			Training level					Training prog
Sort code (arbitrary)	**Topic area (training does not need to be in this order)**	**Learning Objectives. After completing the training, the student will be able to:**	**Scheduler (non-operator)**	**Auto-Pointing Antenna Operator**	**Teleport Operator**	**Advanced Truck Operator**	**Basic Truck Operator**	Objective taught and tested (Y/N)?
1	Interference	Define Adjacent Satellite Interference (ASI)	X	X	X	X	X	
1	Interference	Describe why an auto deploy antenna may not point perfectly in all situations	X	X	X	X	X	
1	Interference	Explain the purpose for antenna bracing/outriggers/stabilizing bars/mount loading.	X	X		X	X	
1	Interference	Explain why ASI due to mispointing is worse with small antennas	X	X	X	X	X	
1	Interference	Explain why bad connector termination causes interference.		X	X	X	X	
1	Interference	Explain why bad termination causes signal degradation.		X	X	X	X	
1	Interference	Explain why cable with poor shielding causes interference.		X	X	X	X	
1	Interference	Explain why inadequate stabilizing can cause ASI	X	X		X	X	
1	Interference	Explain why mispointing causes ASI	X	X	X	X	X	
1	Interference	Describe retransmit interference and its causes (including FM, cellular, TX cross-coupling)	X	X	X	X	X	
1	Interference	Describe sweeper interference and its causes	X	X	X	X		
1	Interference	Describe bursting interference and its causes	X	X	X	X	X	
2	Spacecraft	Describe how satellites are managed and the role of the operator company.	X	X	X	X		
2	Spacecraft	Describe the main functions of a communications satellite.	X	X	X	X	X	
2	Spacecraft	Explain why satellite lifetimes are limited by fuel.			X	X	X	
2	Spacecraft	Describe how satellites are placed in orbit.			X	X		
2	Spacecraft	List the major components of a communications satellite.	X	X	X	X		
3	Orbits	Describe how satellite orbital spacing impacts SATCOM operations and earth terminal design.	X	X	X	X		
3	Orbits	Describe the Geosationary Orbit and explain why GEO satellites seen from the earth appear to be stationary in the sky	X	X	X	X	X	
3	Orbits	Explain how satellites can be co-located and still function independently.	X	X	X	X		
3	Orbits	Explain why orbits are constantly monitored and adjusted from ground control (stationkeeping)	X		X	X		
3	Orbits	Explain why orbits are determined by gravity the laws of physics.	X		X	X		
4	Inclined orbits	Define inclined orbit.	X	X	X	X	X	
4	Inclined orbits	Define zero crossing time.	X		X	X		
4	Inclined orbits	Describe doppler and data buffer considerations associated with inclined orbits.	X		X	X		
4	Inclined orbits	Describe why inclined orbits are used.	X	X	X	X	X	
4	Inclined orbits	Explain the operational considerations for using an inclined orbit satellite.	X	X	X	X	X	
5	Transponders	Compare bent-pipe with OBP transponders.	X		X	X		
5	Transponders	Define satellite Effective Isotropic Radiated Power (EIRP)			X	X		
5	Transponders	Define transponder saturation flux density (SFD)			X	X		
5	Transponders	Describe frequency translation in a transponder.	X	X	X	X	X	
5	Transponders	Describe how the downlink EIRP affects the earth station's required antenna size and its receive performance.			X	X		
5	Transponders	Describe how the RF spectrum is assigned to transponders.	X	X	X	X	X	
5	Transponders	Describe the path of a signal as it travels through a typical bent pipe transponder.	X	X	X	X		
5	Transponders	Describe what ground controllers can typically adjust in a transponder (gain, switching)	X	X	X	X		
5	Transponders	Describe why EIRP i.e., U/L Power, is important to satellite link performance.			X	X	X	
5	Transponders	Explain cross-strapping for cross-band or cross-beam operation.	X	X	X	X	X	
5	Transponders	Explain how signal power is limited in a transponder.	X	X	X	X	X	
5	Transponders	Explain how transponders can have different bandwidths.	X	X	X	X		
5	Transponders	Explain how transponders can have different gain settings.	X	X	X	X	X	
5	Transponders	Explain satellite coverage maps.	X	X	X	X	X	
5	Transponders	Explain how satellite's SFD affects the earth station transmit power requirement.			X	X		
5	Transponders	Describe how each signal has an assigned power level in the transponder and consuming excess power causes IMD interference.	X	X	X	X	X	
