Amateur Radio Education, Testing and Training

Montgomery Amateur Radio Club
Rockville, Maryland

David Bern, W2LNX
education@marcclub.org
agenda

● marketing
● education
● testing
  ● Laurel VEC
● training and mentoring
  ● Elmer Lending Library
  ● mentoring young hams
● conclusions

👉 every image is a clickable link
marketing

- cards, flyers and AMATEUR RADIO hat
- community Web sites and newspapers
- public workshops
- public demonstrations
  - Rockville Science Day at Montgomery College
  - Field Day amateur radio open house
  - local parks
- public service events
  - Marine Corps Marathon
marketing
S SATURDAY, APRIL 9

Cars 'N Coffee Bethesda For car enthusiasts, a weekly meetup to discuss and show off your cars. First coffee, free. Saturdays at 8-10 a.m. Corner Bakery Cafe Bethesda, 10327 Westlake Dr., Bethesda. 301-217-0049. Free.

Montgomery Amateur Radio Club free class Prepares participants for the Technician Class license test. Learn about electronics, radio science, technical experimentation and how to operate amateur radio equipment safely and legally. Sponsored by the Montgomery College Chapter of the Institute of Electrical and Electronics Engineering and the Montgomery Amateur Radio Club. Saturdays at 9 a.m.-noon, through May 7. Montgomery College, Science Center, Room SC 463, 51 Mannakee St., Rockville. education@marcclub.org. marcclub.org. Free; registration required.

Light Painting LEDs, battery conductive material, glowing “bricks” that produce workshop for 3-4 p.m. Quine 15831 Quine Gaithersburg registration.

Washington Post announcement
Basic Soldering Workshop, Part 1 of 3

Event Type: Makerspace
Age Group(s): Adult, Teens
Date: 1/8/2017
Start Time: 1:00 PM
End Time: 3:00 PM

Description: For teens and adults, a basic intro to electronic soldering tools and methods taught by volunteers at Studio i in the Rockville Memorial Library. This is the first of a series of 3 workshops that meet on January 8, January 15 and January 22 (with a makeup snow day of Jan 29 if needed). Participants will create a simple take home project. Registration required. Registrants must attend all three workshops. Presented by Rockville Science Center.

Library: Rockville Memorial
Registration Ends: 1/7/2017 at 11:50 PM
Status: Waiting List
basic soldering workshop

participants watching Marc, N4DR

ARRL and TAPR Digital Communications Conference 7 of 52 September 15 to 17 in St Louis, MO
Marc, N4DR showing construction of Elenco AM-780K
agenda

● marketing
● **education**
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finding a class

Find an Amateur Radio License Class

Finding a Class

ARRL can help you find an Amateur Radio license preparation class in your community. You can search our database for upcoming classes near you.

As an alternative to classes listed in our geographic database that are offered in various locations throughout the US, click here to look for classes for license preparation offered online.

ARRL Instructors: List a License Class

Find an Amateur Radio License Class in Your Area

If you do not see a course in your area please keep checking this page. New courses are added daily.

Search by:

- Keyword:

- ZIP Code:

- City:

- State/Territory:

- ARRL
finding a class

Amateur Radio License Class, Part 1 of 6

Event Type: Makerspace
Age Group(s): Adult, Teens
Date: 3/26/2017
Start Time: 1:30 PM
End Time: 4:30 PM
Description: A free class to obtain your free Technician amateur radio license is being offered by volunteer instructors from the Montgomery Amateur Radio Club at the Studio i Makerspace in the Rockville Memorial Library. This class meets on Sundays March 26, April 2, April 9, April 23, April 30, May 7 with a ham radio test session on May 14, 2017. Ages 11 and up. Registration required.
Library: Rockville Memorial Map
Status: Waiting List
Technician license class

- 6 day free class, free test session and free license
  - different instructor from instructor team
- use ARRL presentation visuals
- conducted 6 Technician classes since 2014
  - 196 students
  - 65 students earned Technician license
- public service events – lab part of the class
- accessible to middle school students
Technician class

David, W2LNX presenting in Technician class
Technician class

Course Syllabus (printable copy)

Course:
Technician Class License Course

Location:
Studio I Makerspace
Rockville Memorial Library, second floor
21 Maryland Ave
Rockville, MD 20850
Maps & Directions

Dates and time:

- Sunday, March 26, 2017: 1:30 PM to 4:30 PM
- Sunday, April 2, 2017: 1:30 PM to 4:30 PM
- **Saturday, April 8, 2017**: 2:30 PM to 5:30 PM
- Sunday, April 16, 2017: NO CLASS
- Sunday, April 23, 2017: 1:30 PM to 4:30 PM
- Sunday, April 30, 2017: 1:30 PM to 4:30 PM
- Sunday, May 7, 2017: 1:30 PM to 4:30 PM

Course objectives:
- prepare you for the Technician Class license test
- prepare you for public service and community service
- foster self study and group learning - "a license to learn"
- foster community - join the ham radio fraternity and sorority
- learn some radio science
- learn some electronics
- encourage technical experimentation
- have fun

Purpose of the Technician Class license test:
- to test you on concepts and procedures on the safe and legal operation of amateur radio equipment
Technician class book

- preparation for the Technician test
- teaches radio theory and science
- catalog of ham radio activities
Technician class planning timeline

● beginning of the year
  [ ] schedule dates and request makerspace room at RML
  [ ] update MARC Web page and notify ARRL
  [ ] add test dates to ARRL Web site
  [ ] advertise on community Web sites and local newspapers
  [ ] request event scheduled on the MCPL calendar Web site
  [ ] invite six instructors from instructor team
  [ ] start accepting student applications

● month before first class session
  [ ] remind instructors of the course schedule
  [ ] update course syllabus with instructor names
  [ ] order ARRL license manuals
Technician class planning timeline

● week before before first class session
  [ ] get roster from RML librarian
  [ ] send welcome email to students on class roster

● week before before each class session
  [ ] update class agenda
  [ ] remind instructor of class session
  [ ] prepare class demonstration
  [ ] get ham biography from instructor for introduction
  [ ] remind students of the class session

● day before each class session
  [ ] inform students of the class session agenda
  [ ] remind instructor of class session

● day of class session
  [ ] arrive early to set up tables and chairs in room
  [ ] set up laptop computer with large HDTV display monitor
  [ ] introduce instructor
agenda

- marketing
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- conclusions
finding a ham radio test
finding a ham radio test

### Exam Schedule

Click on the VE Team links to get more information including the test location, point of contact, phone number, and e-mail address.

<table>
<thead>
<tr>
<th>January 2017</th>
<th>February 2017</th>
</tr>
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<tbody>
<tr>
<td><strong>Date</strong></td>
<td><strong>Time</strong></td>
</tr>
<tr>
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</tr>
<tr>
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<td>5:00pm</td>
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<tr>
<td>11</td>
<td>6:30pm</td>
</tr>
<tr>
<td>11</td>
<td>7:30pm</td>
</tr>
</tbody>
</table>
finding a ham radio test

Volunteer Examiner Public Exam Sessions

► Sunday, March 12, 2017: 1:30 PM to 4:30 PM

location: Studio i Makerspace
Rockville Memorial Library, second floor
21 Maryland Ave
Rockville, MD 20850
Maps & Directions

registration: pre-registration preferred - walk-ins accepted
registration starts at 1:30 PM
testing starts at 1:45 PM
what to bring to an exam session

fee: free (zero, nada, nil)

contact: David Bern, W2LNX
education@marclub.org email preferred
240-242-5660 leave a message or send a text message

VEC: Laurel VEC

sponsor: Montgomery Amateur Radio Club and Rockville Science Center

► Sunday, May 14, 2017: 1:30 PM to 4:30 PM

location: Studio i Makerspace
Rockville Memorial Library, second floor
21 Maryland Ave
Rockville, MD 20850
Maps & Directions

registration: pre-registration preferred - walk-ins accepted
registration starts at 1:30 PM
testing starts at 1:45 PM
what to bring to an exam session

fee: free (zero, nada, nil)

contact: David Bern, W2LNX
education@marclub.org email preferred
240-242-5660 leave a message or send a text message

VEC: Laurel VEC

sponsor: Montgomery Amateur Radio Club and Rockville Science Center
**Registering for a volunteer examiner test session**

**step 1: obtain your FRN** - If you do not have an *FCC Registration Number* (FRN), then you are required to create an account with the *Federal Communications Commission (FCC)* to obtain your FRN. Be sure to apply as an individual and not as a business. The FRN obscures your social security number (SSN) since it is confidential. And, more importantly, it speeds up processing of your license application by the FCC.

