NFARL Antenna Special Interest Group (SIG)
Proposed Syllabus

Month 1 – Kickoff meeting with weekly or bi-weekly discussion nets

- Syllabus review and interactive teaching / self-study learning approach
- Agreement on meeting schedule (in-person and radio conference)
- Reading assignments for following month

Month 2 – Wire Antenna Choices (may need to split into two months)

- Dipole Types: resonant, non-resonant, off-center-fed, folded, fan, etc.
- Dipole Orientation: horizontal, slopped, inverted-V and vertical
- Verticals: elevated, ground mounted, radials
- Loops: horizontal, vertical
- EZNEC modeling predictions of some of the above
- Hands-on measurements of some of the above
- Reading assignments for following month

Month 3 – Feedlines, Baluns and Chokes (what, why and where)

- Coaxial feedlines: impedances, velocity factors, losses
- Balanced feedlines: impedances, velocity factors, losses
- Baluns: purpose, types, ratios, construction, quality
- Chokes: purpose, types, construction, quality
- Hands-on measurements of some of the above
- Reading assignments for the following month

Month 4 – SWR, Matching and Tuners

- SWR: what is it and when does it matter
- Matching: antenna, feedline, amplifier and tuners
- Tuners: T, L, Pi, Manual and Automatic
- TL Wizard modeling of some of the above
- Hands-on experiments in measuring, matching and tuning
- Reading assignments for the following month

Month 5 – Wire Antenna Construction

- Mechanical construction: antennas, feedlines, connectors, weatherproofing
- Erection: launchers, supports, ropes, pulleys
- Grounding: principles and requirements
- Shack Entry and Lightening Protection

- Hands-on: construction, erection, installation and measurement of an antenna for each participant.
- Selection of follow-on topics

Month 6 and Beyond – Potential Topics

- Antenna construction - solid material including transmitting loops
- EZNEC and TLW modeling techniques
- Antenna structures - towers/masts/poles-installation/purchase/construction
- RFI – preventing and curing
- VHF considerations
- Propagation considerations
- Low-band: 160/80M transmitting
- Beam antenna choices
- Low-band: 160/80M receiving