5	Transponders	Describe transponder signal level Out Of Limit Alarms, and what the uplinker should do when advised by the operations center of a Low Limit Alarm or a High Limit Alarm.	X	X	X	X		
5	Transponders	Describe how multiple carriers in a transponder can cause IMD (NPR floor) interference if the levels are too high.	X	X	X	X		
6	Bands and frequencies	Define and compare C, Ku,and Ka bands.	X	X	X	X	X	
6	Bands and frequencies	Describe Fixed Satellite Services (FSS) vs. Broadcast or Direct Broadcast Satellite Services (BSS or DBS) bands	X	X	X	X		
6	Bands and frequencies	Describe how different bands are used in different regions.	X	X	X	X		
6	Bands and frequencies	Describe how frequency spectrum is shared with other non-satellite users and how these terrestrial users may cause or are subject to interactive interference with the satellite earth terminal.	X	X	X	X	X	
6	Bands and frequencies	Describe how satellites that service different regions of the world can use completely different RF spectrum.	X	X	X	X		
6	Bands and frequencies	Describe how the bands are segmented into satellite channels and processed individually by separate transponder signal paths.	X	X	X	X	X	
6	Bands and frequencies	Describe how the choice of band affects the required equipment in the earth station.	X	X	X	X		
6	Bands and frequencies	Explain uplink vs. downlink bands.	X	X	X	X	X	
6	Bands and frequencies	List the frequency bands used for satellite communications;	X	X	X	X	X	
7	Polarization	Describe and compare the antenna feed equipment differences between circular and linear polarity.	X	X	X	X		
7	Polarization	Describe circular polarization (CP).	X	X	X	X		
7	Polarization	Describe cross-pol interference	X	X	X	X	X	
7	Polarization	Describe linear polarization (LP).	X	X	X	X		
7	Polarization	Describe which frequency bands and services use CP vs. LP.	X	X	X	X		
7	Polarization	Explain how bandwidth use can be doubled using cross-polarization.	X	X	X	X	X	
7	Polarization	Explain the importance of feed alignment for cross-pol interference prevention.	X	X	X	X	X	
7	Polarization	Explain why feed alignment is not required for CP.	X	X	X	X		
7	Polarization	Explain why feed rotation setting depends on antenna's geographic location.	X	X	X	X	X	

7	Polarization	List the advantages and disadvantages of CP vs. LP.	X	X	X	X		

8	Propagation	Define rain fade loss, rain zones, availability.	X	X	X	X	X	
8	Propagation	Describe how microwaves are affected by blockage, rain, and snow	X	X	X	X	X	
8	Propagation	Describe how snow, ice, and water accumulation on the antenna affect the link depending on band.	X	X	X	X	X	
8	Propagation	Describe the expected level and duration of signal loss given various levels of rain intensity and band.	X	X	X	X		
8	Propagation	Explain 'sun outages' and how identify and predict them and their durations.	X	X	X	X	X	
9	Site selection	Define az and el	X	X	X	X	X	
9	Site selection	Define how much clearance is needed from a blockage to get a clear line of sight	X	X	X	X	X	
9	Site selection	Define lat and long	X	X	X	X	X	
9	Site selection	Determine az, el, and pol from lat, long, and sat position using typical look angle calculator		X	X	X	X	
9	Site selection	Explain the importance of clear line of sight	X	X	X	X	X	
9	Site selection	Select a vehicle or antenna location in an area to avoid potential blockages (trees, buildings)	X	X	X	X	X	
9	Site selection	List potential causes of interference from local RF sources and how they may affect a satellite terminal (including microwave links, radar detectors, airborne radar, marine radar)	X	X	X	X	X	
10	Antennas	Describe the main types of antennas used for earth stations		X	X	X		
10	Antennas	Define antenna gain (basic understanding).		X	X	X		
10	Antennas	Define G/T for an antenna			X	X		
10	Antennas	Describe an antenna's pattern & how its affected by mechanical damage		X	X	X	X	
10	Antennas	Describe and compare the functions of antenna positioners, tracking controllers, and auto-deploy controllers.		X	X	X		
10	Antennas	Describe and compare the main types of antenna used for satcom and their relative technical and operational differences.			X	X		
10	Antennas	Describe how accurately the feed must be located with respect to the reflector.		X	X	X	X	
10	Antennas	Describe how an autodeploy antenna finds and acquires the correct satellite		X	X	X		
