

Department of Aerospace Engineering

2015 Curriculum				2019 Curriculum			
Sem	Course Code	Course Title	Cr	Equivalent	Course Title	L T P	Cr
2	15AES111	Introduction to Aerospace Technology	3	19AEE111	Introduction to Aerospace Technology	3 0 0	3
3	15AES201	Mechanics of Fluids	4	19AEE201	Mechanics of Fluids	3 1 0	4
3	15AES202	Introduction to Thermodynamics	3	19AEE202	Introduction to Thermodynamics	2 1 0	3
3	15AES203	Mechanics of Materials	3	19AEE203	Mechanics of Materials	2 1 0	3
3	15AES204	Materials for Aviation and Space	3	19AEE204	Materials for Aviation and Space	3 0 0	3
3	15AES281	Measurement and Instrumentation Lab.	1	19AEE281	Measurement and Instrumentation Lab.	0 0 3	1
4	15AES211	Aerodynamics I	3	19AEE211	Aerodynamics I	3 0 0	3
4	15AES212	Compressible Fluid Flow	3	19AEE212	Compressible Fluid Flow	2 1 0	3
4	15AES213	Aerospace Structures I	3	19AEE213	Aerospace Structures I	3 0 0	3
4	15AES214	Introduction to Control Theory	3	19AEE214	Introduction to Control Theory	2 1 0	3
4	15AES285	Mechanics of Fluids Lab.	1	19AEE285	Mechanics of Fluids Lab.	0 0 3	1
4	15AES286	Materials Testing Lab.	1	19AEE286	Materials Testing Lab.	0 0 3	1
5	15AES301	Aerodynamics II	3	19AEE301	Aerodynamics II	2 1 0	3
5	15AES302	Aerospace Propulsion	3	19AEE302	Aerospace Propulsion	2 1 0	3
5	15AES303	Aerospace Structures II	3	19AEE303	Aerospace Structures II	3 0 0	3
5	15AES304	Avionics	3	19AEE304	Avionics	3 0 0	3
5	15AES381	Aero-structures Lab.@	1	19AEE381	Aero-structures Lab.@	0 0 3	1
5	15AES382	Avionics Lab.@	1	19AEE382	Avionics Lab.@	0 0 3	1
5	15AES390	Live-in-Lab.	3	19AEE390	Live-in-Lab.		3
6	15AES311	Finite Element Methods for Aerospace	3	19AEE311	Finite Element Methods for Aerospace	2 1 0	3
6	15AES312	Flight Mechanics	3	19AEE312	Flight Mechanics	2 1 0	3
6	15AES383	Propulsion Lab.@	1	19AEE383	Propulsion Lab.@	0 0 3	1
6	15AES384	Low-speed Aerodynamics Lab.@	1	19AEE384	Low-speed Aerodynamics Lab.@	0 0 3	1
6	15AES385	Innovations Lab.	1	19AEE385	Innovations Lab.	0 0 3	1
7	15AES401	Computational Fluid Dynamics for Aerospace	3	19AEE401	Computational Fluid Dynamics for Aerospace	2 1 0	3
7	15AES402	Aero Design	5	19AEE402	Aero Design	2 2 2	5
7	15AES403	Flight Dynamics and Control	3	19AEE403	Flight Dynamics and Control	3 0 0	3
7	15AES481	UAV Lab	1	19AEE481	Flight testing Lab.@	0 0 3	1
7	15AES495	Project Phase I	2	19AEE495	Project Phase I		2
8	15AES499	Project Phase II	10	19AEE499	Project Phase II		10
Elective	15AES432	Air Breathing Engines	3	19AEE431	Air Breathing Engines	3 0 0	3
Elective	15AES452	Engineering Fracture Mechanics	3	19AEE432	Engineering Fracture Mechanics	3 0 0	3
Elective	15AES462	Helicopter Theory	3	19AEE433	Helicopter Theory	3 0 0	3
Elective	15AES430	Rocket and Spacecraft Propulsion	3	19AEE441	Rocket and Spacecraft Propulsion	3 0 0	3
Elective	15AES454	Advanced Composite Structures	3	19AEE442	Advanced Composite Structures	3 0 0	3
Elective	15AES470	State Space Techniques	3	19AEE443	State Space Techniques	3 0 0	3
Elective	15AES440	Turbulent Flows	3	19AEE451	Turbulent Flows	3 0 0	3
Elective	15AES460	Space Flight Mechanics	3	19AEE452	Space Flight Mechanics	3 0 0	3
Elective	15AES471	Multidisciplinary Design Optimization	3	19AEE453	Multidisciplinary Design Optimization	3 0 0	3
Elective	15AES441	Advanced Computational Fluid Dynamics	3	19AEE461	Advanced Computational Fluid Dynamics	3 0 0	3
Elective	15AES450	Surface Engineering, Coating and Joining Technologies	3	19AEE462	Surface Engineering, Coating and Joining Technologies	3 0 0	3
Elective	15AES461	Principles of Airport Management	3	19AEE463	Principles of Airport Management	3 0 0	3
Elective	15AES362	Computational Methods for Engineers	3	19AEE334	Computational Methods for Engineers	3 0 0	3
Elective	15AES332	Fundamentals of Heat Transfer	3	19AEE331	Fundamentals of Heat Transfer	3 0 0	3
Elective	15AES372	Manufacturing Processes	3	19AEE332	Manufacturing Processes	3 0 0	3
Elective	15AES352	Vibration Analysis	3	19AEE333	Vibration Analysis	3 0 0	3
Elective	15AES342	Experimental Aerodynamics	3	19AEE341	Experimental Aerodynamics	3 0 0	3
Elective	15AES353	Composite Materials and Mechanics	3	19AEE342	Composite Materials and Mechanics	3 0 0	3
Elective	15AES373	Advanced Avionics	3	19AEE343	Advanced Avionics	3 0 0	3
Elective	15AES442	Hypersonic Flow Theory	3	19AEE344	Hypersonic Flow Theory	3 0 0	3
Elective	15AES453	Aero-Elasticity	3	19AEE345	Aero-Elasticity	3 0 0	3

