Fundamentals of Sailing

Course Description – Fundamentals of Sailing

This 18-hour course is designed for those who want a thorough introduction to the exciting sport of sailing. We follow the US Sailing Curriculum but only grant Brooklyn Basic Sailing Certification. Graduates will have a good understanding of all the basics and with additional practice will become competent crew members.

- Fundamental sailing terms
- Practice fundamental knots
- Being part of the crew
- Rigging the boat
- Finding the wind direction
- Setting sails
- Sail trim for various points of sail
- Tacking & gybing, heaving-to
- Overboard recovery techniques
- Basic right of way and navigation rules
- Preparing and returning to a dock
- De-rigging and cleaning up the boat

Instructional time: 12.0 hours practical + 6.0 hours of shore briefings
Pre-requisites: No prior sailing experience required, high interest in learning to how

Certifications: Brooklyn Bridge Sail Club Certification
Textbook: Basic Keelboat Sailing, 4th Edition, US Sailing

Course Outline – Fundamentals of Sailing

Sample course sequence. Actual course sequence will be adjusted to suit sailing conditions.

Day 1

1. Introduction
2. Knowledge Session 1 - Fundamental Concepts
    a. Boating etiquette and personal preparation
    b. Parts of the boat, sails, and rigging
    c. Sail controls; halyards, sheets, roller furling, Cunningham/downhaul and outhaul, and backstay
    d. Reading the wind and rudimentary points of sail
    e. Basic sailboat design, sail theory and boat dynamics
    f. Concepts: Tacking and gybing
    g. Getting ready to sail

Break

3. Sailing Session 1 – Initial Sail
    a. Leaving the dock and casting off
    b. Hoisting sails
    c. Practice steering
    d. Speeding up and slowing down
    e. Using telltales
    f. Sailing backwards and heaving-to
    g. Tacking and sailing upwind
    h. Lowering sails
    i. Planning the returning to docks

Working Lunch - Review #1

4. Sailing Session 2
    a. More practice sailing upwind and tacking
    b. Sailing downwind and gybing

   c. Steering control and using sail telltales
   d. Practice upwind and downwind sailing
   e. Securing boat to docks
   f. Putting away the boat
5. Debriefing and Review #2

Day 2

6. Knowledge Session 2 - More fundamentals of sailing
   a. Sailing knots - Part 2
   b. Safety equipment
   c. Rule of the Road
   d. Crew overboard methods - theory
7. Sailing Session 3
   a. Practice COB methods
   b. Upwind sailing and balancing the helm

Working Lunch – Knowledge 3

8. Knowledge Session 3
   a. Review #3
   b. Weather considerations
   c. Basic navigation and chart reading
   d. Emergencies, anchoring and distress signals
9. Sailing Session 4
   a. Outboard operation
   b. Practice reefing and/or depowering sail
   c. Refine use of mainsail controls
   d. Fun sail
10. Putting away the boat
11. Debriefing and graduation

Instructor Syllabus – Fundamentals of Sailing

Start-Time	Duration	Fundamentals of Sailing	Knowledge	Practical
DAY 1				
8:45AM		Morning Coffee and Donuts • Check weather conditions		
		Knowledge Session 1 – Fundamental Concepts	•	
9:00AM	10 min	Introduction • Outline boating etiquette and personal preparation • Personal protection	•	
	15min	• Boat parts, sails, sail controls • Blocks, shackles and winches	•	
	15 min	• Explain how to read the wind • Describe how sails work	•	
	15min	• Explain points of sail by clock time only • No-Go zone • Introduce concept of upwind sailing/tacking and downwind sailing/gybing	•	
	15 min	• Demonstrate and practice 2 stopper knots, cleat hitch, slip knot and bowline (note other knots done on Day 2)	•	
	10 min	Getting ready to sail • Demonstrate how to properly board a boat • Demonstrate how to put on a life jacket. Describe the proper use of life jackets and throwable flotation devices.	•	
	10 min	• Demonstrate the proper rigging of the sails, halyards, sheets, furling line, and winches handles • Demonstrate crew coordination for raising sails (halyard and boat handling) • Demonstrate holding lines and using winches	•	
10:30AM	15 min	Break • Recheck weather conditions • Filing float plans and student waivers		