10	Antennas	Describe how and why sidelobes are governed by licenses.		X	X	X		
10	Antennas	Describe how polarization is physically adjusted		X	X	X	X	
10	Antennas	Describe how to check a typical SNG antenna for damage.	X	X	X	X	X	
10	Antennas	Describe how to use a typical "jog control" antenna positioner		X	X	X	X	
10	Antennas	Describe mechanical operation of a typical SNG motorized antenna.		X	X	X		
10	Antennas	Describe sidelobes		X	X	X	X	
10	Antennas	Describe the how inclined orbit satellites affect ground antennas.		X	X	X	X	
10	Antennas	Describe the relationships between antenna size, frequency band, beamwidth, and gain.		X	X	X		
10	Antennas	Describe how to check if a typical SNG antenna is assembled and mechanically functioning.		X	X	X		
10	Antennas	Explain antenna beamwidth and how it relates to antenna size.		X	X	X	X	
10	Antennas	Explain how beamwidth and pointing accuracy affects your satellite link.		X	X	X	X	
10	Antennas	Explain how interference can be caused by use of a too-small antenna.		X	X	X		
10	Antennas	Explain how interference can be caused by inaccurate pointing.		X	X	X	X	
10	Antennas	List the unintended consequences of operation with a damaged or improperly designed antenna.		X	X	X	X	
11	Modulation	Define FEC	X	X	X	X		
11	Modulation	Define modulation & demodulation	X	X	X	X		
11	Modulation	Describe and compare BPSK, QPSK, 8PSK, 16QAM, 16APSK, and 32APSK in terms of bandwidth and signal quality required.	X	X	X	X		
11	Modulation	Describe and compare simple SCPC, DVB-S, DVB-S2, MPEG-2, MPEG-4, and JPEG 2000	X	X	X	X		
11	Modulation	Describe symbol rate, bandwidth, noise, power, C/N, and Eb/No. (basic description)	X	X	X	X	X	
12	Link budgets	Define EIRP and G/T, explain their contours on coverage maps.	X	X	X	X		
12	Link budgets	Define qualitatively EIRP, G/T, footprints, and contours	X	X	X	X		
12	Link budgets	Describe how EIRP and G/T impact ground terminal operation.	X	X	X	X		
12	Link budgets	Describe the concepts of links, link budgets, and how they are affected by dish size			X	X		
12	Link budgets	Describe the relationships between antenna size, frequency band, beamwidth, and gain.	X	X	X	X		
12	Link budgets	Explain how satellite footprints affect the required size of dish antenna.	X	X	X	X		
12	Link budgets	Explain why earth terminal operations may vary depending on geographic location.	X	X	X	X	X	
13	Waveguide	Define waveguide and how it works		X	X	X	X	
13	Waveguide	Describe flanges and sizes for the different frequency bands used.			X	X		
13	Waveguide	Describe the function of a coax to waveguide transition		X	X	X		
13	Waveguide	Describe WR-75 and WG-229 flanges and how they should be connected			X	X		
13	Waveguide	Identify waveguide flanges and mating,			X	X		
14	Feeds and filters	Distinguish a cross-pol from a co-pol 2-port feed system		X	X	X		
14	Feeds and filters	Distinguish a Ku from a C-band system.	X	X	X	X		
14	Feeds and filters	Explain the difference between a 2-port wideband filter/feed and an OMT-based feed.		X	X	X		
14	Feeds and filters	Identify ports and polarization axis of various type of OMT.			X	X		
14	Feeds and filters	List the consequences of mounting the feed in the wrong holes or inaccurately.		X	X	X		
14	Feeds and filters	List the consequences of using a C-band feed on a Ku satellite and vice versa.		X	X	X		
14	Feeds and filters	List the consequences of using a co-pol in place of a cross-pol feed and vice versa		X	X	X		
14	Feeds and filters	List which polarizations can be typically made in the field and which require an engineer to refit.		X	X	X		
14	Feeds and filters	Switch a typical circular pole feed from LHCP to RHCP			X	X		

15	RF theory	How does L-band relate to RF downlink freq.?		X	X	X	X	
15	RF theory	Compute modulator IF and upconverter freq based on the uplink freq.			X	X	X	
15	RF theory	Compute receive IF based on downlink freq and LNB local oscillator freq.			X	X	X	
15	RF theory	Compute signal freq at 70 MHz downconverter output based on downlink freq.			X	X		
15	RF theory	Compute transmit IF based on uplink freq and BUC LO.			X	X	X	
15	RF theory	Compute uplink frequency based on downlink freq and satellite offset.	X	X	X	X	X	
15	RF theory	Describe amplitude, decibels, gain, EIRP		X	X	X		
15	RF theory	Describe frequency and spectrum		X	X	X	X	
