

Santa Fe Trail Amateur Radio Club

2026 Extra-Class License Course Introduction

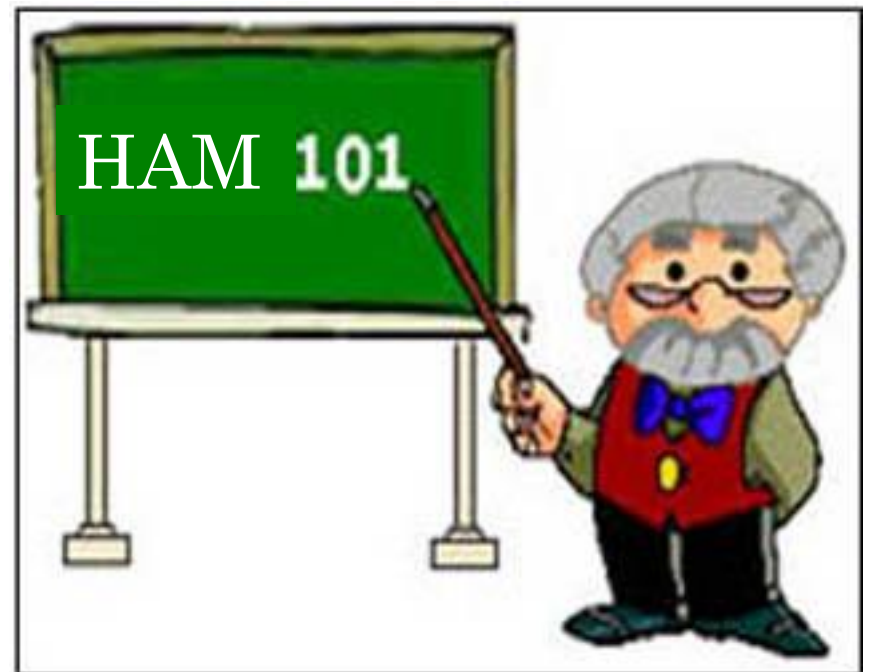


Jim Andera
K0NK
10 Jan 2026



SFTARC Instructors

- Jim Andera, KØNK
- Larry Hall, KDØRIU
- George McCarville
WBØCNK
- Mike Stewart, NØTU
- Greg Wolf, KIØKK



Student Introductions

Introduction:

- Name and call sign
- How did you learn about this class?
- What is your incentive for upgrading?



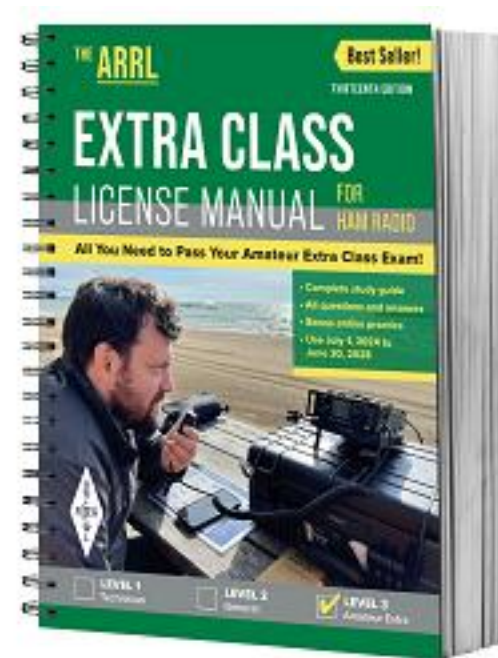
Housekeeping

- **Thanks to The Salvation Army** for providing us with the use of the facility.
- Restrooms are in the hallway to the SW; look for signs.
- Snow days:
 - Class will be held via Zoom if roads are unsafe
 - Email notification by about ~7:30 a.m. if we have to cancel in-person classes
- Set-up and take-down the tables.
- No vending machines available.
- Help keep the room clean.
- Wear Name/Call tags if you have one.



ARRL General Class License Manual

- * Presents the material in traditional textbook fashion.
- * Useful as a reference book after you obtain your license.
- * We will try to emphasize the more important points and topics



13th Edition

11 Chapters in 8 Weeks

- * Introduction
 - * Operating Practices
 - * Rules and Regulations
 - * Electrical Principals
 - * Components and Building Blocks
 - * Radio Circuits and Systems
 - * Radio Measurements and Performance
 - * Modulation, Protocols and Modes
 - * Antennas and Feedlines
 - * Radio Propagation
 - * Safety
-
- * Volunteer Examiners will be here in March
 - * Plus a Bonus: Practical Considerations Discussion

Before Class

- * Look over the up-coming chapter before class**
- * Gain an understanding of the topics we will cover.**
- * Don't get bogged down in the technical details**

During Class

- * The instructors will help provide guidance on the important points to focus on.
 - * Students are encouraged to ask questions
- * Most of the class time will be spent explaining and discussing the content of the chapter.
- * A few Q/A will be reviewed in class.
 - * There are over 600 of them!
- * Most Classes will include a presentation or demonstration just for fun.

