Signatures

You will be experimenting with various aspects of WICED Bluetooth by completing the exercises below. Labs are marked as "Basic" and "Advanced". You should make sure you complete the basic exercises first and then work on the advanced exercises as time allows.

✓	Chapter	Exercise	Category	Description
	01 (Tour)	1.1	Basic	Create a forum account
		1.2	Basic	Start ModusToolbox IDE and Explore the Documentation
		1.3	Basic	Download the Bluetooth Spec Version 5.0
	02 (Peripherals)	2.1	Basic	Blink an LED
		2.2	Basic	Add Debug Printing to the LED Blink Project
		2.3	Basic	Read the State of a Mechanical Button
		2.4	Basic	Use an Interrupt to Toggle the State of an LED
		2.5	Basic	Use a Timer to Toggle an LED
		2.6	Basic	LED brightness with a PWM
		2.7	Basic	LED toggling at specific frequency and duty cycle with a PWM
		2.8	Basic	Read Motion Sensor Data Using I2C
		2.9	Advanced	Write and Read Data in the NVRAM
		2.10	Advanced	Calculate the Resistance of a Thermistor using the ADC
		2.11	Advanced	Send a value using the standard UART functions
		2.12	Advanced	Get a value using the standard UART functions
		2.13	Advanced	Use the RTC to keep track of the Date/Time
	03 (RTOS)	3.1	Basic	Semaphore
		3.2	Advanced	MUTEX
		3.3	Advanced	Queues
		3.4	Advanced	Print Stack Usage
	04A (Essential BLE Peripherals)	4A.1	Basic	Create a BLE Project with a WicedLED Service
		4A.2	Basic	Add a Connection Status LED
		4A.3	Basic	Create a BLE Advertiser
		4A.4	Basic	Connect using BLE
	04B (More Advanced BLE Peripherals)	4B.1	Basic	Simple BLE Project with Notifications
		4B.2	Basic	BLE Notifications for Notifications for Wiced101 Button
		4B.3	Basic	BLE Pairing and Security
		4B.4	Advanced	Save BLE Pairing Information (i.e. Bonding)
		4B.5	Advanced	Add a Pairing Passkey
		4B.6	Advanced	Add Numeric Comparison
		4B.7	Advanced	Add Multiple Device Bonding Capability
	04C (BLE Low Power, Beacons, OTA)	4C.1	Basic	BLE Low Power (PDS)
		4C.2	Advanced	Implement Eddystone URL Beacon
		4C.3	Advanced	Use Multi-Advertising on a Beacon
		4C.4	Advanced	Advertise Manufacturing Data and Provide Scan Response
		4C.5	Advanced	OTA Firmware Upgrade (Non-Secure)
		4C.6	Advanced	OTA Firmware Upgrade (Secure)
		4C.7	Advanced	BLE Low Power (SDS)
	04D (BLE Centrals)	4D.1	Basic	Make an Observer
		4D.2	Basic	Read Device Name to Show Only Your Peripheral
		4D.3	Basic	Connect to Your Peripheral and Turn ON/OFF the LED
		4D.4	Advanced	Add Commands to Turn Notify ON/OFF
		4D.5	Advanced	Do Service Discovery
		4D.6	Advanced	Run the Advertising Scanner
	05 (Debugging)	5.1	Basic	Use ClientControl
		5.2	Basic	Run BTSpy
		5.3	Advanced	Run the Debugger
	06A (Classic Bluetooth – SPP)	6A.1	Basic	Create a Serial Port Profile Project
		6A.2	Basic	Add UART Transmit Capability
		6A.3	Advanced	Improve Security by Adding IO Capabilities (Yes/No)
		6A.4	Advanced	Add Multiple Device Bonding Capability

✓	Chapter	Exercise	Category	Description
	07A (Mesh Intro)	7A.1	Basic	Program LightDimmable application
	07B (Mesh Protocol)	7B.1	Basic	Mesh Profile Spec
		7B.2	Basic	Mesh Model Spec
	07C (Mesh Firmware)	7C.1	Basic	Create a mesh network with LightDimmable
		7C.2	Basic	Add on OnOff Switch
		7C.3	Basic	Add a Dimmer Switch
		7C.4	Basic	Add 2nd LightDimmable
		7C.5	Advanced	Add 2nd Element to LightDimmable
		7C.6	Advanced	Convert LightDimmable to HSL Control