

COURSE TITLE	TE142324: Microelectronic Systems Credits: 3 Semester: I
LEARNING OBJECTIVES	By the end of this course, the student should be able to design an electronic system based on computer, microprocessor and microcontroller (hardware and software) using microelectronic devices.
COMPETENCY	<ul style="list-style-type: none"> • Students have ability to do a design and realization PC-based and microprocessor/controller-based system. • Students have ability to analyze the microelectronics system including supporting components which are needed. • Students have ability to give design considerations for designing a PC/microprocessor / microcontroller-based system
SUBJECTS	<ul style="list-style-type: none"> • Basic principle of microprocessor/microcontroller system design • Decoding system, basic interfacing and programming • Microprocessor/microcontroller programming, • Memory map, Analog to Digital Converter, Digital to Analog Converter • Data communication using microprocessor/ microcontroller (serial, parallel, USB), application of microprocessor/microcontroller in industry and biomedical engineering.
MAIN REFERENCES	<ul style="list-style-type: none"> • The intel microprocessors architecture, programming and interfacing – Barry B Brey. • USB Complete (2nd edition) – Jan Axelson.
OPTIONAL REFERENCES	-
PREREQUISITE	-