

Snipe Sailboat Racing Class Outline

A. Course Administration

1. Ten sessions 45 min each with 15-min Q & A after each.
2. Take notes, read books, learn terminology and parts of the boat and sails.
3. Skippers have no standing in the class until Q & A sessions.

B. Sessions

- 1-2. Mechanics—what makes the boat go.
- 3-4. Race course and basic rules—what's happening out there.
- 5-6. Crew responsibilities—how to keep the boat going well.
- 7-8. Tuning and boat handling—making the boat go faster around the course.
- 9-10. Racing rules and strategies—what's really happening out there.

C. Sessions 1-2

1. Parts of the boat and sails
2. Wind action on the sails
 - Flat board
 - Hand
 - Airfoil
 - Hang glider, kite
 - Pressure differences
 - Bernoulli effect
 - Single surface airfoil
 - Double surface airfoil
 - Lift and drag
 - Sail shape
3. Boat through the water
 - Back push
 - Side push
 - Fore & aft
4. Wind on the boat and sails
 - Front
 - Rear
 - Side
 - 45°
 - Telltale on boat
 - Telltale on sail
5. Points of sailing
 - Head to wind
 - Bearing away (also falling off, heading lower, heading below)
 - Bearing up (also heading up, coming up, going higher, pinching)
 - Luffing (between head to wind and when the sails first begin to fill)
 - Close hauled (also on the wind, on a tack)
 - Close reach
 - Beam reach
 - Run
 - Footing and pointing

6. Boat stability & balance
 - Roll (including heel and hiking)
 - Pitch (including surfing, noseing and planning)
 - Yaw
7. Maneuvers
 - Tacking
 - Gybing

D. Sessions 3-4—Race Courses

1. Types of courses
 - Windward-leeward (1, 1-1/2, 2, 2-1/2, etc)
 - Modified windward-leeward
 - Triangle (1, 1-1/3, 2, 2-1/3, etc)
 - Modified triangle
 - Olympic (triangle, windward, leeward, windward)
 - Gold Cup (triangle, windward, leeward)
 - Modified gold cup (modified triangle plus modified windward-leeward)
 - Banana (triangle, windward, leeward, beam reach, beam reach)
 - Figure X and its variations
2. Names of the legs
 - Windward (or weather)
 - Reaching
 - Leeward (or downwind)
3. Names of the buoys and other marks
 - Starting weather
 - Starting leeward
 - Windward (or weather)
 - Reaching (also offwind, gybing)
 - Leeward (or downwind)
4. Optional course features
 - Port mark roundings only
 - Starboard mark roundings only
 - Offset marks
 - Gates
 - Change position of a mark while race is underway
5. Regattas (including scoring)
 - Single class or multiclass
6. Series (including scoring)
7. Objectives
 - Win the regatta or series
 - Win one or more races in the regatta or series
 - Finish in the top half of the fleet
 - Finish in front of that certain other boat
 - Finish any place but last
 - Finish the race
8. Starting line
 - Committee boat starting point location
 - Length

9. Starting sequence and flags
 - Optional indication (30-60 seconds before the preparatory signal)
 - Warning (5 minutes) raise class flag or group number flag and sound
 - Preparatory (4 minutes) raise the “P” flag (blue with white square inside) and sound
 - (1 minute) drop the “P” flag and sound
 - Start (0 seconds) drop the warning flag and sound
 - Individual recall
 - General recall
 - Multiple fleet starts
10. Other signal flags
 - Come within hail
 - Return to harbor
 - Change course
 - Diver in area
 - Abandon race
 - Postpone race
 - Shorten course
11. Basic rules of racing
 - Definitions
 - Starboard/port tack
 - Windward/leeward
 - Overlap
 - Luffing
 - Fundamental rule: Starboard tack boat has right of way
 - Leeward boat right of way
 - Room at the mark
 - Boat on a tack has right of way over a boat tacking
 - Time to respond rule
 - Onus on boat not having the right of way
 - Rule 14 and rule 44.1(b) collisions
 - Hitting a mark
 - 720° penalty turns
 - Obstructions
 - Boat at anchor
 - Piers
 - Shoreline
 - Other boats with right of way

E. Sessions 5-6—Crew Responsibilities

1. Onshore—before the races start
 - a. Know the time of first start.
 - b. Assemble your own equipment...or know for sure that it will be provided by your skipper:
 - Gloves
 - Life Jacket
 - Water bottle
 - Sailing boots

