



ATME COLLEGE OF ENGINEERING

1.3.2 Average percentage of courses that include experiential learning through project work/field work/internship during last five years. Quantitative matrices (Q_nM)

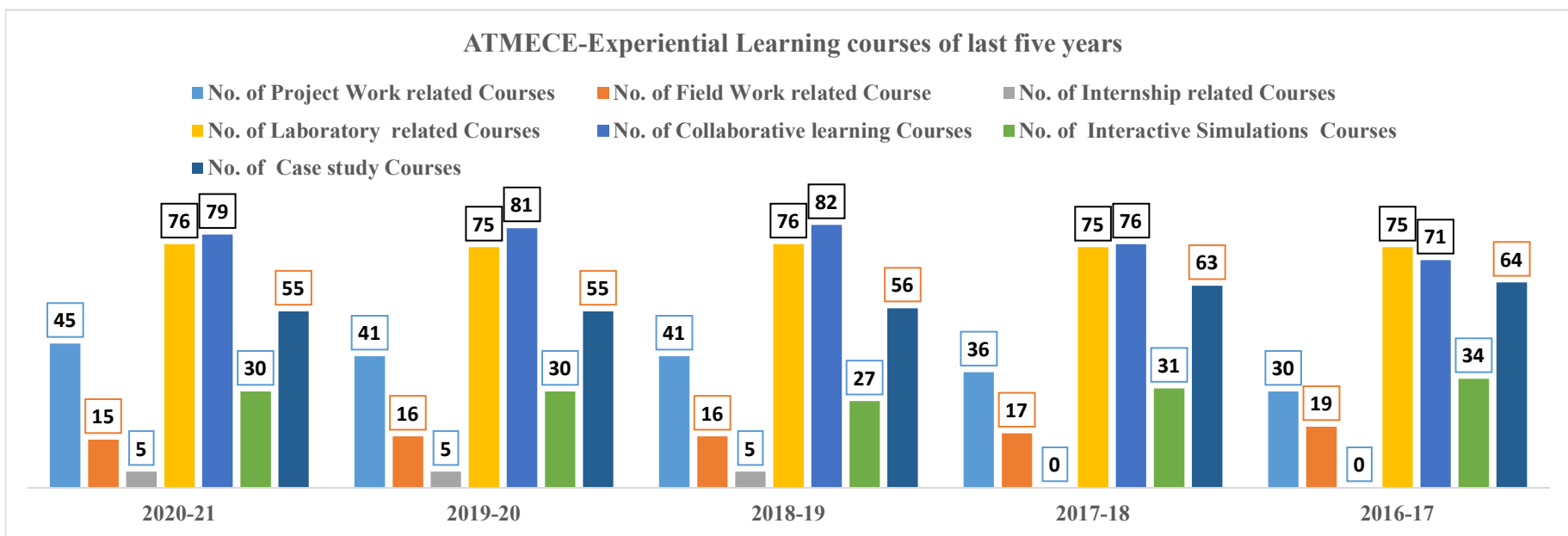
SL No.	Academic Year	Total No. of course	No. of Experiential Course
1	2020-21	326	306
2	2019-20	319	303
3	2018-19	319	303
4	2017-18	311	298
5	2016-17	311	293

Note:	The experiential courses is Categorized into Project Work/ Field Work Internship/Laboratory Course/ Collaborative Learning/ Interactive Simulations/ Case studies
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Academic Year	No. of Project Work related Courses	No. of Field Work related Course	No. of Internship related Courses	No. of Laboratory related Courses	No. of Collaborative learning Courses	No. of Interactive Simulations Courses	No. of Case study Courses
2020-21	45	15	5	76	79	30	55
2019-20	41	16	5	75	81	30	55
2018-19	41	16	5	76	82	27	56
2017-18	36	17	0	75	76	31	63
2016-17	30	19	0	75	71	34	64

ATMECE-Experiential Learning courses of last five years




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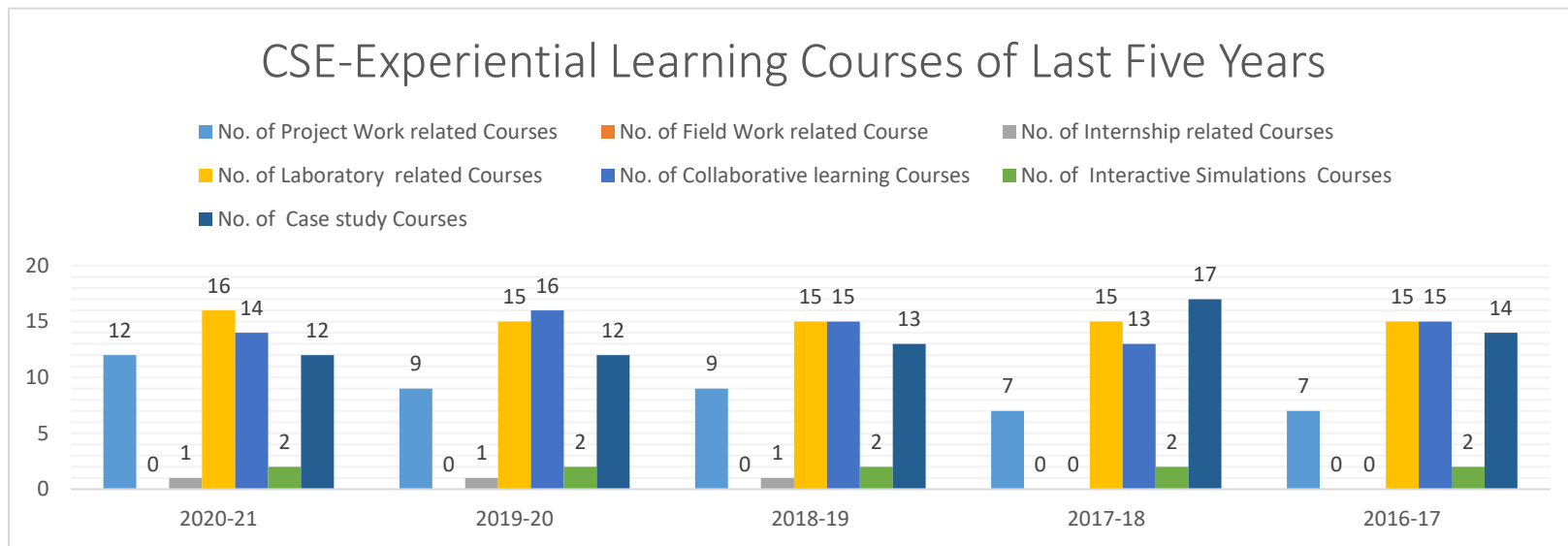



Department of Computer Science & Engineering

SL No.	Academic Year	Total No. of course	No. of Experiential Course
1	2020-21	68	57
2	2019-20	62	55
3	2018-19	62	55
4	2017-18	62	54
5	2016-17	63	53

Note:	The experiential courses is Categorized into Project Work/ Field Work Internship/Laboratory Course/ Collaborative Learning/ Interactive Simulations/ Case studies
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Academic Year	No. of Project Work related Courses	No. of Field Work related Course	No. of Internship related Courses	No. of Laboratory related Courses	No. of Collaborative learning Courses	No. of Interactive Simulations Courses	No. of Case study Courses
2020-21	12	0	1	16	14	2	12
2019-20	9	0	1	15	16	2	12
2018-19	9	0	1	15	15	2	13
2017-18	7	0	0	15	13	2	17
2016-17	7	0	0	15	15	2	14




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Department of Computer Science & Engineering
List of Experiential Learning Courses for Academic Year-2020-21

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/ Collabrative Learning/ Interactive Simulation/Case Studies	Justification
1	I/II Sem	Calculus and Linear Algebra	18MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	18PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Basic Electrical Engg.	18ELE13/23	Yes	Collaborative Learning	Topics related to Electrical Lab
4	I/II Sem	Elements of Civil Engineering & Mechanics	18CIV14/24	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
5	I/II Sem	Engineering Graphics	18EGDL15/25	Yes	Laboratory Course	Experiential Learning course
6	I/II Sem	Engineering Physics Lab	18PHYL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Basic Electrical Engineering Lab	18ELEL17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	Technical English- I	18EGH18	No		
9	I/II Sem	Advanced calculus and Numerical Methods	18MAT21	Yes	Case Studies	Calculus can be used for analysis purpose in higher semester
10	I/II Sem	Engineering Chemistry	18CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	C programming for problem solving	18CPS13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Basic Electronics	18ELN14/24	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
13	I/II Sem	Elements of Mechanical Engineering	18ME15/25	Yes	Interactive Simulations	Topics related to IC engine can be delivered through Machine shops lab
14	I/II Sem	Engineering Chemistry Lab	18CHEL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	C Programming Lab	18CPL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Technical English- II	18EGH28	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
17	III	Transform Calculus, Fourier Series and Numerical Techniques	18MAT31	Yes	Case Studies	Numerical Techniques
18	III	Analog and Digital Electronics	18CS33	Yes	Collabrative Learning	Topics related to Analog and Digital Electronics lab

19	III	DATA STRUCTURES AND APPLICATIONS	18CS32	Yes	Collabrative Learning	Topics related to Data structures lab
20	III	COMPUTER ORGANIZATION	18CS34	No		
21	III	SOFTWARE ENGINEERING	18CS35	Yes	Case Studies / project work	Project development life cycle and testing
22	III	DISCRETE MATHEMATICAL STRUCTURES	18CS36	No		
23	III	ANALOG AND DIGITAL ELECTRONICS LABORATORY	18CSL37	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
24	III	DATA STRUCTURES WITH C LABORATORY	18CSL38	Yes	Laboratory Course	Experiential Learning course
		Constitution of India, Professional Ethics and Cyber Law	18CPC39	No		
25	IV	Complex analysis, probability and statistical methods	18MAT41	Yes	Project Work	Statistical Methods can be used for Analysis purpose in Project work
26	IV	DESIGN AND ANALYSIS OF ALGORITHMS	18CS42	Yes	Collabrative Learning	Topics related to design and analysis of Algorithms lab
27	IV	Operating Systems	18CS43	Yes	Collabrative Learning	Topics related to System software and Operating systems lab
28	IV	MICROCONTROLLERS and EMBEDDED SYSTEMS	18CS44	Yes	Collabrative Learning	Topics related to Microcontroller and Embedded systems lab
29	IV	Object oriented concepts	18CS45	Yes	Case Studies	Inheritance, Function overloading, Constructors
30	IV	DATA COMMUNICATION	18CS46	No		
31	IV	DESIGN AND ANALYSIS OF ALGORITHM LABORATORY	18CSL47	Yes	Laboratory Course	Experiential Learning course
32	IV	MICROCONTROLLERS and EMBEDDED SYSTEMS LABORATORY	18CSL48	Yes	Laboratory Course	Experiential Learning course
		Vyavaharika Kannada (Kannada for communication)/	18KVK49	No		
		Aadalitha Kannada (Kannada for Administration)	18KAK49	No		
33	V	Management and Entrepreneurship	18CS51	Yes	Project Work	Project analysis, project report & drafting related topics discussed in M&E courses
34	V	Computer Networks	18CS52	Yes	Collabrative Learning	Topics related to Computer network lab
35	V	Data Base Management System	18CS53	Yes	Collabrative Learning	Topics related to DBMS lab
36	V	Automata theory and Computability	18CS54	Yes	Case Studies	Designing NFA, DFA, Context free grammars and Turing machine
37	V	Advanced JAVA and J2EE (Professional Elective 1)	18CS553	Yes	Case Studies	Programming
38	V	Dot Net Framework for Application Development (Open Elective 1)	18CS564	Yes	Case Studies	Application development
39	V	Computer Network Laboratory	18CSL57	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
40	V	DBMS Laboratory with mini project	18CSL58	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
41	VI	System Software and Compilers	18CS61	Yes	Case Studies	Design of compilers
42	VI	Computer Graphics and Visualization	18CS62	Yes	Collabrative Learning	Topics related to computer graphics and visualization lab
43	VI	Web Technology and its applications	18CS63	Yes	Case Studies / Project work	Web page design

44	VI	Data Mining and Data Warehousing	18CS641	Yes	Case Studies / Project work	Data mining - Classification and regression algorithms
		Cloud Computing and its Applications	18CS643	Yes	Case Studies / Project work	Cloud computing can be used in project work
		Advanced JAVA and J2EE	18CS644	Yes	Project work	Programming concepts can be used in carrying out project work
45	VI	Open Elective –A	18CS65x	No		
47	VI	System Software and Operating System Laboratory	18CSL66	Yes	Laboratory Course	Experiential Learning course
48	VI	Computer Graphics Laboratory with mini project	18CSL67	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
		Mobile Application Development	18CSMP68	Yes	Laboratory Course	Experiential Learning course
49	VII	WEB TECHNOLOGY AND ITS APPLICATIONS	17CS71	Yes	Collabrative Learning	Topics related to Web technology lab
50	VII	ADVANCED COMPUTER ARCHITECTURES	17CS72	No		
51	VII	MACHINE LEARNING	17CS73	Yes	Collabrative Learning	Topics related to Machine learning lab
52	VII	INFORMATION AND NETWORK SECURITY	17CS743	No		
53	VII	STORAGE AREA NETWORKS	17CS754	No		
54	VII	MACHINE LEARNING LABORATORY	17CSL76	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
55	VII	Project Work Phase-I + Project work Seminar	17CSP78	Yes	Project Work	Experiential Learning course
56	VII	WEB TECHNOLOGY LABORATORY WITH MINI PROJECT	17CSL77	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
57	VIII	INTERNET OF THINGS AND APPLICATIONS	17CS81	Yes	Project work	Concepts like IoT network architecture, sensors, actuators and Data analytics can be used for project work
58	VIII	BIG DATA ANALYTICS	17CS82	Yes	Project work	Concepts of Classification algorithms are used for project work
		User Interface Design	17CS832	Yes	Case Studies	User interface design
59	VIII	NETWORK MANAGEMENT	17CS833	Yes	Case Studies	SNMP models, Broad band access technology, DSL technology
60	VIII	PROJECT WORK Phase II	17CSP85	Yes	Project work	Experiential Learning course
61	VIII	SEMINAR	17CSS86	Yes	Case Studies	Experiential Learning course
62	VIII-Sem	Internship/ Professional Practice	17CS84	Yes	Internship	Experiential Learning course

No. of Courses	68
No. of Experiential Learning Courses	57
% of Experiential Learning Courses	84

Department of Computer Science & Engineering
List of Experiential Learning Courses for Academic Year-2019-20

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/ Collabrative Learning/ Interactive Simulation/Case Studies	Justification
1	I/II Sem	Calculus and Linear Algebra	18MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	18PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Basic Electrical Engg.	18ELE13/23	Yes	Collaborative Learning	Topics related to Electrical Lab
4	I/II Sem	Elements of Civil Engineering & Mechanics	18CIV14/24	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
5	I/II Sem	Engineering Graphics	18EGDL15/25	Yes	Laboratory Course	Experiential Learning course
6	I/II Sem	Engineering Physics Lab	18PHYL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Basic Electrical Engineering Lab	18ELEL17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	Technical English- I	18EGH18	No		
9	I/II Sem	Advanced calculus and Numerical Methods	18MAT21	Yes	Case Studies	Calculus can be used for analysis purpose in higher semester
10	I/II Sem	Engineering Chemistry	18CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	C programming for problem solving	18CPS13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Basic Electronics	18ELN14/24	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
13	I/II Sem	Elements of Mechanical Engineering	18ME15/25	Yes	Interactive Simulations	Topics related to IC engine can be delivered through Machine shops lab
14	I/II Sem	Engineering Chemistry Lab	18CHEL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	C Programming Lab	18CPL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Technical English- II	18EGH28	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
17	III	Transform Calculus, Fourier Series and Numerical Techniques	18MAT31	Yes	Case Studies	Numerical Techniques
18	III	Analog and Digital Electronics	18CS33	Yes	Collabrative Learning	Topics related to Analog and Digital Electronics lab