Department of Chemical Engineering

2015 Curriculum				2019 Curriculum			
Sem	Course Code	Course Title	Cr	Equivalent	Course Title	L T P	Cr
2	15CHE111	Introduction to Chemical Engineering	3	19CHE111	Introduction to Chemical Engineering	3 0 0	3
2	15CHE112	Material Balances	4	19CHE101	Material Balances	3 1 0	4
3	15CHE201	Energy Balance and Thermodynamics	4	19CHE201	Energy Balance and Thermodynamics	2 0 3	3
3	15CHE202	Fluid Mechanics	4	19CHE202	Fluid Mechanics	3 0 0	3
3	15CHE203	Mechanical Operations	3	19CHE203	Mechanical Operations	3 0 0	3
3	15CHE281	Fluid Mechanics Lab	1	19CHE282	Chemical Engineering Lab – 2	0 0 3	1
3	15CHE282	Mechanical Operations Lab	1				
4	15CHE211	Chemical Engineering Thermodynamics	3	19CHE211	Chemical Engineering Thermodynamics	2 1 0	3
4	15CHE212	Chemical Technology	4	19CHE212	Industrial Chemistry	3 0 0	3
4	15CHE213	Process Heat Transfer	4	19CHE204	Principles of Heat Transfer	2 1 0	3
3	15CHE285	Chemical Engineering Instrumentation Lab	2	19CHE281	Chemical Engineering Lab – 1	0 0 3	1
3	15CHE286	Chemical Technology Lab	1				
5	15CHE301	Chemical Reaction Engineering I	3	19CHE301	Chemical Reaction Engineering I	3 0 0	3
5	15CHE302	Diffusional Mass Transfer Operations	4	19CHE303	Principles of Mass Transfer	2 1 0	3
5	15CHE303	Statics and Strength of Materials	4	19CHE214	Strength of Materials	3 0 0	3
5	15MAT214	Probability and Statistics	3	19CHE215	Statistical Analysis of Process Data	2 0 3	3
5	15CHE381	Heat Transfer Lab.	1	19CHE381	Chemical Engineering Lab - 3	0 0 3	1
5	15CHE382	Strength of Materials Lab.	1				
5	15CHE391	Project Based Learning - Phase I	1	19CHE383	Project Based Learning	0 0 3	2
6	15CHE396	Project Based Learning –Phase II	2				
6	15CHE311	Chemical Reaction Engineering II	3	19CHE311	Chemical Reaction Engineering II	3 0 0	3
6	15CHE312	Equilibrium Staged Operations	4	19CHE312	Design of Mass Transfer Equipment	3 0 0	3
6	15CHE313	Materials Technology	3	19CHE205	Materials Technology	3 0 0	3
6	15CHE314	Process Dynamics and Control	4	19CHE313	Transforms & Control Systems Theory	3 1 0	4
6	15CHE385	Chemical Reaction Engineering Lab.	1	19CHE382	Chemical Engineering Lab 4	0 0 3	1
6	15CHE386	Mass Transfer Lab.	1	19CHE481	Chemical Engineering Lab - 5	0 0 3	1
7	15CHE481	Chemical Process Control Lab.	1				
7	15CHE401	Process Design and Integration	3	19CHE401	Process Design and Integration	3 0 0	3
7	15CHE402	Process Equipment Design and Drawing	3	19CHE402	Process Equipment Design	2 0 3	3
7	15CHE403	Transport Phenomena	4	19CHE403	Transport Phenomena	3 0 0	3
7	15CHE482	Computer Aided Design Lab.	2	19CHE482	Process Simulation Lab	2 0 3	3
7	15CHE495	Project Phase 1	2	19CHE495	Project Phase 1	0 0 2	2
8	15CHE499	Project Phase 2	10	19CHE499	Project Phase - II	0 0 10	10

