Final Version: 14 January 2020

Sterling Park Amateur Radio Club (SPARC)
General License Preparation Class: 01-02 February 2020

1. The Sterling Park Amateur Radio Club (SPARC) will conduct a General License preparation class.

2. **Date/Time**: Saturday and Sunday, 01-02 February 2020
Class: Saturday, 01 February 2020, 0800 hrs. – 1700 hrs.
Sunday, 02 February 2020, 0800 hrs. – 1700 hrs.
Exam: Sunday, 23 February 2020
Separate instructions will be issued for the licensing examination on February 23, 2020.

3. **Venue**: Office of the Sheriff, Eastern Loudoun Station, 46620 E. Frederick Drive, Sterling, VA 20164

4. **Attendees**: All interested persons are invited to participate in the General License preparation class. Classroom space is limited, so prior registration is required.

5. **Fees**: There is no fee for participation in the General License preparation class.

6. **Coordinator**: The General License Preparation Class Coordinator is Amitabha "Amit" Mukherjee, WY2Z, amit5201@gmail.com.

7. **General Class Question Pool and Pre-class Study Materials**:

2019-2023 General Class Question Pool:
http://www.arrl.org/files/file/VEs/2019-2023%20General%20Class%20Pool%20Final%20with%20errata.pdf

Students are advised to read/watch General License study guides/videos such as:
ARRL at http://www.arrl.org/shop/ARRL-General-Class-License-Manual-9th-Edition/
W5YI Group General Class Study Manual: https://www.w5yi.org/catalog_details.php?pid=87&sort=6
W5YI group General audio course: https://www.w5yi.org/catalog_details.php?pid=89&sort=6
Craig Buck, K4IA: https://www.easywayhambooks.com/amateur-radio-general
David Casler (KE0OG): https://dcasler.com/ham-radio/general/
David Casler (KE0OG) videos https://www.hamstudy.org/general2019

The ARRL General Class License Manual (used) can be purchased at:
https://www.thriftbooks.com/w/general-class-license-manual-with-cdrom_american-radio-relay-league/803146/item/7211812/?mkwid=zsr0BR3r%7cdc&pcrid=70112885352&product=7211812&plc=&pgrid=21326561472&ptaid=pla-294813787156&utm_source=google_shopping&utm_content=zsr0BR3r%7cdc%7cpcrid%7c70112885352%7cpkw%7c%7cpmt%7c%7cproduct%7c7211812%7cslid%7c%7cpgrid%7c21326561472%7cptaid%7cpla-294813787156%7c&gclid=Cj0KCQiAtrnuBRDXARIsABiN-7B_iaHNQh6SH5iZgKiXOg4CNd_caYI1B6_q16jKaTXIrPqriX0twxoaAu6mEALw_wcB#isbn=087259811X&idiq=7211812

Students are not required to bring any study guides to the class.

Online Practice Exams are available and may be used by students; examples include:
http://arrlexamreview.appspot.com/
https://www.hamstudy.org/general2019
http://copaseticflows.appspot.com/hamtest

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https://www.qrz.com/hamtest/
https://hamexam.org/exam/16-General
https://hamexam.org/flash_cards/16-General
http://www.eham.net/exams/
https://app.aa9pw.com/users/sign_in

8. **Refreshments** (Coordinators: Gordon NQ4K and Amit WY2Z):
   a. Donuts and coffee prior to beginning of class each day
      Donuts - 3 dozen /30 people for each day
      Coffee – 1 30-cup pot of regular coffee per day
   b. Soft drinks: 1 case water, 2 cases (24 each) soda placed in cooler with ice
   c. Disposables: Roll of paper towels, disposable cups, trash bags

10. **Lunch**: Participants should provide for their own lunch each day (i.e. bring a bag lunch or go out).

11. **Instructor-Guided Classes**: 16 hours of classes will cover all General Class licensing exam sub-elements.

