



ARRL Ham Radio Technician Class License Course

Presented by the Huntsville Amateur Radio Club®

Classes begin on Friday January 19th, 2018

At the Red Cross, 1101 Washington St. NW, Huntsville, AL

Classes held twice a week on Tuesday and Friday from
6:00 PM to 7:30 PM for 10 weeks.

Course Overview

- Welcome to Amateur Radio
- Radio and Signal Fundamentals
- Electricity, Components, and Circuits
- Propagation, Antennas, and Feed Lines
- Amateur Radio Equipment
- Communicating With Other Hams
- Licensing Regulations
- Operating Regulations
- Safety

Required Manual: ARRL Ham Radio License Manual, 3rd Edition

Order from the ARRL for \$29.95 at <https://www.arrl.org/shop/Licensing-Education-and-Training/>

OR

Order from Amazon for \$28.45 at https://smile.amazon.com/s/ref=nb_sb_ss_i_3_4?url=search-alias%3Daps&field-keywords=ham+radio+license+manual&srefix=Ham+%2Caps%2C205&crd=39HB13GAC6D92

Register for the ARRL Ham Radio Technician Class Course by sending an email to treasurer@harc.net. Please write "Technician Class" on the email Subject line. Please include your name, phone number, and email address in your registration email.

Huntsville Amateur Radio Club®

Technician Class

Expanded Schedule and Syllabus

Revision 3.0

The Class Schedule has been extended one week because of weather cancelations.

The goals of the 10 week Technician Class License Course are to:

- Prepare new students of Amateur Radio for the Entrance Level Technician Exam
- Learn and understand basic concepts of radio science and electronics at an introductory level
- Gain a fundamental understanding of radio technology
- Learn the Federal Communications Commission Rules and Regulations governing Amateur Radio

This course will use Amateur Radio Relay League (ARRL) course materials. Each Student will need to purchase the ARRL Ham Radio License Manual **3rd Edition**. Each student should order a copy of the ARRL Ham Radio License Manual **3rd Edition** online at <http://www.arrl.org/shop/Beginners/>. The cost of the manual is \$29.95 plus shipping & handling.

Please order your copy of the ARRL Ham Radio License Manual **3rd Edition** at least two weeks in advance of the first day of class. This will insure that you have your manual in time for the first class.

The following Expanded Schedule and Syllabus gives you all the information you need to prepare for each lesson. The date, Lesson Module Title, pages to read in *The ARRL Ham Radio License Manual* (Third Edition), and the applicable module questions from the Question Pool, are given for every Lesson Module.

Students **are strongly encouraged** to read the pages given in this Syllabus for each Lesson Module before coming to class. The entire Question Pool is located in the back of *The ARRL Ham Radio License Manual* (Third Edition) in the pages marked with the blue page edges.

An instructor will be available to answer questions or give extra help to those who need it at 5:00 PM at the Red Cross on class dates. Bob Burns may be reached at treasurer@harc.net or 256-684-6161.

Classes are held at the Red Cross, 1101 Washington St. NW, Huntsville, AL.

Classes begin promptly at 6:00 PM.

1. 1/19/18 - Lesson Module 1: Welcome to Amateur Radio Lesson
 - ✓ *The ARRL Ham Radio License Manual* (Third Edition) pages 1-1 to 1-22
 - ✓ **Question Pool – Questions Applicable to Module 1:** T1A02
 - ✓ Instructors – Primary Bob Burns, Introduce Craig Reinhart, Jack Hemby and Tom Duncan
 - ✓ Class Room and Equipment Setup/Teardown – Tom Duncan

2. 1/23/18 - Module 2: Radio Waves and Signals
 - ✓ *The ARRL Ham Radio License Manual* (Third Edition) pages 2-1 to 2-6
 - ✓ **Question Pool – Questions Applicable to Module 2:** T3B01; T3B04; T3B05; T3B06; T3B07; T3B08; T3B09; T3B10; T3B11; T5C05; T5C06
 - ✓ Instructors – Primary Bob Burns, Assistant Craig Reinhart
 - ✓ Class Room and Equipment Setup/Teardown – Tom Duncan

