ARRL
Teachers Institute on
Wireless Technology

Sponsored by The ARRL Education & Technology Program

Application for TI-2: Remote Sensing & Data Analysis

July 11–15, 2022 @ ARRL Headquarters - Newington, CT

Application Deadline is May 1, 2022

ARRL membership required!

Current ARRL membership is required to attend ARRL's TI-2 program. As a member of ARRL, for as little as $49 per year, you will receive benefits that include our monthly newsletter and QST or On the Air magazine that will expand and enhance your amateur radio experience. It's easy to sign up at www.arrl.org/join or you can include the $49 membership fee along with your application. Membership is non-refundable

Section 1 - Personal Information

Be sure to include contact information that we can use to communicate with you during school and summer months. Make sure the email address(es) you provide will accept emails from @arrl.org.

Name _____ Ham radio call sign (required) _____

Home mailing address _____

City, State, Zip Code _____

Home phone _____ Cell phone _____

Home email address _____

School email address _____

Emergency contact _____

Relationship _____ Phone _____

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Section 2 - School or Institution Information

School district _____

Name of school _____

School mailing sddress 1 _____

School mailing address 2 _____

City, State, Zip _____

School phone _____ School Federal Tax ID# _____

Total number of students in your school (all grades) _____

Grade level(s) offered in your school _____

Grade level(s) you teach _____

Subject(s) you teach _____

Extracurricular activities (clubs, etc.) _____

Estimated number of students involved in your STEM-related clubs and classes _____

School Demographic Information

School classification (choose one from each row)

Urban ☐   Suburban ☐   Rural ☐   Other _____

Public ☐   Parochial ☐   Private ☐   Other _____

Percentage of overall student population that…

…is eligible for free or reduced-price lunches _____%

…is eligible for Title 1 Services _____%

…receive Special Education services _____%

Section 3 - Essay Questions

1. Where and when did you attend ARRL's Introduction to Wireless Technology (TI-1)? What was your instructor's name?

2. Beyond the experience you have had in the TI-1, what level of experience have you had with microcontrollers? (i.e. Arduino, micro:bit, Picaxe, etc.)

3. Describe in detail any ways you have used the content presented in the TI-1, directly or indirectly, to enhance your instruction. Feel free to include documentation of instruction with students that resulted from your participation in the TI-1. The TI-2 instructor may reach out to you if clarification is needed.

4. What do you hope to learn from TI-2? How do you plan to use the content and training provided in the Remote Sensing Teachers Institute?

5. Where do you see yourself professionally in 3 years? in 5 years?

6. Have you ever applied for or hosted an ARISS radio contact? Yes ☐ No ☐

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Section 4 - Pre-Institute Survey

The purpose of this survey is to assess your familiarity with the material we will cover, so we can adjust the curriculum and presentation of the content to best meet your needs. Your honest and considered responses on this survey will help us provide the best possible learning experience for everyone. We will not base your selection to the Teachers Institute on these answers.

Please use the following rating scale to evaluate your ability to explain each of the topics below:

1 – little knowledge

2 – some very basic knowledge

3 – working knowledge

4 – some experience teaching this topic

5 – competent to teach in this area

	Describe local and global climate patterns and the factors that influence them.
	Define and calculate **buoyancy**.
	Graph and interpret data sets in a spreadsheet application like Excel or Google Sheets, including using simple formulas for calculation.
	Using various geographic formats (e.g., ddd.ddddd, ddd mm.mmm, ddd mm ss.s) to describe and find locations on Earth.
	Apply basic electronics and soldering skills (e.g., building a voltage divider circuit).
	Program a micro:bit or Arduino microcontroller.
	Program using the Python.
	Use APRS (Automatic Packet Reporting System).
	Use an SDR (Software-Defined Radio).
	Track and use Amateur Radio Satellites..

Section 5 - Teachers Institute requirements and acknowledgment

Check the boxes to acknowledge that you understand and accept the following Teachers Institute requirements.

☐ Each participant must bring a laptop computer that meets the following specifications:

Windows
Windows 8 or later operating system, with at least two available USB 2.0 or 3.0 ports*

Macintosh
macOS 10.7 or newer operating system, with at least two available USB 2.0 or 3.0 ports*

Some newer laptops have only USB type-C ports. For these, you will need a USB type-C to USB 3 Type A adapter or hub.

Apple laptops running Windows 8 or newer under Boot Camp, Parallels Desktop, or VMWare Fusion are acceptable if they meet all other requirements. ***Laptops, netbooks, Chromebooks, and tablets running other operating systems are not acceptable.***

USB type-C   **USB 2.0**   **USB 3.0**   **USB type-C (left) USB 3.0 (right)**

Make and model of laptop you will bring: _____

Operating System and Version: _____

☐ **Digital Multimeter**. Bring a digital multimeter and probes. You should be familiar with the operation of the meter. The meter you received during TI-1 is more than adequate. Make sure it works (the current fuse isn't blown) and that you have a good battery in it.

☐ **Scientific Calculator**. Bring a scientific calculator that you know how to operate. It can be a stand-alone calculator, or an application on your computer or phone.