19	III	DATA STRUCTURES AND APPLICATIONS	18CS32	Yes	Collabrative Learning	Topics related to Data structures lab
20	III	COMPUTER ORGANIZATION	18CS34	No		
21	III	SOFTWARE ENGINEERING	18CS35	Yes	Case Studies / project work	Project development life cycle and testing
22	III	DISCRETE MATHEMATICAL STRUCTURES	18CS36	No		
23	III	ANALOG AND DIGITAL ELECTRONICS LABORATORY	18CSL37	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
24	III	DATA STRUCTURES WITH C LABORATORY	18CSL38	Yes	Laboratory Course	Experiential Learning course
25	IV	Complex analysis, probability and statistical methods	18MAT41	Yes	Project Work	Statistical Methods can be used for Analysis purpose in Project work
26	IV	DESIGN AND ANALYSIS OF ALGORITHMS	18CS42	Yes	Collabrative Learning	Topics related to design and analysis of Algorithms lab
27	IV	Operating Systems	18CS43	Yes	Collabrative Learning	Topics related to System software and Operating systems lab
28	IV	MICROCONTROLLERS and EMBEDDED SYSTEMS	18CS44	Yes	Collabrative Learning	Topics related to Microcontroller and Embedded systems lab
29	IV	Object oriented concepts	18CS45	Yes	Case Studies	Inheritance, Function overloading, Constructors
30	IV	DATA COMMUNICATION	18CS46	No		
31	IV	DESIGN AND ANALYSIS OF ALGORITHM LABORATORY	18CSL47	Yes	Laboratory Course	Experiential Learning course
32	IV	MICROCONTROLLERS and EMBEDDED SYSTEMS LABORATORY	18CSL48	Yes	Laboratory Course	Experiential Learning course
33	V	Management and Entrepreneurship	17CS51	Yes	Project Work	Project analysis, project report & drafting related topics discussed in M&E courses
34	V	Computer Networks	17CS52	Yes	Collabrative Learning	Topics related to Computer network lab
35	V	Data Base Management System	17CS53	Yes	Collabrative Learning	Topics related to DBMS lab
36	V	Automata theory and Computability	17CS54	Yes	Case Studies	Designing NFA, DFA, Context free grammars and Turing machine
37	V	Advanced JAVA and J2EE (Professional Elective 1)	17CS553	Yes	Case Studies	Programming
38	V	Dot Net Framework for Application Development (Open Elective 1)	17CS564	Yes	Case Studies	Application development
39	V	Computer Network Laboratory	17CSL57	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
40	V	DBMS Laboratory with mini project	17CSL58	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
41	VI	Cryptography, Network Security and Cyber Law	17CS61	Yes	Case Studies	Encryption and decryption algorithms
42	VI	Computer Graphics & Visualization	17CS62	Yes	Collabrative Learning	Topics related to computer graphics and visualization lab
43	VI	System Software and Compiler Design	17CS63	Yes	Collabrative Learning	Topics related to System software and operating systems lab
44	VI	Operating Systems	17CS64	Yes	Collabrative Learning	Topics related to System software and operating systems lab
45	VI	Data Mining and Data Warehousing	17CS651	Yes	Case Studies / Project work	Data mining - Classification and regression algorithms

46	VI	Python Application Programming (Open Elective - 2)	17CS654	Yes	Case Studies	concepts related to ML lab
47	VI	System Software and Operating System Laboratory	17CSL67	Yes	Laboratory Course	Experiential Learning course
48	VI	Computer Graphics Laboratory with mini project	17CSL68	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
49	VII	WEB TECHNOLOGY AND ITS APPLICATIONS	15CS71	Yes	Collabrative Learning	Topics related to Web technology lab
50	VII	ADVANCED COMPUTER ARCHITECTURES	15CS72	No		
51	VII	MACHINE LEARNING	15CS73	Yes	Collabrative Learning	Topics related to Machine learning lab
52	VII	INFORMATION AND NETWORK SECURITY	15CS743	No		
53	VII	STORAGE AREA NETWORKS	15CS754	No		
54	VII	MACHINE LEARNING LABORATORY	15CSL76	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
55	VII	Project Work Phase-I + Project work Seminar	15CSP78	Yes	Project Work	Experiential Learning course
56	VII	WEB TECHNOLOGY LABORATORY WITH MINI PROJECT	15CSL77	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
57	VIII	INTERNET OF THINGS AND APPLICATIONS	15CS81	Yes	Project work	Concepts like IoT network architecture, sensors, actuators and Data analytics can be used for project work
58	VIII	BIG DATA ANALYTICS	15CS82	Yes	Project work	Concepts of Classification algorithms are used for project work
59	VIII	NETWORK MANAGEMENT	15CS833	Yes	Case Studies	SNMP models, Broad band access technology, DSL technology
60	VIII	PROJECT WORK Phase II	15CSP85	Yes	Project work	Experiential Learning course
61	VIII	SEMINAR	15CSS86	Yes	Case Studies	Experiential Learning course
62	VIII-Sem	Internship/ Professional Practice	15CS84	Yes	Internship	Experiential Learning course

No. of Courses	62
No. of Experiential Learning Courses	55
% of Experiential Learning Courses	89

Department of Computer Science & Engineering
List of Experiential Learning Courses for Academic Year-2018-19

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/ Collabrative Learning/ Interactive Simulation/Case Studies	Justification
1	I/II Sem	Calculus and Linear Algebra	18MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	18PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Basic Electrical Engg.	18ELE13/23	Yes	Collaborative Learning	Topics related to Electrical Lab
4	I/II Sem	Elements of Civil Engineering & Mechanics	18CIV14/24	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
5	I/II Sem	Engineering Graphics	18EGDL15/25	Yes	Laboratory Course	Experiential Learning course
6	I/II Sem	Engineering Physics Lab	18PHYL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Basic Electrical Engineering Lab	18ELEL17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	Technical English- I	18EGH18	No		
9	I/II Sem	Advanced calculus and Numerical Methods	18MAT21	Yes	Case Studies	Calculus can be used for analysis process
10	I/II Sem	Engineering Chemistry	18CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	C programming for problem solving	18CPS13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Basic Electronics	18ELN14/24	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L &C can be studied in AEC lab
13	I/II Sem	Elements of Mechanical Engineering	18ME15/25	Yes	Interactive Simulations	Topics related to IC engine can be delivered through Machine shops lab
14	I/II Sem	Engineering Chemistry Lab	18CHEL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	C Programming Lab	18CPL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Technical English- II	18EGH28	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
17	III	ENGINEERING MATHEMATICS-III	17MAT31	Yes	Case Studies	Numerical Techniques
18	III	Analog and Digital Electronics	17CS32	Yes	Collabrative Learning	Topics related to Analog and Digital Electronics lab
19	III	DATA STRUCTURES AND APPLICATIONS	17CS33	Yes	Collabrative Learning	Topics related to Data structures lab

20	III	COMPUTER ORGANIZATION	17CS34	No		
21	III	UNIX AND SHELL PROGRAMMING	17CS35	Yes	Case Studies	Unix commands
22	III	DISCRETE MATHEMATICAL STRUCTURES	17CS36	No		
23	III	ANALOG AND DIGITAL ELECTRONICS LABORATORY	17CSL37	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
24	III	DATA STRUCTURES WITH C LABORATORY	17CSL38	Yes	Laboratory Course	Experiential Learning course
25	IV	ENGINEERING MATHEMATICS-IV	17MAT41	Yes	Project Work	Statistical Methods can be used for Analysis purpose in Project work
26	IV	OBJECT ORIENTED CONCEPTS	17CS42	Yes	Case Studies	Inheritance, Function overloading, Constructors
27	IV	DESIGN AND ANALYSIS OF ALGORITHMS	17CS43	Yes	Collabrative Learning	Topics related to design and analysis lab
28	IV	MICROPROCESSORS AND MICROCONTROLLERS	17CS44	Yes	Collabrative Learning	Topics related to microprocessor and Microcontroller lab
29	IV	SOFTWARE ENGINEERING	17CS45	Yes	Case Studies / project work	Project development life cycle and testing
30	IV	DATA COMMUNICATION	17CS46	No		
31	IV	DESIGN AND ANALYSIS OF ALGORITHM LABORATORY	17CSL47	Yes	Laboratory Course	Experiential Learning course
32	IV	MICROPROCESSOR AND MICROCONTROLLER LABORATORY	17CSL48	Yes	Laboratory Course	Experiential Learning course
33	V	Management and Entrepreneurship	15CS51	Yes	Project Work	Project analysis, project report & drafting related topics discussed in M&E courses
34	V	Computer Networks	15CS52	Yes	Collabrative Learning	Topics related to Computer network lab
35	V	Data Base Management System	15CS53	Yes	Collabrative Learning	Topics related to DBMS lab
36	V	Automata theory and Computability	15CS54	Yes	Case Studies	Designing NFA, DFA, Context free grammars and Turing machine
37	V	Advanced JAVA and J2EE (Professional Elective 1)	15CS553	Yes	Case Studies	Programming
38	V	Dot Net Framework for Application Development (Open Elective 1)	15CS564	Yes	Case Studies	Application development
39	V	Computer Network Laboratory	15CSL57	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
40	V	DBMS Laboratory with mini project	15CSL58	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
41	VI	Cryptography, Network Security and Cyber Law	15CS61	Yes	Case Studies	Encryption and decryption algorithms
42	VI	Computer Graphics & Visualization	15CS62	Yes	Collabrative Learning	Topics related to computer graphics and visualization lab
43	VI	System Software and Compiler Design	15CS63	Yes	Collabrative Learning	Topics related to System software and operating systems lab
44	VI	Operating Systems	15CS64	Yes	Collabrative Learning	Topics related to System software and operating systems lab
45	VI	Data Mining and Data Warehousing	15CS651	Yes	Case Studies / Project work	Data mining - Classification and regression algorithms
46	VI	Python Application Programming (Open Elective-2)		Yes	Case Studies	concepts related to ML lab
47	VI	System Software and Operating System Laboratory	15CSL67	Yes	Laboratory Course	Experiential Learning course
48	VI	Computer Graphics Laboratory with mini project	15CSL68	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course

49	VII	WEB TECHNOLOGY AND ITS APPLICATIONS	15CS71	Yes	Collabrative Learning	Topics related to Web technology lab
50	VII	ADVANCED COMPUTER ARCHITECTURES	15CS72	No		
51	VII	MACHINE LEARNING	15CS73	Yes	Collabrative Learning	Topics related to Machine learning lab
52	VII	INFORMATION AND NETWORK SECURITY	15CS743	No		
53	VII	STORAGE AREA NETWORKS	15CS754	No		
54	VII	MACHINE LEARNING LABORATORY	15CSL76	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
55	VII	Project Work Phase-I + Project work Seminar	15CSP78	Yes	Project Work	Experiential Learning course
56	VII	WEB TECHNOLOGY LABORATORY WITH MINI PROJECT	15CSL77	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
57	VIII	INTERNET OF THINGS AND APPLICATIONS	15CS81	Yes	Project work	Concepts like IoT network architecture, sensors, actuators and Data analytics can be used for project work
58	VIII	BIG DATA ANALYTICS	15CS82	Yes	Project work	Concepts of Classification algorithms are used for project work
59	VIII	NETWORK MANAGEMENT	15CS833	Yes	Case Studies	SNMP models, Broad band access technology, DSL technology
60	VIII	PROJECT WORK Phase II	15CSP85	Yes	Project work	Experiential Learning course
61	VIII	SEMINAR	15CSS86	Yes	Case Studies	Experiential Learning course
62	VIII-Sem	Internship/ Professional Practice	15CS84	Yes	Internship	Experiential Learning course

No. of Courses

62

No. of Experiential Learning Courses

55

% of Experiential Learning Courses

89

Department of Computer Science & Engineering
List of Experiential Learning Courses for Academic Year-2017-18

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/ Collabrative Learning/ Interactive Simulation/Case Studies	Justification
1	I/II Sem	Engineering Mathematics-I	17MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	17PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Elements of Civil Engineering & Mechanics	17CIV13/23	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
4	I/II Sem	Elements of Mechanical Engineering	17ME14/24	Yes	Case Studies	Topics related to IC engine can be delivered through Machine shops lab
5	I/II Sem	Basic Electrical Engineering	17ELE15/25	Yes	Interactive Simulations	Topics related to verifications of KVL & KCL can be implemented.
6	I/II Sem	Workshop Practice	17WSL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Engineering Physics Lab	17PHY17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	English Language	17ENG18	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
9	I/II Sem	Engineering Mathematics-II	17MAT21	Yes	Case Studies	Calculus can be used for analysis process
10	I/II Sem	Engineering Chemistry	17CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	Programming in C & Data Structures	17PCD13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Computer Aided Engineering Drawing	17CED14/24	Yes	Laboratory Course	Experiential Learning course
13	I/II Sem	Basic Electronics	17ELN15/25	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
14	I/II Sem	Computer Programming Lab	17CPL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	Engineering Chemistry Lab	17CHE17/27	Yes	Laboratory Course	Experiential Learning course
16	III Sem	ENGINEERING MATHEMATICS-III	15MAT31	Yes	Case Studies	Numerical Techniques
17	III Sem	Analog and Digital Electronics	15CS32	Yes	Collabrative Learning	Topics related to Analog and Digital Electronics lab
18	III Sem	DATA STRUCTURES AND APPLICATIONS	15CS33	Yes	Collabrative Learning	Topics related to Data structures lab