**step 2: prepare your Form 605** - To register for a test, you need to fill out and submit a *NCENC QUICK-FORM 605 APPLICATION form* with your FRN. Use *Adobe Acrobat Reader DC* to fill out Section 1 of the *FORM 605*. After you fill out the form, use *Save As*... in the *File* menu to save your filled out Form 605. Please use your name as part of the file name of your saved Form 605. Look at a *sample filled out Form 605 for obtaining a new license* or a *sample filled out Form 605 for upgrading your license* as appropriate. You need to provide a valid personal email address so we can notify you of your new license or if there is a problem. You will sign your Form 605 at the test session.

**step 3: submit your Form 605** - Email your filled out Form 605 to *education@marclub.org*. Also, bring a government issued photo ID such as a drivers license to show at the test session. The exam is free since we are a *Laurel VEC* team. Please do not hesitate to email us with any questions you may have.

**updated:** August 29, 2017 02:49:38 PM
registering for a ham radio test
Laurel Volunteer Examiner Coordinator

- all volunteers
- administering free amateur radio license exams since 1984
  - member of the National Conference of Volunteer Examiner Coordinators (NCVEC)
- Chairman of Laurel VEC – Diane Zimmerman, AA3OF
  - reports to the FCC
- 10 Area Coordinators
  - 167 Laurel VE teams in 34 states
- in 2016, Laurel VE teams administered 6,942 exams to 5,216 applicants
Laurel Volunteer Examiner Coordinator

- test generator Web site
- SessionManager test session software
- VE team manager Web sites
  - support documents and forms
- online upload of test session to FCC database
- Google group – announcements and discussions
- email and telephone
MARC-MD1 Laurel VE team

● 30 MARC volunteer examiner team
  ● 80/20 rule
● David, W2LNX – VE team leader
  ● reports to Area 3 Coordinator – Bob Rose, AA3RR
● Dave, W3DKL – deputy VE team leader
● 6 volunteer examiners – 3 proctors, 3 test graders
● administered 16 test sessions for 288 applicants since 2014
● provide calculators, pens, pencils, erasers and scrap paper
● recruit new volunteer examiners from applicants that pass Extra Class test
team leader enters applicant data from submitted Form 605
test session equipment

filled in Form 605 and two CSCEs are printed at test session
generated Form 605

applicant and volunteer examiners sign filled in Form 605
CERTIFICATE OF SUCCESSFUL COMPLETION OF EXAMINATION

Laurel Amateur Radio Club Volunteer Examiner Coordinator
Laurel Amateur Radio Club, Inc., P.O. Box 0146, Laurel, Maryland 20725-0146

Date: Sep 17, 2017  VE Team Name: MARC-MD1  Test site: Rockville, MD

The Applicant Named Below Has Passed The Indicated Elements:

- Technician

The Applicant Is Eligible To Receive The Indicated Class License:

- Technician

This certificate is not valid unless all elements other than the ones earned are crossed out. This certificate is valid for 365 days from the date of issue. Please retain this certificate for your records.

Listing of the license grant on the FCC Universal Licensing System (ULS) establishes you as an amateur operator and conveys your authority to operate. If you hold a valid FCC-issued Amateur Radio License, this certificate allows you to operate with all privileges of your new operator class until your license has been granted by the FCC or for a period of 365 days from the date of issue of this certificate, whichever comes first.

<table>
<thead>
<tr>
<th>Applicant Information</th>
<th>Volunteer Examiner Signatures and Call Signs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name: Ham R Applicant</td>
<td>#1 Call Sign:</td>
</tr>
<tr>
<td>Call Sign: **** NONE ****</td>
<td>Signature:</td>
</tr>
<tr>
<td>Address: 123 Applicant St</td>
<td>#2 Call Sign:</td>
</tr>
<tr>
<td>City, State, Zip: Applicant, MD 345678901</td>
<td>Signature:</td>
</tr>
<tr>
<td>Applicant’s Signature:</td>
<td>#3 Call Sign:</td>
</tr>
</tbody>
</table>

Effective April 1, 2007 Purchase Version Online

BR000000179917A-1

applicant and volunteer examiners sign filled in CSCE
test session results

- VE team leader uses SessionManager to encrypt test session file
- encrypted test session file is emailed to Bob, AA3RR
- Bob uploads test session file to the FCC database
- FCC database returns a results file
- Bob replies to team leader with FCC results file
- team leader notifies test applicants of their callsigns
  - typical turnaround time is one business day
test session planning timeline