		Sailing Session 1		•
10:45AM	30 min	• Pre-departure check (line handling, casting off, fending off)		•
		Casting off • Motor out of slip into sailing area • Explain and practice looking out for other traffic • Point out aids-to-navigation in New York Harbor • Introduce recognition of starboard/port tack and windward/leeward situations		•
		Hoisting sails • Demonstrate helmsman and crew coordination and skills for raising sails and unfurling sails • Practice housekeeping of lines and halyards		•
11:15 AM	75min	Initial sail • Steer a straight line on a beam reach • Speed up and slow down, trim using telltales • The No-Go zone, and getting out of No-Go zone (sailing backwards) • Tacking • Sailing close-hauled in the groove, steering control, balance and more tacking • Heave-to		•
12:30 PM	30 min	• Orchestrate lowering sails • Explain and position crew for dock return • Return to dock and tie-up boat for lunch • Show how boat is secured to the dock		•
1:00 PM	60 min	Working Lunch • Review #1 • Recheck weather conditions	•	
		Sailing Session 2		•
2:00 PM	30 min	• Leaving slip and motor to sailing area • Raise sails		•
2:30 PM	90 min	• Continue sailing upwind in the groove and tacking		•
		• Sailing downwind and gybing • Explain "sailing by the lee" and the inherent dangers involved		•

		• Demonstrate and practice use of the sail telltales and identify points of sail		
		• Practice sailing a rectangle		•
4:00PM	30 min	• Return to dock • Lower sails • Prepare for arrival and then tie up at dock		•
4:30PM	30 min	• Demonstrate securing boat at dock • Demonstrate stowing of sails, rigging and equipment • Thoroughly clean the boat, and install any covers		•
5:00PM	60 min	Wrap-up • Review #2 • Rehydrate • Outline next day activities	•	
6:00 PM		End of Day 1		

DAY 2				
8:45AM		Morning Coffee and Donuts • Check weather conditions		
		Knowledge Session 2		•
9:00 AM	20 min	• Rig boat for sailing • Complete practice of knot tying	•	
	20 min	• Rules of the Road • Power vs power, sail vs sail, power vs sail • Sound signals	•	
	20 min	• Explain the Quick-Stop and Figure-8 overboard rescue methods. Include: constant visual contact with the person in water, communication, rescue plan, sequence of maneuvers, boat handling, course sailed, pickup approach and coming alongside the person in water (or simulated object). • Describe methods of getting a person in water on deck	•	
		Sail Session 3		•
10:00 AM	30 min	• Motor out of slip to sailing area • Point out rules of the road • Raise sails		•
10:30 AM	90min	• Practice the Quick-Stop rescue and Figure-8 rescue method • Practice additional upwind sailing to demonstrate weather helm and balance		•
12:00 PM	30 min	• Return to dock • Lower sails • Prepare for arrival (discuss Plan A and Plan B) • Tie-up at dock for lunch		•
12:30 PM	60 min	Working Lunch:		
		Knowledge Session 3	•	
		• Review #3 • Describe weather warning sources, current and tides, charts, trip planning.	•	
		• Review USCG and safety equipment on the boat • Explain what to do in emergency situations, running aground, sudden storms/knockdowns, rigging failure and towing	•	

