Berrien Springs Partnership Syllabus and Instructor Qualifications

# **CLASS TITLE: Amateur Radio****GRADE OR AGE LEVELS: Grades 6-12****START DATE: 30 Jan 2023 END DATE:# 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 49127DIRECTIONS 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 Technician Level Amateur Radio License exam allowing them to obtain this entry level Amateur Radio License.

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

**Session 1**

**Amateur radio overview**

**SUBELEMENT T**1 – FCC Rules, descriptions and definitions for the amateur radio

service, operator and station license responsibilities

*(6 exam Questions)*

**Session 2**

**SUBELEMENT T2** - Operating Procedures

*(3 exam Questions)*

**Session 3**

**SUBELEMENT T3** – Radio wave characteristics, radio and electromagnetic properties,

propagation modes

*(3 exam Questions)*

**Session 4**

**SUBELEMENT T4 - Amateur radio practices and station setup**

*(2 exam Questions)*

**Session 5**

**SUBELEMENT T5 – Electrical principles, math for electronics, electronic principles, Ohm’s Law**

*(4 exam Questions)*

**Session 6**

**SUBELEMENT T6 – Electrical components, semiconductors, circuit diagrams,**

**component functions**

*(4 exam Questions)*

**Session 7**

**SUBELEMENT T7 – Station equipment, common transmitter and receiver**

**problems, antenna measurements and troubleshooting, basic repair and testing**

*(4 exam Questions)*

**Session 8**

**SUBELEMENT T8 – Modulation modes, amateur satellite operation, operating**

**activities, non-voice communications**

*(4 exam Questions)*

**Session 9**

**SUBELEMENT T9 – Antennas, feedlines**

*(2 exam Questions)*

**Session 10**

**SUBELEMENT T0 – AC power circuits, antenna installation, RF hazards**

*(3 exam Questions)*

**Session 11**

**Student led review ask any ham radio or electronics questions**

*Class room activities will be tailored to meet the objectives of the weekly topics. Some of the topics are short and may be combined into one session rather than two.*

# 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 Technician License Exam.*

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.

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

FCC Part 97

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

Technician 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:**

**Other:**