Embedded Medical Devices

BME554L (Fall 2025)

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

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Serial Communications	Lecture Notes & Slides 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