		• Review anchoring and reefing – reference back to charts for depths about anchoring • Explain potential electrical hazards such as overhead electrical wires and lightning		
		• Demonstrate VHF radio operation (VHF 16, 13, 71)	•	
		Sail Session 4		•
1:30 PM	30 min	• Outline outboard engine operation • Motor out of slip to sailing area • Point out aids-to-navigation in the harbor • Raise sails		•
2:00 PM	120 min	• Fun sail • Sailing well, boat balance and main sail controls • Demonstrate and practice reefing the main		•
4:00PM	30 min	• Return to dock • Lower sails • Prepare for arrival and then tie-up at dock		•
4:30 PM	30 min	• Stow sails, rigging and equipment • Thoroughly clean the boat, and install any covers • Leave boat in better condition than when you found it		•
5:00PM	60 min	Wrap-Up and Graduation	•	
6:00 PM		End of Class		
	Total 18.0 hours			

Lesson Plans – Sailing Fundamentals

Day 1	
Knowledge Session 1 – 90 minutes	
Introduction • Introduce yourself, sailing experience and qualifications • Have the students introduce themselves with their name, sailing experience, occupation, swimming ability and any medical conditions that you need to be aware of • Review schedule for the entire class • State we are covering US Sailing materials, the national standard for sailing in the US	
Boat etiquette and personal preparation • Talk about the unwritten rules on the docks and on the boat • Captain is in charge – no matter how large the vessel • Everything has its place on the boat, housekeeping is important, not just for looks but for safety • A boat is also someone's home, treat it as someone's home – be a welcomed guest • Boats are often in close quarters when in port, be considerate of neighbors • Always be helpful, on the docks and on the boat	Student Outcome • Understanding of forms of etiquette • Respect of the chain of command • Boats and equipment are treated with care
Personal protection • Start from head and go down to the feet. Talk about head gear are better than hoods for visibility and prevents snagging • Wear layers - easier to cool off than its to warm up. Can use jacket over PFD – stops snagging and keeps you warm. Stress that they don't wear cotton. • Mention that proper non-marking closed toe shoes are important for safety. People with heels and street shoes will damage the	Student Outcome • Dressing appropriately • Understanding pragmatic clothing selection

decks. Mention that some mega yachts do not allow shoes aboard. • Bare feet may get cut and infected from New York Harbor water • Gloves protect hands, especially when wet and when using thin lines. No need for special gloves – weightlifting, biking and gardening gloves are okay,	
Staying safe and healthy • Seasickness. It happens to the best of us. Tell students to inform you immediately if they feel sick • Tell your students you will be looking after them but if you notice anything with crewmates – speak up –tell your skipper • Mention hyper- and hypothermia	Student Outcome • Understand own level of fitness • Health and safety is a personal responsibility but can affect the entire crew • Recognize potential issues with crewmates – look after each other
Fundamental Concepts	
• This is going to done (i) aboard the boat or (ii) in a small group in a classroom setting. This can reviewed prior to boarding, while rigging and in the knowledge sessions. • Keep students at ease – tell them "Not to worry, everything will be repeated" and you'll guide them by saying left hand, right hand, forward or back, up or down. • Use package of back up slides which are cross referenced to the US Sailing Basic Keelboat book	
Boat parts • Cover parts of the boat and sails quickly to get them on the water. Normally it helps to have students touch boat parts or you should demo how things operate. • Orientation: Front, back, left and right • Divide the boat into sections: Hull, rigging, sails, other things – Hull: Keel, bow, stern, rudder, draft – Deck, cabin, companionway – Mast, boom, pulpits, bow sprit – Tiller, tiller extension – Standing rigging, forestay, backstay, sidestays/shrouds – Mainsail, jib, genoa, spinnaker	Student Outcome • Knowledge of boat parts • How tiller steering works