19	III Sem	COMPUTER ORGANIZATION	15CS34	No		
20	III Sem	UNIX AND SHELL PROGRAMMING	15CS35	Yes	Case Studies	Unix commands
21	III Sem	DISCRETE MATHEMATICAL STRUCTURES	15CS36	No		
22	III Sem	ANALOG AND DIGITAL ELECTRONICS LABORATORY	15CSL37	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
23	III Sem	DATA STRUCTURES WITH C LABORATORY	15CSL38	Yes	Laboratory Course	Experiential Learning course
24	IV Sem	ENGINEERING MATHEMATICS-IV	15MAT41	Yes	Project Work	Statistical Methods can be used for Analysis purpose in Project work
25	IV Sem	SOFTWARE ENGINEERING	15CS42	Yes	Case Studies / project work	Project development life cycle and testing
26	IV Sem	DESIGN AND ANALYSIS OF ALGORITHMS	15CS43	Yes	Collabrative Learning	Topics related to design and analysis lab
27	IV Sem	MICROPROCESSORS AND MICROCONTROLLERS	15CS44	Yes	Collabrative Learning	Topics related to microprocessor and Microcontroller lab
28	IV Sem	OBJECT ORIENTED CONCEPTS	15CS45	Yes	Case Studies	Inheritance, Function overloading, Constructors
29	IV Sem	DATA COMMUNICATION	15CS46	No		
30	IV Sem	DESIGN AND ANALYSIS OF ALGORITHM LABORATORY	15CSL47	Yes	Laboratory Course	Experiential Learning course
31	IV Sem	MICROPROCESSOR AND MICROCONTROLLER LABORATORY	15CSL48	Yes	Laboratory Course	Experiential Learning course
32	V Sem	Management and Entrepreneurship	15CS51	Yes	Project Work	Project analysis, project report & drafting related topics discussed in M&E courses
33	V Sem	Computer Networks	15CS52	Yes	Collabrative Learning	Topics related to Computer network lab
34	V Sem	Data Base Management System	15CS53	Yes	Collabrative Learning	Topics related to DBMS lab
35	V Sem	Automata theory and Computability	15CS54	Yes	Case Studies	Designing NFA, DFA, Context free grammars and Turing machine
36	V Sem	Advanced JAVA and J2EE (Professional Elective 1)	15CS553	Yes	Case Studies	Programming
37	V Sem	Dot Net Framework for Application Development (Open Elective 1)	15CS564	Yes	Case Studies	Application development
38	V Sem	Computer Network Laboratory	15CSL57	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
39	V Sem	DBMS Laboratory with mini project	15CSL58	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
40	VI Sem	Cryptography, Network Security and Cyber Law	15CS61	Yes	Case Studies	Encryption and decryption algorithms
41	VI Sem	Computer Graphics & Visualization	15CS62	Yes	Collabrative Learning	Topics related to computer graphics and visualization lab
42	VI Sem	System Software and Compiler Design	15CS63	Yes	Collabrative Learning	Topics related to System softwate and operating systems lab
43	VI Sem	Operating Systems	15CS64	Yes	Collabrative Learning	Topics related to System softwate and operating systems lab
44	VI Sem	Python Application Programming (Open Elective 2)	15CS653	Yes	Case Studies	concepts related to ML lab
45	VI Sem	System Software and Operating System Laboratory	15CSL67	Yes	Laboratory Course	Experiential Learning course
46	VI Sem	Computer Graphics Laboratory with mini project	15CSL68	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
47	VII Sem	OBJECT-ORIENTED MODELING AND DESIGN	10CS71	No		

48	VII Sem	EMBEDDED COMPUTING SYSTEMS	10CS72	Yes	Case studies / project work	Microcontroller and embedded C
49	VII Sem	PROGRAMMING THE WEB	10CS73	Yes	Collabrative Learning	Topics related to programming the web lab
50	VII Sem	ADVANCED COMPUTER ARCHITECTURES	10CS74	No		
51	VII Sem	JAVA AND J2EE	10CS753	Yes	Case Studies	Programming
52	VII Sem	C# PROGRAMMING AND .NET	10CS761	Yes	Case Studies	Application development
53	VII Sem	ARTIFICIAL INTELLIGENCE	10CS764	Yes	Case Studies	A* algorithm
54	VII Sem	STORAGE AREA NETWORKS	10CS765	No		
55	VII Sem	Networks Laboratory	10CSL77	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
56	VII Sem	Web Programming Laboratory	10CSL78	Yes	Interactive Simulations / Laboratory Course	Experiential Learning course
57	VIII Sem	SOFTWARE ARCHITECTURES	10IS81	No		
58	VIII Sem	SYSTEM MODELING AND SIMULATION	10CS82	Yes	Case Studies	Simulation
59	VIII Sem	INFORMATION AND NETWORK SECURITY	10CS835	No		
60	VIII Sem	SOFTWARE TESTING	10CS842	Yes	Project work	Concepts learnt will be used for testing the final year project
61	VIII Sem	PROJECT WORK	10CS85	Yes	Project work	Experiential Learning course
62	VIII Sem	SEMINAR	10CS86	Yes	Case Studies	Experiential Learning course

No. of Courses	62
No. of Experiential Learning Courses	54
% of Experiential Learning Courses	87

Department of Computer Science & Engineering
List of Experiential Learning Courses for Academic Year-2016-17

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/ Collabrative Learning/ Interactive Simulation/Case Studies	Justification
1	I/II Sem	Engineering Mathematics-I	15MAT11	Yes	Case studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	15PHY12/22	Yes	Case studies	Topics related to Physics Lab
3	I/II Sem	Elements of Civil Engineering & Mechanics	15CIV13/23	Yes	Case studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
4	I/II Sem	Elements of Mechanical Engineering	15ME14/24	Yes	Case studies	Topics related to IC engine can be delivered through Machine shops lab
5	I/II Sem	Basic Electrical Engineering	15ELE15/25	Yes	Interactive Simulations	Topics related to verifications of KVL & KCL can be implemented.
6	I/II Sem	Workshop Practice	15WSL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Engineering Physics Lab	15PHY17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	Constitution of India, Professional Ethics and Human Rights	15CPH18/28	No		
9	I/II Sem	Engineering Mathematics-II	15MAT21	Yes	Case studies	Calculus can be used for analysis process
10	I/II Sem	Engineering Chemistry	15CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	Programming in C & Data Structures	15PCD13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Computer Aided Engineering Drawing	15CED14/24	Yes	Laboratory Course	Experiential Learning course
13	I/II Sem	Basic Electronics	15ELN15/25	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
14	I/II Sem	Computer Programming Lab	15CPL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	Engineering Chemistry Lab	15CHE17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Environmental Studies	15CIV18/28	No		
17	III Sem	ENGG. MATHEMATICS - III	15MAT31	YES	Case studies	Numerical Techniques
18	III Sem	Analog and Digital Electronics	15CS32	YES	Collabrative Learning	Topics related to Analog and Digital Electronics lab
19	III Sem	DATA STRUCTURES AND APPLICATIONS	15CS33	YES	Collabrative Learning	Topics related to Data structures lab

20	III Sem	COMPUTER ORGANIZATION	15CS34	No		
21	III Sem	UNIX AND SHELL PROGRAMMING	15CS35	YES	Case studies	Unix commands
22	III Sem	DISCRETE MATHEMATICAL STRUCTURES	15CS36	No		
23	III Sem	ANALOG AND DIGITAL ELECTRONICS LABORATORY	15CSL37	YES	Interactive Simulations / Laboratory Course	Experiential Learning course
24	III Sem	DATA STRUCTURES WITH C LABORATORY	15CSL38	YES	Laboratory Course	Experiential Learning course
25	IV Sem	ENGG. MATEMATICS -IV	15MAT41	YES	Project Work	Statistical Methods can be used for Analysis purpose in Project work
26	IV Sem	SOFTWARE ENGINEERING	15CS42	YES	Case studies / project work	Project development life cycle and testing
27	IV Sem	DESIGN AND ANALYSIS OF ALGORITHMS	15CS43	YES	Collabrative Learning	Topics related to design and analysis lab
28	IV Sem	MICROPROCESSORS AND MICROCONTROLLERS	15CS44	YES	Collabrative Learning	Topics related to microprocessor and Microcontroller lab
29	IV Sem	OBJECT ORIENTED CONCEPTS	15CS45	YES	Case studies	Inheritance, Function overloading, Constructors
30	IV Sem	DATA COMMUNICATION	15CS46	No		
31	IV Sem	DESIGN AND ANALYSIS OF ALGORITHM LABORATORY	15CSL47	YES	Laboratory Course	Experiential Learning course
32	IV Sem	MICROPROCESSOR AND MICROCONTROLLER LABORATORY	15CSL48	YES	Laboratory Course	Experiential Learning course
33	V Sem	SOFTWARE ENGINEERING	10IS51	YES	Case studies / project work	Project development life cycle and testing
34	V Sem	SYSTEM SOFTWARE	10CS52	YES	Collabrative Learning	Topics related to System softwate and operating systems lab
35	V Sem	OPERATING SYSTEMS	10CS53	YES	Collabrative Learning	Topics related to System softwate and operating systems lab
36	V Sem	DATABASE MANAGEMENT SYSTEMS	10CS54	YES	Collabrative Learning	Topics related to database application lab
37	V Sem	COMPUTER NETWORKS - I	10CS55	YES	Collabrative Learning	Topics related to networks lab
38	V Sem	FORMAL LANGUAGES AND AUTOMATA THEORY	10CS56	YES	Case studies	Designing NFA, DFA, Context free grammars and Turing machine
39	V Sem	DATABASE APPLICATIONS LABORATORY	10CSL57	YES	Laboratory Course	Experiential Learning course
40	V Sem	SYSTEM SOFTWARE & OPERATING SYSTEMS LABORATORY	10CSL58	YES	Laboratory Course	Experiential Learning course
41	VI Sem	MANAGEMENT AND ENTREPRENEURSHIP	10AL61	YES	Project Work	Project analysis, project report & drafting related topics discussed in M&E courses
42	VI Sem	UNIX SYSTEM PROGRAMMING	10CS62	YES	Collabrative Learning	Topics related to unix systems programming and compiler design lab
43	VI Sem	COMPILER DESIGN	10CS63	YES	Collabrative Learning	Topics related to unix systems programming and compiler design lab
44	VI Sem	COMPUTER NETWORKS - II	10CS64	YES	Collabrative Learning	Topics related to networks lab
45	VI Sem	COMPUTER GRAPHICS AND VISUALIZATION	10CS65	YES	Collabrative Learning	Topics related to computer graphics and visualization lab
46	VI Sem	OPERATION RESEARCH	10CS661	No		
47	VI Sem	COMPUTER GRAPHICS AND VISUALIZATION LABORATORY	10CSL67	YES	Interactive Simulations / Laboratory Course	Experiential Learning course
48	VI Sem	UNIX SYSTEMS PROGRAMMING AND COMPILER DESIGN LABORATORY	10CSL68	YES	Laboratory Course	Experiential Learning course

49	VII Sem	OBJECT-ORIENTED MODELING AND DESIGN	10CS71	No		
50	VII Sem	EMBEDDED COMPUTING SYSTEMS	10CS72	YES	Case studies / project work	Microcontroller and embedded C
51	VII Sem	PROGRAMMING THE WEB	10CS73	YES	Collabrative Learning	Topics related to programming the web lab
52	VII Sem	ADVANCED COMPUTER ARCHITECTURES	10CS74	No		
53	VII Sem	JAVA AND J2EE	10CS753	YES	Case studies	Programming
54	VII Sem	C# PROGRAMMING AND .NET	10CS761	YES	Case studies	Application development
55	VII Sem	STORAGE AREA NETWORKS	10CS765	No	Case studies	Concepts of services
56	VII Sem	Networks Laboratory	10CSL77	YES	Interactive Simulations / Laboratory Course	Experiential Learning course
57	VII Sem	Web Programming Laboratory	10CSL78	YES	Interactive Simulations / Laboratory Course	Experiential Learning course
58	VIII Sem	SOFTWARE ARCHITECTURES	10IS81	No		
59	VIII Sem	SYSTEM MODELING AND SIMULATION	10CS82	Yes	Case studies	Simulation
60	VIII Sem	INFORMATION AND NETWORK SECURITY	10CS835	YES	Case studies	Study on security concepts
61	VIII Sem	SOFTWARE TESTING	10CS842	YES	Project work	Concepts learnt will be used for testing the final year project
62	VIII Sem	PROJECT WORK	10CS85	YES	Project work	Experiential Learning course
63	VIII Sem	SEMINAR	10CS86	YES	Case studies	Experiential Learning course

No. of Courses	63
No. of Experiential Learning Courses	53
% of Experiential Learning Courses	84



A T M E

College of Engineering



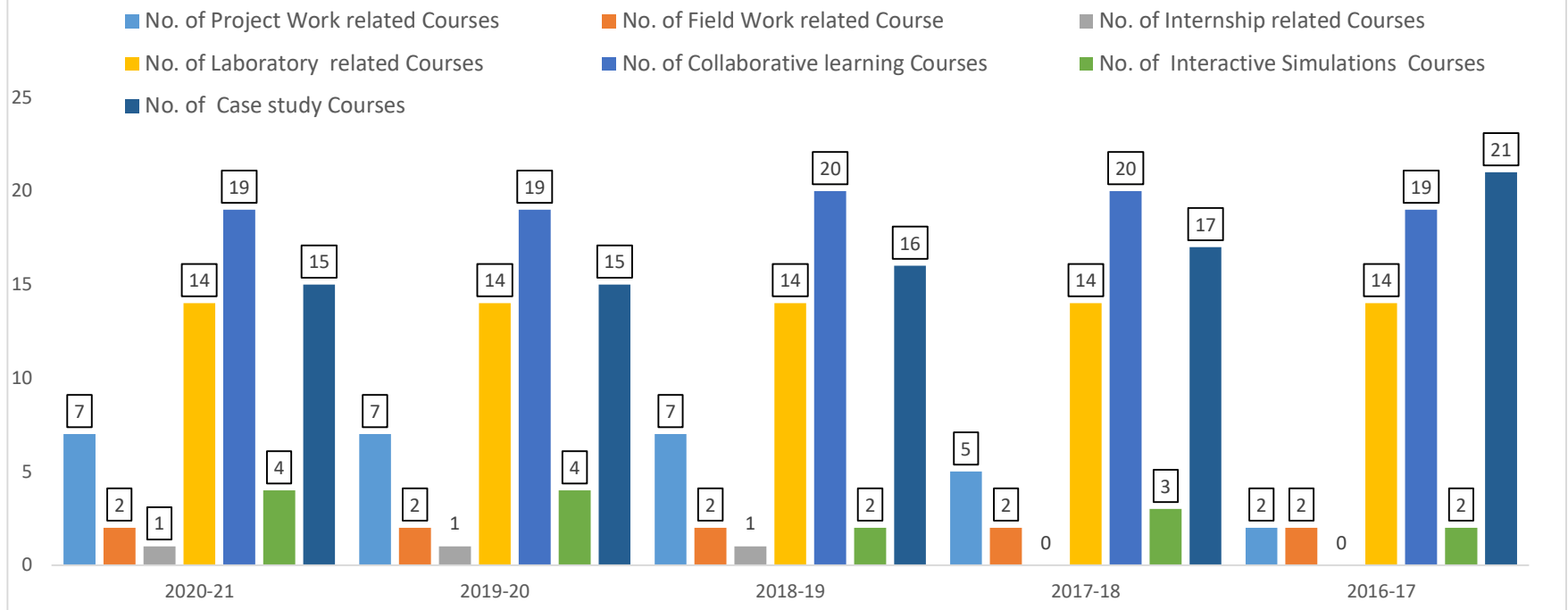
Department of Civil Engineering


SL No.	Academic Year	Total No. of course	No. of Experiential Course
1	2020-21	65	62
2	2019-20	64	62
3	2018-19	64	62
4	2017-18	62	61
5	2016-17	62	60

Note:	The experiential courses is Categorized into Project Work/ Field Work Internship/Laboratory Course/ Collaborative Learning/ Interactive Simulations/
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	No. of Project Work related Courses	No. of Field Work related Course	No. of Internship related Courses	No. of Laboratory related Courses	No. of Collaborative learning Courses	No. of Interactive Simulations Courses	No. of Case study Courses
2020-21	7	2	1	14	19	4	15
2019-20	7	2	1	14	19	4	15
2018-19	7	2	1	14	20	2	16
2017-18	5	2	0	14	20	3	17
2016-17	2	2	0	14	19	2	21

CV-Experiential Learning courses of last five years




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List of Experiential Learning Courses for Academic Year-2020-21

