

Syllabus SMS324: Introduction to Research Diving

Course Information

Objectives This course provides an introduction to conducting research diving and the development of associated skills. Students who successfully complete all assignments and meet dive standards may earn the following certifications: PADI Advanced Open Water, PADI Rescue Diver, DAN Diving First Aid for Professional Divers, and AAUS Science Diver. *Participation does not guarantee certification.*

Course topics include: Diving emergency response and accident management; dive rescue; scientific methods and data gathering techniques; underwater navigation; decompression theory and management; dive hazards and risk management; AAUS Scientific Diving regulations and history; diving related physics and physiology.

Credits 3

Fees \$1100 course fee for required materials and equipment use

Location University of Maine Darling Marine Center
193 Clarks Cove Road, Walpole, ME 04573

Schedule Wednesdays, 0800 to 1800, September 3rd through December 17th.
A detailed daily schedule is provided in a separate document and subject to change due to marine and weather forecasts.

Prerequisites Admission to this course is by instructor permission only and all applications are subject to review and approval by the UMaine Diving Safety Officer.

- BIO100 and SMS100, or equivalent
- Status as a sophomore student, or graduate student
- Submission of all pre-course documentation, including:
 - Proof of a nationally recognized diving certification (open water diver level or higher)
 - UMaine Diver's Medical/Physical Examination
 - Scientific Diver Information Sheet
 - Diver Assumption of Risk, Waiver and Release
 - Diver Medical Consent and Insurability
 - Diver Employment Verification (UMaine employees)
 - Medical insurance specific to scuba diving (e.g., DAN Diver Insurance)

All candidates must have participated in a watermanship assessment and checkout dive in order to be considered for the course. Contact Elisabeth Maxwell (Scientific Diving Coordinator; elisabeth.maxwell@maine.edu) or Colby Johns (Diving Safety Officer; colby.johns@maine.edu) for more information and scheduled assessments.

Course Materials

Required Texts

- University of Maine Dive Manual ([Link to PDF](#))
- PADI Advanced Open Water Diver Manual (Provided via PADI eLearning)
- PADI Rescue Diver Manual (Provided via PADI eLearning)

Recommended Texts

- DMC Local Shore Diving Guide ([Link to PDF](#))
- Marine Life of the North Atlantic, by Andrew Martinez

All students must have their own:

- Mask, fins, snorkel
- Exposure protection (7mm full wetsuit at a minimum; 2 piece farmer john style suit recommended)
- Hood, gloves, and boots (5mm or thicker recommended)
- Cutting device/dive knife
- Two underwater timing devices: one may be a dive computer, the other should be an underwater watch (e.g., Timex, Casio, Freestyle, etc.)
- Regulator system including: alternate air source, low pressure inflator hose, and submersible pressure gauge*
- Buoyancy compensator device (BCD) with power inflator*
- Weight system*
- Whistle and surface marker buoy*
- Underwater light*
- Underwater compass (may be wrist-mounted or console-mounted)*

*The marked items are available for rent from the UMaine Scientific Diving Program.

Weights, cylinders, and group dive equipment (dive flags, emergency response gear, emergency O2, etc) are provided for all students.

Instructor Information

Elisabeth A. Maxwell, Scientific Diving Coordinator

Email: elisabeth.maxwell@maine.edu

Cell: 409-659-8216

Office: Vessel Operations Building, Darling Marine Center Lower Campus

Office hours: By appointment

Course Policies

Attendance and Participation Policy

Participation is required for all class days. Failure to participate in any day, or activity, may prevent the student from earning the associated certification. Make-up opportunities are limited and will be scheduled at the convenience of the course instructor. Arriving late to class may prevent a student from participating in the scheduled activities for that day. Repeatedly arriving late may result in dismissal from the course. "Late arrival" is considered 15 minutes past class start time.