☐ Participants must be able to install programs and drivers on the computer. Many school computers have security features that make them unusable during the Teachers Institute. If you are going to use a school computer, make sure you have FULL access to the computer, and that you test the accessibility before coming to the Institute.

☐ Participants are expected to pay for travel, hotel, and meal expenses and will submit an expense reimbursement form at the conclusion of the Teachers Institute. Receipts are required for hotel and travel expenses. Expect approximately 2 weeks to process your reimbursement.

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☐ Reimbursable expenses include up to $600 for travel, lodging for up to 5 nights for in-state participants and 6 nights for out-of-state participants at an ARRL-designated hotel, and $35 per diem for meals (no meal receipts required). To receive full reimbursement, participant must attend all 5 days of Institute classroom activities.

☐ Participants traveling from out of state should arrive the day before the Institute, and should schedule departure after 6 pm on the final day of the Institute or the day after the Institute. Early departures on the last day of the Institute to meet flight schedules are not acceptable, as important material is covered right up to the end of the final day. Participants who live within a 4-hour commute to the classroom are expected to provide their own transportation and will be reimbursed for mileage and 5 nights of hotel accommodations. Participants who live less than a 30 minute drive from the classroom are expected to commute daily and will be reimbursed for mileage. Accommodations for additional days or at locations other than the designated hotel are the responsibility of the participant.

☐ Participants are expected to attend Teachers Institute sessions from 8 a.m. to 4 p.m. each day. Attendance at optional evening activities, if any, is encouraged but not required.

☐ Each participant must complete a workshop evaluation at the conclusion of the workshop. Participants may be asked to provide feedback in the future about the training and resources provided during the Institute, and their effectiveness in student learning.

☐ Approved expenses and instructional resources provided by the Teachers Institute are paid for by donations to the ARRL Education & Technology Program Fund, and do not come from ARRL membership dues.

☐ The Teachers Institute is a professional development activity and therefore children would not be appropriate at the Teachers Institute. There are no accommodations for childcare.

Section 6 – Signatures

I have read the above requirements and will follow the ARRL Teachers Institute Travel and Reimbursement Guidelines and Procedures.

_____   _____
Applicant's Name (print)   *Administrator's Name (print)*

_____   _____
Applicant's Signature   *Administrator's Signature*

Section 8 - Payment Information

Your application cannot be reviewed until you have submitted the $100 enrollment fee. Should you not be selected to participate in this year's Teachers Institute, you will be refunded the $100 enrollment fee by June 1st. If you are selected, enrollment fees cannot be refunded after June 1st.

To submit your enrollment fee online, please go to: https://www.arrl.org/teachers-institute-payment

Or mail a check to:

> **ARRL Education & Technology Program**
> **Attn: Ally Flynn**
> **225 Main Street**
> **Newington, CT 06111-1494**

Note: If you are not currently an ARRL member, you may mail an additional $49 with your application or apply online at: http://www.arrl.org/membership.

Section 8 - Submitting your application

Refer to the application checklist to be sure you submit all required items. Your completed application and enrollment fee must be received at ARRL by the application deadline of May 1, 2021. To submit video as part of your application, refer to the instructions in **Section 10**.

By Mail - Print your completed and signed application (Pages 1-6), and send it with the cover letter to:

> **ARRL Education & Technology Program**
> **Attn: Ally Flynn**
> **225 Main Street**
> **Newington, CT 06111-1494**

FAX - You may fax the signed application, survey, and cover letter to (860) 594-0259. Please include a fax cover sheet addressed to **Attn: Ally Flynn**.

Email - scan and send your cover letter, signed application, and completed survey electronically to Ally Flynn at aflynn@arrl.org. Please include your name in the document title. For example: "JSmith TI-2 application". We prefer documents in PDF format.

Section 9 - Admission decision announcements

We will make every effort to advise you of our decision on your application and your session assignment by May 15. We will contact you at the email address you have provided. If you have not heard from us by that date, please feel free to contact us via email. Once selections are made, you will be emailed a direct link to reserve your accommodations at the designated hotel. We suggest you make travel arrangements as soon as you are notified. Please direct questions regarding your application for the Teachers Institute to aflynn@arrl.org or call Ally Flynn at (888) 277-5289 x367 or (860) 594-0367.

Section 10 - Completing and signing your PDF form

Acrobat DC (Mac or Windows) - Open this document in Acrobat Reader or Acrobat DC. In the Tools Panel, choose Fill & Sign. Click in the first empty field and enter the requested information. Use **tab** to move to the next field. To add signatures to a field, click the Sign button at the top of the window, choose the signature, and move it to the appropriate location on the form.

Preview (Mac) - Open the document in Preview, click in the first empty field and enter the requested information. Use tab to move to the next field. To add signatures to a field, choose **Tools > Annotate > Signature** and choose (or create) your signature.

Please include the following to complete your application:

☐ Cover letter on school letterhead stating your desire to attend, signed by you and a school administrator.

☐ Completed application form, including essays or video, self-assessment survey, and signatures. (Pages 1–6 of this document)

☐ Check or online credit card payment for the $100 enrollment fee, payable to the ARRL Education & Technology Program. If you are not accepted, the enrollment fee will be refunded.

☐ OPTIONAL - Check or online credit card payment for $49 for ARRL membership.