Department of Civil Engineering

2015 Curriculum				2019 Curriculum		
Sem	Course Code	Course Title	Cr	Equivalent	Course Title	Cr
2	15CVL102	Mechanics: Statics and Dynamics	3	19CIE102	Mechanics: Statics and Dynamics	3
2	15CVL111	Introduction to Civil Engineering	1	19CIE111	Introduction to Civil Engineering	2
2	15CVL112	Engineering Graphics - CAD	2	19MEE182	Computer Aided Drafting	1
3	15CVL201	Construction Materials	3	19CIE204	Construction materials & methods	3
3	15CVL202	Principles of Fluid Mechanics	3	19CIE202	Principles of Fluid Mechanics	3
3	15CVL203	Solid Mechanics	4	19CIE201	Solid Mechanics	4
3	15CVL281	Material Testing Lab	1			
3	15CVL204	Surveying	4	19CIE203	Principles of Surveying	4
3	15CVL282	Survey Practice	2			
4	15CVL211	Building Technology	3	19CIE282	Materials Testing & Evaluation	2
4	15CVL285	Construction materials lab	1			
4	15CVL212	Geology and Soil Mechanics	3	19CIE211	Geology and Soil Mechanics	3
4	15CVL213	Hydraulic Engineering	3	19CIE213	Hydraulic Engineering	3
4	15CVL214	Structural Analysis	3	19CIE212	Structural Analysis	4
4	15CVL286	Hydraulic Engineering lab	1	19CIE281	Hydraulic Engineering lab	1
5	15CVL301	Advanced structural analysis	3			
5	15CVL302	Design of concrete structures	4	19CIE303	Basic R C Design	4
5	15CVL303	Geotechnical Engineering	4	19CIE301	Geotechnical Engineering	3
5	15CVL381	Building drawing	2	19CIE381	Computer aided CE drawing	2
5	15CVL382	Geotechnical Engg lab	1	19CIE382	Geotechnical Engg lab	1
6	15CVL311	Design of steel structures	4	19CIE312	Basic steel design	4
6	15CVL312	Environmental Engg I	3	19CIE302	Environmental Engineering I	3
6	15CVL385	Environmental Engg Lab	1	19CIE311	Environmental Engg II	3
6	15CVL386	Estimation and Valuation Practice	2	19CIE313	Estimation, costing & professional practice	3
6	15CVL313	Transportation Engg I	3	19CIE214	Transportation Engg I	3
6	15CVL314	Water resources and Irrigation Engg	4	19CIE314	Hydrology & water resources Engg	3
7	15CVL401	Construction management	4	19CIE402	Construction management	3
7	15CVL402	Environmental Engg II	3	19CIE311	Environmental Engg II	3
7	15CVL481	Structural design & detailing	1	19CIE401	Structural design & detailing	3
7	15CVL403	Transportation Engg II	3	19CIE304	Transportation Engg II	2
7	15CVL491	Professional project	2	19CIE491	Professional project	2
7	15CVL495	Project phase I	2	19CIE495	Minor project	2
8	15CVL499	Project phase II	10	19CIE499	Project	10

