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CIEE Research Station Bonaire, Caribbean Netherlands

Course name: Advanced SCUBA
Course number: MARI 3004 BONA
Programs offering course: Tropical Marine Ecology and Conservation
Language of instruction: English
U.S. Semester Credits: 1 semester / 1.5 quarter hours
Contact Hours: 15
Term: Fall 2017 Spring 2016

Course Description

Students expand their understanding of scuba diving beyond the recreational level in order to fully participate in the scientific dive program in Bonaire. They learn techniques that improve their diving skills and how to respond to medical emergencies in and out of the water. CIEE is an institutional member of the American Academy of Underwater Sciences (AAUS) and adheres to the safety program sanctioned by AAUS. By completing the course and the co-requisite course Marine Ecology Field Research Methods; students gain a certification as an AAUS Scientific Diver. Students receive training for certifications in open water diving, advanced adventure diving, rescue diving and DAN dive first aid for professional divers.

Learning Objectives

- Develop problem management skills, water safety, and scuba equipment handling as applied to research diving
- Master scuba skills and knowledge essential to participation in projects involving research diving
- Certification: DAN Diving First Aid for Professional Divers.
- **Optional certifications**: Open Water Scuba Diver, Advanced Adventure Diver, Rescue Diver and AAUS Scientific Diver

Course Prerequisites

Open water scuba certification or referral
AAUS medical exam
DAN diving insurance

Methods of Instruction

Readings, eLearning, lectures, workshops, homework and water sessions

Assessment and Final Grade

Attendance/Participation:	5%	Skills Assessment #1:	10%
Homework/Assignments/Quizzes:	15%	Skills Assessment #2:	25%
DAN exam:	20%	Final exam:	25%

Course Requirements

Diving Skills

Diving skills will be formally assessed twice during this course. Video footage of students diving during skills assessments will be shared with students. During research dives, assessments will be made on basic diving skills (buddy check, water entry and exit, controlled ascent and descent, overall diving performance), adherence to safety procedures, buddy contact during the dive, buoyancy and problem solving.

Dive Theory

Knowledge of diving theory will be gained through eLearning dive courses. Assessments will be made using quizzes, homework assignments, workshops and a final exam.

Dive Emergency Response Theory

Knowledge of emergency procedures related to diving will be gained through lectures, workshops and exams.

Assignments

Assignments include readings, chapter reviews, mapping a dive site, keeping an electronic dive log and preparing an Emergency Contingency plan. Assignments are due at 9:00 am on the date assigned or at any point prior to that time. Submit assignments via e-mail, or put them in the DSO mailbox, as instructed. Electronic assignments should have the student name and the assignment included in the filename (e.g. *J Doe dive log.xls*). Handwritten assignments must be legible. Unless instructed otherwise, assignments must be done individually. Assignments that are turned in late will be penalized with a 10% reduction per day, i.e. an assignment turned in one day late will be graded out of 90%. All assigned readings are available as PDF files on the CIEE Google Drive. Students will be assigned a user login and password.

Quizzes

There will be unannounced quizzes on the readings for given lectures. It is important that students complete the readings before each lecture as the readings are discussed.

Attendance and Participation

It is mandatory for students to attend lectures and activities (e.g. field trips, dives, labs). Students are responsible for mastering everything presented and discussed in class and in the field. Additionally, students must arrive on time, prepare for, and participate in class discussions and activities. Much of the material covered in lectures or activities cannot be found in the readings. Students that fail to attend lectures or activities, arrive late, or do not participate will be penalized at the discretion of the instructor based on the frequency of these infractions. In-class assignments, quizzes, and exams can only be made up with a valid and documented excuse, ex. doctor's note.

Students who miss a lecture will not be allowed to participate in the following dive.

Academic honesty
Students are expected to adhere to CIEE Research Station Bonaire's Academic Honesty Policy. Students found violating the conditions of academic honesty are subject to receiving an "F" for the course. The violation will also be reported to the Director of CIEE Research Station Bonaire and may be documented on your permanent record at your home institution.

