the student's control, which made her/him unable to meet the deadline. Lack of money to pay fees is not considered an extenuating circumstance. Students anticipating difficultly in paying fees before the deadline should check with the Financial Aid Office about sources of funds or other alternatives for which they may be eligible. If you decide to withdraw from this course, you are reminded to do so before the following deadlines: February 2 is the last day to withdraw with a refund and with no grade (no "W") placed on permanent record.), or April 26 (last day to withdraw with a "W" on your transcript). If you stop coming to class, and fail to withdraw by the 4/26 deadline, then a final grade must be assigned to you. The last day to change from a letter grade to pass/no pass is the February 23. **IMPORTANT NOTE:** If you drop or get dropped from your OCEA101 lecture section, then you will be automatically dropped from this ocean lab course too.

ACCOMMODATION OF DISABILITY: A student with a verified disability may be entitled to appropriate academic accommodations, including the assistance of a note-taker in the classroom, and/or extended time for taking exams. Students with disabilities who may need academic accommodations should notify their professor immediately. Please contact the Disabled Students Program and Services (DSPS) Office for further information.

INSTRUCTOR'S ATTENDANCE POLICY: Attendance is critical to successfully completing this course. Attendance is taken every class meeting by means of a sign-up sheet that will be passed around at the beginning of each class. You are required to attend the entire scheduled lab meeting, unless I excuse you early. It is your responsibility to 1) show up on time, 2) sign in, and 3) attend the entire scheduled lab

meeting, in order to receive credit for that class meeting. It will be up to you for staying up with lab assignments and exams. Make sure and consult the schedule, lab manual, class notes, classroom website, and fellow classmates about the material that was missed during absences. There is no make-up or rescheduling of either labs or lab exams. I realize that situations can arise that are beyond your control, which could interfere with attending this class. You are allowed to miss or drop one lab exercise during the semester without penalty.

TARDINESS and TURNING IN COMPLETED LAB WORK: Being late to a class once or twice is understandable; however, it should not become a habit. Constant tardiness will not be tolerated. Students will be given a warning and if he or she continues to be tardy, then each additional tardy (past the initial first two) will be counted as half an absence. If you do arrive to class late, then please use the interior entry door to enter the classroom. Pre-lab assignment work must be completely ready for instructor sign-off at the very beginning of the scheduled lab time. Late pre-lab work will not be accepted for grade points. Completed in-lab worksheets must be turned in at the end of the lab on that same lab day, prior to leaving the classroom, except if told otherwise by the instructor. Late lab work will not be accepted – no exceptions.

CLASSROOM AND FIELDTRIP BEHAVIOR AND STUDENT CODE OF CONDUCT: Students are expected to respect and obey standards of student conduct while in class and on campus. Charges of misconduct and disciplinary sanctions may be imposed upon students who violate these standards of conduct or provisions of college regulations. As your instructor, I have the following expectations of your behavior in this class:

1) Follow all lab safety practices listed on page 4 of this syllabus
2) Promote a positive learning environment by exhibiting mutual respect and consideration of the feelings, ideas, and contributions of others.
3) Demonstrate a genuine desire to learn, interact, and improve academically.
4) Demonstrate respect for furniture, tools, equipment, and supplies in the classroom.
5) Clean up after yourself.
6) No eating or drinking in the laboratory classroom – water is OK.
7) All cell phones, pagers, and audio players must remain turned off, or in silent mode.
8) This class will be conducted in accordance with the college code of student conduct and basic standards of academic honesty. Cheating, plagiarism, or other forms of academic dishonesty are totally unacceptable and will not be tolerated. Violations of standards of academic honesty will be reported to the school dean for appropriate action. See the full version of the instructor's plagiarism policy at the **www.seascisurf.com/** site under the **MiraCosta OCEA 101L Tu Lab** link.

GRADING/EVALUATION:

I. **LABS:** Fifteen (15) laboratory write-ups @ 30 points each
II. **EXAMS:** Mid-term exam – 150 points; Final exam – 150 points
III. Late pre-lab assignments are not accepted.
IV. Late lab assignments are not accepted.
V. There are no make-ups for missed lab assignments.
VI. There are no make-ups for missed lab exams.
VII. One lab assignment score is dropped (either a missed lab or your lowest scored lab).
VIII. Total possible points = 720
IX. Extra credit is offered (up to 30 points). Limited to instructor's 3 weekend beach fieldtrips.
X. **Grading Scale:** Final course grade is based purely on points earned percentage:

100% – 90% = A
89% -- 80% = B
79% -- 70% = C
69% -- 55% = D
< 55% = F

LAB MATERIALS: The following are required lab supplies (by second class meeting) that you will need for all labs during the semester: oceanography lab worksheet packet and prelab worksheets (printed off from college website), 3-ring binder notebook, stapler, #2 pencils with erasers, calculator, and a clipboard (recommended) for field trips. Please, use a pencil for filling out lab all worksheets!