Department of Computer Science & Engineering

2015 Curriculum				2019 Curriculum			
Sem	Code	Course	Credits	Code	Course	L-T-P	Credits
1	15CSE100	Computational Thinking and Problem Solving	4	19CSE100	Problem Solving and Algorithmic Thinking	2 1 3	4
2	15CSE102	Computer Programming	3	19CSE102	Computer Programming	3 0 3	4
2	15CSE180	Computer Programming Lab	1				
2	15CSE111	Computer Science Essentials	3	19CSE101	Computer Systems Essentials	3 0 3	4
3	15CSE201	Data Structures and Algorithms	4	19CSE212	Data Structures and Algorithms	3 0 3	4
3	15CSE281	Data Structures Lab	1				
3	15CSE202	Object Oriented Programming	3	19CSE204	Object Oriented Paradigm	2 0 3	3
3	15CSE282	Object Oriented Programming Lab	1				
3	15CE202	Digital Circuits and Systems	4	19CSE203	Digital Electronics	3 1 0	4
3	15CE281	Digital Circuits and Systems Lab	1	19CSE281	Digital Electronics Lab	0 0 3	1
4	15CSE211	Design and Analysis of Algorithms	4	19CSE302	Design and Analysis of Algorithms	3 0 3	4
4	15CSE212	Introduction to Embedded Systems	3	19CSE303	Embedded Systems	3 0 3	4
4	15CSE285	Embedded Systems Lab	1				
4	15CSE213	Operating Systems	4	19CSE213	Operating Systems	3 0 3	4
4	15CSE286	Operating Systems Lab	1				
5	15CSE301	Computer Organization and Architecture	3	19CSE211	Computer Organization and Architecture	3 0 3	4
5	15CSE381	Computer Organization and Architecture Lab	1				
5	15CSE302	Database Management Systems	3	19CSE202	Database Management Systems	3 0 3	4
5	15CSE303	Theory of Computation	3	19CSE214	Theory of Computation	3 0 0	3
5	15LIV390	Live-in-Labs	[3]	19LIV390	Live-in –Labs***		[3]
6	15CSE311	Compiler Design	4	19CSE401	Compiler Design	2 0 3	3
6	15CSE385	Compiler Design Lab	1				
6	15CSE312	Computer Networks	3	19CSE301	Computer Networks	3 0 3	4
6	15CSE386	Computer Networks Lab	1				
6	15CSE313	Software Engineering	3	19CSE314	Software Engineering	2 0 3	3
6	15CSE387	Open Lab	2				
7	15CSE401	Machine Learning and Data Mining	3	19CSE305	Machine Learning	3 0 3	4
	15CSE481	Machine Learning and Data Mining Lab					
7	15CSE402	Structure and Interpretation of Computer Programs	4				
7	15CSE495	Project Phase I	2	19CSE491/ 19CSE495	Project Phase I/Seminar	0 0 6	2
7	15CSE490	Live-in-Labs	[3]	19LIV490	Live-in –Labs***		[3]
8	15CSE411	Software Project Management	3	19CSE358	Software Project Management - Free Elective	3 0 0	3
8	15CSE499	Project Phase II	10	19CSE499	Project - Phase – 2	0 0 3 0	10
Elective	15CSE330	Information Technology Essentials	3	19CSE466	Foundation of Information Technology	2 0 3	3
Elective	15CSE331	Advanced Algorithms and Analysis	3	19CSE459	Advanced Algorithms and Analysis	3 0 0	3
Elective	15CSE332	Advanced Computer Architecture	3				
Elective	15CSE334	Big Data Analytics	3	19CSE357	Big Data Analytics	2 0 3	3
Elective	15CSE335	Bioinformatics	3				
Elective	15CSE336	Biometrics	3	19CSE440	Biometrics	3 0 0	3
Elective	15CSE337	Cloud Computing and Services	3	19CSE445	Cloud Computing	2 0 3	3
Elective	15CSE338	Computational Intelligence	3	19CSE458	Computational Intelligence	2 0 3	3
Elective	15CSE339	Computer Systems Engineering	3				
Elective	15CSE340	Computer Vision	3	19CSE435	Computer Vision	3 0 0	3
Elective	15CSE341	Cryptography	3	19CSE331	Cryptography	3 0 0	3
Elective	15CSE342	Data Compression	3				
Elective	15CSE343	Design Patterns	3				
Elective	15CSE344	Digital Watermarking	3				
Elective	15CSE345	Distributed Embedded Systems	3				
Elective	15CSE347	Enterprise Architecture	3				
Elective	15CSE349	Information Coding Techniques	3				
Elective	15CSE350	Information Retrieval	3	19CSE454	Information Retrieval	2 0 3	3
Elective	15CSE351	Information Security	3	19CSE332	Information Security	3 0 0	3
Elective	15CSE352	Intelligent Systems	3				
Elective	15CSE353	Introduction to Intellectual Property Rights	3				
Elective	15CSE355	Modelling and Simulation	3				
Elective	15CSE358	Natural Language Processing	3	19CSE453	Natural Language Processing	2 0 3	3
Elective	15CSE360	Parallel and Distributed Computing	3				
Elective	15CSE361	Pattern Recognition	3	19CSE432	Pattern Recognition	3 0 0	3
Elective	15CSE362	Pervasive Computing	3	19CSE442	Pervasive and Ubiquitous Systems	3 0 0	3
Elective	15CSE363	Principles of Digital Image Processing	3	19CSE431	Digital Image Processing	2 0 3	3
Elective	15CSE364	Real-Time Computing Systems	3	19CSE444	Real-Time Systems	3 0 0	3
Elective	15CSE365	Scientific Computing	3				
Elective	15CSE366	Semantic Web	3	19CSE452	Semantic Web	2 0 3	3
Elective	15CSE367	Service-oriented Architecture	3				
Elective	15CSE368	Software Quality Assurance	3				
Elective	15CSE369	Spatiotemporal Data Management	3	19CSE443	Spatiotemporal data management	3 0 0	3
Elective	15CSE370	Wireless and Mobile Communication	3	19CSE342	Wireless and Mobile Communications	3 0 0	3
Elective	15CSE371	Wireless and Mobile Computing	3				
Elective	15CSE372	Wireless Sensor Networks	3	19CSE339	Wireless Sensor Networks	3 0 0	3
Elective	15CSE378	Introduction to Game Theory	3	19CSE462	Introduction to Game Theory	3 0 0	3
Elective	15CSE431	Foundations of Data Science	3	19CSE304	Foundations of Data Science	2 0 3	3
Elective	15CSE333	Advanced Database Management Systems	3				
Elective	15CSE346	Embedded Programming	3				
Elective	15CSE348	Human Computer Interface	3				
Elective	15CSE356	Multimedia Databases	3				
Elective	15CSE357	Nand2tetris: Building Computers from First Principles	3				
Elective	15CSE359	OS for Smart Devices (Android and IOS)	3				
Elective	15CSE376	Net Centric Programming	3	19CSE461	Net-Centric Programming	2 0 3	3
Elective	15CSE375	Android Application Development	3	19CSE463	Mobile Application Development	2 0 3	3
Elective	15CSE380	Neural Networks and Deep Learning	3	19CSE456	Neural Networks and Deep Learning	2 0 3	3

