

DETAILED TEACHING SYLLABUS
Navigation and Collision Avoidance

NOTE: Under Navigation: V, points H-J where not given objectives. Should they be required?

LEARNING/PERFORMANCE OBJECTIVES	IMO REFERENCE	REFERENCE TEXTS	TEACHING AID
Navigation & Collision Avoidance			
I. Instructor Student introductions A. Instructor gains knowledge of student experiences and working conditions B. Student understands course completion expectations C. Student understands certification			
II. Navigation aids A. Identify at least three different types of navigation markers and describe what each means.			
III. Collision Avoidance/ Navigation rules- General A. Determine when to apply inland or international rules 1. Inland rules apply when operating shoreward of COLREGS Demarcation Line (DL) and copy of COLREGs must be onboard if FV is over 12 meters 2. In Alaska, no waters are shoreward of DL B. Recognize that all vessels have duty to avoid a collision no matter "right of way" (Rule 7). C. Recognize the importance of radio to avoid collision. D. Recognize vessel operator responsibilities in following collision avoidance and navigation rules 1. To comply with the rules 2. To take precautions 3. Make a departure from these Rules if necessary to avoid immediate danger E. State the 3 conditions for maintaining a proper look out (rule 5) 1. By sight 2. By sound 3. By all other available means F. State the 6 conditions for determining safe speed (rule 6). 1. Visibility		Col Regs	

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<p>2. Traffic density 3. Manueverability 4. Background lighting 5. State of wind, sea, current, hazards 6. Vessel draft and water depth G. State 6 rules for navigating in narrow channels (Rule 9). 1. Keep to stard'd channel side 2. Vessel less than 20m and SVs give way to larger vessels 3. FVs give way to other vessels 4. Avoid crossing channel if it impedes other vessels 5. Caution when approaching bends and use of sound signals 6. Avoid anchoring in channel H. State at least 5 rules that conduct vessels in restricted visibility 1. Use safe speed for circumstances 2. Power vessels have engines ready to maneuver 3. Use radar if available to assess situation and take early avoidance action 4. Alter course to starb'd if other vessel is forward of beam. 5. If another vessel is forward of beam and close quarters, reduce speed, stay on courses or take way off I. Identify at least three sound signals and what they mean (Rules 32-36). J. Take correct action and give correct sound signals when encountering other vessels in a simulated course through a set of navigation markers. K. Identify the correct day signal for a commercial fishing vessel. L. Determine the "stand-on" and "give-way" vessel when presented with a diagram or simulation of vessel traffic (Rule 16 & 17). M. Determine the collision avoidance responsibilities of vessel's crossing, head on, passing when presented with a diagram or</p>			
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<p>simulation of vessel traffic (Rules, 13, 14, 15).</p> <p>N. Select the appropriate safe channel to use when “steering” a simulated course through a set of navigation markers.</p> <p>O. Recognize at least 11 rules when navigating Traffic Separation Schemes (Rule 10).</p> <ol style="list-style-type: none"> 1. Proceed in the general direction of traffic flow for that lane 2. Keep clear of traffic separation line or zone. 3. Leave traffic lane at small angle to traffic 4. If crossing traffic lanes, do so at right angle to general traffic flow. 5. Avoid inshore traffic zone if appropriate traffic lane within adjacent separation scheme can be used safely except for vessels < 20 meters, SVs, and FVs fishing. However, a vessel may use an inshore traffic zone when en route to or from a port, offshore installation or structure, pilot station or any other place situated within the inshore traffic zone, or to avoid immediate danger 6. A vessel other than a crossing vessel or a vessel joining or leaving a lane shall not normally enter a separation zone or cross a separation line except: (i) in cases of emergency to avoid immediate danger; (ii) to engage in fishing within a separation zone 7. Vessel navigating in areas near the terminations of traffic separation schemes shall do so with particular caution 8. Vessels shall avoid anchoring in traffic separation schemes or near their terminations 9. A vessel not using a traffic separation scheme should keep a wide distance from it 			
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<p>10. A vessel fishing should not impede a vessel using a traffic lane</p> <p>11. A vessel < 20 meters or a SV shall not impede a power vessel using a traffic lane</p> <p>Note. This is NOT a complete review of all rules.</p>			
<p>IV. Lights</p> <p>A. Describe when navigation lights must be displayed.</p> <p>B. Given a diagram showing a lighting display of a vessel, identify at least 10 types of vessels (Rules 21, 23- 31).</p>			
<p>V. Navigation</p> <p>A. Recognize three risks in depending solely on electronic position fixing navigation devices.</p> <ol style="list-style-type: none"> 1. Loss of GPS satellite signal. 2. Loss of GPS accuracy 3. Equipment failure <p>B. Identify at least 8 features of a chart.</p> <p>C. Identify the difference between compass deviation, declination and variation.</p> <p>D. Take a bearing with a compass.</p> <p>E. Define/identify a waypoint.</p> <p>F. Use parallel rules and dividers to plot a course including compass courses and time made good between way points given time made good over ground.</p> <p>G. Navigation plotting exercise: Determine your position using a GPS or magnetic bearings and a chart.</p> <p>H. Electronic sources</p> <ol style="list-style-type: none"> 1. Fathometer 2. LORAN 3. Radar 4. GPS 5. SATNAV 6. RDF/ADF 7. ECDIS 8. AIS <p>I. Publications</p> <ol style="list-style-type: none"> 1. Nautical Almanac 			

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2. Coast Pilot 3. Tide Tables 4. Sailing Directions 5. Current Tables 6. Light List J. Voyage planning 1. Considerations 2. Reference materials 3. Preparatory action 4. Notifications			
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