- Outerwear (foul weather gear)
- Hat
- Glare-proof sunglasses
- Sun block
- Timing watch
- Sharpie marking pen
- c. Arrive on time (or early if you are Type “A” personality)
- d. Get the boat ready for rigging
 - Remove cover
 - Close bailer
 - Lower boat into water
 - Move boat around to a pier where the bow can be tied facing into the wind.
- e. Help rig the boat (with skipper if there, if not—learn to do it yourself)
 - Make sure the daggerboard tie-down is secure
 - Connect tiller to rudder, if not already connected
 - Line up tiller under the mainsheet traveler and put rudder in place
 - Place rudder pintles into gudgeons at back of transom
 - Push rudder down until the spring on top of bottom gudgeon locks
 - Slide foot of mainsail into boom slot and connect clew
 - Attach main halyard to head of mainsail
 - Look up to make sure halyard is free
 - Make sure jib halyard is snug (so the halyards don’t twist inside mast)
 - Begin hoisting the mainsail
 - When mainsail is about 12 inches from top, insert gooseneck into boom
 - Complete hoisting mainsail and make halyard fast (top click or base peg, depending on the specific locking mechanism)
 - Use short line to snugly tie toe of mainsail to mast, looping line around mast at least two times
 - Tighten outhaul until the foot of mainsail is very tight
 - Attach jib luff wire to forward clevis pin on deck mount
 - Attach jib Cunningham line to grommet in toe of jib
 - Raise jib and connect to jib halyard block & tackle
 - Tighten jib to halyard mark
- f. Prepare to race
 - Make sure tool kit and spares are in boat
 - Screws
 - Nuts & bolts
 - Blocks
 - Short line
 - Shock cord
 - Audio tape
 - Gorilla tape
 - Ring dings
 - Shackles
 - Check sailing instructions
 - Make sure tell tales are in place

Wake up skipper

2. On water—pre race and to the course
 - a. Adjust hiking straps
 - b. Practice compass headings
 - c. Practice at least one pole launching and gybe
 - d. Watch for the race committee flags
 - e. Make sure you know what the course is

 3. Upwind
 - a. Heel balance
 - b. Jibsheet setting
 - c. Jibsheet changing when tacking and gybing
 - d. Balance while tacking
 - e. Watching and reporting
 - Other boats on collision course
 - Windshifts on the water
 - Compass
 - Wind pressure on the water
 - Jib telltales for luffing or stalling

 4. Reaching
 - a. Continuous jib sheet adjustments
 - b. Fore and aft balance
 - c. Heel balance
 - d. Ease outhaul
 - f. Raise daggerboard
 - g. Look for next mark

 5. Downwind
 - a. Launch pole
 - b. Fore and aft balance
 - c. Gybe pole
 - d. Remind skipper to loosen jib halyard
 - e. Just before rounding leeward mark to go back upwind
 - Drop daggerboard
 - Tighten outhaul
 - Remind skipper to tighten halyard
 - Drop pole

 6. After race
 - a. Derig
 - b. Put boat away
 - c. Roll sails
 - d. Party
- F. Sessions 7-8—Tuning and Boat Handling
1. Boat Preparation
 - a. Bailer—all smooth and working with low friction
 - b. Chines—sharpen aft third and transom edges
 - c. Hull fairness—fill inward deformation and sand down (320-1000 grit)
 - d. Hull finish—resand 600-100 grit, compound, finalize with Teflon polish

- f. Daggerboard--edge fairing, location in trunk, mark line, restrainer
 - g. Rudder—close & low
 - h. Mainsheet ratchet blocks—at boom and behind daggerboard trunk
 - i. Jibsheet ratchet blocks—make it easier to crew to hold sheet longer
 - j. Layout—hiking adjustments, line lengths and diameters
 - k. Reference marks—number scales where possible to help note keeping
2. Rig Tune
- a. Mast Types—bendy or stiff
 - b. Prep for rig tuning—use sailmakers' guides for initial settings
 - Adjust numbers for differences between your boat and models in the guide
 - Adjust spreaders (length and angle)
 - Forestay (with shock cord)
 - Mast butt location—restricted by mast slot in deck
 - Mast butt angle—unrestricted bend
 - Shroud deck location
 - Jib tack pin—cannot be same as forestay
 - c. Tuning the rig
 - 50-ft tape
 - Transom crown
 - Loos gauge
 - Prebend tension
 - Staymasters
 - Jib halyard markings on side of the mast
 - Wind range settings
 - d. Rigging
 - Jib halyard length—need 10" of freedom
 - Mast partner—shims
3. Sails adjustments
- a. Mainsail—upwind
 - Tack line—toe grommet close to mast track (0-1/2")
 - Outhaul—to max limit in medium and heavy air, may be looser in light air
 - Mainsheet—constantly moving, footing off, then pointing
 - Forward puller—on in light air, with looser halyard
 - Aft puller—on and off in medium/heavy air with puffs
 - Mast deck marks
 - Boomvang—medium/heavy air, ease before going around weather mark
 - Traveler—split mainsheet, use depends upon mast type
 - b. Jibsail—upwind
 - Leads
 - Jibsheet
 - Jib Cunningham
 - Jib halyard
 - c. Depowering upwind
 - Ease aft puller
 - Tighten vang
 - Jib leads forward
 - Jib leads outboard
 - Ease traveler

- d. Mainsail offwind
- e. Jib offwind
- f. Non-pole reaching
- g. Pole reaching
- 4. Boat handling
 - a. Upwind
 - two-stroke tacking
 - heel
 - b. Rounding weather mark
 - c. Rounding gybe mark
 - d. Rounding leeward mark
 - e. Downwind gybing

G. Sessions 9-10--Advanced Racing Techniques

- 1. Local knowledge preparation
- 2. Starting
- 3. Upwind strategies
- 4. Mark roundings
- 5. Downwind strategies
- 6. International and World Championships