Department of Electronics & Communication Engineering

2015 Curriculum				2019 Curriculum			
Sem	Course Code	Course Title	Cr	Equivalent	Course Title	L T P	Cr
2	15ECE111	Solid State Devices	3	19ECE112	Electronic Devices and Circuits	3 0 0	3
2	15ECE112	Fundamentals of Electrical Technology	4	19EEE100	Basic Electrical and Electronics Engineering	3 0 0	3
3	15ECE201	Applied Electromagnetics	4	19ECE202	Applied Electromagnetics	3 1 0	4
3	15ECE202	Digital Circuits and Systems	4	19ECE204	Digital Electronics and Systems	3 1 0	4
3	15ECE203	Network Theory	3	19ECE111	Circuit Theory	3 0 0	3
3	15ECE204	Signals Processing I	4	19ECE203	Signals and Systems	3 1 0	4
3	15ECE281	Digital Circuits and Systems Lab.	1	19ECE282	Digital Electronics and Systems Lab	0 0 3	1
3	15ECE282	Signals Processing I Lab.	1				
4	15ECE211	Electronic Circuits	4	19ECE201	Analog Electronic Circuits	3 0 0	3
4	15ECE212	Signal Processing II	4	19ECE211	Digital Signal Processing	3 0 0	3
4	15ECE213	Transmission Lines and Waveguides	3	19ECE213	Transmission Lines and Radiating Systems	3 1 0	4
4	15ECE285	Digital Signal Processing Lab.	1	19ECE282	Digital Signal Processing Lab	0 0 3	1
4	15ECE286	Electronic Circuits Lab.	1	19ECE281	Analog Electronics Lab	0 0 3	1
5	15ECE301	Communication Theory	4	19ECE214	Communication Theory	3 1 0	4
5	15ECE302	Control Systems Engineering	4	19ECE301	Control Theory	3 1 0	4
5	15ECE303	Linear Integrated Circuits	3	19ECE212	Linear Integrated Circuits	3 0 0	3
5	15ECE304	Microprocessor and Microcontroller	4	19ECE304	Microcontrollers and Interfacing	3 0 3	4
5	15ECE381	Circuits and Communication Lab.	1	19ECE283	Linear Integrated Circuits Lab	0 0 3	1
5	15ECE382	Microcontroller Lab.	1				
6	15ECE311	Data Communication and Networking	3	19ECE311	Computer Networks	4 0 0	4
6	15ECE312	Digital Communication	4	19ECE302	Digital Communication	3 0 0	3
6	15ECE313	VLSI Design	3	19ECE313	VLSI Design	3 0 0	3
6	15ECE314	Computer System Architecture	3				
6	15ECE385	Digital Communication Lab.	1	19ECE382	Communication Systems lab	0 0 3	1
6	15ECE386	VLSI Design Lab.	1	19ECE383	VLSI Design Lab	0 0 3	1
6	15ECE387	Open Lab.	2	19ECE384	Open Lab	0 0 3	1
7	15ECE401	Information Theory and Coding Techniques	4	19ECE312	Information Theory and Coding	3 0 0	3
7	15ECE402	Radio Frequency Engineering	4	19ECE303	Radio Frequency Engineering	3 0 0	3
7	15ECE481	Microwave Engineering Lab.	1	19ECE381	RF and Simulation lab	0 0 3	1
7	15ECE495	Project Phase I	2	19ECE495	Project Phase I	0 0 6	2
8	15ECE499	Project Phase II	10	19ECE499	Project Phase II	0 0 30	10

Department of Electrical & Electronics Engineering

2015 curriculum				2019 curriculum					
Semester	Course Code	Course Title	Credits	Course Code	Course Title	L	T	P	Credits
2	15EEE111	Fundamentals of Electrical and Electronics Engineering	4	19EEE100	Basic Electrical and Electronics Engineering Offered to AERO, MECH, CIVIL AND ECE	3	0	0	3
2	15MEC111	Fundamentals of Mechanical Engineering	3	19EEE205	Fundamentals of Mechanical Engineering	2	0	0	2
2	15EEE180	Workshop B	1	19EEE113	Electrical Engineering Practice	1	0	3	2
3	15EEE201	Analog Electronic Circuits	4	19EEE114	Electronic Circuits	3	0	3	4
3	15EEE282	Electronic Circuits and Simulation Lab I	1						
3	15EEE202	Electric Circuits	4	19EEE112	Electric Circuits	3	0	3	4
3	15EEE281	Electric Circuits Lab	1						
3	15EEE203	Electromagnetic Theory	4	19EEE201	Electromagnetic Theory	3	0	0	3
4	15EEE211	Analog Integrated Circuits	3	19EEE202	Analog Integrated Circuits	3	0	3	4
4	15EEE287	Electronic Circuits and Simulation Lab II	1						
4	15EEE212	Electrical Machines I	4	19EEE213	Electrical Machines I	3	0	3	4
4	15EEE285	Electrical Machines Lab I	1						
4	15EEE213	Electrical Measurements	3	19EEE204	Electrical Measurements	3	0	3	4
4	15EEE286	Electrical Measurements Lab	1						
5	15EEE301	Control Systems	3	19EEE211	Control Systems	3	0	3	4
5	15EEE302	Digital Systems	3	19EEE203	Digital Systems	3	0	3	4
5	15EEE303	Electrical Machines II	3	19EEE303	Electrical Machines II	3	0	3	4
5	15EEE382	Electrical Machines Lab II	1						
5	15EEE304	Signals and Systems	3	19EEE214	Signals and Systems	3	0	3	4
5	15EEE381	Digital Systems and Signals Lab	1						
5	15LIV390	Live-in-Lab	3*	19LIV390	[Live in Labs]***				[3]
5	15MEC305	Thermal Engineering and Fluid Machinery	3						
6	15EEE311	Digital Signal Processing	3	19EEE301	Digital Signal Processing	3	0	3	4
6	15EEE312	Electrical Energy Systems I	3	19EEE212	Electrical Energy Systems I	3	0	3	4
6	15EEE313	Power Electronics	3	19EEE304	Power Electronics	3	0	3	4
6	15EEE386	Power Electronics Lab	1						
6	15EEE314	Microcontroller and Applications	3	19ELC212	Microcontrollers and Applications	3	0	3	4
6	15EEE385	DSP and Microcontroller Lab	1						
6	15EEE387	Open Lab	2	19EEE381	Open Lab	0	0	3	1
7	15EEE401	Electrical Drives and Control	4	19EEE312	Electric Drives and Control	3	0	3	4
7	15EEE481	Drives and Control Lab	1						
7	15EEE402	Electrical Energy Systems II	4	19EEE302	Electrical Energy Systems II	3	0	3	4
7	15EEE482	Power Systems Lab	1						
7	15EEE495	Project Phase I	2	19EEE495	Project Phase I	0	0	6	2
7	15LIV490	Live-in-Lab	3*	19LIV490	[Live in Labs]*** - 6th semester				[3]
8	15EEE499	Project Phase II	10	19EEE499	Project Phase II	0	0	30	10

