

ECSE Troubleshooting



Agenda

Time	Day 1	Day 2	Day 3	Day 4
9:00 - 10:30	<ul style="list-style-type: none"> • Introductions • How a NIC Works • RF Fundamentals 	<ul style="list-style-type: none"> • Introduction to Troubleshooting • WLAN Issues & Causes • WLAN Requirements 	<ul style="list-style-type: none"> • Validate Process • Process Diagram • Ekahau Survey Lab Exercise <ul style="list-style-type: none"> • iPad App • Windows/macOS 	<ul style="list-style-type: none"> • Using WLANpi for Remote Packet Capture Exercise • Troubleshooting 802.1X Issues • RADIUS Lab Exercise • Using Wireshark Exercise
10:30 - 10:45	Break			
10:45 - 12:30	<ul style="list-style-type: none"> • RF Fundamentals • Modulations • dB Math 	<ul style="list-style-type: none"> • How to Make Wireless Problems Disappear • Wired vs. Wireless Exercise <ul style="list-style-type: none"> • Native Tools • GUI Tools • Windows/macOS • iOS/Android 	<ul style="list-style-type: none"> • Ekahau Survey Lab Exercise • Spectrum Analysis Process • Wi-Fi Signal • Sidekick Analysis Demo • Tracking Non-Wi-Fi-Interference Exercise 	<ul style="list-style-type: none"> • Management Systems Tools to Troubleshoot • Management Lab Exercises • Troubleshooting Tools Review by OS
12:30 - 13:15	Lunch			
13:15 - 15:00	<ul style="list-style-type: none"> • 802.11 Fundamentals • Wi-Fi Client Issues • Meeting Requirements 	<ul style="list-style-type: none"> • Investigate Process • WLANpi Setup & Config Exercise • Kimset Network Scanner Exercise • HORST Exercise • BetterCap Exercise 	<ul style="list-style-type: none"> • Packet Capture Process • Wireshark Install Lab • Customizing Wireshark • Profiles Lab • Columns Lab • Filters Lab • Color Rules Lab 	<ul style="list-style-type: none"> • ECSE Exam Review • ECSE Exam
15:00 - 15:15	Break			
15:15 - 17:00	<ul style="list-style-type: none"> • Association Processes • Authentication Processes 	<ul style="list-style-type: none"> • WLAN Client Profiler Exercise • Measure Process • Performance & Throughput Testing Exercise • iPerf, ZAP, HTML Exercise • End-point Testing Exercise 	<ul style="list-style-type: none"> • Name Resolution Lab • Commenting Lab • Using Class Profile Exercise • Graphing • Graphing Lab 	
Homework	Explain: "Green Diamond" & 802.1X Authentication	Use WLANpi with Extra Homework Exercises	Use Wireshark with Extra Homework Exercises	