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/Laboratory/ Collaborative Learning/ Interactive Simulations/ Case studies	Justification
1	I/II Sem	Calculus and Linear Algebra	18MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	18PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Basic Electrical Engg.	18ELE13/23	Yes	Collaborative Learning	Topics related to Electrical Lab
4	I/II Sem	Elements of Civil Engineering & Mechanics	18CIV14/24	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
5	I/II Sem	Engineering Graphics	18EGDL15/25	Yes	Laboratory Course	Experiential Learning course
6	I/II Sem	Engineering Physics Lab	18PHYL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Basic Electrical Engineering Lab	18ELEL17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	Technical English- I	18EGH18	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
9	I/II Sem	Advanced calculus and Numerical Methods	18MAT21	Yes	Case Studies	Calculus can be used for analysis purpose in higher semester
10	I/II Sem	Engineering Chemistry	18CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	C programming for problem solving	18CPS13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Basic Electronics	18ELN14/24	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
13	I/II Sem	Elements of Mechanical Engineering	18ME15/25	Yes	Interactive Simulations	Topics related to IC engine can be delivered through Machine shops lab
14	I/II Sem	Engineering Chemistry Lab	18CHEL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	C Programming Lab	18CPL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Technical English- II	18EGH28	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
17	III Sem	Transform Calculus, Fourier Series and Numerical Techniques	18MAT31	Yes	Case Studies	Mathematical knowledge derived used in Higher semester courses for analysis purpose
18	III Sem	Strength of Materials	18CV32	Yes	Collaborative Learning	Topics related to Building Material lab

19	III Sem	Fluid Mechanics	18CV33	Yes	Collaborative Learning	Topics related to Fluid Mechanics lab
20	III Sem	Basic Materials and Construction	18CV34	Yes	Interactive Simulations	Topics related to materials testing and sieve analysis in BMT lab
21	III Sem	Basic Surveying	18CV35	Yes	Collaborative Learning	Topics related to surveying lab
22	III Sem	Engineering Geology	18CV36	Yes	Collaborative Learning	Topics related to Geology lab
23	III Sem	Computer Aided Building Planning & Drawing	18CVL37	Yes	Laboratory Course	Experiential Learning course
24	III Sem	Material Testing Lab	18CVL38	Yes	Laboratory Course	Experiential Learning course
25	III Sem	Aadalitha Kannada (Kannada for Administration)	18KAK39	No		
	III Sem	Vyavaharika Kannada (Kannada for communication)/	18KVK39	No		
26	IV Sem	Complex Analysis, Probability And Statistical Methods	18MAT41	Yes	Case Studies	Statistical Methods can be used for Analysis purpose in Project work
27	IV Sem	Analysis of Determinate Structures	18CV42	Yes	Case Studies	Topics related to structural analysis
28	IV Sem	Applied Hydraulics	18CV43	Yes	Collaborative Learning	Topics related to Fluid Mechanics lab
29	IV Sem	Concrete Technology	18CV44	Yes	Collaborative Learning	Topics related to Concrete and highway material testing lab
30	IV Sem	Advanced Surveying	18CV45	Yes	Collaborative Learning	Topics related to curve setting , using of theodolite in laboratory
31	IV Sem	Water Supply & Treatment Engineering	18CV46	Yes	Interactive Simulations	Finding the pH value of the water in laboratory
32	IV Sem	Engineering Geology Laboratory	18CVL47	Yes	Laboratory Course	Experiential Learning course
33	IV Sem	Fluid Mechanics and Hydraulic Machines Laboratory	18CVL48	Yes	Laboratory Course	Experiential Learning course
34	IV Sem	Constitution of India, Professional Ethics & Cyber Law	18CPC49	No		
35	V-Sem	Construction Management and Entrepreneurship	18CV51	Yes	Collaborative Learning	Topic related to software application lab
36	V-Sem	Analysis of Indeterminate Structures	18CV52	Yes	Case Studies	Design of Structural analysis
37	V-Sem	Design of RC Structural elements	18CV53	Yes	Collaborative Learning	Topics related to CABPD , detailing of structures Laboratory
38	V-Sem	Basic Geotechnical Engineering	18CV54	Yes	Collaborative Learning	Topics related to Geo-Technical lab
39	V-Sem	Municipal Waste water Engineering	18CV55	yes	Collaborative Learning	Topics related to Environmental Engineering lab
40	V-Sem	Highway Engineering	18CV56	Yes	Collaborative Learning	Topics related to Curve setting
41	V-Sem	Survey Practice	18CVL57	Yes	Laboratory Course	Topics related to field activities
42	V-Sem	Concrete and Highway Material Laboratory	18CVL58	Yes	Laboratory Course	Experiential Learning course
43	VI-Sem	Design of Steel Structural Elements	18CV61	Yes	Collaborative Learning	Design of RCC and steel structures using modern tool software
44	VI-Sem	Applied Geo technical engineering	18CV62	Yes	Collaborative Learning	Topics related to Geo-Technical lab
45	VI-Sem	Hydrology and Irrigation Engineering	18CV63	Yes	Case Studies	Study of seasonal variation of crops and crop water requirement
46	VI-Sem	Alternate Building materials	18CV643	No		
47	VI-Sem	Railway, Harbour, Tunneling and Airports	18CV645	Yes	Case Studies	Topics related to grade compensation of curves

48	VI-Sem	Remote sensing and GIS	18CV651	Yes	Case Studies	Topic related to geographic information system and Laboratory
49	VI-Sem	Software Application Laboratory	18CVL66	Yes	Laboratory Course	Experiential Learning course
50	VI-Sem	Environmental Engineering Laboratory	18CVL67	Yes	Laboratory Course	Experiential Learning course
51	VI-Sem	Extensive Survey Project /Camp	18CVEP68	Yes	Field Work/ Case Studies	Topica related to field activities
52	VII-Sem	Municiple and Industrial Waste Water Engineering	17CV71	Yes	Collaborative Learning	Topics related to Environemntal Engineeing lab
53	VII-Sem	Design of RCC and Steel Structures	17CV72	Yes	Collaborative Learning	Design of RCC and steel structures using modern tool software
54	VII-Sem	Hydrology and Irrigation Engineering	17CV73	Yes	Case Studies	Study of resonal variation of crops and crop water requirement
55	VII-Sem	Ground water & Hydraulics	17CV742	Yes	Case Studies	Study of water table location and quantity of GW available
56	VII-Sem	Reinforced earth structures	17CV754	Yes	Case Studies	Study of Earth behaviour
57	VII-Sem	Environmental Engineering Laboratory	17CVL76	Yes	Laboratory Course	Experiential Learning course
58	VII-Sem	Computer Aided Detailing of Structures	17CVL77	Yes	Laboratory Course	Design of RCC and steel structures using modern tool software
59	VII-Sem	Project Phase I + Project Seminar	17CVP78	Yes	Project Work	Experiential Learning course
60	VIII-Sem	Quantity Surveying and Contracts Management	17CV81	Yes	Project Work	Topica related to estimation and cost evaluation of multi story building
61	VIII-Sem	Design of Pre Stressed Concrete Elements	17CV82	Yes	Case Studies	Design of post and pre cast structures in the field of construction
62	VIII-Sem	Earthquake Engineering	17CV831	Yes	Case Studies	Study of behaviour of seismic analysis of the building
63	VIII-Sem	Internship/Professional Practice	17CV84	Yes	Internship	Experiential Learning course
64	VIII-Sem	Project Work	17CVP85	Yes	Project Work	Experiential Learning course
65	VIII-Sem	Seminar on current trends in Engineering	17CVS86	Yes	Field Work/ Case Studies	Experiential Learning course

No. of Courses	65
No. of Experiential Learning Courses	62
% of Experiential Learning Courses	95

List of Experiential Learning Courses for Academic Year-2019-20

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/Laboratory/ Collaborative Learning/ Interactive Simulations/ Case studies	Justification
1	I/II Sem	Calculus and Linear Algebra	18MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	18PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Basic Electrical Engg.	18ELE13/23	Yes	Collaborative Learning	Topics related to Electrical Lab
4	I/II Sem	Elements of Civil Engineering & Mechanics	18CIV14/24	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
5	I/II Sem	Engineering Graphics	18EGDL15/25	Yes	Laboratory Course	Experiential Learning course
6	I/II Sem	Engineering Physics Lab	18PHYL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Basic Electrical Engineering Lab	18ELEL17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	Technical English- I	18EGH18	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
9	I/II Sem	Advanced calculus and Numerical Methods	18MAT21	Yes	Case Studies	Calculus can be used for analysis purpose in higher semester
10	I/II Sem	Engineering Chemistry	18CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	C programming for problem solving	18CPS13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Basic Electronics	18ELN14/24	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
13	I/II Sem	Elements of Mechanical Engineering	18ME15/25	Yes	Interactive Simulations	Topics related to IC engine can be delivered through Machine shops lab
14	I/II Sem	Engineering Chemistry Lab	18CHEL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	C Programming Lab	18CPL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Technical English- II	18EGH28	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work

17	III Sem	Transform Calculus, Fourier Series and Numerical Techniques	18MAT31	Yes	Case Studies	Mathematical knowledge derived used in Higher semester courses for analysis purpose
18	III Sem	Strength of Materials	18CV32	Yes	Collaborative Learning	Topics related to Building Material lab
19	III Sem	Fluid Mechanics	18CV33	Yes	Collaborative Learning	Topics related to Fluid Mechanics lab
20	III Sem	Basic Materials and Construction	18CV34	Yes	Interactive Simulations	Topics related to materials testing and sieve analysis in BMT lab
21	III Sem	Basic Surveying	18CV35	Yes	Collaborative Learning	Topics related to surveying lab
22	III Sem	Engineering Geology	18CV36	Yes	Collaborative Learning	Topics related to Geology lab
23	III Sem	Computer Aided Building Planning & Drawing	18CVL37	Yes	Laboratory Course	Experiential Learning course
24	III Sem	Material Testing Lab	18CVL38	Yes	Laboratory Course	Experiential Learning course
25	III Sem	Aadalitha Kannada (Kannada for Administration)	18KAK39	No		
	III Sem	Vyavaharika Kannada (Kannada for communication)/	18KVK39	No		
26	IV Sem	Complex Analysis, Probability And Statistical Methods	18MAT41	Yes	Case Studies	Statistical Methods can be used for Analysis purpose in Project work
27	IV Sem	Analysis of Determinate Structures	18CV42	Yes	Case Studies	Topics related to structural analysis
28	IV Sem	Applied Hydraulics	18CV43	Yes	Collaborative Learning	Topics related to Fluid Mechanics lab
29	IV Sem	Concrete Technology	18CV44	Yes	Collaborative Learning	Topics related to Concrete and highway material testing lab
30	IV Sem	Advanced Surveying	18CV45	Yes	Collaborative Learning	Topics related to curve setting , using of theodolite in laboratory
31	IV Sem	Water Supply & Treatment Engineering	18CV46	Yes	Interactive Simulations	Finding the pH value of the water in laboratory
32	IV Sem	Engineering Geology Laboratory	18CVL47	Yes	Laboratory Course	Experiential Learning course
33	IV Sem	Fluid Mechanics and Hydraulic Machines Laboratory	18CVL48	Yes	Laboratory Course	Experiential Learning course
34	IV Sem	Constitution of India, Professional Ethics & Cyber Law	18CPC49	No		
35	V-Sem	Design of RC Structural Elements	17CV51	Yes	Collaborative Learning	Topics related to CABPD , detailing of structures Laboratory
36	V-Sem	Anaylsis of Indeterminate Structures	17CV52	Yes	Case Studies	Design of Structural analysis
37	V-Sem	Applied Geo-Technical Enginerring	17CV53	Yes	Collaborative Learning	Topics related to Geo-Technical lab
38	V-Sem	Computer Aided Buildng Planning & Drawing	17CV54	Yes	Collaborative Learning	Design of RCC and steel structures using modern tool software
39	V-Sem	Railway, Harbour, Tunneling and Airports	17CV552	yes	Case Studies	Topics related to grade compensation of curves
40	V-Sem	Remote Sensing and GIS	17CV563	Yes	Project Work	Toipcs related to water shed management
41	V-Sem	Geo-Technical Enginerring Laboratory	17CVL57	Yes	Laboratory Course	Experiential Learning course
42	V-Sem	Concerte and Higway Material Laboratory	17CVL58	Yes	Laboratory Course	Experiential Learning course
43	VI-Sem	Construction Management and Entrepreneurship	17CV61	Yes	Collaborative Learning	Topica related to software application lab

44	VI-Sem	Design of Steel Structural Elements	17CV62	Yes	Collaborative Learning	Design of RCC and steel structures using modern tool software
45	VI-Sem	Highway Engineering	17CV63		Project Work	Topics related to ITS , junction design.
46	VI-Sem	Water Supply and Treatment Engineering	17CV64		Collaborative Learning	Topics related to Environemntal Engineerig lab
47	VI-Sem	Ground Improvement Techniques	17CV654		Case Studies	Study of water table and improvization of soil stability
48	VI-Sem	Water Resource Management	17CV661	Yes	Case Studies	Study of water management and ground water estimation
49	VI-Sem	Software Application Laboratory	17CVL67	Yes	Laboratory Course	Experiential Learning course
50	VI-Sem	Extensive Survey Project /Camp	17CVL68	Yes	Field Work/ Case Studies	Topica related to field activities
51	VII-Sem	Municiple and Industrial Waste Water Engineering	15CV71	Yes	Collaborative Learning	Topics related to Environemntal Engineerig lab
52	VII-Sem	Design of RCC and Steel Structures	15CV72	Yes	Collaborative Learning	Design of RCC and steel structures using modern tool software
53	VII-Sem	Hydrology and Irrigation Engineering	15CV73	Yes	Case Studies	Study of resonal variation of crops and crop water requirement
54	VII-Sem	Ground water & Hydraulics	15CV742	Yes	Case Studies	Study of water table table location and quantity of GW available
55	VII-Sem	Urban Transportation Engineering	15CV751	Yes	Case Studies	Development of smart cities using modern techniques
56	VII-Sem	Environmental Engineering Laboratory	15CVL76	Yes	Laboratory Course	Experiential Learning course
57	VII-Sem	Computer Aided Detailing of Structures	15CVL77	Yes	Laboratory Course	Design of RCC and steel structures using modern tool software
58	VII-Sem	Project Phase I + Project Seminar	15CVP78	Yes	Project Work	Experiential Learning course
59	VIII-Sem	Quantity Surveying and Contracts Management	15CV81	Yes	Project Work	Topica related to estimation and cost evaluation of multi story building
60	VIII-Sem	Design of Pre Stressed Concrete Elements	15CV82	Yes	Case Studies	Design of post and pre cast structures in the field of construction
61	VIII-Sem	Pavement Design	15CV833	Yes	Case Studies	Design of roadways and grading systems of roads
62	VIII-Sem	Internship/Professional Practice	15CV84	Yes	Internship	Experiential Learning course
63	VIII-Sem	Project Work	15CVP85	Yes	Project Work	Experiential Learning course
64	VIII-Sem	Seminar on current trends in Engineering	15CVS86	Yes	Field Work/ Case Studies	Experiential Learning course

No. of Courses	64
No. of Experiential Learning Courses	62
% of Experiential Learning Courses	97