15	RF theory	Describe the functions of 70 MHz upconverters and downconverters.		X	X	X	X	
15	RF theory	Describe the functions of an HPA and SSPA.		X	X	X	X	
15	RF theory	Describe the functions of an LNA.		X	X	X	X	
15	RF theory	Describe the functions of an LNB.		X	X	X	X	
15	RF theory	Desribe the functions of a BUC.		X	X	X	X	
15	RF theory	Gains, losses, and levels, covering fundamentals of dB and level calculations, with interactive animated exercises.		X	X	X		
15	RF theory	List typical types of HPA (SSPA, TWTA) and their power levels		X	X	X		
16	Signal quality	Define BER		X	X	X	X	
16	Signal quality	Describe how BER is measured		X	X	X	X	
16	Signal quality	Describe how to assess signal quality with a demod (CNR/EbNo/ corrected error rate)		X	X	X		
17	Transmitting systems	Compare total transmit power with power spectral density			X	X		
17	Transmitting systems	Define linear region, compression region, and saturation region of an amplifier			X	X	X	
17	Transmitting systems	Describe how to determine if a signal is experiencing distortion due to compression or saturation (regrowth)			X	X		
17	Transmitting systems	Describe what happens in a multi-carrier uplink if the amplifier is in the compression or satuation regions (IMD)			X	X	X	
17	Transmitting systems	Define Output Backoff (OBO) in a power amplifier			X	X		
17	Transmitting systems	Explain why more output backoff (reduced uplink power) is needed if the station is transmitting multiple carriers			X	X	X	
17	Transmitting systems	Describe what happens to a typical signal when it experiences compression			X	X	X	
17	Transmitting systems	List the consequences of operating a signal in the compression or saturation regions (ACI)			X	X	X	
17	Transmitting systems	Explain relationship between RF Transmit Power and Multi-Carrier Intermodulation Products			X	X	X	
18	Pointing	Accurately point az and el using balance method and spectrum analzer		X	X	X	X	
18	Pointing	Find the correct satellite using raster search and spectrum analyzer signature		X	X	X	X	
18	Pointing	Identify the correct satellite based on demod lock		X	X	X	X	
18	Pointing	Identify the correct satellite based on spectrum signature		X	X	X	X	
18	Pointing	Pre-set elevation using positioner			X	X	X	
18	Pointing	Pre-set polarization using positioner accounting for V vs H uplink			X	X	X	
18	Pointing	With auto-deploy antenna, optimize cross-pol alignment from satellite NOC feedback by phone (uplink xpol alignment)		X	X	X	X	
18	Pointing	With auto-deploy antenna, place ACU in manual mode and check pointing using balance method		X	X	X	X	
18	Pointing	With auto-deploy antenna, use manual override to find satellite by hand if ACU does not get modem lock.		X	X	X	X	
18	Pointing	With manual antenna, accurately pre-set elevation using inclinometer			X	X	X	
18	Pointing	With manual antenna, accurately pre-set polarization using inclinometer			X	X	X	
18	Pointing	With manual antenna, describe how to find the satellite using raster search			X	X	X	
19	UAP	Summarize the rules for discipline, etiquette and procedures when uplinking.	X	X	X	X	X	
19	UAP	Adjust transmit power in the correct sequence (start low) following access center instructions		X	X	X	X	
19	UAP	Configure the downlink system to correctly receive the assigned transponder and signal frequency on the spectrum analyzer		X	X	X	X	
19	UAP	Correctly pre-set the polarization of a typical SNG feed system			X	X	X	
19	UAP	Define what permission you need before transmitting		X	X	X	X	
19	UAP	Define when the modem/modulator should be used in CW vs modulated mode		X	X	X	X	
19	UAP	Describe how to cooperate with a control center to resolve issues, including if you are causing interference or experiencing interference.		X	X	X	X	
19	UAP	Describe the Universal Access Procedure in general and its checklists	X	X	X	X	X	
19	UAP	Explain how a cross-pol test is done		X	X	X	X	
19	UAP	Explain how to avoid excessive radiation from the transmit system, feed, or antenna (RF safety)		X	X	X	X	
19	UAP	Explain the importance of a detailed 'work order' and interpret a typical example of one	X	X	X	X	X	
19	UAP	Explain the importance of honest exchanges of information with the access center, without cover-ups	X	X	X	X	X	