- beginning of year
  - [ ] add test dates to Laurel VEC Web site
  - [ ] add test dates to ARRL Web site
  - [ ] invite volunteer examiners to volunteer for the year

- month before
  - [ ] ask for more volunteer examiners
  - [ ] remind volunteer examiners of test session
  - [ ] start accepting submitted Form 605s from applicants

- week before
  - [ ] remind volunteer examiners of test session
  - [ ] remind applicants of test session

- day before
  - [ ] remind volunteer examiners of test session
  - [ ] remind applicants of test session
  - [ ] enter applicant information into SessionManager
test session planning timeline

● day of test session
  [ ] update SessionManager with latest software version
  [ ] update SessionManager with latest FCC amateur radio information
  [ ] arrive early to set up tables and chairs in room
  [ ] enter walk-in applicant information into SessionManager

● day after
  [ ] email test session file to area coordinator
  [ ] mail paperwork by Priority Mail to area coordinator

● week after
  [ ] wait for results from area coordinator
  [ ] notify applicants of their callsigns
  [ ] thank volunteer examiners
agenda

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mentoring new hams

Jamison, K3SNR and Charlie, KC3HTB at MM 15 of the Marine Corps Marathon

ARRL and TAPR Digital Communications Conference September 15 to 17 in St Louis, MO
mentoring new hams

Black Hill Region Park, Boyds, MD

ARRL and TAPR Digital Communications Conference 37 of 52 September 15 to 17 in St Louis, MO
mentoring new hams

Sugarloaf Mountain, Dickerson, MD
mentoring young hams

Getting Started with HAM RADIO
A Guide to your FIRST Amateur Radio Station

Select Radios and Antennas
Explore Operating Modes: Voice, Morse Code, Digital and More!
Assemble Your Station

Published by ARRL
The national association for AMATEUR RADIO

$19.95
mentoring young hams

inexpensive USB software defined receiver dongle
mentoring young hams

HF Signals

Home | Buy | Wire Up | Circuit Description

BITX40
Work the world on 40 meters ($59 USD)

Join http://groups.io/g/BITX20 meet other builders and support | Read the BITX Hacks Blog

When was the last time you used a radio you had built? The BITX40 board is a two board, 40 meter SSB transceiver module kit with digital control! Inside an evening, you can be on-air with this digital SSB transceiver, chatting with the local gang or chasing DX. Plug in the earphones, the included electret mic, tuning and volume controls and you are on air! Included are high quality connectors, all the needed sockets and jacks, tuning and

inexpensive 40 m low-power transceiver semi-kit
David, W2LNX is showing Joshua, KC3ICM how to use the Ten-Tec Omni V
KID Museum ham station

Jack, KC3JML and Joshua, KC3ICM operating digital modes

ARRL and TAPR Digital Communications Conference 43 of 52 September 15 to 17 in St Louis, MO
Richard, WN3R instructing a camper in the Electronics Workshop camp
a success story

Aaron Solomon, KB3MLM
UMD Biological Sciences Senior Named 2017 Marshall Scholar
another success story

Valerie Lehmann, KC3HPJ
The ARRL Foundation General Fund Scholarship
building a education and testing team

- take ownership – make it happen
- you will get volunteers if you announce an event with who, what, when, where and for how long
- accept organizer volunteers – delegate responsibility and authority but follow up
- thank your volunteers – give credit where credit is due
- organizing events and activities takes twice as long as you think it would
- it's a numbers game – you need to do this a lot
- follow up inquiries and email within 24 hours
- invite and educate parents of children
thank you

- Richard, WN3R – mentor and builder of public ham radio stations
- MARC instructor team
- MARC volunteer examiner team
- Bob Rose, AA3RR – Laurel VEC Area 3 Coordinator
- Ray Andrews, K9DUR – SessionManager developer
- Cory Johnson, NQ1E – VE Manager Web site developer
- Scott Zimmerman, N3XCC, Jon Rick, KK6NLW and Cory Johnson, NQ1E – Laurel VEC Web sites managers
- Bob Ekman – Rockville Science Center
- Rockville Memorial Library
conclusions

- this important work for the amateur radio community
- this is a way of sharing and giving back
In Memoriam

Prof. Uchechukwu “Uche” Abanulo, KC3ARX
1981 – 2016
Questions

education@marcclub.org