List of Experiential Learning Courses for Academic Year-2018-19

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/Laboratory/ Collaborative Learning/ Interactive Simulations/ Case studies	Justification
1	I/II Sem	Calculus and Linear Algebra	18MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	18PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Basic Electrical Engg.	18ELE13/23	Yes	Collaborative Learning	Topics related to Electrical Lab
4	I/II Sem	Elements of Civil Engineering & Mechanics	18CIV14/24	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
5	I/II Sem	Engineering Graphics	18EGDL15/25	Yes	Laboratory Course	Experiential Learning course
6	I/II Sem	Engineering Physics Lab	18PHY16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Basic Electrical Engineering Lab	18EEL17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	Technical English- I	18EGH18	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
9	I/II Sem	Advanced calculus and Numerical Methods	18MAT21	Yes	Case Studies	Calculus can be used for analysis process
10	I/II Sem	Engineering Chemistry	18CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	C programming for problem solving	18CPS13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Basic Electronics	18ELN14/24	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
13	I/II Sem	Elements of Mechanical Engineering	18ME15/25	Yes	Interactive Simulations	Topics related to IC engine can be delivered through Machine shops lab
14	I/II Sem	Engineering Chemistry Lab	18CHE16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	C Programming Lab	18CPL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Technical English- II	18EGH28	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work

17	III Sem	Engineering Mathamtics-III	17MAT31	Yes	Case Studies	Mathematical knowledge derived used in Higher semester courses for analysis purpose
18	III Sem	Strength of Materilas	17CV32	Yes	Collaborative Learning	Topics related to Building Material lab
19	III Sem	Fluid Mechanics	17CV33	Yes	Collaborative Learning	Topics related to Fluid Mechanics lab
20	III Sem	Basic Surveying	17CV34	Yes	Collaborative Learning	Topics related to surveying lab
21	III Sem	Engineering Geology	17CV35	Yes	Collaborative Learning	Topics related to Geology lab
22	III Sem	Buildng Materilas and Construction	17CV36	Yes	Case Studies	Topics realted to materials testing and sieve analysis in BMT lab
23	III Sem	Basic Material Testing Laboratory	17CVL37	Yes	Laboratory Course	Experiential Learning course
24	III Sem	Basic Surveying Practice	17CVL38	Yes	Laboratory Course	Experiential Learning course
25	III Sem	Kannada Manasu	17KL39	NO		
	III Sem	Kannada Kali	17KL39	NO		
26	IV Sem	Engineering Mathamtics-IV	17MAT41	Yes	Case Studies	Statistical Methods can be used for Analysis purpose in Project work
27	IV Sem	Analysis of Determnate Structures	17CV42	Yes	Case Studies	Topics realted to slope , deflection of beams
28	IV Sem	Applied Hydrualics	17CV43	Yes	Collaborative Learning	Topics related to Fluid Mechanics lab
29	IV Sem	Concrete Technology	17CV44	Yes	Collaborative Learning	Topics related to Concrete and highway material testing lab
30	IV Sem	Basic Geotechnical Engineering	17CV45	Yes	Collaborative Learning	Topics related to Geo-Technical lab
31	IV Sem	Advanced Surveying	17CV46	Yes	Collaborative Learning	Topics related to surveying lab
32	IV Sem	Fluid Mechanics and Hydrualic Machines Lab	17CVL47	Yes	Laboratory Course	Experiential Learning course
33	IV Sem	Engineering Geology Laboratory	17CVL48	Yes	Laboratory Course	Experiential Learning course
34	IV Sem	Constitution of India, Professional Ethics and Hum	17CPH49	NO		
35	V-Sem	Design of RC Structural Elements	15CV51	Yes	Collaborative Learning	Topics related to CABPD , detailing of structures Laboratory
36	V-Sem	Anaylsis of Indeterminate Structures	15CV52	Yes	Case Studies	Topics related to structural analysis
37	V-Sem	Applied Geo-Technical Enginerring	15CV53	Yes	Collaborative Learning	Topics related to Geo-Technical lab
38	V-Sem	Computer Aided Buildng Planning & Drawing	15CV54	Yes	Collaborative Learning	Design of RCC structures using modern tool software
39	V-Sem	Railway, Harbour, Tunneling and Airports	15CV552	yes	Case Studies	Topics related to grade compensation of curves
40	V-Sem	Remote Sensing and GIS	15CV563	Yes	Project Work	Toipcs related to water shed management
41	V-Sem	Geo-Technical Enginerring Laboratory	15CVL57	Yes	Laboratory Course	Experiential Learning course
42	V-Sem	Concerte and Higway Material Laboratory	15CVL58	Yes	Laboratory Course	Experiential Learning course
43	VI-Sem	Construction Management and Entrepreneurship	15CV61	Yes	Collaborative Learning	Topica related to software application lab
44	VI-Sem	Design of Steel Structural Elements	15CV62	Yes	Collaborative Learning	Design of RCC and steel structures using modern tool software
45	VI-Sem	Highway Engineering	15CV63	Yes	Project Work	Topics related to ITS , junction design.

46	VI-Sem	Water Supply and Treatment Engineering	15CV64	Yes	Collaborative Learning	Topics related to Environmental Engineering lab
47	VI-Sem	Solid Waste Management	15CV651	Yes	Case Studies	Study of waste management and usage, disposal methods
48	VI-Sem	Water Resources Management	15CV661	Yes	Case Studies	Study of water management and ground water estimation
49	VI-Sem	Software Application Lab	15CVL67	Yes	Laboratory Course	Experiential Learning course
50	VI-Sem	Extensive Survey Project / Camp	15CVP68	Yes	Field Work/ Case Studies	Topics related to field activities
51	VII-Sem	Municipal and Industrial Waste Water Engineering	15CV71	Yes	Collaborative Learning	Topics related to Environmental Engineering lab
52	VII-Sem	Design of RCC and Steel Structures	15CV72	Yes	Collaborative Learning	Design of RCC and steel structures using modern tool software
53	VII-Sem	Hydrology and Irrigation Engineering	15CV73	Yes	Case Studies	Study of seasonal variation of crops and crop water requirement
54	VII-Sem	Design of Bridges	15CV741	Yes	Case Studies	Design of Deck slab and girders
55	VII-Sem	Urban Transportation Engineering	15CV751	Yes	Case Studies	Development of smart cities using modern techniques
56	VII-Sem	Environmental Engineering Laboratory	15CVL76	Yes	Laboratory Course	Experiential Learning course
57	VII-Sem	Computer Aided Detailing of Structures	15CVL77	Yes	Laboratory Course	Design of RCC and steel structures using modern tool software
58	VII-Sem	Project Phase I + Project Seminar	15CVP78	Yes	Project Work	Experiential Learning course
59	VIII-Sem	Quantity Surveying and Contracts Management	15CV81	Yes	Project Work	Topics related to estimation and cost evaluation of multi story building
60	VIII-Sem	Design of Pre Stressed Concrete Elements	15CV82	Yes	Case Studies	Design of post and pre cast structures in the field of construction
61	VIII-Sem	Pavement Design	15CV833	Yes	Case Studies	Design of roadways and grading systems of roads
62	VIII-Sem	Internship /Professional Practice	15CV84	Yes	Internship	Experiential Learning course
63	VIII-Sem	Project Work	15CVP85	Yes	Project Work	Experiential Learning course
64	VIII-Sem	Seminar on Current Trends in Engineering and Tech	15CVS86	Yes	Field Work/ Case Studies	Experiential Learning course

No. of Courses	64
No. of Experiential Learning Courses	62
% of Experiential Learning Courses	97

List of Experiential Learning Courses for Academic Year-2017-18

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/Laboratory/ Collaborative Learning/ Interactive Simulations/ Case studies	Justification
1	I/II Sem	Engineering Mathematics-I	17MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	17PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Elements of Civil Engineering & Mechanics	17CIV13/23	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
4	I/II Sem	Elements of Mechanical Engineering	17ME14/24	Yes	Case Studies	Topics related to IC engine can be delivered through Machine shops lab
5	I/II Sem	Basic Electrical Engineering	17ELE15/25	Yes	Interactive Simulations	Topics related to verifications of KVL & KCL can be implemented.
6	I/II Sem	Workshop Practice	17WSL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Engineering Physics Lab	17PHYL17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	English Language	17ENG18	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
9	I/II Sem	Engineering Mathematics-II	17MAT21	Yes	Case Studies	Calculus can be used for analysis process
10	I/II Sem	Engineering Chemistry	17CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	Programming in C & Data Structures	17PCD13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Computer Aided Engineering Drawing	17CED14/24	Yes	Laboratory Course	Experiential Learning course
13	I/II Sem	Basic Electronics	17ELN15/25	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
14	I/II Sem	Computer Programming Lab	17CPL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	Engineering Chemistry Lab	17CHEL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Environmental Studies	17CIV18/28	No		
17	III Sem	ENGINEERING MATHAMTICS-III	15MAT31	Yes	Case Studies	Mathematical knowledge derived used in Higher semester courses for analysis purpose

18	III Sem	STRENGTH OF MATERIALS	15CV32	Yes	Collaborative Learning	Topics related to Building Material lab
19	III Sem	FLUID MECHANICS	15CV33	Yes	Collaborative Learning	Topics related to Fluid Mechanics lab
20	III Sem	BASIC SURVEYING	15CV34	Yes	Collaborative Learning	Topics related to surveying lab
21	III Sem	ENGINEERING GEOLOGY	15CV35	Yes	Collaborative Learning	Topics related to Geology lab
22	III Sem	BUILDING MATERIALS AND CONSTRUCTION	15CV36	Yes	Case Studies	Topics related to materials testing and sieve analysis in BMT lab
23	III Sem	BASIC MATERIAL TESTING LABORATORY	15CVL37	Yes	Laboratory Course	Experiential Learning course
24	III Sem	BASIC SURVEYING PRACTICE	15CVL38	Yes	Laboratory Course	Experiential Learning course
25	IV Sem	ENGINEERING MATHEMATICS-IV	15MAT41	Yes	Case Studies	Statistical Methods can be used for Analysis purpose in Project work
26	IV Sem	ANALYSIS OF DETERMINATE STRUCTURES	15CV42	Yes	Case Studies	Topics related to slope , deflection of beams
27	IV Sem	APPLIED HYDRAULICS	15CV43	Yes	Collaborative Learning	Topics related to Fluid Mechanics lab
28	IV Sem	CONCRETE TECHNOLOGY	15CV44	Yes	Collaborative Learning	Topics related to Concrete and highway material testing lab
29	IV Sem	BASIC GEOTECHNICAL ENGINEERING	15CV45	Yes	Collaborative Learning	Topics related to Geo-Technical lab
30	IV Sem	ADVANCED SURVEYING	15CV46	Yes	Collaborative Learning	Topics related to surveying lab
31	IV Sem	FLUID MECHANICS AND HYDRAULIC MACHINES LAB	15CVL47	Yes	Laboratory Course	Experiential Learning course
32	IV Sem	ENGINEERING GEOLOGY LABORATORY	15CVL48	Yes	Laboratory Course	Experiential Learning course
33	V-Sem	DESIGN OF RC STRUCTURAL ELEMENTS	15CV51	Yes	Collaborative Learning	Topics related to CABPD , detailing of structures Laboratory
34	V-Sem	ANALYSIS OF INDETERMINATE STRUCTURES	15CV52	Yes	Case Studies	Design of Structural analysis
35	V-Sem	APPLIED GEO TECHNICAL ENGINEERING	15CV53	Yes	Collaborative Learning	Topics related to Geo-Technical lab
36	V-Sem	COMPUTER AIDED BUILDING PLANNING & DRAWING	15CV54	Yes	Collaborative Learning	Design of RCC structures using modern tool software
37	V-Sem	RAILWAY,HARBOUR,TUNNELING AND AIRPORTS	15CV552	yes	Case Studies	Topics related to grade compensation of curves
38	V-Sem	TRAFFIC ENGINEERING	15CV561	Yes	Project Work	Topics related to water shed management
39	V-Sem	GEOTECHNICAL ENGINEERING LABORATORY	15CVL57	Yes	Laboratory Course	Experiential Learning course
40	V-Sem	CONCRETE AND HIGHWAY MATERIAL LABORATORY	15CVL58	Yes	Laboratory Course	Experiential Learning course
41	VI-Sem	CONSTRUCTION MANAGEMENT AND ENTREPRENEURSHIP	15CV61	Yes	Collaborative Learning	Topics related to software application lab
42	VI-Sem	DESIGN OF STEEL STRUCTURAL ELEMENTS	15CV62	Yes	Collaborative Learning	Design of RCC and steel structures using modern tool software
43	VI-Sem	HIGHWAY ENGINEERING	15CV63		Project Work	Topics related to ITS , junction design.
44	VI-Sem	WATER SUPPLY AND TREATMENT ENGINEERING	15CV64		Collaborative Learning	Topics related to Environmental Engineering lab
45	VI-Sem	GROUND IMPROVEMENT TECHNIQUES	15CV654		Case Studies	Study of water table and improvization of soil stability
46	VI-Sem	WATER RESOURCES MANAGEMENT	15CV661	Yes	Case Studies	Study of water management and ground water estimation
47	VI-Sem	SOFTWARE APPLICATION LAB	15CVL67	Yes	Laboratory Course	Experiential Learning course
48	VI-Sem	EXTENSIVE SURVEY PROJECT / CAMP	15CVL68	Yes	Field Work/ Case Studies	Topics related to field activities

49	VII-Sem	ENVIRONMENTAL ENGINEERING - II	10CV71	Yes	Collaborative Learning	Topics related to Environmental Engineering lab
50	VII-Sem	DESIGN OF STEEL STRUCTURES	10CV72	Yes	Collaborative Learning	Design of RCC and steel structures using modern tool software
51	VII-Sem	ESTIMATION AND COSTING	10CV73	Yes	Project Work	Topics related to estimation and cost evaluation of multi story building
52	VII-Sem	DESIGN PRESTRESSED CONCRETE	10CV74	Yes	Case Studies	Design of post and pre cast structures in the field of construction
53	VII-Sem	SOLID WASTE MANAGEMENT	10CV757	Yes	Case Studies	Study of waste management and usage , disposal methods
54	VII-Sem	PAVEMENT MATERIALS AND CONSTRUCTION	10CV763	Yes	Case Studies	Design of roadways and grading systems of roads
55	VII-Sem	ENVIRONMENTAL ENGINEERING LABORATORY	10CVL77	Yes	Laboratory Course	Experiential Learning course
56	VII-Sem	CONCRETE AND HIGHWAY MATERIALS LABORATORY	10CVL78	Yes	Laboratory Course	Experiential Learning course
57	VIII-Sem	ADVANCED CONCRETE TECHNOLOGY	10CV81	Yes	Interactive Simulations	Topics related to mix design , mix proportions in laboratory
58	VIII-Sem	DESIGN AND DRAWING OF STEEL STRUCTURES	10CV82	Yes	Collaborative Learning	Design of RCC and steel structures using modern tool software
59	VIII-Sem	INDUSTRIAL WASTE WATER TREATMENT	10CV835	Yes	Case Studies	Topics related to waste management of industrial waste water
60	VIII-Sem	GEOGRAPHIC INFORMATION SYSTEM	10CV844	Yes	Case Studies	Study the behaviour of ground
61	VIII-Sem	PROJECT WORK	10CV85	Yes	Project Work	Experiential Learning course
62	VIII-Sem	SEMINAR	10CV86	Yes	Field Work/ Case Studies	Experiential Learning course

No. of Courses	62
No. of Experiential Learning Courses	61
% of Experiential Learning Courses	98