– Head, tack, clew, luff, foot, leech – Telltales, batten, bolt rope – Sheets, halyards, boom vang, Cunningham, outhaul, traveler, jib leads, roller furler • When it comes to the tiller – stress the following, boat has to be moving to steer*, move tiller in opposite direction, return tiller or steering to neutral position. *Note this for later session. • Do not extend the bow sprit because it will not retract without the tack being attached.	
Blocks, shackles and winches – cover this while rigging • Following the jib lead demonstration, talk about blocks, these are pulleys on the land but are now called "blocks" • Demonstrate how to open shackles – Turning the pin so it can pass through the shaped hole – Rotate spring loaded pin and pull down at an angle • Demonstrate how to close shackles – Ensure students - line up the key with the slot in the housing to lock it – Pull spring-loaded pin slightly and close shackle, rotate pull ring so it is flat against the shackle • Have students open and close shackles. Position pin/pull ring towards starboard after use.	Student Outcome • Operating shackles • Hanging onto halyards
Sailing Concepts – theory to be covered	
How to read the wind • On the boat, ask a student to point where they think the wind is coming FROM • Use masthead fly, feel, flags, smoke and ripples on water • Reassure students that is takes time to figure out the wind direction but they will practice on the water – if this is the only thing they learn – that's great	Student Outcome • Awareness of indicators of wind direction • Able to point where the wind is coming from
How sails work • Keep this simple – don't use technical terms, and review again in knowledge session after sailing session #1	Student Outcome • Basic sail theory • Use telltales will indicate airflow

• Lift Mode: Air flow over both sides of sail and it lifts, like an airplane wind on its side • Push Mode: Air flow pushes on one side of sail, sail being pushed from one side • Use the example of sticking a hand out of car window. As you turn the hand it will lift up, when the hand is 90 degrees to the wind – then it gets pushed back • Boat does not slide sideways because of the keel • Note we have telltales on the sails to indicate airflow	
Points of sail • At the beginning, use the clock face. 90 degrees to the wind is 3 or 9 o'clock (beam reach) • When we sail away from the wind – 6 o'clock (running) • Sailing at 1:30 or 10:30 is the closest we can get to the wind without the sails losing lift – or what we call luffing (close hauled) • Come back to this diagram after the sailing session #1 – avoid using traditional point of sail terminology for now • Begin to employ proper sailing terms only after sailing session #1	Student Outcome • Position the boat relative to the wind
No-Go zone • Important concept to stress • Emphasize that between 10:30 and 1:30 the sails cannot generate lift, the boat will slow down eventually stop. Once the boat stops – Ask students if they remember what happens with the ability to steer?	Student Outcome • Understand that the boat will not go anywhere in the No-Go Zone
Introduce concept of going upwind and tacking • Use a model boat, paper clip or winch handle to demonstrate the zig zaging • Demonstrate by having a student be a wind indicator with an extended arm to indicate wind direction and have a student be a boat with arms stretched in front shaped like the bow of the boat. Have the boat zigzag "upwind". • Repeats commands for tacking – ready to tack, ready, tacking (or coming about)	Student Outcome • Understand concept of sailing upwind and tacking • Commands for tacking

Introduce concept of going downwind and gybing • Boat turns away from wind • Stern turns through wind (vs bow in tacking) • Bow towards wind to about 5 o'clock • Repeats commands for gybing – ready to gybe, ready, gybing (or gybe-ho) • Compare difference between tacking and gybing	Student Outcome • Understand concept of sailing downwind and gybing
Knots • First demonstrate tying one knot in front of group, then go around the group and make sure each student can perform the knots. Cover these knots before sailing session #1; stopper knots, slip knot, cleat hitch, coiling line, bowline, clove hitch. Cover other knots on the morning of Day 2. • Do enough knots to get by on the first day	Student Outcome • Ability to tie a bowline, stopper knots and cleat hitch
Getting Ready	
Boarding a boat • Demonstrate and talking about your actions when you are stepping and what you are holding on to • Have one student come on first and get the student situated before the next one comes on board (please check footwear) • Stress the following: Hold on the shrouds, both feet on toe rail first before stepping over lifelines, one hand for the boat, keep hands and feet away from space between the boat and the dock, identify safe areas on the boat – cockpit and mast	Student Outcome • Ability to safely board and deboard without supervision
Boat Rigging • Assign students by name to perform small discrete tasks. Supervise intensely and provide positive reinforcement • Demonstrate how to open shackles and hold onto halyards at all times. Joke that whoever loses the halyard has to climb the mast. • Fold mainsail over boom, attach up main halyard and if required retie jib sheets • Demonstrate how the main sail will be raised – one student to feed bolt rope and one to hoist	Student Outcome • Ability to rig boat • Understand how mainsail is raised