After Class

- * The students are to review all of the questions that pertain to that chapter as home study by:
 - * Using the License Manual book
 - * On-line
 - * Or optional ARRL Q&A book
- * Presentations will posted on the SFTARC website after the class
 - * If you miss a class, study off this posted presentation and the syllabus



The Extra Class Material

- * The content of the technical material is notably more advanced than that of the Technician or General-class licenses
- * We will try to help you through it—don't let yourself get too frustrated
- * Absorb what you can—and let the rest go
- * 100% is not needed on the exam



On-Line at the ARRL

- * **Go to:** <http://arrlexamreview.appspot.com>
- * **First-time users:**
 - * **Step 1:** Sign Up to create an Exam Review account
 - * **Step 2:** Respond to confirming Email
 - * **Step 3:** Login to Exam Review
- * **Log in with username and Password**
 - * **Select Review for Exam**
 - * **Select Extra Review**
 - * **Select Review by Chapter**
 - * **Check** the appropriate Chapter or Section(s)
 - * **Hit Review**

Santa Fe Trail Amateur Radio Club

- Students who are first-time members automatically get a **1-year free** membership to the SFTARC. Go to SFTARC.com and fill out a membership application.
- **Breakfast every Saturday Morning** ~ 6:30 – 8:30 am
 - Perkins, Gardner
 - SW corner of I-35 and 175th (Exit 210)
- **Business Meeting** the 2nd Saturday of the month, at ~ 7:30 - 8:00 am as part of the breakfast
 - Zoom attendance option
- **Tech Night** – Last Thursday of each month
7:30 pm via Zoom



Santa Fe Trail Amateur Radio Club

We conduct various operating events throughout the year:

- Kansas Day- Jan 28 - Edgerton and from home QTHs
- Tallgrass National Prairie Preserve – May – Strong City
 - Parks on the Air (POTA)
- Ensor Park and Museum
 - Special Events throughout the year
 - Conduct tours of the museum
 - Field Day (and from home QTHs)
- POTA event in the fall at a local park
- Look at the calendar on **SFTARC.ORG**



Syllabus

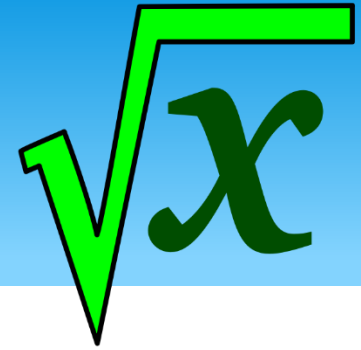
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EXTRA CLASS SYLLABUS Santa Fe Trail Amateur Radio Club

Date	Class	Begin Time	Instructor	Alt	Chapter-Section	Description
01/10/26	1	8:30	ALL			Collect money and pass-out books
			Student		1	Introduction
			Student		1.1	The Extra Class License and Amateur Radio
			Student		1.2	Extra Class Overview
			Student		1.3	The Volunteer Testing Process
			Student		1.4	How to Use This Book
			Mike	JA	2	Operating Practices
			Mike	JA	2.1	General Operating
			Mike	JA	2.2	Amateur Satellites
			Mike	JA	3	Rules and Regulations
			Mike	JA	3.1	Operating Standards
			Mike	JA	3.2	Station Restrictions
			Mike	JA	3.3	Station Control
			Mike	JA	3.4	Amateur-Satellite Service
			Mike	JA	3.5	Volunteer Examiner Program
			Mike	JA	3.6	Miscellaneous Rules
			Jim	LH	-	Basic Math Review
01/17/26	2	8:30			4	Electrical Principles
			Jim	LH	4.1	Radio Mathematics
			Larry	GM	4.2	Electrical and Magnetic Fields
			Larry	GM	4.3	Principles of Circuits

MATH REVIEW

What we will look at:



* General Class Math

- * Metric system & powers of 10
- * Adding or removing zeros
 - * $1230.45 = 00001230.450000$
- * Equations
 - * Variables and constants
 - * Math operators (+ -- x ÷)
 - * Squaring and square roots
 - * Logarithms
- * Numbers expressed as fractions or decimal
- * Negative numbers

* Extra Class Math

- * Other Operators < >
- * Pi π
- * Absolute Values
- * Imaginary numbers
- * Trigonometry
 - * Sine, cosine, tangent
- * Deeper look at equations