List of Experiential Learning Courses for Academic Year-2016-17

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/Laboratory/ Collaborative Learning/ Interactive Simulations/ Case studies	Justification
1	I/II Sem	Engineering Mathematics-I	15MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	15PHY12/22	Yes	Case Studies	Topics related to Physics Lab
3	I/II Sem	Elements of Civil Engineering & Mechanics	15CIV13/23	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
4	I/II Sem	Elements of Mechanical Engineering	15ME14/24	Yes	Case Studies	Topics related to IC engine can be delivered through Machine shops lab
5	I/II Sem	Basic Electrical Engineering	15ELE15/25	Yes	Interactive Simulations	Topics related to verifications of KVL & KCL can be implemented.
6	I/II Sem	Workshop Practice	15WSL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Engineering Physics Lab	15PHYL17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	Constitution of India, Professional Ethics and Human Rights	15CPH18/28	No		
9	I/II Sem	Engineering Mathematics-II	15MAT21	Yes	Case Studies	Calculus can be used for analysis process
10	I/II Sem	Engineering Chemistry	15CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	Programming in C & Data Structures	15PCD13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Computer Aided Engineering Drawing	15CED14/24	Yes	Laboratory Course	Experiential Learning course
13	I/II Sem	Basic Electronics	15ELN15/25	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
14	I/II Sem	Computer Programming Lab	15CPL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	Engineering Chemistry Lab	15CHEL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Environmental Studies	15CIV18/28	No		
17	III Sem	ENGINEERING MATHAMTICS-III	15MAT31	Yes	Case Studies	Mathematical knowledge derived used in Higher semester courses for analysis purpose
18	III Sem	STRENGTH OF MATERILAS	15CV32	Yes	Collaborative Learning	Topics related to Building Material lab

19	III Sem	FLUID MECHANICS	15CV33	Yes	Collaborative Learning	Topics related to Fluid Mechanics lab
20	III Sem	BASIC SURVEYING	15CV34	Yes	Collaborative Learning	Topics related to surveying lab
21	III Sem	ENGINEERING GEOLOGY	15CV35	Yes	Collaborative Learning	Topics related to Geology lab
22	III Sem	BUILDING MATERIALS AND CONSTRUCTION	15CV36	Yes	Case Studies	Topics related to materials testing and sieve analysis in BMT lab
23	III Sem	BASIC MATERIAL TESTING LABORATORY	15CVL37	Yes	Laboratory Course	Experiential Learning course
24	III Sem	BASIC SURVEYING PRACTICE	15CVL38	Yes	Laboratory Course	Experiential Learning course
25	IV Sem	ENGINEERING MATHAMTICS-IV	15MAT41	Yes	Case Studies	Statistical Methods can be used for Analysis purpose in Project work
26	IV Sem	ANALYSIS OF DETERMATE STRUCTURES	15CV42	Yes	Case Studies	Topics related to slope , deflection of beams
27	IV Sem	APPLIED HYDRUALICS	15CV43	Yes	Collaborative Learning	Topics related to Fluid Mechanics lab
28	IV Sem	CONCRETE TECHNOLOGY	15CV44	Yes	Collaborative Learning	Topics related to Concrete and highway material testing lab
29	IV Sem	BASIC GEOTECHNICAL ENGINEERING	15CV45	Yes	Collaborative Learning	Topics related to Geo-Technical lab
30	IV Sem	ADVANCED SURVEYING	15CV46	Yes	Collaborative Learning	Topics related to surveying lab
31	IV Sem	FLUID MECHANICS AND HYDRUALIC MACHINES LAB	15CVL47	Yes	Laboratory Course	Experiential Learning course
32	IV Sem	ENGINEERING GEOLOGY LABORATORY	15CVL48	Yes	Laboratory Course	Experiential Learning course
33	V-Sem	MANAGEMENT AND ENTREPRENEURSHIP	10AL51	Yes	Case Studies	Project analysis, project report & drafting related topics discussed in M&E courses
34	V-Sem	DESIGN OF RCC STRUCTURAL ELEMENTS	10CV52	Yes	Collaborative Learning	Topics related to CABPD , detailing of structures Laboratory
35	V-Sem	STRUCTURAL ANALYSIS - II	10CV53	Yes	Case Studies	Design of Structural analysis
36	V-Sem	GEOTECHNICAL ENGINEERING - I	10CV54	Yes	Collaborative Learning	Topics related to Geo-Technical lab
37	V-Sem	HYDROLOGY & IRRIGATION ENGINEERING	10CV55	yes	Case Studies	Study of resonal variation of crops and crop water requirement
38	V-Sem	TRANSPORTATION ENGINEERING - I	10CV56	Yes	Case Studies	Topics related to traffic flow and manitance of traffic free roads
39	V-Sem	HYDRAULICS AND HYDRAULIC MACHINERY LAB	10CVL57	Yes	Laboratory Course	Experiential Learning course
40	V-Sem	COMPUTER AIDED DESIGN LAB	10CVL58	Yes	Laboratory Course	Experiential Learning course
41	VI-Sem	ENVIRONMENTAL ENGINEERING - I	10CV61	Yes	Collaborative Learning	Topics related to Environemntal Engineerig lab
42	VI-Sem	DESIGN & DRAWING OF RC STRUCTURES	10CV62	Yes	Collaborative Learning	Design of RCC and steel structures using modern tool software
43	VI-Sem	TRANSPORTATION ENGINEERING - II	10CV63	Yes	Case Studies	Topics related traffic safety norms ,sign boards
44	VI-Sem	GEOTECHNICAL ENGINEERING - II	10CV64	Yes	Collaborative Learning	Topics related to Geo-Technical lab
45	VI-Sem	HYDRAULIC STRUCTURES & IRRIGATION DESIGN & DRAWING	10CV65	Yes	Collaborative Learning	Topics related in irrigation design and drawing of canals
46	VI-Sem	ALTERNATIVE BUILDING MATERIALS	10CV662	Yes	Case Studies	Topics related to building materials which reduces time
47	VI-Sem	GEOTECHNICAL ENGINEERING LAB	10CVL67	Yes	Laboratory Course	Experiential Learning course

48	VI-Sem	EXTENSIVE SURVEY VIVA VOCE	10CVL68	Yes	Field Work/ Case Studies	Topica related to field activities
49	VII-Sem	ENVIRONMENTAL ENGINEERING - II	10CV71	Yes	Collaborative Learning	Topics related to Environmental Engineering lab
50	VII-Sem	DESIGN OF STEEL STRUCTURES	10CV72	Yes	Collaborative Learning	Design of RCC and steel structures using modern tool software
51	VII-Sem	ESTIMATION AND EVALUATION	10CV73	Yes	Project Work	Topica related to estimation and cost evaluation of multi story building
52	VII-Sem	DESIGN OF PRESTRESSED CONCRETE STRUCTURES	10CV74	Yes	Case Studies	Design of post and pre cast structures in the field of construction
53	VII-Sem	SOLID WASTE MANAGEMENT	10CV757	Yes	Case Studies	Study of waste management and usage , disposal methods
54	VII-Sem	PAVEMENT MATERIALS AND CONSTRUCTION	10CV763	Yes	Case Studies	Design of roadways and grading systems of roads
55	VII-Sem	ENVIRONMENTAL ENGINEERING LABORATORY	10CVL77	Yes	Laboratory Course	Experiential Learning course
56	VII-Sem	CONCRETE & HIGHWAY MATERIALS LABORATORY	10CVL78	Yes	Laboratory Course	Experiential Learning course
57	VIII-Sem	ADVANCE CONCRETE TECHNOLOGY	10CV81	Yes	Case Studies	Topics related to mix design , mix proportions in laboratory
58	VIII-Sem	DESIGN & DRAWING OF STEEL STRUCTURES	10CV82	Yes	Collaborative Learning	Design of RCC and steel structures using modern tool software
59	VIII-Sem	INDUSTRIAL WASTEWATER TREATMENT	10CV835	Yes	Case Studies	Topics related to waste management of industrial waste water
60	VIII-Sem	URBAN TRANSPORT PLANNING	10CV843	Yes	Case Studies	Development of smart cities using modern techniques
61	VIII-Sem	PROJECT WORK	10CV85	Yes	Project Work	Experiential Learning course
62	VIII-Sem	SEMINAR	10CV86	Yes	Field Work/ Case Studies	Experiential Learning course

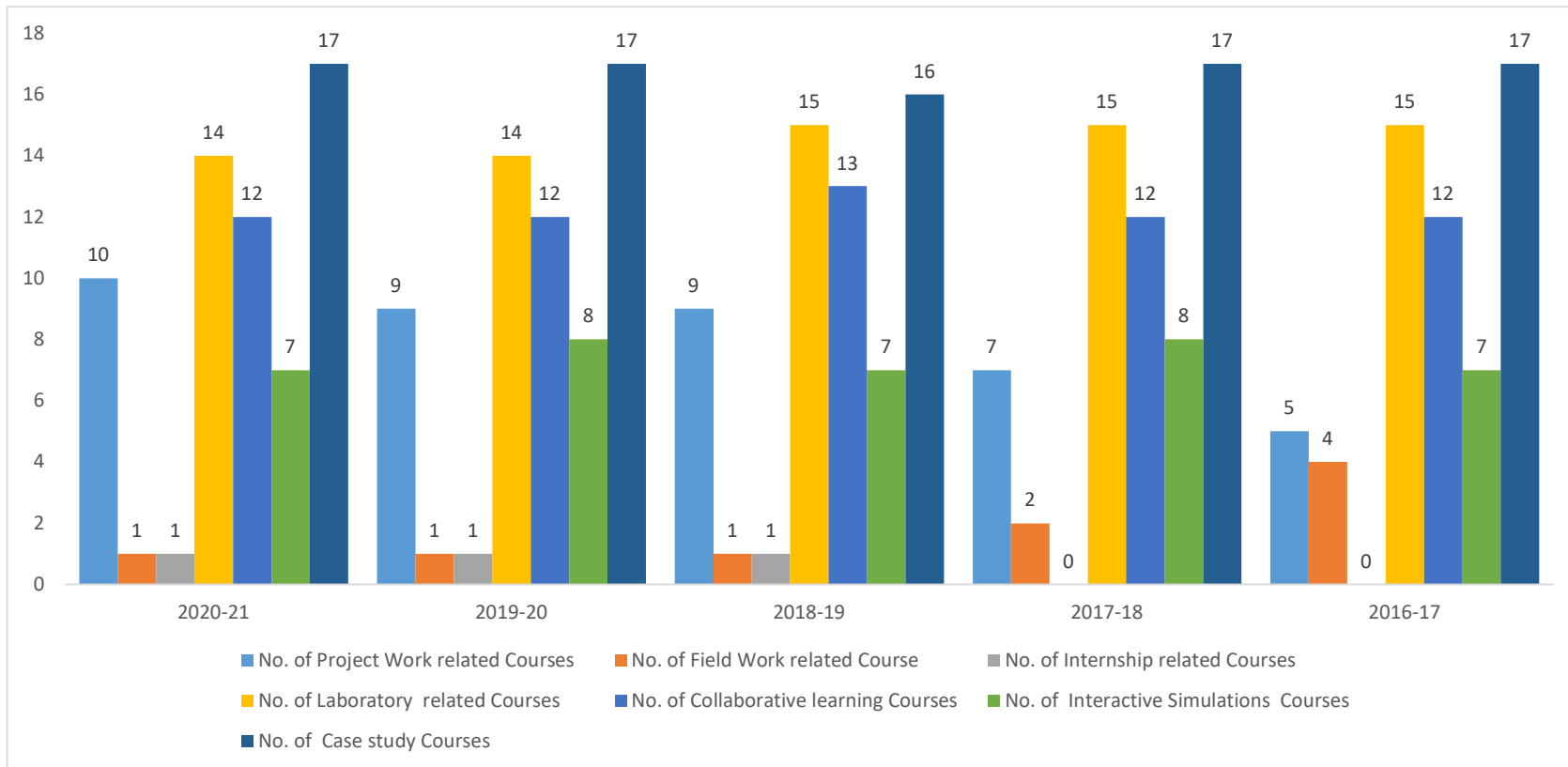
No. of Courses	62
No. of Experiential Learning Courses	60
% of Experiential Learning Courses	97

Department of Electronics & Communication Engineering

SL No.	Academic Year	Total No. of course	No. of Experiential Course
1	2020-21	64	62
2	2019-20	64	62
3	2018-19	64	62
4	2017-18	62	61
5	2016-17	62	60

Note:	The experiential courses is Categorized into Project Work/ Field Work Internship/Laboratory Course/ Collaborative Learning/ Interactive Simulations/ Case
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Academic Year	No. of Project Work related Courses	No. of Field Work related Course	No. of Internship related Courses	No. of Laboratory related Courses	No. of Collaborative learning Courses	No. of Interactive Simulations Courses	No. of Case study Courses
2020-21	10	1	1	14	12	7	17
2019-20	9	1	1	14	12	8	17
2018-19	9	1	1	15	13	7	16
2017-18	7	2	0	15	12	8	17
2016-17	5	4	0	15	12	7	17




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Department of Electronics & Communication Engineering
List of Experiential Learning Courses for Academic Year-2020-21

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/ Collaborative Learning/ Interactive Simulation/case study	Justification
1	I/II Sem	Calculus and Linear Algebra	18MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	18PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Basic Electrical Engg.	18ELE13/23	Yes	Collaborative Learning	Topics related to Electrical Lab
4	I/II Sem	Elements of Civil Engineering & Mechanics	18CIV14/24	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
5	I/II Sem	Engineering Graphics	18EGDL15/25	Yes	Laboratory Course	Experiential Learning course
6	I/II Sem	Engineering Physics Lab	18PHYL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Basic Electrical Engineering Lab	18ELEL17/27	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
8	I/II Sem	Technical English- I	18EGH18	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
9	I/II Sem	Advanced calculus and Numerical Methods	18MAT21	Yes	Case Studies	Calculus can be used for analysis purpose in higher semester
10	I/II Sem	Engineering Chemistry	18CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	C programming for problem solving	18CPS13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Basic Electronics	18ELN14/24	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
13	I/II Sem	Elements of Mechanical Engineering	18ME15/25	Yes	Interactive Simulations	Topics related to IC engine can be delivered through Machine shops lab

14	I/II Sem	Engineering Chemistry Lab	18CHEL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	C Programming Lab	18CPL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Technical English- II	18EGH28	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
17	III Sem	Transform Calculus, Fourier Series and Numerical Techniques	18MAT31	Yes	Case Studies	Mathematical knowledge derived used in Higher semester courses for analysis purpose
18	III Sem	Network Theory	18EC32	Yes	Case Studies	Topics related to Electronics lab
19	III Sem	Electronics Devices	18EC33	Yes	Collaborative Learning	Topics related to Electronics Devices & Instrumentation lab
20	III Sem	Digital System Design	18EC34	Yes	Collaborative Learning	Topics related to Digital System Design lab
21	III Sem	Computer organisation & Architecture	18EC35	Yes	Case Studies	Topics related to computer Architecture
22	III Sem	Power Electronics & Instrumentation	18EC36	Yes	Collaborative Learning	Topics related to Electronics Devices & Instrumentation lab
23	III Sem	Electronics Devices & Instrumentation Laboratory	18ECL37	Yes	Laboratory Course	Experiential Learning course
24	III Sem	Digital System Design Laboratory	18ECL38	Yes	Laboratory Course	Experiential Learning course
25	III Sem	Aadalitha Kannada (Kannada for Administration)	18KAK39	NO		
	III Sem	Vyavaharika Kannada (Kannada for communication)/	18KVK39	NO		
26	IV Sem	Complex analysis, probability and statistical methods	18MAT41	Yes	Project Work	Statistical Methods can be used for Analysis purpose in Project work
27	IV Sem	Analog Circuits	18EC42	Yes	Collaborative Learning	Topics related to Analog Circuits lab
28	IV Sem	Control Systems	18EC43	Yes	Case Studies	Topics related to different Transforms and controllers
29	IV Sem	Engineering Statistics & Linear Algebra	18EC44	yes	Case Studies	Mathematical knowledge derived used in Higher semester courses for analysis purpose
30	IV Sem	Signals & Systems	18EC45	Yes	Interactive Simulations	Topics related to DSP lab
31	IV Sem	Microcontroller	18EC46	Yes	Collaborative Learning	Topics related to Microcontroller Lab
32	IV Sem	Microcontroller Laboratory	18ECL47	Yes	Laboratory Course	Experiential Learning course
33	IV Sem	Analog Circuits Laboratory	18ECL48	Yes	Laboratory Course	Experiential Learning course
34	IV Sem	Constitution of India, Professional Ethics and Cyber Law	18ECL49	NO		
35	V-Sem	Technological Innovation Management and Entrepreneurship Development	18EC51	Yes	Project Work	Project analysis, project report & drafting related topics discussed in M&E courses
36	V-Sem	Digital Signal Processing	18EC52	Yes	Interactive Simulations	Topics related to DSP Lab
37	V-Sem	Principles of Communication Sytems	18EC53	Yes	Case Studies	Topics related to various types of communication & Demodulation Techniques.