3. 1/26/18 - Lesson Module 3: Modulation & Bandwidth Lesson
 - ✓ *The ARRL Ham Radio License Manual* (Third Edition) pages 2-7 to 2-13
 - ✓ **Question Pool – Questions Applicable to Module 3:** T1B09; T2B05; T2B06; T8A01; T8A02; T8A03; T8A04; T8A05; T8A06; T8A07; T8A08; T8A09; T8A10; T8A11
 - ✓ Instructors – Primary Bob Burns, Assistant Craig Reinhart

✓ Class Room and Equipment Setup/Teardown – Tom Duncan

4. 1/30/18 - Module 4: Electricity

✓ *The ARRL Ham Radio License Manual* (Third Edition) Metric Prefix and Conversion Table (**HRLM Table 2-1**), pages 3-1 to 3-6

✓ **Question Pool – Questions Applicable to Module 4:** T5A01, T5A03; T5A04; T5A05; T5A07; T5A08; T5A09; T5A11; T5A12; T7D01; T7D02; T7D03; T7D04; T7D05; T7D06; T7D07; T7D11; T7D12

✓ Instructors – Primary Bob Burns, Assistant Craig Reinhart

✓ Class Room and Equipment Setup/Teardown – Tom Duncan

5. 2/2/18 - Lesson Module 5: Ohm's Law, Power and the Metric System

- ✓ *The ARRL Ham Radio License Manual* (Third Edition), pages 3-4 and 3-5, Ohm's Law and Power Calculation Diagrams (**Figure 3-4**)
- ✓ Note for Lesson Module 5: Bring a calculator to class with you.
- ✓ **Question Pool – Questions Applicable to Module 5:** T5A02; T5A10; T5B01; T5B02; T5B03; T5B04; T5B05; T5B06; T5B07; T5B08; T5B12; T5B13; T5C08; T5C09; T5C10; T5C11; T5D01; T5D02; T5D03; T5D04; T5D05; T5D06; T5D07; T5D08; T5D09; T5D10; T5D11; T5D12
- ✓ Instructors – Primary Craig Reinhart, Assistant Bob Burns
- ✓ Class Room and Equipment Setup/Teardown – Tom Duncan

6. 2/6/18 - Module 6: Electronic Components

- ✓ *The ARRL Ham Radio License Manual* (Third Edition), pages 3-6 through 3-15
- ✓ **Question Pool – Questions Applicable to Module 6:** T5C01; T5C02; T5C03; T5C04; T5C12; T5C13; T6A01; T6A02; T6A03; T6A04; T6A05; T6A06; T6A07; T6A08; T6A09; T6B01; T6B02; T6B03; T6B04; T6B05; T6B06; T6B07; T6B08; T6B09; T6B10; T6B11; T6B12; T6C01; T6C02; T6C03; T6C04; T6C05; T6C06; T6C07; T6C08; T6C09; T6C10; T6C11; T6C12; T6C13; T6D01; T6D02; T6D03; T6D04; T6D06; T6D07; T6D08; T6D09; T6D10; T6D11; T0A04; T0A05
- ✓ Instructors – Primary Bob Burns, Assistant Jack Hemby
- ✓ Class Room and Equipment Setup/Teardown – Tom Duncan

7. 2/9/18 - Lesson Module 7: Types of Radio Circuits

- ✓ *The ARRL Ham Radio License Manual* (Third Edition), pages 2-11 through 2-12, and pages 3-16 through 3-19
- ✓ **Question Pool – Questions Applicable to Module 7:** T1F09; T7A01; T7A02; T7A03; T7A04; T7A05; T7A06; T7A08; T7A10; T7A11
- ✓ Instructors – Primary Bob Burns, Assistant Jack Hemby
- ✓ Class Room and Equipment Setup/Teardown – Tom Duncan

8. 2/13/18 - Module 8: Propagation

- ✓ *The ARRL Ham Radio License Manual* (Third Edition), pages 4-1 through 4-5
- ✓ **Question Pool – Questions Applicable to Module 8:** T3A01; T3A02; T3A06; T3A08, T3A10; T3A11; T3C01; T3C02; T3C03, T3C04; T3C05; T3C06; T3C07; T3C08; T3C09; T3C10; T3C11; T3C12
- ✓ Instructors – Primary Craig Reinhart, Assistant Bob Burns
- ✓ Class Room and Equipment Setup/Teardown – Tom Duncan