LAB PROCEDURES:

I. BEFORE THE LAB: You must be prepared and appropriately dressed for the labs.

1) LAB WORKSHEET PACKET: You need an ocean lab worksheet for each lab that you attend. Print a hardcopy of the week's laboratory worksheet from the ocean lab worksheet packet found on the college website below. Read (several times) the lab exercise in the lab worksheet. NOTE: Make sure to check the course schedule to know which worksheet that you need to print out for that week. You can always bring the entire lab worksheet packet with you to lab if you are not sure. The necessary website link for printing out a hardcopy of the pdf file of the lab packet/worksheet is:

https://www.miracosta.edu/home/kmeldahl/labpacket/

2) PRELAB WORKSHEETS: You are responsible for completing all Pre-lab exercises (if applicable) before you come to class. Pre-labs are checked (singed off by me) at the beginning of the lab meeting. Late pre-labs are not accepted. You must access the Internet to download/print-out the pre-lab worksheet (pdf file) and information needed to complete the pre-lab worksheet. NOTE: Make sure to check the course schedule to know which prelab worksheet that you need to print out and complete prior to the beginning of that week's lab. The necessary website link is:

http://www.miracosta.edu/home/kmeldahl/prelabs/

3) Be appropriately dressed for the lab you are about to complete.
4) You will not be allowed to participate in the Tidepools or Chemistry labs without closed-toed shoes. I strongly encourage you to wear closed-toed shoes to the rest of the labs as well.
5) You are responsible for knowing the date, time, and location for all fieldtrip meetings: Check the lab schedule prior to each lab. – Know the directions on how to get there way ahead of time.

II. DURING THE LAB:

1) Be prepared by reading the lab worksheet and having mandatory pre-lab completed before we start.
2) A brief lab lecture by the instructor to explain the lab activities to complete.
3) Do not disrupt other lab groups by excessive off-topic talking, socializing, etc.
4) You must work with lab partners in groups of 3 or 4 (not any larger groups, please).
5) You must have your own lab notebook, no sharing.
6) You may not split labs among lab partners and recombine the parts later. In other words, you must complete the entire lab individually as a group.
7) Please turn off your cell phone unless you are expecting an emergency.

III. AT THE END OF THE LAB: Once you have completed ALL the lab exercises, turn in your completed worksheet before leaving, all pages properly COLLATED and STAPLED together. Points will be deducted for being disruptive, coming to lab late, not being prepared, or for incomplete and/or unsatisfactory work. **Important Note**: Use a three 3-ring binder notebook to compile and save all your laboratory coursework throughout the semester. You will be allowed to access your compiled lab work during exams.

MANDATORY FIELD TRIP PROCEDURES AND FEES: For the mandatory field trips, we will meet in the field at a designated time instead of meeting in class. Consult the syllabus and lab manual for locations and meeting times. School policy prohibits firearms, illegal drugs, alcohol, or intoxication on any field trip or in class. Only one mandatory fieldtrips require students to pay a special fee: the Birch Aquarium.

Field Trip Cancellation Policy: If the weather looks REALLY threatening (like pouring rain) on a day that a lab fieldtrip is scheduled, I will make a determination at least 2 hours before the lab time to cancel the trip. I will, at that time, email everyone to notify students of the cancellation, and post a cancellation message on the classroom web page

VOLUNTARY WEEKEND FIELD TRIPS: Three weekend field trips are planned for the lab this semester. Field trips earn extra credit and are totally voluntary!

1) Weekend field trip: Saturday February 10 – Torrey Pines Beach, 10:00 am

2) Weekend field trip: Sunday March 4 – Blacks Beach, 10:00 am

3) Weekend field trip: Saturday April 14 – Moonlight Beach, 2:00 pm

Note: Check the professor's classroom web page for weekend fieldtrip details

- Each fieldtrip is worth up to 10 points. Earn up to 30 extra points for extra credit work.
- Earn extra-extra credit for either surfing/swimming in ocean or picking up trash on beach for 1 hour prior to fieldtrip start time.

CLASSROOM WEBSITE RESOURCE: The instructor has set up a personal website as an academic resource for his oceanography students. This site is located at **http://www.seascisurf.com/**. Clicking on **MiraCosta OCEA 101L Tu Lab** link will give you direct access to a wide variety of classroom information and ocean resources.

Safety Practices for Ocean Science Laboratory

The science laboratory is a fun place to work and study. But there are safety and courtesy guidelines that you must follow to make everyone's laboratory experience both enjoyable and safe.