38	V-Sem	Information Theory & Coding	18EC54	Yes	Case Studies	Topics related to different code conversion
39	V-Sem	Electromagnetic Waves	18EC55	Yes	Case Studies	Topics related to different Electrostatic Force and field
40	V-Sem	Verilog HDL	18EC561	Yes	Interactive Simulations	Topics related to HDL lab
41	V-Sem	Digital Signal Processing Laboratory	18ECL57	Yes	Laboratory Course	Experiential Learning course
42	V-Sem	HDL Laboratory	18ECL58	Yes	Laboratory Course	Experiential Learning course
43	VI-Sem	Digital Communication	18EC61	Yes	Self-learning/Project work	Topics related to the mathematical representation of signal, symbol, noise and channels
44	VI-Sem	Embedded Systems	18EC62	Yes	Collaborative Learning	Topics related to Embedded Controller lab
45	VI-Sem	Microwave and Antennas	18EC63	Yes	Interactive Simulations	Topics related to Advanced Communication lab
47	VI-Sem	Digital System Design using Verilog	18EC644	Yes	Collaborative Learning	Topics related to HDL Lab
48	VI-Sem	Mobile Application Development / Programming in Java/ Introduction To Operating System/Renewable Energy Systems /Supply Chain Management	18CS651/18CS653/18CS654/18EE653/18ME653	Yes	Case Studies	Topics related to different operating systems , Renewable Energy Systems & To acquaint with key drivers of supply chain performance.
49	VI-Sem	Embedded Systems Laboratory	18ECL66	Yes	Laboratory Course	Experiential Learning course
50	VI-Sem	Communication Laboratory	18ECL67	Yes	Laboratory Course	Experiential Learning course
	VI-Sem	Mini Project	18ECMP68	Yes	Mini Project Work	Experiential Learning course
51	VII-Sem	Microwave and Antennas	17EC71	Yes	Collaborative Learning	Topics related to Advanced Communication lab
52	VII-Sem	Digital Image Processing	17EC72	Yes	Self-learning/Project work	Topics related to various Image processing Techniques and algorithm
53	VII-Sem	Power Electronics	17EC73	Yes	Self-learning/Project work	Topics related to applications of power devices in controlled rectifiers, converters and inverters.
54	VII-Sem	Multimedia Communication	17EC741	Yes	Case Studies	Topics related to multimedia communication across different networks.
55	VII-Sem	Satellite Communication	17EC755	Yes	Case Studies	Topics related to Satellite Communication & its applications
56	VII-Sem	Advanced Communication Lab	17EC76	Yes	Laboratory Course	Experiential Learning course
57	VII-Sem	VLSI Lab	17EC77	Yes	Laboratory Course	Experiential Learning course
58	VII-Sem	Project Work Phase-I + Project work Seminar	17ECP78	Yes	Project Work	Experiential Learning course
59	VIII-Sem	Wireless Cellular and LTE 4G Broadband	17EC81	Yes	Case Studies	Topics related to basics of LTE standardization phases and specifications.
60	VIII-Sem	Fiber Optics & Networks	17EC82	Yes	Case Studies	Topics related to basic principle of optical fiber communication

61	VIII-Sem	Network and Cyber Security	17EC835	Yes	Case Studies	Topics related to about security concerns in Email and Internet Protocol
62	VIII-Sem	Internship/ Professional Practice	17EC84	Yes	Internship	Experiential Learning course
63	VIII-Sem	Project Work	17ECP85	Yes	Project Work	Experiential Learning course
64	VIII-Sem	Seminar	17ECS86	Yes	Field Work/ Self Learning	Experiential Learning course

No. of Courses

64

No. of Experiential Learning Courses

62

% of Experiential Learning Courses

97

Department of Electronics & Communication Engineering
List of Experiential Learning Courses for Academic Year-2019-20

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/ Collaborative Learning/ Interactive Simulation/case study	Justification
1	I/II Sem	Calculus and Linear Algebra	18MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	18PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Basic Electrical Engg.	18ELE13/23	Yes	Collaborative Learning	Topics related to Electrical Lab
4	I/II Sem	Elements of Civil Engineering & Mechanics	18CIV14/24	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
5	I/II Sem	Engineering Graphics	18EGDL15/25	Yes	Laboratory Course	Experiential Learning course
6	I/II Sem	Engineering Physics Lab	18PHYL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Basic Electrical Engineering Lab	18ELEL17/27	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
8	I/II Sem	Technical English- I	18EGH18	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
9	I/II Sem	Advanced calculus and Numerical Methods	18MAT21	Yes	Case Studies	Calculus can be used for analysis purpose in higher semester
10	I/II Sem	Engineering Chemistry	18CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	C programming for problem solving	18CPS13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Basic Electronics	18ELN14/24	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
13	I/II Sem	Elements of Mechanical Engineering	18ME15/25	Yes	Interactive Simulations	Topics related to IC engine can be delivered through Machine shops lab

14	I/II Sem	Engineering Chemistry Lab	18CHEL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	C Programming Lab	18CPL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Technical English- II	18EGH28	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
17	III Sem	Transform Calculus, Fourier Series and Numerical Techniques	18MAT31	Yes	Case Studies	Mathematical knowledge derived used in Higher semester courses for analysis purpose
18	III Sem	Network Theory	18EC32	Yes	Case Studies	Topics related to Electronics lab
19	III Sem	Electronics Devices	18EC33	Yes	Collaborative Learning	Topics related to Electronics Devices & Instrumentation lab
20	III Sem	Digital System Design	18EC34	Yes	Collaborative Learning	Topics related to Digital System Design lab
21	III Sem	Computer organisation & Architecture	18EC35	Yes	Case Studies	Topics related to computer Architecture
22	III Sem	Power Electronics & Instrumentation	18EC36	Yes	Collaborative Learning	Topics related to Electronics Devices & Instrumentation lab
23	III Sem	Electronics Devices & Instrumentation Laboratory	18ECL37	Yes	Laboratory Course	Experiential Learning course
24	III Sem	Digital System Design Laboratory	18ECL38	Yes	Laboratory Course	Experiential Learning course
25	III Sem	Aadalitha Kannada (Kannada for Administration)	18KAK39	NO		
	III Sem	Vyavaharika Kannada (Kannada for communication)/	18KVK39	NO		
26	IV Sem	Complex analysis, probability and statistical methods	18MAT41	Yes	Project Work	Statistical Methods can be used for Analysis purpose in Project work
27	IV Sem	Analog Circuits	18EC42	Yes	Collaborative Learning	Topics related to Analog Circuits lab
28	IV Sem	Control Systems	18EC43	Yes	Case Studies	Topics related to different Transforms and controllers
29	IV Sem	Engineering Statistics & Linear Algebra	18EC44	yes	Case Studies	Mathematical knowledge derived used in Higher semester courses for analysis purpose
30	IV Sem	Signals & Systems	18EC45	Yes	Interactive Simulations	Topics related to DSP lab
31	IV Sem	Microcontroller	18EC46	Yes	Collaborative Learning	Topics related to Microcontroller Lab
32	IV Sem	Microcontroller Laboratory	18ECL47	Yes	Laboratory Course	Experiential Learning course
33	IV Sem	Analog Circuits Laboratory	18ECL48	Yes	Laboratory Course	Experiential Learning course
34	IV Sem	Constitution of India, Professional Ethics and Cyber Law	18ECL49	NO		
35	V-Sem	Management and Entrepreneurship Development	17EC51	Yes	Project Work	Project analysis, project report & drafting related topics discussed in M&E courses
36	V-Sem	Digital Signal Processing	17EC52	Yes	Interactive Simulations	Topics related to DSP Lab
37	V-Sem	Verilog HDL	17EC53	Yes	Interactive Simulations	Topics related to HDL lab
38	V-Sem	Information Theory & Coding	17EC54	Yes	Case Studies	Topics related to differentcode conversion

39	V-Sem	Operating System	17EC553	Yes	Case Studies	Topics related to different operating systems
40	V-Sem	Automotive Electronics	17EC561	Yes	Case Studies	Topics related to controlling of various parts of vehicles
41	V-Sem	DSP Lab	17ECL57	Yes	Laboratory Course	Experiential Learning course
42	V-Sem	HDL Lab	17ECL58	Yes	Laboratory Course	Experiential Learning course
43	VI-Sem	Digital Communication	17EC61	Yes	Self-learning/Project work	Topics related to the mathematical representation of signal, symbol, noise and channels
44	VI-Sem	ARM Microcontroller & Embedded Systems	17EC62	Yes	Collaborative Learning	Topics related to Embedded Controller lab
45	VI-Sem	VLSI Design	17EC63	Yes	Interactive Simulations	Topics related to VLSI Lab
46	VI-Sem	Computer Communication Networks	17EC64	Yes	Interactive Simulations	Topics related to Computer Networks Lab
47	VI-Sem	Digital Switching Systems	17EC654	Yes	Case Studies	Topics related to basics of telecommunication networks, digital transmission of data and the evolution of switching systems
48	VI-Sem	Digital System Design using Verilog	17EC663	Yes	Collaborative Learning	Topics related to HDL Lab
49	VI-Sem	Embedded Controller Lab	17ECL67	Yes	Laboratory Course	Experiential Learning course
50	VI-Sem	Computer Networks Lab	17ECL68	Yes	Laboratory Course	Experiential Learning course
51	VII-Sem	Microwave and Antennas	15EC71	Yes	Collaborative Learning	Topics related to Advanced Communication lab
52	VII-Sem	Digital Image Processing	15EC72	Yes	Self-learning/Project work	Topics related to various Image processing Techniques and algorithm
53	VII-Sem	Power Electronics	15EC73	Yes	Self-learning/Project work	Topics related to applications of power devices in controlled rectifiers, converters and inverters.
54	VII-Sem	Multimedia Communication	15EC741	Yes	Case Studies	Topics related to multimedia communication across different networks.
55	VII-Sem	Satellite Communication	15EC755	Yes	Case Studies	Topics related to Satellite Communication & its applications
56	VII-Sem	Advanced Communication Lab	15EC76	Yes	Laboratory Course	Experiential Learning course
57	VII-Sem	VLSI Lab	15EC77	Yes	Laboratory Course	Experiential Learning course
58	VII-Sem	Project Work Phase-I + Project work Seminar	15EC78	Yes	Project Work	Experiential Learning course
59	VIII-Sem	Wireless Cellular and LTE 4G Broadband	15EC81	Yes	Case Studies	Topics related to basics of LTE standardization phases and specifications.
60	VIII-Sem	Fiber Optics & Networks	15EC82	Yes	Case Studies	Topics related to basic principle of optical fiber communication

61	VIII-Sem	Network and Cyber Security	15EC835	Yes	Case Studies	Topics related to about security concerns in Email and Internet Protocol
62	VIII-Sem	Internship/ Professional Practice	15EC84	Yes	Internship	Experiential Learning course
63	VIII-Sem	Project Work-II	15ECP85	Yes	Project Work	Experiential Learning course
64	VIII-Sem	Seminar	15ECS86	Yes	Field Work/ Self Learning	Experiential Learning course

No. of Courses	64
No. of Experiential Learning Courses	62
% of Experiential Learning Courses	97

Department of Electronics & Communication Engineering
List of Experiential Learning Courses for Academic Year-2018-19

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/ Collaborative Learning/ Interactive Simulation/case study	Justification
1	I/II Sem	Calculus and Linear Algebra	18MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	18PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Basic Electrical Engg.	18ELE13/23	Yes	Collaborative Learning	Topics related to Electrical Lab
4	I/II Sem	Elements of Civil Engineering & Mechanics	18CIV14/24	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
5	I/II Sem	Engineering Graphics	18EGDL15/25	Yes	Laboratory Course	Experiential Learning course
6	I/II Sem	Engineering Physics Lab	18PHYL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Basic Electrical Engineering Lab	18ELEL17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	Technical English- I	18EGH18	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
9	I/II Sem	Advanced calculus and Numerical Methods	18MAT21	Yes	Case Studies	Calculus can be used for analysis process
10	I/II Sem	Engineering Chemistry	18CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	C programming for problem solving	18CPS13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Basic Electronics	18ELN14/24	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
13	I/II Sem	Elements of Mechanical Engineering	18ME15/25	Yes	Interactive Simulations	Topics related to IC engine can be delivered through Machine shops lab
14	I/II Sem	Engineering Chemistry Lab	18CHEL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	C Programming Lab	18CPL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Technical English- II	18EGH28	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work

17	III Sem	Engineering Mathematics -3	17MAT31	Yes	Case Studies	Mathematical knowledge derived used in Higher semester courses for analysis purpose
18	III Sem	Electronic Instrumentation	17EC32	Yes	Case Studies	Topics related to Electronics lab
19	III Sem	Analog Electronics	17EC33	Yes	Collaborative Learning	Topics related to Electronics Devices & Instrumentation lab
20	III Sem	Digital Electronics	17EC34	Yes	Collaborative Learning	Topics related to Digital System Design lab
21	III Sem	Network Analysis	17EC35	Yes	Case Studies	Topics related to computer Architecture
22	III Sem	Engineering Electromagnetism	17EC36	Yes	Collaborative Learning	Topics related to Electronics Devices & Instrumentation lab
23	III Sem	Analog Electronics Lab	17ECL37	Yes	Laboratory Course	Experiential Learning course
24	III Sem	Digital Electronics Lab	17ECL38	Yes	Laboratory Course	Experiential Learning course
25	III Sem	Aadalitha Kannada (Kannada forAdministration)	18KAK39	NO		
	III Sem	Vyavaharika Kannada (Kannada forcommunication)/	18KVK39	NO		
26	IV Sem	Engineering Mathematics-IV	17MAT41	Yes	Project Work	Statistical Methods can be used for Analysis purpose in Project work
27	IV Sem	Signals and Systems	17EC42	Yes	Interactive Simulations	Topics related to DSP lab
28	IV Sem	Control Systems	17EC43	Yes	Case Studies	Topics related to different Transforms and controllers
29	IV Sem	Principles of Communication Systems	17EC44	Yes	Collaborative Learning	Topics Related to Asvanded Communication Lab
30	IV Sem	Linear Integrated Circuits	17EC45	Yes	Collaborative Learning	Topics related to DSP lab
31	IV Sem	Microprocessor	17EC46	Yes	Collaborative Learning	Topics related to Microcontroller Lab
32	IV Sem	Microprocessor Lab	17ECL47	Yes	Laboratory Course	Experiential Learning course
33	IV Sem	LIC and Communication Lab	17ECL48	Yes	Laboratory Course	Experiential Learning course
34	IV Sem	Constitution of India, Professional Ethics and Human Rights	17CPH49	NO		
35	V-Sem	Management and Entrepreneurship Development	15EC51	Yes	Project Work	Project analysis, project report & drafting related topics discussed in M&E courses
36	V-Sem	Digital Signal Processing	15EC52	Yes	Interactive Simulations	Topics related to DSP Lab
37	V-Sem	Verilog HDL	15EC53	Yes	Interactive Simulations	Topics related to HDL lab
38	V-Sem	Information Theory & Coding	15EC54	Yes	Case Studies	Topics related to differentcode conversion
39	V-Sem	Operating System	15EC553	Yes	Case Studies	Topics related to different operating systems
40	V-Sem	Automotive Electronics	15EC561	Yes	Case Studies	Topics related tocontrolling of various parts of vechiles
41	V-Sem	DSP Lab	15ECL57	Yes	Laboratory Course	Experiential Learning course
42	V-Sem	HDL Lab	15ECL58	Yes	Laboratory Course	Experiential Learning course
43	VI-Sem	Digital Communication	15EC61	Yes	Self-learning/Project work	Topics related to the mathematical representation of signal, symbol, noise and