9. 2/16/18 - Lesson Module 9: Antennas and Feed Lines Lesson

- ✓ *The ARRL Ham Radio License Manual* (Third Edition), pages 4-5 through 4-10, and page 5-4 (Dummy Loads)
- ✓ **Question Pool – Questions Applicable to Module 9:** T3A04; T3A07; T3A09; T3B02; T3B03; T5B09; T5B10; T5B11; T5C07; T7C01; T7C03; T7C04; T7C05; T7C06; T7C07; T7C12; T7C13; T9A02; T9A11; T9B01; T9B02; T9B03; T9B05; T9B09; T9B11
- ✓ Instructors – Primary Bob Burns, Assistant Jack Hemby
- ✓ Class Room and Equipment Setup/Teardown – Tom Duncan

10. 2/20/18 - Module 10: Practical Antenna Systems

- ✓ *The ARRL Ham Radio License Manual* (Third Edition), pages 4-11 through 4-19
- ✓ **Question Pool – Questions Applicable to Module 10:** T3A03; T3A05; T7C02; T7C08; T7C09; T7C10; T7C11; T7C12; T7D08; T7D09; T9A01; T9A03; T9A04; T9A05; T9A06; T9A07; T9A08; T9A09; T9A10; T9B04; T9B06; T9B07; T9B08; T9B10
- ✓ Instructors – Primary Bob Burns, Assistant Jack Hemby
- ✓ Class Room and Equipment Setup/Teardown – Tom Duncan

11. 2/23/18 - Lesson Module 11: Basic Amateur Radio Station Equipment Lesson

- ✓ *The ARRL Ham Radio License Manual* (Third Edition), pages 5-1 through 5-14
- ✓ **Question Pool – Questions Applicable to Module 11:** T2B03; T4A01; T4A02;

T4A06; T4A07; T4B01; T4B02; T4B03; T4B04; T4B05; T4B06; T4B07; T4B08;
T4B09; T4B10; T4B12; T7A07; T7A09; T7A10; T7B01; T8C11; T8D01; T8D02;
T8D03; T8D05; T8D06; T8D07; T8D08; T8D09; T8D10; T8D11

✓ Instructors – Primary Bob Burns, Assistant Jack Hemby

✓ Class Room and Equipment Setup/Teardown – Tom Duncan

12. 2/27/18 - Module 12: Power Sources and Interference

✓ *The ARRL Ham Radio License Manual* (Third Edition), pages 5-15 through 5-23

✓ **Question Pool – Questions Applicable to Module 12:** T2C02; T4A03; T4A04;
T4A08; T4A09; T4A10; T4A11; T4A12; T5A06; T6A10; T6A11; T6D05; T6D12;
T7B02; T7B03; T7B04; T7B05; T7B06; T7B07; T7B08; T7B09; T7B11; T7B12;
T0A09; T0A10

✓ Instructors – Primary Bob Burns, Assistant Jack Hemby

✓ Class Room and Equipment Setup/Teardown – Tom Duncan

13. 3/2/18 - Lesson Module 13: Communicating with Other Hams, Part 1 Lesson

✓ *The ARRL Ham Radio License Manual* (Third Edition), pages 6-1 through 6-20

✓ **Question Pool – Questions Applicable to Module 13:** T2A01; T2A02; T2A03;
T2A04; T2A05; T2A08; T2A09; T2A12; T2B01; T2B02; T2B04; T2B10; T2B11;
T2B12; T2C03; T4B11; T7B10; T8C05; T8C06; T8C09; T8C10; T8C12; T8C13