Schedule: SPARC General License Preparation Classes

Element & Description	No. of Sub-Elements	Questions[1]	Start Time	Duration (hours)	Instructor
Saturday 01 February 2020					
G1 – COMMISSION'S RULES G1A – General class control operator frequency privileges; primary and secondary allocations G1B – Antenna structure limitations; good engineering and good amateur practice; beacon operation; prohibited transmissions; retransmitting radio signals G1C – Transmitter power regulations; data emission standards; 60-meter operation requirements G1D – Volunteer Examiners & Volunteer Examiner Coordinators; temporary identification; element credit G1E – Control categories; repeater regulations; third-party rules; ITU regions; automatically controlled digital station	5	5/61	0800	2:00	**Paul Fischer K4PDF**
G2 – OPERATING PROCEDURES G2A – Phone operating procedures; USB/LSB conventions; breaking into a contact; VOX operation G2B – Operating courtesy; band plans; emergencies, including drills and emergency communications G2C – CW operating procedures & procedural signals; Q signals & common abbreviations; full break-in G2D – Volunteer Monitoring Program; HF operation	5	5/60	1000	2:00	**Kevin Stuart W4KLS**

[1] Indicates number of questions in the test/total number of questions in this Element's question pool

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G2E – Digital operating procedures					
Lunch			1200	1:00	
G3 – RADIO WAVE PROPAGATION G3A – Sunspots and solar radiation; ionospheric disturbances; propagation forecasting & indices G3B – Maximum Usable Frequency; Lowest Usable Frequency; propagation G3C – Ionospheric layers; critical angle & frequency; HF scatter; Near Vertical Incidence Skywave	3	3/36	1300	1:15	**Larry Wright W8ANT**
G4 – AMATEUR RADIO PRACTICES G4A – Station operation and setup G4B – Test & monitoring equipment; 2-tone test G4C – Interference to consumer electronics; grounding; DSP G4D – Speech processors; S meters; sideband operation near band edges G4E – HF mobile radio installations; alternative energy source operation	5	5/67	1415	2:00	**Corey Sheldon WA1EM**
G6 – CIRCUIT COMPONENTS G6A – Resistors; capacitors; inductors; rectifiers; solid-state diodes & transistors; vacuum tubes; batteries G6B – Analog and digital integrated circuits (ICs); microprocessors; memory; I/O devices; microwave ICs (MMICs); display devices; connectors; ferrite cores	2	2/28	1615	1:00	**Charles (Monte) Whitham KV4KS**
End of Saturday Class			1715		
Sunday 02 February 2019					
G5 – ELECTRICAL PRINCIPLES G5A – Reactance; inductance; capacitance; impedance; impedance matching G5B – The decibel; current and voltage dividers; electrical power calculations; sine wave root-mean-square (RMS) values; PEP calculations G5C – Resistors, capacitors, and inductors in series and parallel; transformers	3	3/43	0800	1:30	**Henry Weidman K2BFY**
G0 – ELECTRICAL AND RF SAFETY G0A – RF safety principles, rules and guidelines; routine station evaluation G0B – Station safety: electrical shock, safety grounding, fusing, interlocks, wiring, antenna and tower safety	2	2/25	0930	1:00	**Duane Durst K4UW**
G7 – PRACTICAL CIRCUITS G7A – Power supplies; schematic symbols G7B – Digital circuits; amplifiers and oscillators G7C – Receivers and transmitters; filters; oscillators	3	3/40	1030	1:30	**Charles (Monte) Whitham KV4KS**

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Lunch			1200	1:00	
G8 – SIGNALS AND EMISSIONS G8A – Carriers and modulation: AM; FM; single sideband; modulation envelope; digital modulation; overmodulation G8B – Frequency mixing; multiplication; bandwidths of various modes; deviation; duty cycle; intermodulation G8C – Digital emission modes	3	3/38	1300	1:00	**Earl Boatman KB0NRK**
G9 – ANTENNAS AND FEED LINES G9A – Antenna feed lines: characteristic impedance and attenuation; SWR calculation, measurement, and effects; matching networks G9B – Basic antennas G9C – Directional antennas G9D – Specialized antennas	4	4/54	1400	2:00	**Larry Wright W8ANT**
Practice Tests (time permitting)			1600	1:00	**Amit Mukherjee WY2Z**
End of Sunday Class			1700		

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