

ADVANCED TECHNOLOGY DEVELOPMENT CENTRE, IIT KHARAGPUR
M.TECH. IN EMBEDDED CONTROLS AND SOFTWARE

SEMESTER 1				
SUBJECT NO	SUBJECT NAME	LTP	CRD	SUBJECT TYPE
AT60001	EMBEDDED CONTROL SYSTEMS	4-0-0	4	DEPTH CORE I
AT60003	EMBEDDED SOFTWARE DESIGN & VALIDATION	4-0-0	4	DEPTH CORE II
AT69001	EMBEDDED CONTROL LABORATORY	0-0-3	2	DEPTH CORE III
AT69003	SOFTWARE DESIGN AND VALIDATION LABORATORY	0-0-3	2	DEPTH CORE IV
AT69145	SEMINAR	0-0-3	2	DEPTH CORE V
				ELECTIVE I
				ELECTIVE II
				ELECTIVE III
LIST OF ELECTIVES (SEMESTER 1)				
AI61005	ARTIFICIAL INTELLIGENCE: FOUNDATIONS AND APPLICATIONS	3-1-0	4	DEPTH ELECTIVE I
AI61009	ARTIFICIAL INTELLIGENCE FOR MANUFACTURING	3-1-0	4	DEPTH ELECTIVE I
AT60005	EMBEDDED MACHINE LEARNING	3-0-0	3	DEPTH ELECTIVE I
AT60201	PRINCIPLES OF AUTOMOTIVE DYNAMICS AND CONTROL	3-0-0	3	DEPTH ELECTIVE I
AT60203	EMBEDDED CONTROL OF ELECTRICAL DRIVES: DESIGN AND IMPLEMENTATION	3-0-0	3	DEPTH ELECTIVE I
AT60205	PHOTONIC QUANTUM INFORMATION TECHNOLOGIES	3-0-0	3	DEPTH ELECTIVE I
AT62001	INTRODUCTION TO AUGMENTED REALITY AND VIRTUAL REALITY	2-0-2	3	DEPTH ELECTIVE I
AT62202	USER EXPERIENCE RESEARCH QUALITATIVE AND QUANTITATIVE ANALYSIS	2-0-2	3	DEPTH ELECTIVE I
EC60309	VLSI PROCESS TECHNOLOGY	3-0-0	3	DEPTH ELECTIVE I
EE61211	RADIO FREQUENCY INTEGRATED CIRCUITS	3-1-0	4	DEPTH ELECTIVE I
ET60007	INTRODUCTION TO DIGITAL SPEECH PROCESSING	3-1-0	4	DEPTH ELECTIVE I
ET60017	DIGITAL SIGNAL PROCESSING TECHNIQUES AND ITS APPLICATIONS	3-1-0	4	DEPTH ELECTIVE I
CS60077	REINFORCEMENT LEARNING	3-0-0	3	DEPTH ELECTIVE II
CS60007	ALGORITHM DESIGN AND ANALYSIS	4-0-0	4	DEPTH ELECTIVE II
CS60045	ARTIFICIAL INTELLIGENCE	3-0-0	3	DEPTH ELECTIVE II
CS60065	CRYPTOGRAPHY AND NETWORK SECURITY	3-1-0	4	DEPTH ELECTIVE II

