Berrien Springs Partnership Syllabus and Instructor Qualifications

# **CLASS TITLE: Amateur Radio General Class License** **GRADE OR AGE LEVELS: Grades 6-12** **START DATE: September 2023 END DATE: Dec/Jan 2023 # WEEKS TOTAL: 11 WEEKS OFF: DAY/TIME REQUIRED: Monday ADD’L DAYS/WK AVAILABLE:** # **HOURS (REQUIRED):** 2 hours/week # **HOURS (POSSIBLE): TOTAL SEMESTER HOURS POSSIBLE: 22, additional hours available if needed, remainder of time spent after completion of objective will be to work on the next level of license.** **LOCATION/ADDRESS: Lakeside Family Church, 6999 Red Arrow Highway, Stevensville, MI 49127 (tentative pending OK from them) DIRECTIONS TO LOCATION (if needed):** **MAIN INSTRUCTOR: Earl Morse** **ADDITIONAL PRIMARY INSTRUCTORS (background checked):**

# **CONTACT INFORMATION:**

Earl Morse

**phone: 734.740.8665**

**email: n8ss2014@gmail.com**

ADDITIONAL REGISTRATION AT SITE REQUIRED? YES NO  
IF YES, INSTRUCTIONS FOR REGISTRATION:

# MAIN INSTRUCTOR QUALIFICATIONS: BSEE, Amateur Radio Extra Class License N8SS

COURSE DESCRIPTION (complete overview shown on website): The class will provide all the training to allow the student to pass the General Class Level Amateur Radio License exam allowing them to obtain the General Class Amateur Radio License. A Technician Class Amateur Radio License is a prerequisite to this class.

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# SYLLABUS/OUTLINE: weekly breakdown of Project-Based Learning activities

Amateur Radio General Class License Class Syllabus

Text: The ARRL General Class License Manual for Ham Radio. Tenth Edition

Available from ARRL and others for $32.95

Prerequisite: Technician Class License

1. Introduction to Amateur Radio General Class License
   1. General Class License and Amateur Radio
   2. How to use this book
   3. The Upgrade Trail
   4. Class Info
2. Procedures and Practices
   1. HF Operating Techniques
   2. Emergency Operation
3. Rules and Regulations
   1. Regulatory Agencies
   2. Amateur Licensing Rules
   3. Control Operator Privileges and Rules
   4. Technical Rules and Standards
4. Components and Circuits
   1. Power and Decibels
   2. AC Power
   3. Basic Components
   4. Reactance, Impedance, and Resonance
   5. Active Components
   6. Practical Circuits
   7. Basic Test Equipment
   8. Practical Antenna Systems
5. Radio Signals and Equipment
   1. Basic Modes and Bandwidth
   2. Radio’s Building Blocks
   3. Transmitters
   4. Receivers
   5. HF Station Installation
6. Digital Modes
   1. Basics of Digital Modes
   2. Character Based Modes
   3. Packet-Based Modes and Systems
   4. Receiving and Transmitting Digital Modes
   5. Digital Operating Procedures
7. Antennas
   1. Dipoles and Ground Planes
   2. Yagi Antennas
   3. Loop Antennas
   4. Specialized Antennas
   5. Feedlines
8. Propagation
   1. The Ionosphere
   2. The Sun
   3. Scatter Modes
9. Electrical and RF Safety
   1. Electrical Safety
   2. RF Exposure
   3. Outdoor Safety
10. General Class Question Pool
    1. Syllabus
    2. Subelement G1—Commission’s Rules
    3. Subelement G2—Operating Procedures
    4. Subelement G3—Radio Wave Propagation
    5. Subelement G4—Amateur Radio Practices
    6. Subelement G5—Electrical Principles
    7. Subelement G6—Circuit Components
    8. Subelement G7—Practical Circuits
    9. Subelement G8—Signals and Emissions
    10. Subelement G9—Antennas and Feed Lines
    11. Subelement G0—Electrical and RF Safety

*Class room activities will be tailored to meet the objectives of the weekly topics. Each class will cover one chapter of the study guide. Some of the chapters may be extended over two class periods if needed.*

# COURSE OBJECTIVES AND APPROXIMATE TARGET DATES:

*Weekly quiz on topics covered to date with questions from the FCC question pool.*

*Final Test is successful completion of the FCC General Class License Exam which will be offered as part of the class in class.*

STUDENT ASSESSMENT - what will be used to evaluate student progress and/or end of semester pass/fail status?  
Pass criteria is successful completion of the FCC Technician Class License Exam by the end of the semester resulting in issuance of the Technician Class license and callsign.

All classes abide by the following:

1. Student agrees to attend at least 80% of class sessions/lessons offered. Attendance is kept online and tracked by Partnership staff. Failure to meet 80% or be on track to meet 80% may result in program discontinuation.
2. The Partnership Student Assessment or Performance Form is filled out by the teacher and turned in to Partnership staff. The link to this form is found on the web page for this class. Failing marks for lack of participation, behavior issues, practice time, etc. may result in program discontinuation.

**Class-specific assessment:** discuss and include the form or a link to the form that you use.

# ADDITIONAL RESOURCES: (online, books, video, etc.):

In addition to the text mentioned above these are some of the more common resources available online:

FCC Part 97

https://www.ecfr.gov/current/title-47/chapter-I/subchapter-D/part-97

General Class License Question Pool

http://www.ncvec.org/page.php?id=373

General Amateur Radio Information

www.arrl.org

# CLASS POLICIES: ATTENDANCE, BEHAVIOR, WEATHER, ETC.

**Attendance:**

**Behavior:**

**Weather: Same as Bridgman Public Schools**

**Other:**