Grading

5%	Daily attendance		
5%	Weekly submission of dive log	90-100% =	A
10%	PADI Rescue Diver Exam	80-90% =	B
10%	DAN DFA Pro Exam	70-80% =	C
10%	Professional Dive Log	60-70% =	D
10%	AAUS Scientific Diver eLearning	<60% =	F
10%	AAUS Scientific Diver Exam		
20%	UMaine Scientific Diving Exam		
20%	Scientific Diving Project		

Respect and Courtesy Policy

By voluntarily participating in this course all students are expected to treat each other and the instructors with respect at all times. It is the expectation that each student will behave in a manner that is conducive to positive group learning and exhibit professionalism and courtesy appropriate for diving activities. During this course, we will rely on each other for safety and life-saving in the unlikely event of an emergency, therefore trust and respect are foundational expectations. Likewise, the students can expect their instructors to always lead with compassion and kindness. Instructors will provide critique to students to ensure skill development and mastery, but students can expect all feedback to be delivered in a professional manner and be consistent with established industry standards.

If students fail to comply with this policy, it will be addressed by the course instructor. Repeated offenses may result in dismissal from the course. If a student feels that the instructor is not acting appropriately, they should contact the Director of the School of Marine Sciences (Heather Hamlin) or the University of Maine Diving Safety Officer (Colby Johns).

Illness and/or Inability to Dive

Personal health and safety are of paramount importance during this course. If a student becomes ill or is unable to dive at any time, they are expected to alert the course instructor and cease diving activities until the situation has resolved. Depending on the nature and severity of the injury/illness, the student may be asked to seek medical clearance before resuming diving activities.

Limited make-up opportunities are built into the schedule and any additional need for make-up work or dives will need to be scheduled with the course instructor. Inability to make-up the missing dives or assignments may result in an Incomplete grade for the course, and or prevent the earning of relevant dive certifications.

Cell Phone Use

Cell phones should be silenced and put away (in pocket, backpack, etc.) during class periods. Students who have cell phones out during lecture, safety briefings (pre-dive or post-dive), or during skill practice will be asked to put their phone away. Repeated offenses will be addressed by the course instructor.

Use of cell phones are permitted for the following purposes: taking photos of dive sites or dive log information (master slate), logging dives, reviewing dive computer manuals or other safety related documentation. These activities should be done in between lecture, safety briefings, or skill practice so as to not be disruptive.

Campus Policies

Academic Honesty Statement

Academic honesty is very important. It is dishonest to cheat on exams, to copy term papers, to submit papers written by another person, or generated by software or systems without the explicit approval of the instructor, to fake experimental results, or to copy or reword parts of books or articles into your own papers without appropriately citing the source. Students committing or aiding in any of these violations may be given failing grades for an assignment or for an entire course, at the discretion of the instructor. In addition to any academic action taken by an instructor, these violations are also subject to action under the University of Maine Student Conduct Code. The maximum possible sanction under the student conduct code is dismissal from the University. Please see the [University of Maine System's Academic Integrity Policy](#) listed in the Board Policy Manual as Policy 314.

Students Accessibility Services Statement

If you have a disability for which you may be requesting an accommodation, please contact Student Accessibility Services, 139 Rangeley Rd, um.sas@maine.edu, 581.2319, as early as possible in the term. Students may begin the accommodation process by submitting an [accommodation request form](#) online and uploading documentation. Once students meet with SAS and eligibility has been determined, students submit an online request with SAS each semester to activate their approved accommodations. SAS creates an accessibility letter each semester which informs faculty of potential course access and approved reasonable accommodations; the letter is sent directly to the course instructor. Students who have already been approved for accommodations by SAS and have a current accommodation letter should meet with the instructor of the course (Elisabeth Maxwell) privately as soon as possible.

Course Schedule Disclaimer (Disruption Clause)

In the event of an extended disruption of normal classroom activities (due to COVID-19 or other long-term disruptions), the format for this course may be modified to enable its completion within its programmed time frame. In that event, you will be provided an addendum to the syllabus that will supersede this version.

Observance of Religious Holidays/Events

The University of Maine recognizes that when students are observing significant religious holidays, some may be unable to attend classes or labs, study, take tests, or work on other assignments. If they provide adequate notice (at least one week and longer if at all possible), these students are allowed to make up course requirements as long as this effort does not create an unreasonable burden upon the instructor, department or University. At the discretion of the instructor, such coursework could be due before or after the examination or assignment. No adverse or prejudicial effects shall result to a student's grade for the examination, study, or course requirement on the day of religious observance. The student shall not be marked absent from the class due to observing a significant religious holiday. In the case of an internship or clinical, students should refer to the applicable policy in place by the employer or site.