• Demonstrate how the jib will be furled and unfurled – be careful of the flapping jib clew on the foredeck of the boat • Demonstrate how the main sail will be lowered by creating pocket.	
Winches • Stress how to hold the line – thumbs towards chest and turn hand to cleat – very important on our boats due to thin lines • Practice loading and unloading a winch drum • Practice easing and releasing line • Demonstrate how to hold the winch handle by the stock so it doesn't swing and hit students in the face. • Stress the habit of returning winch handle to the holder because they do not float and you will be charged • Cover cleats by pointing them out while rigging the boat	Student Outcome • How to hold lines, load and release a winch
Break (15 minutes) Register float plan and confirm waivers have been signed	
Sailing Session #1 (2 hours and 15 minutes)	
Objective: Get the boat on the water as safely as possible, dock departure, raising sails, wind direction, beam reaching, basic sail trim, lowering sails and retuning to dock	
Pre-departure check • Start by donning the boat's life jackets, check each students jackets for fit and comfort • Start a boat checkout from the bow of the boat and work towards the stern. Close hatches, stow equipment, check main halyard and spinnaker halyard, check lines are uncoiled. Go through Departure Checklist. • Assign crew positions for casting off (bow, stern and spring – lines are color coordinated), keep boat balanced, show students how to cast off lines but ensure they wait for your command to release lines. Show them how to fend off with a roving fender. • Mention that after the boat is cast off have students ready to fend off – until the boat is clear of other boats.	Student Outcome • Life jacket check • Pre-departure check list • Casting off and fending off

• Remind students never put body parts between the boat and the dock/other boats • Note: you should have already checked for fuel and engine operation prior to class • Go through a pre-departure checklist	
Casting off • Repeat procedures for casting off • Radio for clearance from the Marina • Keep an eye on all the students as you depart the Marina • Stow all lines and fenders • Point out Aids-to-Navigation in the harbor • Introduce recognition of starboard/port tack and windward/leeward situations	Student Outcome • Learning to assess departure plan prior to casting off
• Tell your students to vigilant about looking for any traffic (larger or small) and debris in the water • Use clock time to describe what direction to look and how far away the vessel is in boat lengths • Make sure that the helm confirms they see the traffic – with "copy that" and "thank you" • Begin to verbalize about right of way situations and early avoidance of collisions	Student Outcome • Vigilant about looking out
Hoisting sails • Orchestrate raising of the mainsail • Talk about what is going to happen and assign students to hoist halyard and feed bolt rope • As for student on the mainsheet to keep a traffic lookup while hoisting • Stress housekeeping: coil main halyard, set main sail controls and tilt engine out of water	Student Outcome • Co-ordination to raise main and setting sail
Initial sail – if too windy consider sailing with a main sail only. • Assignment students helm, main, jib and look out. You should be close to the helm at all times • Continually ask students where the wind in coming from	Student Outcome • Sailing a straight line on beam reach • Rough sail trim • Tacking