19	UAP	Explain why Universal Access Procedure discipline is critical (interference prevention)	X	X	X	X	X	
19	UAP	How much time to allow for coordination with the control center		X	X	X	X	
19	UAP	List the basic terminology and acronymns used when establishing an uplink	X	X	X	X	X	
19	UAP	List the four key elements in the SNG access procedure (pointing, freq/BW, schedule, power)	X	X	X	X	X	
19	UAP	List the different reasons to call your access center regarding a transmission		X	X	X	X	
19	UAP	Perform a typical cross-pol test with an access center		X	X	X	X	
19	UAP	Explain why staying up past a set time can cause a problem and/or interference. Even the most seasoned, experienced uplinkers can cause interference if not following the simplest discipline/procedure of de-accessing on time.	X	X	X	X	X	
20	Using a power meter	Describe the function of a power meter		X	X	X		
20	Using a power meter	Describe typical uses for a power meter in an earth station (measuring uplink EIRP)		X	X	X		
20	Using a power meter	Explain the bandwidth properties of a power meter		X	X	X		
21	Using spectrum analyzer	Determine if the spectrum analyzer is being overloaded (adjust RF att)		X	X	X		
21	Using spectrum analyzer	Determine if the spectrum analyzer is receiving LNB noise or its own noise (remove input cable).		X	X	X		
21	Using spectrum analyzer	Explain the functions of the CF and SPAN controls.		X	X	X		
21	Using spectrum analyzer	Explain the functions of the RF ATT, REF LEVEL and dB/UNIT scale controls.		X	X	X		
21	Using spectrum analyzer	List the main controls on a typical spectrum analyzer		X	X	X	X	
21	Using spectrum analyzer	Recognize typical satellite signals on a spectrum analyzer.		X	X	X	X	
21	Using spectrum analyzer	Tune in to a given signal and measure its approximate C/N.		X	X	X		

22	Using tools	Compare mechanical with built-in electronic inclinometers		X	X	X		
22	Using tools	Compensate for magnetic variation when finding azimith angle		X	X	X	X	
22	Using tools	Correctly prepare an RG-6 cable, inspect it, and attach a compression connector.			X	X		
22	Using tools	Describe the function of a compass		X	X	X	X	
22	Using tools	Describe the function of an inclinometer		X	X	X	X	
22	Using tools	Describe where to place an inclinometer to determine antenna elevation		X	X	X		
22	Using tools	Explain why magnetic and true north are different		X	X	X	X	
22	Using tools	List the reasons that a compass reading may not be accurate		X	X	X	X	
23	Regulations	Define when and how to ask if an STA (special temporary authorization) has been obtained for C-Band operation at the uplink site.	X	X	X	X	X	
23	Regulations	Define when and how to ask that his earth station is properly licensed and be able to ensure the technical operating parameters stated on the license are not exceeded.	X	X	X	X		
23	Regulations	Describe the typical actions you need to take to be compliant with a license.		X	X	X		
23	Regulations	Explain the limitations placed on orbital arc and power spectral density limitations associated with an STA, and any frequency restrictions associated with the STA and why all of these STA parameters are necessary to protect other C-Band services near the uplink site location.	X	X	X	X		
23	Regulations	List what government regulations you are required to meet when operating an earth station.		X	X	X	X	
23	Regulations	Verify that the technical operating parameters stated on the earth station's license are not exceeded.	X	X	X	X		
24	Equipment approvals	Definition of approvals & Type Approvals criteria for 'auto-acquire' antennas		X				
24	Equipment approvals	Describe how radio station licensing applies to typical SNG and autodeploy terminals		X	X	X		
24	Equipment approvals	Explain the importance of using acceptable equipment	X	X	X	X		
24	Equipment approvals	Explain why Auto Acquire or self Pointing Earth Terminals shall obtain an industry standard 'type approval' to verify their ability to perform their intended function while ensuring that interference metrics are satisfied.		X	X	X		
24	Equipment approvals	Explain why RFI coordination is required for C-band	X	X	X	X	X	
24	Equipment approvals	Summarize the GVF Type approval process and procedures and explain why such practices and approvals are of benefit to the satellite industry and satellite users.						