Sexual Violence Policy & Sexual Discrimination Reporting

The University of Maine is committed to making campus a safe place for students. Because of this commitment, if you tell a faculty or staff member who is deemed a "responsible employee" about an experience of sexual assault, sexual harassment, stalking, relationship abuse (dating violence and domestic violence), sexual misconduct or any form of gender discrimination involving members of the campus, they are required to report this information to Title IX Student Services or the Office of Equal Opportunity.

If you want to talk in confidence to someone about an experience of sexual discrimination, please contact these resources:

For *confidential resources on Orono campus*:

Counseling Center: 207-581-1392 or

Northern Light Primary Care, University of Maine: at 207-581-4000.

Confidential Resource Advisor: 207-571-5372 (call or text). Or see the [Confidential Resource Advisor website](#) for a complete list of services and resources.

For *confidential resources off campus*:

Rape Response Services: 1-800-871-7741 or Partners for Peace: 1-800-863-9909.

Other resources: The resources listed below can offer support but may have to report the incident to others who can help:

For *support services on Orono campus*:

Title IX Student Services: 207-581-1406

Office of Community Standards: 207-581-1406

University of Maine Police: 207-581-4040 or 911.

[Visit the Title IX Student Services website at umaine.edu/titleix/ for more information.](http://umaine.edu/titleix/)

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Fall 2025 - Tentative Class Schedule

Wednesday, October 15	Topics	Notes
LT: 1253 HT: 1910 Dive site: Sand Cove	AM: Mid-semester check-in with Lis (1-on-1) Discussion: Research Ethics in Scientific Diving Dive 11/12: Science Dives - Eelgrass Surveys Homework: Dive Physiology (AAUS eLearning) Homework: (SDP) Review protocol; build datasheet (w/ buddy)	Log your dives
Wednesday, October 22	Topics	Notes
HT: 1215 LT: 1837 Dive site: Sand Cove	Dive 13/14: Science Diving Project dives Homework: Decompression Theory (AAUS eLearning) Homework: Decompression Management Tools (AAUS eLearning)	Log your dives
Wednesday, October 29	Topics	Notes
LT: 1057 HT: 1710 Dive site: TBD	Dive 15/16: Science Diving Project dives Homework: Complete PADI Rescue Diver eLearning Homework: Dive Rescue (AAUS eLearning)	Student Led Log your dives
Wednesday, November 5	Topics	Notes
HT: 0959 LT: 1625 Dive site: DMC	PADI Self-Rescue Review skills PADI Rescue Diver Exercises 1-6 PADI Rescue Diver Scenario 1 DAN DFA Skills, Part 1 Homework: Diving Injuries & Emergency Care (AAUS eLearning) Homework: Complete DAN DFA eLearning	Log your dives
Wednesday, November 12	Topics	Notes
LT: 1026 HT: 1641 Dive site: DMC	DUE: PADI Rescue Diver Exam Lecture: Dive Accident Management (AAUS - no section in eLearning) Activity: Emergency Assistance Plan (PADI Rescue) Rescue Exercises 7-10 Rescue Scenario 2 Homework: Breath-hold Diving (AAUS eLearning) Homework: DAN	Student: bring laptop Log your dives
Wednesday, November 19	Topics	Notes
HT 1011 LT: 1639	DUE: Scientific Diving Project Report Scientific Diving Project Presentations DAN DFA Skills, wrap up; Exam Review for UMaine Scientific Diving Exam	
Wednesday, November 26: No class - Happy Thanksgiving!		
Wednesday, December 3	Topics	Notes
Depart Dive Locker: 0800 Dive Site: Bowdoin Pool	DUE: UMaine Scientific Diving Exam Practical Exam in the Pool Homework: UMaine Scientific Diving Exam	Log your dives
Wednesday, December 10	Topics	Notes
	DUE: Professional Dive Log DUE: AAUS eLearning Exam Classroom: TBD	
Wednesday, December 17	Topics	Notes
	Gear cleaning and return; Dive Locker cleaning Class wrap up	