• Sail around a fixed buoy for reference • Students now take the helm • Rotate everyone back one position every 15 minutes • After the first rotation, you focus on sail trim on a beam reach. – Trim for ballpark position and then fine tune – Ease both sails to stop and start – Don't over trim – "when in doubt ease it out" • Get your student to look at jib and main telltales – get them to note the position of the boom • Help student at helm with the tack • Ask what tack is the boat on?	
• During the second rotation, mention the No-Go zone as you are tacking • Practice tacking by verbalizing everything the student is doing – Checking traffic – Commands for tacking – tell students to be forceful – Turning towards wind, through wind and back to other tack – Pay attention to telltales when trimming – Deliberately get stuck in the No-Go zone and have students backwind main and sail backwards and resume sailing • Rotate everyone back one position every 15 minutes • Keep ask what tack is the boat on and what tack nearby boats are on?	Student Outcome • More refined tacking and sail trim • Understand No-Go zone • Sailing backwards • Using telltales
Sail Upwind • Continually ask students where the wind in coming from • In this rotation we are setting the jib trim then and sailing close hauled – Have the helm take the mainsheet. Help with main sheet if student has difficulty – Points to stress, sail close to No-Go zone, steer with telltales – Commend student when they are in the groove or highway – Get student to steer from windward side – Have forward student maintain lookout	Student Outcome • Helm and mainsheet co-ordination • Sailing upwind in the groove • Closed hauled tacking and sailing • Heave-to

– Note changes in course with changes in wind speed and wind direction • Tack close-hauled to close hauled – Pay attention to speed of the turn – If light air have helm stay on one side of side until boat has completed tack – Focus more attention on timing of the jib release and trimming in – Encourage timing of release and trimming of sails to match the boat moving through the tack – Have crew move in unison during the tack • Execute heave-to maneuvers • Ask which nearby boats are on the same tack and then ask which boat is windward or leeward? • Keep an eye out on time. You may not be able to complete a full rotation. Keep track of who needs to complete this rotation.	
Lowering sails • Before anything happens, have students talk about what needs to be done to lower sails • Have student #1 steer the boat. Keep track of who is operating the outboard, there should be ample opportunities for students to steer while under motor during the course. • When under motor, remind students that you are a power boat now and different right of way rules apply. • On the way back, have students identify what tack other sail boats are on. • Prompt each student to name one thing they learnt on the water in the session	Student Outcome • Co-ordination to lowering main sail and furling jib
Returning to dock by 1300 • Before entering the marina, talk about what is going to happen when you arrive at dock • Keep a look out for Marina traffic coming and going • Have spring and dock lines and fenders ready	Student Outcome • Planning and preparing to return to the docks

• Position students to balance boat, ready to step off boat with spring line, ready with stern and bow lines • Remind students how to fend off – no body parts between the boat and dock • Use spring line to get boat into dock • Have students step off boat – help them position the boat on the dock and help them secure the boat • Remember to re-adjust the spring line and supervise students making cleat hitches on the dock	
• Flake main sail on boom and secure boat for lunch • Tell students where to meet for a working lunch	
Working Lunch (60 minutes) -	
• Cover Review #1 – Go over boat nomenclature again with slides, tacking and gybing slides – Introduce points of sail – beam reach, running and close hauled • Have students meet at boat at 1400 • Recheck fuel	
Sailing Session #2 (3 hours) Objective: Refine tacking, upwind sailing (helm taking main sheet as well) , downwind sailing, gybing , heave-to and getting out of No-Go zone	
• Go through with your students what your thoughts are about departure • Go over procedures for fending off before you cast off	Student Outcome • Learning to assess departure plan prior to casting off
• Leave dock as taught in Sailing Session #1 • Have student number#2 take the helm to motor to the sailing area • On the way have students identify what tack other sail boats are on. Keep students looking out for traffic • Raise sails as taught in Sailing Session #1	
Sail Upwind • Continually ask students where the wind in coming from	