24	Equipment approvals	Using acceptable self pointing equipment		X	X	X		
25	Safety	Explain how an SNG antenna could contact power lines	X	X	X	X	X	
	Safety	Explain what to do if an SNG antenna comes in contact power lines		X	X	X	X	
25	Safety	Explain how safety grounding helps protect againts accidental AC shock		X	X	X	X	
26	Tracking	Describe how steptrack works		X	X	X		
26	Tracking	Describe when tracking would be required in an antenna (large and/or high freq band)		X	X	X		
26	Tracking	List the signals that could be used to track a satellite (beacon rcvr, DVB, tracking rcvr)		X	X	X		
28	Troubleshooting	Can't find satellite	X	X	X	X		
28	Troubleshooting	Confirm the presence of a reference signal if it is necessary for the upconverter's local oscillator.		X	X	X		
28	Troubleshooting	Describe how to check if the antenna is receiving based on noise and signal levels in the spectrum analyzer.		X	X	X		
28	Troubleshooting	Describe UC/HPA monitoring and troubleshooting procedures		X	X	X		
28	Troubleshooting	Determine if the downlink chain cabling and connections are damaged		X	X	X		
28	Troubleshooting	Determine if the transmit chain cabling and/or connections are correctly installed and functioning		X	X	X		
28	Troubleshooting	Examine the feed window for abnormalities		X	X	X		
28	Troubleshooting	What to do if you are experiencing or causing interference	X	X	X	X	X	
28	Troubleshooting	Identify proper link performance metrics such as C/kT, Eb/No, BER, or other modem signal quality metrics available to the operator.		X	X	X		
28	Troubleshooting	List earth station performance indicators		X	X	X		
28	Troubleshooting	List routine earth station maintenance tasks			X	X		
28	Troubleshooting	Measure carrier to noise values on a spectrum analyzer and know if a performance issue is present.			X	X		
28	Troubleshooting	Recognize if the BUC and HPA waveguides are in good condition		X	X	X		
28	Troubleshooting	Recognize if the LNB is operational by observing the receive noise floor		X	X	X		
28	Troubleshooting	Signal is weak		X	X	X		
28	Troubleshooting	Troubleshoot a receive chain		X	X	X		
28	Troubleshooting	Verify polarization angle by viewing the waveguide orientation		X	X	X		
28	Troubleshooting	Verify that any active dividers or line driver amplifiers in the downlink chain are operating within their linear ranges			X	X		
28	Troubleshooting	Verify the HPA is operating within its linear range		X	X	X		
28	Troubleshooting	Verify the presence of a LNB reference signal if needed.		X	X	X		
28	Troubleshooting	Verify the upconverter's output frequency given the modem frequency		X	X	X		
29	Maintenance	PM: check for ground current in the AC Prime Power Distribution circuits			X	X		
29	Maintenance	PM: properly inspect and clean the feed system			X	X		
29	Maintenance	PM: tighen and grease if necessary the antenna axis/pivot points			X	X		
29	Maintenance	PM: verify signal levels are within tolerance in the up and downlink chains.			X	X		
29	Maintenance	PM: verify signal path connectors are properly mated,			X	X		
30	Hands On Skills Testing	Accurately point and pol the antenna		X	X	X	X	
30	Hands On Skills Testing	Confirm linearity for compression margin			X	X	X	
30	Hands On Skills Testing	Correctly set U/D link parameters/levels/freq/etc		X	X	X	X	
30	Hands On Skills Testing	Demonstrate all Pointing skills (pre-set pol, find target satellite, accurately point antenna, perform cross-pol test with access center)		X	X	X	X	
30	Hands On Skills Testing	Demonstrate proper coaxial cable connectorization practices,			X	X		
30	Hands On Skills Testing	Identify a proper antenna placement location for RF safety, unobstucted view to the target satellite		X	X	X	X	
30	Hands On Skills Testing	Identify and locate the target satellite		X	X	X	X	
30	Hands On Skills Testing	Pre-set polarization and EL angle		X	X	X	X	
30	Hands On Skills Testing	Properly adjust transmit power.		X	X	X	X	
30	Hands On Skills Testing	Show a government-issued picture ID,		X	X	X		
30	Hands On Skills Testing	Show proficiency with use of all u/d link chain components and test equipment		X	X	X	X	
30	Hands On Skills Testing	Use the proper satellite access procedure for the satellite operator,		X	X	X	X	

gram: ___________________________

How taught and tested (e.g. online, in class, hands on, written test, skills demonstration, etc.)