Department of Mechanical Engineering

2015 Curriculum					2019 Curriculum			
Sem	Course Code	Course Title	LTP Cr	Cr	Equivalent	Course Title	L T P Cr	Cr
1	15MEC180	Workshop A	002 1	1	19MEE181	MANUFACTURING PRACTICE	003 1	1
1	15MEC100	Engineering Drawing - CAD	202 3	3				
2	15MEC101	Engineering Drawing - CAD II	202 3	3				
2	15MEC102	Engineering Mechanics	300 3	3	19MEE111	Engineering Mechanics	310 4	4
3	15MEC201	Engineering Thermodynamics	300 3	3	19MEE201	Thermodynamics	310 4	4
3	15MEC204	Mechanics of Solids	300 3	3	19MEE203	Mechanics of solids	310 4	4
3	15MEC203	Material Science and Metallurgy	300 3	3	19MEE204	Metallurgy and Material science	300 3	3
3	15MEC281	Material Testing and Metallurgy Lab	002 1	1	19MEE281	Material Testing and Metallurgy Lab	003 1	1
3	15MEC202	Machine Drawing	202 3	3	19MEE305	Machine Drawing	203 3	3
4	15MEC211	Fluid Mechanics and Machinery	400 4	4	19MEE212	Fluid Mechanics and Machinery	310 4	4
4	15MEC213	Manufacturing Process I	300 3	3				
4	15MEC212	Kinematics of Machines	302 4	4	19MEE214	Kinematics of Machines	303 4	4
4	15MEC285	Fluid Mechanics and Machinery Lab	002 1	1				
5	15MEC304	Manufacturing Process II	300 3	3				
5	15MEC303	Heat Power Engineering	300 3	3	15MEE213	Heat Power Engineering	310 4	4
5	15MEC301	Design of Machine Elements I	300 3	3	19MEE301	Design of Machine Elements - I	300 3	3
5	15MEC302	Dynamics of Machines	300 3	3	19MEE302	Dynamics of Machines	300 3	3
5	15MEC381	Manufacturing Process Lab.	002 1	1				
5	15MEC382	Thermal Sciences Lab.	002 1	1	19MEE284	Thermal Science Laboratory	003 1	1
6	15MEC314	Metrology and Measurements	300 3	3				
6	15MEC385	Heat Transfer and Thermal Analysis Lab.	002 1	1	19MEE381	Heat Transfer Laboratory	003 1	1
6	15MEC313	Introduction to Finite Element Methods	302 4	4	19MEE314	Introduction to Finite Element Method	303 4	4
6	15MEC311	Design of Machine Elements II	310 4	4	19MEE313	Design of Machine Elements - II	210 3	3
6	15MEC386	Metrology and Measurements Lab.	002 1	1				
7	15MEC401	ADVANCED FLUID MECHANICS	300 3	3	19MEE359	ADVANCED FLUID MECHANICS	303 3	3
7	15MEC402	Control Engineering	300 3	3				
7	15MEC403	Industrial Robotics	300 3	3	19MEE434	Industrial Robotics	300 3	3
7	15MEC404	Mechanical Vibrations	300 3	3				
7	15MEC481	Computer Integrated Manufacturing Lab.	002 1	1				
7	15MEC482	Machine Dynamics and Control Lab.	002 1	1	19MEE383	Machine Dynamics Laboratory	003 1	1
7	15MEC495	Project Phase - I	2 cr	2	19MEE495	Project Phase I	006 2	2
8	15MEC411	Operations Research	300 3	3	19MEE306	Operations Research	203 3	3
8	15MEC499	Project Phase II	10	10	19MEE499	Project Phase II	0030 10	10
Elective	15MEC230	Aircraft Systems and Engineering	300 3	3				
Elective	15MEC231	Automotive Chassis Design	300 3	3				
Elective	15MEC233	Condition Monitoring and Diagnostic Maintenance	300 3	3	19MEE331	Machine Learning Based Condition Monitoring	300 3	3
Elective	15MEC234	Design for Manufacture and Assembly.	300 3	3				
Elective	15MEC235	Fracture Mechanics	300 3	3	19MEE337	Fundamentals of Fracture Mechanics	300 3	3
Elective	15MEC236	Materials Selection in Mechanical Design	300 3	3				
Elective	15MEC237	Mechatronics	300 3	3				
Elective	15MEC238	Micro-Electro Mechanical Systems	300 3	3				
Elective	15MEC239	Modelling and Simulation of Engineering Systems	300 3	3				
Elective	15MEC240	Optimization Techniques in Engineering	300 3	3				
Elective	15MEC241	Pressure Vessel Design	300 3	3				