• Complete rotation for sailing in the groove, tacking close-hauled to close hauled and heaving-to maneuver	
Sailing Downwind • Continually ask students where the wind in coming from • Sail a broad reach and note to students that the sails are now in push mode and note the position of the boom and the jib • Now start using the luff of the jib as a trim guide instead of the telltales • When turning away from the wind, ease main sheet to reduce weather helm and get better balance • Practice turning to a run and back to a broad reach to ensure students understand signs of an impending gybe – Headsail will flutter or luff – Can no longer feel wind – very calm, lower head – Stay alert – keep head down – To prevent an accidental gybe – tiller towards the boom • Execute cruising gybes – show student alternative ways of bring in main sheet. • Explain sailing by-the-lee, quiz students – can the boom be on the windward side? • Cover sailing upwind close hauled again and tacking and back down wind in an imaginary rectangular course • Rotate students. • Ask students what tack are other boats on and if they are windward or leeward	Student Outcome • Learning to sail downwind and gybing • Recognizing and preventing impending gybe • Understand sailing by-the-lee
• Lower sails as taught in Session #1 • Have student #3 take the helm while under motor	
• Prompt each student to name one thing they learnt in the afternoon • Return to dock using procedures taught in Session #1 by 1630	
Show students how to secure dock lines • Not too tight too tight, this allows the boat to just float next to the dock. Once on the dock, any extra line should be taken up on the boat side of the line.	Student Outcome • Learning to secure dock lines

• If there is extra line on the dock at the cleat – then it should coiled so no one on the dock will be affected • Fenders should be 2 inches above the waterline and at the widest part of the boat	
Demonstrate putting away the boat by 1700 • Check dock lines and fenders (as above) • Housekeeping – coil lines, main covered and everything put away • Rinse anything that moves – tell students that salt water is an abrasive • Leave boat in better condition than when you found it • Note any maintenance that is required	Student Outcome • De-rigging and cleaning the boat
End of Day 1 - Wrap Up (60 minutes)	
• Go over Review #2 • Review points of sail, apparent wind and true wind, sailing by-the-lee • Cover docking under sail • Remind students to rehydrate and to come back to the boat tomorrow at 9:00 am.	

Day 2	
Knowledge Session # 3 (60 minutes)	
• Ask students how they are feeling after yesterday's class • Outline plan for the Day 2	
• Rig boat following procedures used in Day 1	
Knots – Part 2 • Review the knots from Day 1 and add the sheet bend, square knot, round-turn 2 half hitches, practice coiling and throwing a line	Student Outcome • Able to tie sheet bend, square knot, and round-turn 2 half hitches • Able to coiling and throwing a line
Cover Rules of the Road • Go over slides or white board. Relate to situations from previous sailing sessions • Right of way, power vs power, sail meeting sail, sail meeting power • Use the slide with multiple boats to test various scenarios • Talk about sound signals – 5 toots is DANGER, always look around – 4 blasts – no such thing. It is really one long blast and 3 toots. Leaving a slip backwards – Be attentive to all sound signals – it could be your boat!	Student Outcome • Rules of the road
Crew Overboard Recovery • Talk about COB prevention: shoes, one hand for the boat, swinging boom and sailing conditions. Relate to any situations from previous sailing sessions • Discuss Quick-Stop and Figure-8 methods. Explain why the Quick-Stop has been developed by US Sailing. • Discuss common elements and advantages of both methods. Yell COB, throw something to mark spot, keep eye on victim at all times (spotter) • Demonstrate procedure or model boats or on the docks with students. Go over all the steps for the Quick-Stop.	

• Talk about to get an immobile person back on board. • Stress that COB recovery builds all the skills learnt in the previous sailing sessions	
Sailing Session #3: (2 hours 30 minutes)	
Objective: Improve boat handling skills and perform crew overboard recovery techniques	
• Follow procedures for leaving the dock as taught in Day 1 • Have another student #4 motor to the sailing area under your supervision • On the way out, point our navigation aids, application of rules of road and listen for any sound signals	
• Raise sails as instructed on Day 1 • Have first student warm up with tacking and gybing	
Crew Overboard Recovery • Note: no students go overboard • Have the student talk though the Quick-Stop procedure step by step and then have the student perform a Quick-Stop maneuver without throwing anything overboard – Have student execute the quick stop procedure step by step with an object thrown overboard – Review performance and repeat – Rotate each student and execute at least two successful Quick Stops. • Have the student talk though the Figure-8 procedure step by step and then execute procedure – Review performance and repeat – Rotate each student and execute at least two Figure-8 recoveries • Make sure you hear student yell "Crew Overboard", appoint a spotter and pick up on stern quarter on a close reach	Student Outcome • Quick-stop and Figure-8 COB recovery
• Continue to practice gybing and tacking when returning to the Marina • When going upwind explain weather and lee helm and try to use	

