

# Embedded Medical Devices

BME554L (Fall 2025)

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Module	Materials	Assessment
Zephyr & Nordic SoC Overview	<a href="#">Lecture Notes &amp; Slides</a>	<a href="#">Completion Survey</a> (Due: TBD) <a href="#">Software Installs &amp; Tutorials</a> (Due: TBD)
Event-Driven State Machines	<a href="#">Lecture Notes &amp; Slides</a>	<a href="#">Wireless HRM Event-Driven State Machine Lab</a>
Version Control ( <a href="#">git</a> )	<a href="#">Lecture Notes &amp; Slides</a>	<a href="#">Git Fundamentals Quiz</a> <a href="#">Git Fundamentals Lab</a>
C Programming	<a href="#">Lecture Notes &amp; Slides</a>	<a href="#">C Programming Quiz</a> <a href="#">C Programming Lab C</a> <a href="#">Programming Lab</a>
Devicetree, GPIO & Callbacks	<a href="#">Lecture Notes &amp; Slides</a> <a href="#">Nordic DevAcademy Lesson 2: Reading Buttons &amp; Controlling LEDs</a>	<a href="#">DT/GPIO/CB Lab</a>
Timers & Work Queues <a href="#">Threads &amp; Kernel Events</a>	<a href="#">Lecture Notes &amp; Slides</a> (Optional) <a href="#">Zephyr RTOS: Beyond the basics</a>	<a href="#">Timers Lab</a> <a href="#">Heartbeat &amp; Kernel Events</a> <a href="#">Refactor Lab</a>
State Machine Framework	<a href="#">Lecture Notes &amp; Slides</a>	<a href="#">State Machine Framework</a> <a href="#">Refactor Lab</a>
Debugging	<a href="#">Debugging DevAcademy Module</a>	None
Analog-to-Digital Conversion (ADC)	<a href="#">Lecture Notes &amp; Slides</a> <a href="#">Nordic DevAcademy: ADC</a>	<a href="#">ADC Lab: Parts I &amp; II</a>
Pulse Width Modulation (PWM)	<a href="#">Lecture Notes &amp; Slides</a> <a href="#">Nordic DevAcademy: PWM</a>	<a href="#">PWM Lab: Parts III &amp; IV</a>

Module	Materials	Assessment
UART/I2C/SPI & Sensors	UART DevAcademy Module & Serial Communication DevAcademy Module	None
Bluetooth Low Energy (BLE)	Lecture Notes & Slides DevAcademic: BLE (Lessons 1-4)	ECG & Temperature Sensing BLE Device