✓ Instructors – Primary Craig Reinhart, Assistant Bob Burns

✓ Class Room and Equipment Setup/Teardown – Tom Duncan

14. 3/6/18 - Module 14: Communicating with Other Hams, Part 2 Lesson

✓ *The ARRL Ham Radio License Manual* (Third Edition), pages 6-20 through 6-33

✓ **Question Pool – Questions Applicable to Module 14:** T1A07; T1A13; T2C01;
T2C04; T2C05; T2C06; T2C07; T2C08; T2C09; T2C10; T2C11; T2C12; T8B01;
T8B02; T8B03; T8B04; T8B05; T8B06; T8B07; T8B08; T8B09; T8B10; T8B11;
T8C01; T8C02; T8C03; T8C04; T8C07; T8C08; T8D04

✓ Instructors – Guest Wayne Reed, Guest Jim Spikes, Guest MD Smith ? Assistant Bob Burns

✓ Class Room and Equipment Setup/Teardown – Tom Duncan

15. 3/9/18 - Module 15: License Regulations and License Privileges Lesson

✓ *The ARRL Ham Radio License Manual* (Third Edition), pages 7-1 through 7-19

✓ **Question Pool – Questions Applicable to Module 15:**

➤ Section 7.1

T1A01; T1A02; T1A03; T1A05; T1A10; T1A12; T1C07; T1C08; T1C09; T1C10; T1C11;
T1C13; T1F13

➤ Section 7.2

T1A08; T1A09; T1A14; T1B03; T1B04; T1B05; T1B06; T1B07; T1B08; T1B10; T1B11;
T1B13; T2A10; T2A11; T2B13

➤ Section 7.3

T1B01; T1B02; T1C03; T1C04; T1C06; T1D01

✓ Instructors – Primary Craig Reinhart, Assistant Bob Burns

✓ Class Room and Equipment Setup/Teardown – Tom Duncan

16. 3/13/18 - Module 16: Call Signs and Operating Regulations Part 1 Lesson

✓ *The ARRL Ham Radio License Manual* (Third Edition), pages 7-19 through 7-22,
pages 8-1 through 8-6, and pages 8-9 and 8-10

✓ **Question Pool – Questions Applicable to Module 16:** T1C01; T1C02; T1C05;
T1C12; T1C14; T1D11; T1E01; T1E02; T1E03; T1E04; T1E05; T1E07; T1E11;
T1E12; T1F01; T1F02; T1F03; T1F04; T1F05; T1F06; T1F07; T1F08; T1F11;
T1F12; T2A06; T2A07; T2B09

✓ Instructors – Primary Craig Reinhart, Assistant Bob Burns

✓ Class Room and Equipment Setup/Teardown – Tom Duncan

17. 3/16/18 - Module 17: Call Signs and Operating Regulations, Part 2

- ✓ *The ARRL Ham Radio License Manual* (Third Edition), pages 8-7 and 8-8, and pages 8-10 through 8-13
- ✓ ARRL's FCC Part 97 Rules online (www.arrl.org/part-97-amateur-radio)
- ✓ **Question Pool – Questions Applicable to Module 17:** T1A04; T1A06; T1A11; T1D02; T1D03; T1D04; T1D05; T1D06; T1D07; T1D08; T1D09; T1D10; T1D12; T1E06; T1E08; T1E09; T1E10; T1F10; T2B07; T2B08
- ✓ Instructors – Primary Craig Reinhart, Assistant Bob Burns
- ✓ Class Room and Equipment Setup/Teardown – Tom Duncan

18. 3/20/18 - Lesson Module 18: Safety and Amateur Radio

- ✓ *The ARRL Ham Radio License Manual* (Third Edition), Chapter 9
- ✓ ARRL's FCC Part 97 Rules online (www.arrl.org/part-97-amateur-radio)
- ✓ **Question Pool – Questions Applicable to Module 18:** T0A01; T0A02; T0A03; T0A06; T0A07; T0A08; T0A11; T0B01; T0B02; T0B03; T0B04; T0B05; T0B06; T0B07; T0B08; T0B09; T0B10; T0B11; T0B12; T0C01; T0C02; T0C03; T0C04; T0C05; T0C06; T0C07; T0C08; T0C09; T0C10; T0C11; T0C12; T0C13
- ✓ Instructors – Primary Bob Burns, Assistant Craig Reinhart
- ✓ Class Room and Equipment Setup/Teardown – Tom Duncan

19. 3/23/18 – 5:30 PM - License Test Session (Bring a calculator with you)