

## BSC4473C- 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 least two overnight expeditions. Transportation will be provided in Biology vehicles if necessary. Qualified students will drive the Biology vehicles. Accommodation will be in tents at nearby campgrounds (tentative dates below). Each student must supply their own camping gear. Each student must pay entrance fees to the local springs for diving. 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"><li>• Nationally recognized open water diving certification</li><li>• <i>Diver's Physical Examination</i> (appendix 1-3 of UCF Scientific Diving Manual)</li><li>• Medical Insurance specific to scuba diving (such as <a href="#">DAN</a> membership)</li><li>• 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"><li>○ Swim underwater 25 yards without surfacing.</li><li>○ Swim 400 yards in less than 12 minutes.</li><li>○ Tread water for 10 minutes or 2 minutes without the use of hands.</li><li>○ Transport a passive person of equal size a distance of 25 yards in the water.</li></ul></li></ul>
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<sub>2</sub> 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 All provided by instruction as pdfs: Nitrox Diving Manual; Rescue Diver Manual; UCF Scientific Diving Manual

## 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
- 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 – 2pm (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)
1/14/2022	BIO104	Class orientation		UCF Scientific Dive Manual
1/21/2022	BIO104	CPR/First Aid (Jose Vazquez Perez?)		
1/28/2022	BIO104	Accident Management and O <sub>2</sub> Administration		Suggested: DAN-Diving First Aid_Instructor-Guide and DAN-Neurological Assessment-Student-Handbook
1/29/2022	UCF Pool 8am-10am		Swimming evaluations	
2/4/2022	BIO104	Logistics De Leon Springs <b>CPR/O2 Exam</b>		
2/5/2022	De Leon Springs State Park 7:45 am at gate		OW 1-Buoyancy OW 2-Skills Review	
2/11/2022	BIO104	Dive Planning; Dive Tables Guest Lecturer: TBD (Rebreathers?)		Example dive logs and dive plans
2/12/2022	EXTRA DAY			
2/18/2022	BIO104	Navigation Guest Lecturer: TBD (the dive industry)		
2/19/2022	Alexander Springs 7:30 am at gate		OW dives (round robin): Navigation	
2/25/2022	BIO104	Nitrox		SDI Computer Nitrox Diving Manual
3/4/2022	BIO104	Nitrox		
3/7/22 – 3/11/22	Spring Break			
3/18/2022	BIO104	Rescue <b>Nitrox Exam</b>		SDI Rescue Diving Manual
3/19/2022	Alexander Springs 7:30 am at gate		OW dives (round robin): Rescue	
3/25/2022	BIO104; Leave for LD	Rescue continued		
3/26/21 - 3/27/21	Lake Denton (Highlands Hammock SP) 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	
4/1/2022	BIO104	<b>Rescue Exam</b> Guest Lecturer: TBD (marine archaeology)		
4/8/2022	BIO104; leave for BHB	Student Presentations		
4/9/22 – 4/10/22	Blue Heron Bridge (Jonathan Dickinson SP)		OW 1: Site familiarity OW 2: Map site	
4/15/2022	BIO104	Student Presentations	Dive logs due	
4/16/22 – 4/17/22	EXTRA DAYS			
4/22/2022	BIO104	Student Presentation		