sails and crew position to balance the helm	
• Lower sails following steps in Day 1 • Prompt each student to name one part of the COB recovery they learnt in the morning	
• Return to dock, flake main sail on boom and secure boat for lunch, by 1230	
Knowledge Session #3 - Working Lunch (60 minutes)	
• Go over review #3 to keep lecture on track • Weather: Outline where you personally get weather updates, talk about thunderstorms and the sea breeze • Current and Tides: Talk about high and low tide and how it relates to current in NY Harbor. Explain why how the current can move in opposite directions at the same time. • Charts: Outline basics of chart – orientation, scale and depths. Show on the charts where the Marina is located. Show the red and green marks. Illustrate red, right, return and even nuns blush. • Introduce concept of trip planning	Student Outcome • Weather patterns • Local current and tides • Chart familiarization • Trip planning
• Use slides to keep lecture on track • Safety: Go over required USCG equipment and distress signals – add other equipment – mention electrical hazards/power lines • VHF radio operation: VHF 16, 13 & 71. Explain when to use "mayday, mayday, mayday" • Emergencies: Go over various scenarios, ask students what they would do – running aground, knockdowns, rigging failure, towing. • Talk about anchoring and reefing – reference back to charts for depths about anchoring	Student Outcome • Safety equipment • VHF radio operation • Emergencies • Anchoring and reefing
• Ask to students to meet back at the boat at 1330 • Recheck weather with dockmaster and confirm graduation time 1730 • Recheck fuel	

Sailing Session #4 (3 hours)	
Objective: Bring all the weekend knowledge together and go for cruise. Practice reefing. Have students relax, take photos, tour to Statue of Liberty and Ellis Island.	
• Before leaving dock again, brief students on how to start the outboard. Check everything from fuel tank, fuel line to engine connection, choke, throttle and transmission position – note cooling water, idling speed when engaging transmission and the kill switch.	Student Outcome • Outboard engine operation
• Have another student motor out of Marina to sailing area • Raise sails as in Day 1	
• Set a destination and have students practice some tacks and gybes. Keep a casual conversation about other boats, what tack are on - are they giving way? What is plan B. • Keep student rotating positions every 20 minutes or so.	
• When going upwind explain weather and lee helm and try to use sails and crew position to balance the helm. • Talk about jib lead positions, reference adjustments such as halyard tension, boom vang setting, Cunningham settings, outhaul, traveler and backstay settings.	Student Outcome • Weather and lee helm • Boat balance
• After one rotation, demonstrate reefing main sail and execute one tack. Shake out reef in mail sail for normal operation. • Compliment students how easy it was to give instructions.	Student Outcome • Reefing
• Keep student rotating positions every 20 minutes or so. Introduce traveler and backstay settings for any advanced students • Keep a casual sail and outline what the next steps for sailing could be • Take pictures of students sailing, follow another school boat • Prompt each student to name one thing they learnt today. Did they have fun with the course?	
• Lower sails following steps in Day 1	
• Return to dock by 1630 and help secure and clean up boat by 1700 for the next reservation session	

Wrap and Graduation (60 minutes)	
• Have students meet you at the graduation spot • Sign out float plan and collect graduation package • Student and coach evaluations • Wrap up, take group photos and go to graduation • Introduce students to staff and members	