Gautam Buddha University

School of Engineering

Course Structure of M. Tech. Program (Instrumentation & Control)

Batch 2015-17

SEMESTER-I

Sr. No.	Subject Code	Courses	L-T-P	Credits	Course Type
		THEORY			
1.	MA-306/MA-307/MA-02	Operation Research /Optimization Techniques/ Modeling and Simulation	3 1 0	4	EGE-I1
2.	EE531	Advanced Instrumentation	3 0 0	3	C-I1
3.	EE533	Advanced Control Theory	3 0 0	3	C-I2
4.	EE555	Optimal Control Theory	3 0 0	3	C-I3
5.		Elective – I	3 0 0	3	EDSE-I1
6.	S0513	Open Elective	3-0-0	3	OE-I1
		PRACTICALS			
7.	EE553	Adv. Instrumentation & Control Lab	0 0 3	2	C-I4
8.	EE597	Seminar	0 0 3	2	SEC1
	GP	General Proficiency	-	0	
		Total		23	
		Total Contact Hours		25	

Open Elective: Courses offered by other schools

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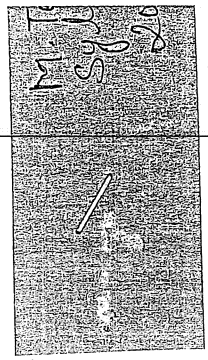
SEMESTER-II

Sr. No.	Subject Code	Courses	L-T-P	Credits	Course Type
		THEORY			
1.	MA406/MA507/ MA402	Operation Research /Optimization Techniques/ Modeling and Simulation	3-1-0	4	EGE-12
2.	EE532	Robust and Adaptive Control	3-0-0	3	C-15
3.	EE534	Biomedical Instrumentation	3-0-0	3	C-16
4.	EE536	Advance Transducer & Sensors	3-0-0	3	C-17
5.		Specialized Elective – 1	3-0-0	3	EDSE-12
		PRACTICAL			
6.	EE548	Biomedical & Virtual Instrumentation Lab	0-0-3	2	C-18
7.	EE598	Project	0-0-10	5	EDP-11
	GP	General Proficiency	-	NC	
		Total		23	
		Total Contact Hours		30	

SEMESTER-III

Sr. No.	Subject Code	Courses	L-T-P	Credits	Course Type
		THEORY			
1.	EE631	Digital Instrumentation	3-1-0	4	C-19
2.	EE633	Digital & Non-Linear Control	3-0-0	3	C-110
3.		Specialized Elective – II	3-0-0	3	EDSE-13
4.		Specialized Elective – III	3-0-0	3	EDSE-14
		PRACTICALS			
5.	EE663	Digital & Non Linear Control Lab	0-0-2	1	C-111
6.	EE699	Dissertation-I	6**-0-3	8	EDP-12
	GP	General Proficiency	-	NC	
		Total		22	
		Total Contact Hours		24	

** One to one interaction of each student with the concerned faculty member.

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SEMESTER-IV

Sr. No.	Subject Code	Courses	L-T-P	Credits	Course Type
	EE698	Dissertation-II		22	EDP-B
	GP	General Proficiency		NC	
		Total		22	

Total Program Credits: 90

LIST OF ELECTIVES

Elective-I

1. EE537:Calibration and Testing in Instrumentation
2. EE539: Nanomaterials & Applications
3. EE 541:Hydraulic and Pneumatic Control
4. EE 543:Embedded System
5. EE545:Advance Digital Signal Processing
6. EE547: Industrial Instrumentation & Control
7. EE549:Advance Microprocessors and Interfacing
8. EE 551:Introduction to MEMS
9. EE589 Wavelet methods in Engineering
10. Integrated M.Tech. Electives

Specialized Elective-I

1. EE538:Mechatronics
2. EE540: Computer Aided Design of Instrumentation System
3. EE542:Intelligent Instrumentation
4. EE544:Virtual Instrumentation
5. EE546: Environmental Instrumentation & Control

Specialized Elective-II

1. EE635:Stochastic Control
2. EE637:Ultrasonic Instrumentation & Sensors
3. EE639:Digitized Automation and Control

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4. EE641: Advanced Sensors & Biomaterials
5. EE643: Transducer Technology
6. EE645: Data Acquisition & Signal Conditioning
7. EE647: Artificial Intelligence & Neural Networks
8. EE649: Advance Instrumentation and Process Control
9. EE651: Medical Image Processing
10. EE681: Soft Computing Techniques

Specialized Elective-III
1. EE653: Digital Image Processing
2. EE655: Parallel Process & Real Time Systems
3. EE657: Opto-Electronics based Instrumentation
4. EE659: Robotics
5. EE661: SCADA Based Measurements
6. EE663: Electrical Energy Management
7. EE665: Research Techniques and Methodology

Nomenclature:

1. AEC: Ability Enhancement Courses

   AECC: Ability Enhancement Courses-compulsory

   SEC: Skill Enhancement Course

2. CC: Core Course

3. Elective Courses

   E-DSE: Discipline specific elective

   E-GE: Generic Elective

   E-DP: Dissertation and Project

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