Elective	15MEC242	Theory of Elasticity	300 3	3	19MEE339	Theory of Elasticity	300 3	3
Elective	15MEC243	Tool Design	300 3	3	19MEE335	Tool Design	300 3	3
Elective	15MEC261	Advanced Casting Technology	300 3	3	19MEE437	Advanced Casting Technology	300 3	3
Elective	15MEC262	Advanced Manufacturing Processes	300 3	3	19MEE438	Advanced Manufacturing Processes	300 3	3
Elective	15MEC263	Advanced Materials and Processes	300 3	3	19MEE439	Advanced Materials and Processes	300 3	3
Elective	15MEC264	Advanced Metrology and Sensing Systems	300 3	3	19MEE440	Advanced Metrology and Sensing Systems	300 3	3
Elective	15MEC266	CNC Machines	300 3	3	19MEE431	CNC Machines	300 3	3
Elective	15MEC267	Composite Materials and Processing	300 3	3	19MEE432	Composite Materials and Design	300 3	3
Elective	15MEC268	Metal Forming Technology	300 3	3				
Elective	15MEC269	Micro-manufacturing	300 3	3	19MEE442	Micro-Manufacturing	300 3	3
Elective	15MEC270	Modern Practices in Product Design and Manufacture	300 3	3				
Elective	15MEC271	Non-Destructive Testing	300 3	3	19MEE443	Non-Destructive Testing	300 3	3
Elective	15MEC272	Product Cost Estimation	300 3	3	19MEE444	Product Cost Estimation	300 3	3
Elective	15MEC273	Quality Control and Reliability Engineering	300 3	3	19MEE445	Quality Control and Reliability Engineering	300 3	3
Elective	15MEC274	Simulation, Modelling of Manufacturing Systems	300 3	3	19MEE446	Simulation Modeling of Manufacturing Systems	300 3	3
Elective	15MEC275	Design Thinking	2 0 2 3	3	19MEE311	Design Thinking	103 2	2
Elective	15MEC276	ADDITIVE MANUFACTURING	3 0 2 4	3	19MEE435	Additive Manufacturing	300 3	3
Elective	15MEC265	Advanced Welding Technology	300 3	3	19MEE441	Advanced Welding Technology	300 3	3
Elective	15MEC246	Automotive Electronics	300 3	3				
Elective	15MEC247	Combustion Engineering	300 3	3				
Elective	15MEC248	Computational Fluid Dynamics	300 3	3				
Elective	15MEC249	Design of Thermal Systems	300 3	3				
Elective	15MEC250	Fluid Power Drives and Controls.	300 3	3				
Elective	15MEC251	Fundamentals of Nuclear Engineering	300 3	3				
Elective	15MEC252	Gas Dynamics and Jet Propulsion	300 3	3	19MEE352	Gas Dynamics and Jet Propulsion	300 3	3
Elective	15MEC253	Internal Combustion Engines and Pollution Control	300 3	3	19MEE358	IC Engines and Emission	300 3	3
Elective	15MEC254	Petroleum Refinery Engineering	300 3	3				
Elective	15MEC255	Power Plant Engineering	300 3	3	19MEE354	Power Plant Engineering	300 3	3
Elective	15MEC256	Refrigeration and Air Conditioning	300 3	3				
Elective	15MEC257	Renewable Sources of Energy	300 3	3				
Elective	15MEC258	Turbomachinery	300 3	3	19MEE355	Turbo Machinery	300 3	3
Elective	15MEC232	Automotive Technology	300 3	3	19MEE356	Automotive Technology	300 3	3
Elective	15MEC331	Engineering Economic Analysis	300 3	3	19MEE341	Engineering Economic Analysis	300 3	3
Elective	15MEC332	Enterprise Management	300 3	3				
Elective	15MEC333	Financial Management	300 3	3				
Elective	15MEC334	Industrial Engineering	300 3	3	19MEE401	Industrial Engineering	300 3	3
Elective	15MEC335	Lean Manufacturing	300 3	3	19MEE342	Lean Manufacturing	300 3	3
Elective	15MEC336	Managerial Statistics	300 3	3				
Elective	15MEC337	Marketing Management	300 3	3				
Elective	15MEC338	Operations Management	300 3	3				
Elective	15MEC339	Project Management	300 3	3				
Elective	15MEC340	Supply Chain Management	300 3	3				
Elective	15MEC341	Total Quality Management	300 3	3				