1. Follow all written and verbal instructions carefully. When the professor is explaining laboratory concepts and procedures, pay attention and desist from distracting behaviors. You must give laboratory procedures your full interest, attention, and effort.
2. Whether or in the lab room or on field trips, students must conduct themselves in an appropriate and responsible manner. Running, shouting, and horsing around are not acceptable.
3. Prepare for the laboratory activity each week by checking your syllabus for the activity, time, and location, and (if applicable), completing the **pre-lab exercise** that is due.
4. Place books, backpacks, and other bulky items in out-of-the-way areas of the lab room. Do not block floors, aisles, and walkways with these objects.
5. Appropriate clothing must be worn for laboratory activities. Long necklaces, bulky jewelry, or excessively baggy clothing are discouraged in the lab room. Long hair must be tied back anytime glassware or chemicals are present. Close-toed shoes are recommended for all lab activities, and absolutely required for some (see syllabus).
6. No food or drink in the lab allowed in lab at any time. Water is OK.
7. Keep track of which lab days involve field trips, check the weather that day, and come dressed with appropriate clothing and footwear. In the event of a possible weather cancellation for a field trip, check professor's course web page and/or your email by 12:30pm on the day of the trip. The professor will contact you only in the event of cancellation/rescheduling; otherwise you should assume that the trip is on.
8. You are responsible for arriving at field trips on time and prepared. Coming to a field trip is no different than coming to the lab classroom—it's just lab in a different location. Lab activities on field trip days begin and end at the field trip location.
9. Be respectful of, and careful with, laboratory equipment and materials. Many students use these materials. The equipment and materials that you will use this semester are in good condition only because previous students used them with care.
10. When working with chemical solutions, treat all solutions as potentially hazardous, and follow all instructions carefully.
11. Report any accident, injury, or unsafe medical condition to the professor immediately. Report any broken or damaged equipment, or other potential hazards, as well.
12. If your skin and/or clothes are burned by a chemical spill, rinse the area immediately with plenty of running water. If your eyes are affected, immediately go to the eyewash station and rinse your eyes thoroughly.
13. Know the locations of laboratory sinks, exits, eyewash station, first aid kit, and fire extinguisher.

Tuesday Ocean Laboratory Schedule - MiraCosta Spring 2018

Date	Lab Meeting Lecture and Discussion Topic	Location and Time
Tu 1/23	LAB 1 - Introduction / Safety / Units of Measure	OC4529 @ 1:30 pm
Tu 1/30	LAB 2 - Isostasy	OC4529 @ 1:30 pm
Tu 2/6	LAB 3 - Maps and Charts	OC4529 @ 1:30 pm
Sat 2/10	Voluntary Weekend Fieldtrip - Torrey Pines Beach - Coastal Geology and Tectonics Theme	Torrey Pines Beach @ 10 am See Online Fieldtrip guide info
Tu 2/13	LAB 4 - Seafloor Geography / Plate Tectonics	OC4529 @ 1:30 pm
Tu 2/20	LAB 5 – Navigation	OC4529 @ 1:30 pm
Tu 2/27	LAB 6 - Sediments	OC4529 @ 1:30 pm
Sun 3/4	Voluntary Weekend Fieldtrip - Blacks Beach Waves and Currents Theme	Blacks Beach @ 10 am See Online Fieldtrip guide info
Tu 3/6	LAB 7 - Seawater Chemistry Ocean Chemistry (closed-toed shoes required)	OC4529 @ 1:30 pm
Tu 3/13	**MIDTERM LAB EXAM**	OC4529 @ 1:30 pm
Tu 3/20	**SPRING BREAK**	**NO LAB**
Tu 3/27	LAB 8 – Beach Sediments and Tidepools – Field Trip	Swamis Beach Park @ 1:45 pm
Tu 4/3	LAB 9 - Ocean Waves - Field Trip	Oceanside Pier @ 1:45 pm
Tu 4/10	LAB 10 – Wave Behavior	OC4529 @ 1:30 pm
Sat 4/15 2 pm	**Voluntary Weekend Fieldtrip** – Moonlight Beach Coastal Erosion Theme	Moonlight Beach @ 2 pm - See Online Fieldtrip guide info
Tu 4/17	LAB 11 - Beach Profiling - Field Trip	Tamarack Beach @ 1:45 pm
Tu 4/24	LAB 12 – Lagoon Geology and Ecosystem – Field Trip	Batiquitos Lagoon @ 1:45 pm
Tu 5/1	LAB 13 - Birch Aquarium – Field Trip	Birch Aquarium @ 1:45 pm
Tu 5/8	LAB 14 - Tides / Final Exam Review Lab	OC4529 @ 1:30 pm
Tu 5/15	LAB 15 - Beach and Bluff Erosion - Field Trip	Stonesteps Beach @ 1:45 pm
Tu 5/22	**FINAL LAB EXAM**	OC4529 @ 1:00 pm

Please Note: This schedule may be changed or modified by the instructor at anytime during the semester. Students will be notified in a timely basis if changes are made.