

BSC4932- 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, exams and pool work. Course completion requires at least 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 2-3 overnight expeditions. Transportation will be provided and accommodation will be in tents at nearby campgrounds (tentative dates below). 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	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)• 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 (23 meters) without surfacing.○ Swim 400 yards (366 meters) 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 (23 meters) 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 (\$33); SDI Rescue Diver Manual (\$36)
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
- Boots
- Equipment bag

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 (*) (can be in same unit)
- 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.* Class will not be dismissed until all equipment is properly stowed and ready for use. Please plan your schedules accordingly. 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)
8/28/20	BIO104	Class orientation		UCF Scientific Dive Manual
9/4/20	BIO104	Compression only CPR (Vazquez)		
9/11/20	BIO104	Accident Management and O ₂ Administration		O ₂ Administration
9/12/20	UCF Pool 2pm to 4pm		Swimming evaluations	
9/18/20	BIO104	CPR/O₂ Exam and review Skills review and buoyancy		
9/19/20	Alexander Springs 7:30am at gate		OW Dive 1- Buoyancy OW Dive 2- Skills Review	
9/25/20	BIO104	Dive Planning; Dive Logs; Dive Tables		Example dive logs and dive plans
9/26/20	EXTRA DAY			
10/2/20	TBD	Navigation Guest Lecturer (Seabird McKeon)		Navigation
10/3/20	Blue Springs 7:30am at gate		OW Dive 3- Navigation 1 OW Dive 4- Deep (?)	
10/9/20	BIO104	Nitrox Guest Lecturer (TBD)		SDI Computer Nitrox Diving Manual
10/16/20	BIO104	Nitrox exam and review Start Rescue		SDI Rescue Diving Manual
10/17/20	Alexander Springs 7:30am at gate		OW Dive 5- Rescue skills OW Dive 6- Search and recovery	
10/23/20	Leave for BHB			
10/24/20 10/25/20	Blue Heron Bridge 10/24-LT @ 9:23am; HT @ 4pm 10/25- LT @ 10:25		OW Dive 7- Lift bags OW Dive 8- Navigation 2 OW Dive 9- fish identification OW Dive 10- Transects	
10/30/20	BIO104	Rescue exam and review Guest Lecturer: Richard Coleman-rebreathers		
11/6/20	BIO104	TBD		
11/7/20	Ginnie Springs		OW Dive -11	

11/8/20	Blue Grotto		OW Dive -12 OW Dive -13	
11/13/20	BIO104	Student Presentations		
11/14/20 11/15/20	EXTRA DAYS			
11/20/20	BIO104	Student Presentation		
11/27/20	BIO104	Student Presentations	Dive logs due	
12/4/20	BIO104	TBD		