Mathematics, Sciences & Humanities

2015 Curriculum				2019 Curriculum			
Department	Course Code	Course Name	Cr	Department	Course Code	Course Name	Cr
All	15MAT111	Calculus and Matrix Algebra	3	Aero, CCE, Civil, CSE, EAC, ECE, EEE, ELC, Mech	19MAT101	Single Variable Calculus	1
				Aero, CCE, Civil, CSE, EAC, ECE, EEE, ELC, Mech	19MAT102	Matrix Algebra	2
All	15MAT121	Vector Calculus and Ordinary Differential Equations	4	Aero, CCE, Civil, CSE, ECE, EEE, ELC	19MAT111	Multivariable Calculus	2
				Aero, EEE, ELC	19MAT106	Ordinary Differential Equations	2
CSE	15MAT201	Discrete Mathematics	4	CSE, EAC	19MAT115	Discrete Mathematics	4
Aero, ECE	15MAT202	Linear Algebra	3	Aero, CCE, Civil, CSE, ECE	19MAT112	Linear Algebra	3
EEE	15MAT203	Transforms and Complex Analysis	4	EEE, ELC	19MAT116	Laplace Transform	1
					19MAT214	Fourier Transform and Complex Analysis	3
Aero, Chem, Civil, EIE, Mech	15MAT204	Transforms and Partial Differential Equations	3	Civil	19MAT208	Transforms and Partial Differential Equations	3
Aero	15MAT211	Calculus of Variations and Numerical Methods	3				
Civil, EIE	15MAT212	Complex Analysis and Numerical Methods	3	EEE, ELC	19MAT214	Fourier Transform and Complex Analysis	3
CSE, ECE	15MAT213	Probability and Random Processes	4	CCE, CSE, EAC, ECE	19MAT205	Probability and Random Processes	4
Chem, Civil, EEE, EIE, Mech	15MAT214	Probability and Statistics	3	EEE, ELC	19MAT216	Probability and Statistics	3
CSE	15MAT301	Linear Algebra, Queuing Theory and Optimization	4	EAC	19MAT209	Linear Algebra and Optimization Techniques	4
				Aero	19MAT211	Numerical Computing	3
Chem, Mech	15MAT302	Numerical Methods	3	(OR)			
				Chem	19MAT302	Numerical Methods	3
ECE, EEE	15MAT303	Optimization Techniques	3	CCE, ECE, EEE	19MAT213	Optimization Techniques	3
All	15PHY100	Physics	3				
All	15PHY181	Physics Lab	1	Circuit Branches	19PHY181	Engineering Physics A Lab	1
All				Non Circuit Branches	19PHY182	Engineering Physics B Lab	1
All	15PHY230/P HY271	Advanced Classical Dynamics	3	All	19PHY340	ADVANCED CLASSICAL DYNAMICS	3
All	15PHY233/P HY277	Biophysics and Biomaterials	3				3
All	15PHY234	Introduction to Computational Physics	3				3
All	15PHY238/P HY250	Electrical Engineering Materials	3	All	19PHY342	ELECTRICAL ENGINEERING MATERIALS	3
All	15PHY239/P HY253	Electromagnetic Fields and Waves	3				3
All	15PHY240	Electronic Material Sciences	3				3
All	15PHY241/P HY261	Lasers in Material Processing	3				3
All	15PHY243/P HY254	Microelectronic Fabrication	3				3
All	15PHY245	Nuclear Energy – Principles and Applications	3				3
All	15PHY247/P HY276	Photovoltaics	3				3
All	15PHY248/P HY260	Physics of Lasers and Applications	3	All	19PHY331	PHYSICS OF LASERS AND APPLICATIONS	3
All	15PHY250	Quantum Physics and Applications	3				3
All	15PHY251/P HY264	Thin Film Physics	3				3
All	15PHY331/P HY278	Astronomy	3				3
All	15PHY333/P HY263	Concepts of Nanophysics and Nanotechnology	3	All	19PHY341	CONCEPTS OF NANOPHYSICS AND NANOTECHNOLOGY	3
All	15PHY335/P HY270	Medical Physics	3				3
All	15PHY338/P HY252	Physics of Semiconductor Devices	3	All	19PHY343	PHYSICS OF SEMICONDUCTOR DEVICES	3
All	15PHY532/P HY274	Astrophysics	3	All	19PHY339	ASTROPHYSICS	3
All	15PHY535	Earth's Atmosphere	3				3
All	15PHY536	Earth's Structure and Evolution	3				3
All	15PHY540	Nonlinear Dynamics	3				3
All	15PHY542	Optoelectronic Devices	3				3
All	15CHY100	Chemistry	3				
All	15CHY181	Chemistry Lab	1				
All	15CHY239/C HY272	Computational Chemistry and Molecular Modelling	3	All	19CHY243	Computational Chemistry and Molecular Modelling	3
All	15CHY241/C HY271	Electrochemical Energy Systems and Processes	3	All	19CHY236	Electrochemical Energy Systems and Processes	3
All	15CHY243/C HY276	Fuels and Combustions	3	All	19CHY240	Fuels and Combustions	3
All	15CHY244/C HY264	Green Chemistry and Technology	3				
All	15CHY245/CH Y259	Instrumental Methods of Analysis	3	All	19CHY239	Instrumental Methods of Analysis	3
All	15CHY331/CHY275	Batteries and Fuel Cells	3	All	19CHY241	Batteries and Fuel Cells	3
All	15CHY332/CHY270	Corrosion Science	3	All	19CHY242	Corrosion Science	3
All	15CHY242/C HY258	Environmental Chemistry	3				
All	15CHY244/C HY264	Green Chemistry and Technology	3	All	19CHY232 -	Green Chemistry and Technology	3
All	15ENGI111	Communicative English	3				
All	15ENV300	Environmental Science and Sustainability	3				