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SEMESTER NO-2				
SUBJECT NO	SUBJECT NAME	LTP	CRD	SUBJECT TYPE
AT60006	EMBEDDED SENSING, ACTUATION AND INTERFACING SYSTEM	4-0-0	4	DEPTH CORE VI
AT60008	EMBEDDED COMMUNICATION NETWORKS	3-0-0	3	DEPTH CORE VII
AT69204	EMBEDDED COMMUNICATIONS LABORATORY	0-0-3	2	DEPTH CORE IX
AT69002	EMBEDDED APPLICATIONS LABORATORY	0-0-3	2	DEPTH CORE VIII
AT67122	PROJECT - 1	0-0-3	2	DEPTH CORE X
				ELECTIVE IV
				ELECTIVE V
				ELECTIVE VI
LIST OF ELECTIVES				
AI60006	DEPENDABLE AND SECURE AI-ML	3-0-0	3	DEPTH/BREADTH ELECTIVE I
AI61006	ARTIFICIAL INTELLIGENCE FOR CYBER PHYSICAL SYSTEMS	3-1-0	4	DEPTH/BREADTH ELECTIVE I
AT60004	SECURITY AWARE CPS AND IOT DESIGN	3-0-0	3	DEPTH/BREADTH ELECTIVE I
AT60202	INTELLIGENT TRANSPORTATION SYSTEM	3-0-0	3	DEPTH/BREADTH ELECTIVE I
AT60205	PHOTONIC QUANTUM INFORMATION TECHNOLOGIES	3-0-0	3	DEPTH/BREADTH ELECTIVE I
AT62202	USER EXPERIENCE RESEARCH:QUALITATIVE AND QUANTITATIVE ANALYSIS	2-0-2	3	DEPTH/BREADTH ELECTIVE I
CS60065	CRYPTOGRAPHY AND NETWORK SECURITY	3-1-0	4	DEPTH/BREADTH ELECTIVE I
ET60006	AUDIO SYSTEMS ENGINEERING	3-0-0	3	DEPTH/BREADTH ELECTIVE I
ET60012	FOUNDATIONS OF EDUCATIONAL TECHNOLOGY	3-0-0	3	DEPTH/BREADTH ELECTIVE I
AI60006	DEPENDABLE AND SECURE AI-ML	3-0-0	3	DEPTH ELECTIVE IV
AI61006	ARTIFICIAL INTELLIGENCE FOR CYBER PHYSICAL SYSTEMS	3-1-0	4	DEPTH ELECTIVE IV
AT60002	PRINCIPLES OF AUTOMOTIVE DYNAMICS AND CONTROL	3-0-0	3	DEPTH ELECTIVE IV
AT60004	SECURITY AWARE CPS AND IOT DESIGN	3-0-0	3	DEPTH ELECTIVE IV
AT60010	DISTRIBUTED REAL-TIME SYSTEMS	3-0-0	3	DEPTH ELECTIVE IV
AT60202	INTELLIGENT TRANSPORTATION SYSTEM	3-0-0	3	DEPTH ELECTIVE IV
AT61202	AUTOMOTIVE ELECTRONICS	3-1-0	4	DEPTH ELECTIVE IV
AT62001	INTRODUCTION TO AUGMENTED REALITY AND	2-0-2	3	DEPTH ELECTIVE IV



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	VIRTUAL REALITY			
SEMESTER NO-2				
LIST OF ELECTIVES				
SUBJECT NO	SUBJECT NAME	LTP	CRD	SUBJECT TYPE
AT62202	USER EXPERIENCE RESEARCH:QUALITATIVE AND QUANTITATIVE ANALYSIS	2-0-2	3	DEPTH ELECTIVE IV
EC60016	TRANSPORT PHENOMENA IN MESOSCOPIC AND NANOSCOPIC SYSTEMS	3-0-0	3	DEPTH ELECTIVE IV
EE61211	RADIO FREQUENCY INTEGRATED CIRCUITS	3-1-0	4	DEPTH ELECTIVE IV
ET60006	AUDIO SYSTEMS ENGINEERING	3-0-0	3	DEPTH ELECTIVE IV
ET60012	FOUNDATIONS OF EDUCATIONAL TECHNOLOGY	3-0-0	4	DEPTH ELECTIVE IV
SEMESTER NO-3				
AT68121	SUMMER INTERNSHIP	0-0-6	4	DEPTH CORE XI
				PROJECT II
LIST OF ELECTIVES				
AT67123	PROJECT- 2	0-0-0	16	PROJECT II
SEMESTER NO-4				
AT67124	PROJECT- 3	0-0-0	20	DEPTH CORE XIII
				PROJECT III
LIST OF ELECTIVES				
AT67124	PROJECT- 3	0-0-0	20	PROJECT III