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## Study Center in Kralenijk, Bonaire

**Course name:** Advanced Scuba  
**Course number:** MARI 3004 BONA  
**Programs offering course:** Intensive Research in Coral Reef Ecology, Tropical Marine Ecology + Conservation  
**Language of instruction:** English  
**Semester Credits:** 1 semester / 1.5 quarter hours  
**Contact Hours:** 15  
**Term:** Summer 2017

### 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. CIEE is an institutional member of the American Academy of Underwater Sciences (AAUS) and adheres to the safety program sanctioned by AAUS. Students learn techniques that improve their diving skills and learn to respond to medical emergencies in and out of the water. 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 dive emergency management provider.

### 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 any project involving research diving
- Optional: get certified as 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

Independent study, lectures, workshops and water sessions

### Assessment and Final Grade

- |                          |     |
|--------------------------|-----|
| 1. Participation:        | 5%  |
| 2. Assignments:          | 20% |
| 3. DAN exam:             | 15% |
| 4. Skills Assessment #1: | 10% |
| 5. Skills Assessment #2: | 25% |
| 6. Final Exam:           | 25% |



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## **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 assessed using quizzes, homework assignments, workshops and a final exam.

### **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 FTP site: <ftp://cieebonaire.org>. 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.



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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, [www.cieebonaire.org](http://www.cieebonaire.org).

### **Week 1**

- |     |   |
|-----|---|
| Sun | Individual meetings with the DSO – bring logbook<br>Watermanship test   |
| Mon | <i>Homework due: complete OW &amp; AOW e-Learning course</i><br>Advanced Scuba – Course introduction<br>Lecture: Dive equipment<br>Dive: Check Out Dives 1 & 2  |
| Tue | Homework: Emergency Contingency plan DUE<br><i>Reading: Annual Fatality and Risk Factors for Recreational Scuba Diving. In: Recreational Diving Fatalities Workshop Proceedings Annual Fatality Rates</i><br>Lecture: History of diving<br>Lecture: Dive Physics – bring calculator<br>Workshop: Dive Safety<br>Dive: Check Out Dives 3 & 4 |
| Wed | <i>Homework: Prepare DAN DEMP</i><br>Lecture: Dive Physiology<br>Lecture: DAN DEMP theory<br>Dive: Advanced Buoyancy  |
| Thu | <i>Homework: Rescue e-Learning</i><br>Dive: Rescue Skills session 1<br>Dive: Night Dive   |
| Fri | Dive: Rescue Session 2  |



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## Week 2

- Mon *Homework: Mapping & ERP*  
Workshop: Mapping a dive site  
Workshop: Navigation with compass and GPS  
Dive: Underwater Navigation  
Midterm assessment
- Tue *Homework: Read handout Search & Recovery*  
Dive: Search & Recovery  
DAN DEMP skills session 1
- Wed Dive: Deep Dive
- Thu *Homework: Prepare missed questions e-Learning: group assignment*  
Exam: DAN DEMP exam  
DAN DEMP skills session 2  
Workshop: Missed questions e-learning
- Fri Individual Meetings with DSO  
Hyperbaric chamber visit

## Week 3

- Mon Dive: Rescue & DEMP scenarios
- Tue Exam: Final Exam
- Wed Dive: Final Skills Assessment
- Thu Individual Meetings



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## **Readings**

CIEE Dive Safety Manual

SDI Open Water Scuba Diver e-learning course SDI Advanced Adventure Diver e-learning course SDI Rescue Diver e-learning course

DAN Diving Emergency Management 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