Readings

CIEE Dive Safety Manual
SDI Advanced Adventure Diver e-learning course
SDI Rescue Diver e-learning course
DAN Diving First Aid for Professional Divers Provider book

P.J. Denoble, A. Marroni, R.D. Vann, *Annual Fatality and Risk Factors for Recreational Scuba Diving*. In: Recreational Diving Fatalities Workshop Proceedings. DAN, Durham 2011.

Handouts provided

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Weekly Schedule

Due to the nature of this course, the schedule may be subjected to changes. For an updated schedule, check Google Calendar, which is posted on the website.

DATE	TIME	CLASS	LOCATION	BRING or PREPARE
1-Feb	8:30 - 10:00	Course Introduction	Classroom	bring: calculator / prep: OW theory
	10:00-11:00	Intro to AAUS	Classroom	
	11:00-12:30	Dive Equipment	Classroom	
2-Feb	11:30-12:30	Watermanship test	meet: Res Hall	bring: snorkel equipment
	14:00-15:00	Dive Planning part 1	Classroom	
	15:00-17:00	Individual meetings	DSO Office	bring: logbook & certifications
3-Feb	13:30-14:00	DSM Quizz	Classroom	bring: dive safety manual
4-Feb	13:30-17:30	Check out dive 1 & 2	meet: Res Hall	bring: full dive equipment/prep: e-learning
5-Feb	8:30-12:30	Check out dive 3 & 4	meet: Res Hall	bring: full dive equipment/prep: e-learning
	14:30-15:30	AAUS Dive physics	Classroom	bring: calculator / prep: Dive physics
	15:30-16:30	Dive Accidents workshop	Classroom	prep: accident reports
8-Feb	8:30-10:30	Advanced Buoyancy workshop& briefing	Classroom	
9-Feb	10:00-12:00	Advanced Buoyancy dive	Meet: truck	bring: full dive equipment, transect
	13:30-14:30	Site Mapping & Navigation	Classroom	
	14:30-15:00	Navigation dry run	Parking lot	bring: compass, towel
	15:30-17:00	Navigation dive	Meet: Res Hall	bring: full dive equipment, compass
11-Feb	10:30-11:30	Dive physics 2	Classroom	bring: Dive Physics / prep: Dive Physiology
	14:30-16:30	Deep dive	meet: truck	bring: full scuba gear
12-Feb	14:30-16:30	Middterm Assessment: phyla invert. Dive	meet: truck	bring: full scuba gear, slate
18-Feb	9:00-12:00	Individual meetings	DSO office	bring: all questions you want to ask
	13:30-14:30	Dive Physiology	Classroom	bring: Dive Physics / prep: Dive Physiology
	10:30-12:30	DAN DFApro theory	Classroom	prep: DAN DFApro
19-Feb	8:30-10:30	DAN skills	Classroom	bring: towel
	14:30-17:00	DAN skills	Classroom	bring: towel & old clothes
22-Feb	18:30-20:30	Night dive	meet: Res Hall	bring: full scuba gear, dive light
23-Feb	11:30-12:30	Dive Planning part 2	Classroom	dive tables
	13:30-14:30	Missed Questions	Classroom	bring: e-learning report (paper or digital

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DATE	TIME	CLASS	LOCATION	BRING or PREPARE
	14:30-15:30	DAN exam	Classroom	bring: towel & wear old clothes
	16:00-17:30	Rescue dive 1: Self Reliant diver & S&R	meet: Res Hall	bring: full scuba gear
25-Feb	13:30-17:00	Rescue dive 2: Buddy rescue	meet: Res Hall	bring: full scuba gear
26-Feb	8:30-12:30	Rescue scenario's	meet: Res Hall	bring: full scuba gear, transect, t-bar
29-Feb	10:00-12:30	Final exam	Classroom	bring: dive safety manual, us navy table, calculator
	15:30-17:30	Buoyancy for Research Divers	meet: Res Hall	bring: full dive equipment, slates, transect, t-bar
3-Mar	13:30-15:30	Final skills assessment: Aggra Dive	meet: res hall	bring: full dive equipment, slates, transect, t-bar
to be announced		Field trip: Hyperbaric Chamber	meet: truck	