

BSC4932C- Scientific Diving

Course Information

Classification	Scientific Diving; 4 credits.
Objectives/ Goals	This course will provide an introduction to scientific diving and satisfy the 100 hours of required training for scientific divers as prescribed by the American Academy of Underwater Sciences (AAUS). This training is required to participate in scientific diving activities at many universities, including UCF, and at all AAUS member organizations throughout the United States.
Description	Students will be instructed in advanced diving skills, dive rescue, CPR, oxygen administration, and research diving techniques. Practical field diving activities will be a large focus of the course. The course will be taught by the UCF Diving Safety Officer (DSO). Following successful completion of course objectives, students will be eligible to participate in diving research projects as a scientific diver-in-training or scientific diver. Students will also be eligible to apply for applicable recreational diving certifications. Participation is not a guarantee of certification.
Schedule	The class will meet for three hours once a week for lectures and exams. Course completion requires 8-12 open water dives and swim evaluations at the UCF pool. Scuba diving activities required for course will take place on weekends and will require at two overnight expeditions. Transportation will be provided if necessary and accommodation will be in tents at nearby campgrounds (tentative dates below). Each student must supply their own camping gear. Each student will give a short PowerPoint presentation on a dive related topic of their choice (topics must be approved by instructor; details will be discussed in class).

Course Requirements

Prerequisites	C or better in BSC 2010C or BSC1005 or EVR1001 AND instructor consent. Each student <u>must</u> show proof of the following prior to beginning the course: <ul style="list-style-type: none">• Nationally recognized open water diving certification• <i>Diver's Physical Examination</i> (appendix 1-3 of UCF Scientific Diving Manual)• Medical Insurance specific to scuba diving (such as DAN membership)• Within first two weeks of course students must be able to demonstrate swimming/ watermanship ability acceptable to the instructor, including but not limited to:<ul style="list-style-type: none">○ Swim underwater 25 yards without surfacing.○ Swim 400 yards in less than 12 minutes.○ Tread water for 10 minutes or 2 minutes without the use of hands.○ Transport a passive person of equal size a distance of 25 yards in the water.
Attendance	Participation in all classroom and field sessions is mandatory; absence or inability to participate will likely disqualify the student from course completion. Make-up sessions will be scheduled at the discretion of the instructor.
Evaluation	Field Activities/ Personal Dive Log = 30% CPR/O ₂ Exam = 15% Rescue Exam = 15% Nitrox Exam = 15% Student Presentation = 25%

Grading

Grades will be assigned according to the following scale:

Percentage	Letter Grade
90.0 – 100	A
80.0 – 89.9	B
70.0 – 79.9	C
60.0 – 69.9	D
< 60.0	F

Course Materials

- Required Texts SDI Computer Nitrox Diving Manual; SDI Rescue Diver Manual
UCF Scientific Diving Manual
- Recommended *Marine fishes of Florida*, JHU Press, D.B. Snyder & G.H. Burgess 2016

Equipment

Student divers are encouraged to provide all of their own diving equipment, with the exception of scuba cylinders/ tanks. All personally owned equipment must conform to the minimum standards of the AAUS and the UCF Scientific Diving Program. When applicable, proof of annual equipment service is required (*). As noted, some items can be provided by the UCF Scientific Diving Program.

Required Personal Equipment

All participating divers must provide their own:

- Mask, Fins, Snorkel
- Wetsuit
- Booties
- Dive light (for Blue Grotto dives only-will discuss in class)
- Camping gear (can be rented from UCF Recreation and Wellness Center)

Additional Required Equipment

All participating divers must also be equipped with the items listed below. If not personally owned, these items will be provided by the UCF Scientific Diving Program.

- Regulator with alternate air source, low pressure inflator hose, and submersible pressure gauge
- Depth gauge AND Dive Computer
- Buoyancy compensator (BCD) with power inflator
- Weight system with weights (weight belt or BC-integrated weights acceptable)
- Whistle (for surface signaling)
- UW Compass

Instructor Information

Michelle R. Gaither

Assistant Professor; UCF Diving Safety Officer

SDI Dive Instructor

Email: michelle.gaither@ucf.edu

Office: BMS 132A

Office Hours: Friday 1pm – 3pm (or by appointment)

Course Schedule

NOTE: Equipment preparation and cleanup often takes at least an hour prior to and after the official 'end' of the class day. *Show up on time and ready.* Below is a tentative schedule. Days may shift depending on the weather and how the class is progressing. I have scheduled in several "EXTRA DAYS" in case of the need for rescheduling.

Week	Meeting place	Classroom Topic	Dives	Reading (webcourses)
1/15/2021	BIO104	Class orientation		UCF Scientific Dive Manual
1/22/2021	BIO104	CPR/First Aid (Jose Vazquez Perez)		
1/29/2021	BIO104	Accident Management and O ₂ Administration		Suggested: DAN-Diving First Aid_Instructor-Guide and DAN-Neurological Assessment-Student-Handbook
1/30/2021	UCF Pool 8am-10am		Swimming evaluations	
2/5/2021	BIO104	Logistics De Leon Springs CPR/O2 Exam		
2/6/2021	De Leon Springs State Park 7:45 am at gate		OW 1-Buoyancy OW 2-Skills Review	
2/12/2021	BIO104	Dive Planning; Dive Tables Guest Lecturer: Richard Coleman-Rebreathers		Example dive logs and dive plans
2/13/2021	EXTRA DAY			
2/19/2021	TBD	Navigation Guest Lecturer: Seabird McKeon; Coral Reef Collections		
2/20/2021	Alexander Springs 7:30am at gate		OW dives (round robin): Navigation	
2/26/2021	BIO104	Nitrox		SDI Computer Nitrox Diving Manual
3/5/2021	BIO104	Rescue Nitrox Exam		SDI Rescue Diving Manual
3/6/2021	Alexander Springs 7:30am at gate		OW dives (round robin): Rescue	
3/12/2021	BIO104	Rescue continued		
3/13/21 - 3/14/21	Blue Heron Bridge 3/13 HT @ 8:17 am 3/14 HT @ 9:54 am		OW 1: Site familiarity OW 2: Map the site	
3/19/2021	BIO104	Rescue Exam Guest Lecturer: Peter Sinelli-Marine Archaeology		
3/26/2021	BIO104; leave for LD	Student Presentations		

3/27/21 - 3/28/21	Lake Denton 3 dives on Saturday 1-2 dives on Sunday		OW dives (round robin): Lift bags, safety sausages; search and recovery; out of air; fish transects	
4/2/2021	BIO104	Student Presentations		
4/03/21 - 4/04/21	EXTRA DAYS			
4/9/2021	BIO104	Student Presentation	Dive logs due	
4/11/21 - 4/16/21	Spring Break			
4/23/2021	TBD			