

NAUT 002ax/bx: Advanced Deepwater Cruising

Senior Skipper (Fall)

Advanced Senior Skipper (Spring)

(2+2 [semester] academic units)

General Information

Prerequisite required: Deepwater Cruising: NAUT 001ax and NAUT 001bx

Instructors: ~~Capt. Ron Rensburg~~ and ~~Capt. Noah Peffer~~

Office: VKC 379B, 6-7 p.m. Weds., and by appointment

Phone: (213) 821-1261

Website: www.USC.edu/sppd/naut

Capt. Lars Handing

Texts: Navigation Rules (Inland & International), U.S. Government Publication COMDTINST M16672.2

Piloting, Seamanship & Small Boat Handling, Chapman

American Practical Navigator, Bowditch, U.S. Govt. Publication

Celestial Navigation, Tom Cunliffe

Charts: 1210TR Martha's Vineyard to Block Island (required)

18720 Point Dume to Purisima Point

Grading Policy: Nautical Science classes include class lectures, dockside demonstration, voyages, and a review session at semester end. It is highly recommended that students attend all four events, as they contribute to the academic concepts and skills tested on the final exam, which is the 100% basis of the course grade. The final exam covers seamanship skills and academic navigation chart work, 50% each area, and is administered according to the University published final exam schedule. Students who sign up for an event and do not attend without making prior arrangements are subject to possible grade reduction.

Meeting Periods:

Classroom: 28 lecture hours (NAUT 002ax)

28 lecture hours (NAUT 002bx)

Practical Aboard: NAUT 002 ax & bx: Total 264 hours

8 hrs. Skipper Preparedness Training & Life Raft Workshop

20 hrs. Performance Boat I Instruction (NAUT 002ax)

20 hrs. Performance Boat II Instruction (NAUT 002bx)

8 hrs. Practical Artemis Day Sail I (NAUT 002ax)

8 hrs. Practical Artemis Day Sail II (NAUT 002bx)

48 hrs. NROTC Midshipmen Crew Training Sail-Atlantas

48 hrs. 2nd Mate Training Voyage-2 days-Atlantas

96 hrs. 2-NAUT 001ax/bx Crew Voyages

8 hrs. Marine Engine Function & Maintenance

Students enrolled in these classes also volunteer as watch captains and sail with the basic classes. Additional time depends upon program enrollments.

Course Syllabus (Conducted in Seminar Format)

- I. Classroom Theory
 - A. Marlinspike seamanship
 - B. Anchoring
 - C. Rigging and fittings
 - D. Sails and use of sails
 - E. Ship forces and ship handling

- F. Mooring and docking
- G. Rules of the road
- H. Man overboard techniques
- I. Weather (See Marine Weather Outline, pg. 25)
- J. Environmental protection

II. Operations Systems (day/night L.A. Harbor cruise as watch captain for 301b class)

- A. Anchoring
- B. Mooring (alongside)
- C. Buoy mooring
- D. Rules of the road: lights and shapes (Video: the Coast Guard License)

III. Watch Station

- A. Marlinspike seamanship (4 hrs. classroom lecture with practical knot tying/splicing; Video: Sailor's Knots and Splices)
- B. Sail handling (4 hr. tour through local sail loft; Video: Shape of Speed)
- C. In port/anchored
- D. Ship handling and sail handling

IV. Damage Control (3 hour Marine Survey tour through local boat yard; Video: Prepurchase Survey Vol. 1&2, Basic Yacht Maintenance)

- A. Damage control organization
- B. Fire and firefighting
- C. Structural damage
- D. Damage control communications
- E. Stability and buoyancy
- F. First aid and rescue (10 hrs. First Aid and CPR at sea taught by USC Health Center; 2 hrs. Life raft and survival equipment lecture/tour local life raft inspection station; Video: Abandon Ship: Preparing to Survive; 8 hrs. Safety at Sea Seminars)
- G. Damage control safety precaution
- H. Main and secondary drainage
- I. Portable damage control equipment
- J. General damage control requirements

V. Engineering (9 hrs. marine diesel engine maintenance course [see outline page 26]; one hour video: Marine Diesel Engine Maintenance; 3 hr. visit to Catalina Yacht Factory; 3 hrs. visit with L.A. Harbor Fire Department)

- A. Transmission/reduction gear
- B. Main shafting
- C. Main lube oil
- D. Diesel engine system
- E. Gasoline engine system
- F. Fuel oil diesel system
- G. Fuel oil filling and stowage
- H. Freshwater cooling system
- I. Saltwater cooling system
- J. Waste plumbing system
- K. Engineer watch duties
- L. Engineer operations

VI. Navigation (2 hrs. visit local electronics and compass repair shop and store; 14 hrs. Celestial navigation lecture and sextant use aboard at sea; 80 hrs. Catalina Island and Special Sr. Skipper sails)

- A. Operational dead reckoning and coastal piloting
- B. Electronic navigation
- C. Celestial navigation
- D. Compass error: theory and operation