

EET 3735L - Microprocessor Architecture and Programming Laboratory

Fall 2026 Syllabus, Section 01, CRN 42031,

Credit hours: 1

Instructor

Anthony DiTommaso

Email: amditommaso@ysu.edu

Public Instructor Information

Instructor Title:

Instructor Professional Qualifications:

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Instructor Professional Qualifications:

Experienced embedded system designer with over 30 years in mixed signal design including assembly, C, VHDL, PCB design, EMC testing, and regulatory approvals.

MSECE, Electrical and Computer Engineering, Carnegie Mellon University, 1997

BSEE, Electrical Engineering, Carnegie Mellon University, 1993

Instructor Office Location: Moser Hall - 4120

Instructor Office Phone: (330) 941 - 3287

Course Description

3735L. Microprocessor Architecture and Programming Laboratory. Laboratory exercises dealing with applications of concepts developed in EET 3735. Three hours per week. Coreq.: EET 3735. 1 s.h.

Course Readings

Group	Title	Author	ISBN
Required	ATTINY104 Data Sheet		
Required	Microchip ATTINY104 XPLAINED NANO		
Required	Microchip Studio 7.0.25		
Required	Explore ATtiny Microcontrollers using C and Assembly Language	Smith	978-3-89576-479-0
Optional	The C Programming Language (Second Edition),	Kernighan, Ritchie	ISBN 978-01-3110362-7

1. ATTINY104 Data Sheet https://www.microchip.com/content/dam/mchp/documents/OTH/ProductDocuments/DataSheets/Atmel-42505-8-bit-AVR-Microcontrollers-ATtiny102-ATtiny104_Datasheet.pdf
2. Microchip ATTINY104 XPLAINED NANO - https://ww1.microchip.com/downloads/en/DeviceDoc/Atmel-42671-ATtiny104-Xplained-Nano_User-Guide.pdf
3. Microchip Studio 7.0.25 - <https://www.microchip.com/en-us/development-tools-tools-and-software/microchip-studio-for-avr-and-sam-devices>
4. Explore ATtiny Microcontrollers using C and Assembly Language, ISBN 978-3-89576-479-0, Elektor www.elektor.com (E-book only)

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.



Schedule of Topics and Assignments

Day	Date	Reading(s)	Proposed Topic	Due/To Prepare for Class
Wed	8/26	Explore ATtiny Microcontrollers using C and Assembly Language Introduction, CH1	Lab Introduction	
Wed	9/2	Explore ATtiny Microcontrollers using C and Assembly Language CH8, CH11.2.4.11	Set Up for Assembly	
Wed	9/9	Explore ATtiny Microcontrollers using C and Assembly Language CH7.4, CH11.2.1.2	Lab #1 – Input, Output Instructions	
Wed	9/16	Explore ATtiny Microcontrollers using C and Assembly Language CH5, CH11.2.4	Lab #2 – Logical Instructions	(M) Lab#1P2
Wed	9/23	Explore ATtiny Microcontrollers using C and Assembly Language CH7.1 - CH7.3	Lab #3 – Read, Store Instructions	(M) Lab#2P2
Wed	9/30	Explore ATtiny Microcontrollers using C and Assembly Language CH11.2.2	Lab #4 – Arithmetic, Shift Instructions	(M) Lab#3P2
Wed	10/7	Explore ATtiny Microcontrollers using C and Assembly Language CH2.4, CH8.2.2	Lab #5 – Branch Instructions	(M) Lab#4P2
Wed	10/14		Open Lab	(M) Lab#5P2
Wed	10/21		Set Up for C	
Wed	10/28		Lab #6 – Types and Operators	
Wed	11/4		Lab #7 – Control Flow	(M) Lab#6P2
Wed	11/11	Explore ATtiny Microcontrollers using C and Assembly Language CH 10.3	Lab #8 – Functions and Pointers	(M) Lab#7P2
Wed	11/18		Lab #9 – Mixing C and Assembly	(M) Lab#8P2
Wed	11/25		No Lab - Thanksgiving	(M) Lab#9P2
Wed	12/2		Lab #10 – Mash-Up Demonstration	(W) Lab#10P2
Wed	12/9		No Lab - End of Term	

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.