

AVTEC's Introduction to Nautical Skills

Syllabus

Overview:

AVTEC's Alaska Maritime Training Center's Nautical Skills course introduces high school students to the exciting and lucrative maritime industry and assists them in developing the basic skills essential to their success and safety as a mariner. This course is a prerequisite for students to qualify for entry into the AVTEC Young Mariner Program.

A USCG Licensed AVTEC Maritime Training Instructor delivers this 12 Topic, 60hr course. Students who complete the Nautical Skills course are eligible to receive tuition and room and board funds to assist them with participation in a wide range of maritime training at AVTEC. Many students who have completed the high school Nautical Skills course have become fully licensed merchant mariners while still in high school, completely debt free.

Topic 1: Orientation and Introductions

- getting students oriented to AVTEC Online
- making sure everyone can use the technology
- ironing out any problems

Topic 2: Vessel Terminology

- parts of a vessel
- types of vessels
- maritime activity in Alaska
- knots

Topic 3: Safety at Sea

- PFDs
- other safety equipment & procedures
- zero alcohol & drug tolerance policy of the maritime industry
- knots

Topic 4: Communications at Sea

- phonetic alphabet
- ship emergency signals
- Types of Radio communications
- knots

Topic 5: Nautical Charts

- features of a nautical chart
- finding a location with a given lat & lon
- finding lat & lon once given a location
- using charted depth at give lat & lon
- knots

Topic 6: More on Latitude & Longitude

- review of lat & lon
- lat & lon on a globe
- finding latitude & longitude where there are no "lines"
- knots

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Topic 7: Rhumb lines, Measuring Distance

- plotting a rhumb line
- measuring distance w/chart tools
- time calculating (w/calculator)
- knots

Topic 8: Compass Direction

- compass rose & direction
- using triangles to transfer compass direction
- determining course of rhumb line
- reciprocals
- labeling rhumb line with course and speed
- knots

Topic 9: The Nautical Slide Rule

- calculating time/distance/speed equations
- applying this to rhumb line
- pre-view of Dead Reckoning
- knots

Topic 10: Dead Reckoning

- plotting where you expect to be after a given course, speed, and time
- putting together the previous incremental skill
- knots

Topic 11: Becoming a Merchant Mariner

- Departments aboard ship
- Various jobs at sea
- getting your Merchant Mariner Credential
- knots

Topic 12: Review

- interactive pop-quiz covering topics of the last 12 Topics
- Complete Final Exam which covers all topics presented in the course.