44	VI-Sem	ARM Microcontroller & Embedded Systems	15EC62	Yes	Collaborative Learning	Topics related to Embedded Controller lab
45	VI-Sem	VLSI Design	15EC63	Yes	Interactive Simulations	Topics related to VLSI Lab
46	VI-Sem	Computer Communication Networks	15EC64	Yes	Interactive Simulations	Topics related to Computer Networks Lab
47	VI-Sem	Digital Switching Systems	15EC654	Yes	Case Studies	Topics related to basics of telecommunication networks ,digital transmission of data and the evolution of switching systems
48	VI-Sem	Digital System Design using Verilog	15EC663	Yes	Collaborative Learning	Topics related to HDL Lab
49	VI-Sem	Embedded Controller Lab	15ECL67	Yes	Laboratory Course	Experiential Learning course
50	VI-Sem	Computer Networks Lab	15ECL68	Yes	Laboratory Course	Experiential Learning course
51	VII-Sem	Microwave and Antennas	15EC71	Yes	Collaborative Learning	Topics related to Advanced Communication lab
52	VII-Sem	Digital Image Processing	15EC72	Yes	Self-learning/Project work	Topics related to various Image processing Techniques and algorithm
53	VII-Sem	Power Electronics	15EC73	Yes	Self-learning/Project work	Topics related to applications of power devices in controlled rectifiers, converters and inverters.
54	VII-Sem	Multimedia Communication	15EC741	Yes	Case Studies	Topics related to multimedia communication across different networks.
55	VII-Sem	DSP Algorithms and Architecture	15EC751	Yes	Case Studies	Topics related to Satellite Communication & its applications
56	VII-Sem	Advanced Communication Lab	15EC76	Yes	Laboratory Course	Experiential Learning course
57	VII-Sem	VLSI Lab	15EC77	Yes	Laboratory Course	Experiential Learning course
58	VII-Sem	Project Work Phase-I + Project work Seminar	15EC78	Yes	Project Work	Experiential Learning course
59	VIII-Sem	Wireless Cellular and LTE 4G Broadband	15EC81	Yes	Case Studies	Topics related to basics of LTE standardization phases and specifications.
60	VIII-Sem	Fiber Optics & Networks	15EC82	Yes	Case Studies	Topics related to basic principle of optical fiber communication
61	VIII-Sem	Network and Cyber Security	15EC835	Yes	Case Studies	Topics related to about security concerns in Email and Internet Protocol
62	VIII-Sem	Internship/ Professional Practice	15EC84	Yes	Internship	Experiential Learning course
63	VIII-Sem	Project Work-II	15ECP85	Yes	Project Work	Experiential Learning course
64	VIII-Sem	Seminar	15ECS86	Yes	Field Work/ Self Learning	Experiential Learning course

No. of Courses	64
No. of Experiential Learning Courses	62
% of Experiential Learning Courses	97



Department of Electronics & Communication Engineering
List of Experiential Learning Courses for Academic Year-2017-18

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/ Collaborative Learning/ Interactive Simulation/case study	Justification
1	I/II Sem	Engineering Mathematics-I	17MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	17PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Elements of Civil Engineering & Mechanics	17CIV13/23	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
4	I/II Sem	Elements of Mechanical Engineering	17ME14/24	Yes	Case Studies	Topics related to IC engine can be delivered through Machine shops lab
5	I/II Sem	Basic Electrical Engineering	17ELE15/25	Yes	Interactive Simulations	Topics related to verifications of KVL & KCL can be implemented.
6	I/II Sem	Workshop Practice	17WSL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Engineering Physics Lab	17PHYL17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	English Language	17ENG18	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
9	I/II Sem	Engineering Mathematics-II	17MAT21	Yes	Case Studies	Calculus can be used for analysis process
10	I/II Sem	Engineering Chemistry	17CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	Programming in C & Data Structures	17PCD13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Computer Aided Engineering Drawing	17CED14/24	Yes	Laboratory Course	Experiential Learning course
13	I/II Sem	Basic Electronics	17ELN15/25	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L &C can be studied in AEC lab
14	I/II Sem	Computer Programming Lab	17CPL16/26	Yes	Laboratory Course	Experiential Learning course

15	I/II Sem	Engineering Chemistry Lab	17CHEL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Environmental Studies	17CIV18/28	No		
17	III Sem	Engineering Mathematics-III	15MAT31	Yes	Case Studies	Mathematical knowledge derived used in Higher semester courses for analysis purpose
18	III Sem	Analog Electronics	15EC32	Yes	Collaborative Learning	Topics related to Electronics lab
19	III Sem	Digital Electronics	15EC33	Yes	Collaborative Learning	Topics related to Electronics Devices & Instrumentation lab
20	III Sem	Network Analysis	15EC34	Yes	Collaborative Learning	Topics related to Digital System Design lab
21	III Sem	Electronics Instrumentation	15EC35	Yes	Case Studies	Topics related to computer Architecture
22	III Sem	Engineering Electromagnetics	15EC36	Yes	Collaborative Learning	Topics related to Electronics Devices & Instrumentation lab
23	III Sem	Analog Electronics Lab	15ECL37	Yes	Laboratory Course	Experiential Learning course
24	III Sem	Digital Electronics Lab	15ECL38	Yes	Laboratory Course	Experiential Learning course
25	IV Sem	Engineering Mathematics-IV	15MAT41	Yes	Project Work	Statistical Methods can be used for Analysis purpose in Project work
26	IV Sem	Microprocessor	15EC42	Yes	Collaborative Learning	Topics related to Analog Circuits lab
27	IV Sem	Control Systems	15EC43	Yes	Case Studies	Topics related to different Transforms and controllers
28	IV Sem	Signals and Systems	15EC44	yes	Interactive Simulations	Topics related to DSP lab
29	IV Sem	Principles of Communication Systems	15EC45	Yes	Collaborative Learning	Topics related to DSP lab
30	IV Sem	Linear Integrated Circuits	15EC46	Yes	Collaborative Learning	Topics related to Microcontroller Lab
31	IV Sem	Microprocessor Lab	15ECL47	Yes	Laboratory Course	Experiential Learning course
32	IV Sem	LIC and Communication Lab	15ECL48	Yes	Laboratory Course	Experiential Learning course
33	V-Sem	Management and Entrepreneurship Development	15EC51	Yes	Project Work	Project analysis, project report & drafting related topics discussed in M&E courses
34	V-Sem	Digital Signal Processing	15EC52	Yes	Interactive Simulations	Topics related to DSP Lab
35	V-Sem	Verilog HDL	15EC53	Yes	Interactive Simulations	Topics related to HDL lab
36	V-Sem	Information Theory & Coding	15EC54	Yes	Case Studies	Topics related to different code conversion
37	V-Sem	Operating System	15EC553	Yes	Case Studies	Topics related to different operating systems
38	V-Sem	Automotive Electronics	15EC561	Yes	Case Studies	Topics related to controlling of various parts of vehicles
39	V-Sem	DSP Lab	15ECL57	Yes	Laboratory Course	Experiential Learning course
40	V-Sem	HDL Lab	15ECL58	Yes	Laboratory Course	Experiential Learning course
41	VI-Sem	Digital Communication	15EC61	Yes	Self-learning/Project work	Topics related to the mathematical representation of signal, symbol, noise and
42	VI-Sem	ARM Microcontroller & Embedded Systems	15EC62	Yes	Collaborative Learning	Topics related to Embedded Controller lab
43	VI-Sem	VLSI Design	15EC63	Yes	Interactive Simulations	Topics related to VLSI Lab

44	VI-Sem	Computer Communication Networks	15EC64	Yes	Interactive Simulations	Topics related toComputer Networks Lab
45	VI-Sem	Digital Switching Systems	15EC654	Yes	Case Studies	Topics related to basics of telecommunication networks ,digital transmission of data and the evolution of switching systems
46	VI-Sem	Digital System Design using Verilog	15EC663	Yes	Interactive Simulations	Topics related to HDL Lab
47	VI-Sem	Embedded Controller Lab	15ECL67	Yes	Laboratory Course	Experiential Learning course
48	VI-Sem	Computer Networks Lab	15ECL68	Yes	Laboratory Course	Experiential Learning course
49	VII-Sem	Computer Communication Networks	10EC71	Yes	Collaborative Learning	Topics related toAdvanced Communication lab
50	VII-Sem	Optical Fiber Communication	10EC72	Yes	Self-learning/Project work	Topics related to various Image processing Techniques and algorithn
51	VII-Sem	Power Electronics	10EC73	Yes	Self-learning/Project work	Topics related toapplications of power devices in controlled rectifiers, converters and inverters.
52	VII-Sem	Embedded System Design	10EC74	Yes	Case Studies	Topics related to multimedia communication across different networks.
53	VII-Sem	DSP Algorithms and Architecture	10EC751	Yes	Case Studies	Topics related toSatellite Communication & its applications
54	VII-Sem	Image Processing	10EC763	Yes	Case Studies	Topics related to Image Processing & its applications
55	VII-Sem	Advanced Communication Lab	10EC76	Yes	Laboratory Course	Experiential Learning course
56	VII-Sem	VLSI Lab	10EC77	Yes	Laboratory Course	Experiential Learning course
57	VIII-Sem	Wireless Communication	10EC81	Yes	Field Work/Industrial Visit	Acquire the Knowledge of Satellite Communication by Visiting ISRO.
58	VIII-Sem	Digital Switching Systems	10EC82	Yes	Case Studies	Topics related to basic principle of optical fiber communication
59	VIII-Sem	Network Security	10EC832	Yes	Case Studies	Topics related to about security concerns in Email and Internet Protocol
60	VIII-Sem	Real Time Operating Systems	10EC842	Yes	Case Studies	Experiential Learning course
61	VIII-Sem	Project Work-II	10ECP85	Yes	Project Work	Experiential Learning course
62	VIII-Sem	Seminar	10ECS86	Yes	Field Work/ Self Learning	Experiential Learning course

No. of Courses	62
No. of Experiential Learning Courses	61
% of Experiential Learning Courses	98

Department of Electronics & Communication Engineering
List of Experiential Learning Courses for Academic Year-2016-17

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/ Collaborative Learning/ Interactive Simulation/case study	Justification
1	I/II Sem	Engineering Mathematics-I	15MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	15PHY12/22	Yes	Case Studies	Topics related to Physics Lab
3	I/II Sem	Elements of Civil Engineering & Mechanics	15CIV13/23	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
4	I/II Sem	Elements of Mechanical Engineering	15ME14/24	Yes	Case Studies	Topics related to IC engine can be delivered through Machine shops lab
5	I/II Sem	Basic Electrical Engineering	15ELE15/25	Yes	Interactive Simulations	Topics related to verifications of KVL & KCL can be implemented.
6	I/II Sem	Workshop Practice	15WSL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Engineering Physics Lab	15PHY17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	Constitution of India, Professional Ethics and Human Rights	15CPH18/28	No		
9	I/II Sem	Engineering Mathematics-II	15MAT21	Yes	Case Studies	Calculus can be used for analysis process
10	I/II Sem	Engineering Chemistry	15CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	Programming in C & Data Structures	15PCD13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Computer Aided Engineering Drawing	15CED14/24	Yes	Laboratory Course	Experiential Learning course
13	I/II Sem	Basic Electronics	15ELN15/25	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
14	I/II Sem	Computer Programming Lab	15CPL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	Engineering Chemistry Lab	15CHE17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Environmental Studies	15CIV18/28	No		

17	III Sem	Engineering Mathematics-III	15MAT31	Yes	Case Studies	Mathematical knowledge derived used in Higher semester courses for analysis purpose
18	III Sem	Analog Electronics	15EC32	Yes	Case Studies	Topics related to Electronics lab
19	III Sem	Digital Electronics	15EC33	Yes	Collaborative Learning	Topics related to Electronics Devices & Instrumentation lab
20	III Sem	Network Analysis	15EC34	Yes	Collaborative Learning	Topics related to Digital System Design lab
21	III Sem	Electronics Instrumentation	15EC35	Yes	Industrial Visit	Students acquire the Knowledge on R and D ,BRAC engineer would be highly inspired on how nuclear power can be put into power by dumping out coal as the primary source.
22	III Sem	Engineering Electromagnetics	15EC36	Yes	Collaborative Learning	Topics related to Electronics Devices & Instrumentation lab
23	III Sem	Analog Electronics Lab	15ECL37	Yes	Laboratory Course	Experiential Learning course
24	III Sem	Digital Electronics Lab	15ECL38	Yes	Laboratory Course	Experiential Learning course
25	IV Sem	Engineering Mathematics-IV	15MAT41	Yes	Project Work	Statistical Methods can be used for Analysis purpose in Project work
26	IV Sem	Microprocessor	15EC42	Yes	Collaborative Learning	Topics related to Analog Circuits lab
27	IV Sem	Control Systems	15EC43	Yes	Case Studies	Topics related to different Transforms and controllers
28	IV Sem	Signals and Systems	15EC44	yes	Interactive Simulations	Topics related to DSP lab
29	IV Sem	Principles of Communication Systems	15EC45	Yes	Collaborative Learning	Topics related to DSP lab
30	IV Sem	Linear Integrated Circuits	15EC46	Yes	Collaborative Learning	Topics related to Microcontroller Lab
31	IV Sem	Microprocessor Lab	15ECL47	Yes	Laboratory Course	Experiential Learning course
32	IV Sem	LIC and Communication Lab	15ECL48	Yes	Laboratory Course	Experiential Learning course
33	V-Sem	Management and Entrepreneurship Development	10EC51	Yes	Project Work	Project analysis, project report & drafting related topics discussed in M&E courses
34	V-Sem	Digital Signal Processing	10EC52	Yes	Interactive Simulations	Topics related to DSP Lab
35	V-Sem	Analog Communication	10EC53	Yes	Collaborative Learning	Topics related to HDL lab
36	V-Sem	Microwaves and Radar	10EC54	Yes	Industrial Visit	Students acquire the Knowledge on R and D ,BRAC engineer would be highly inspired on how nuclear power can be put into power by dumping out coal as the primary source.
37	V-Sem	Information Theory & Coding	10EC55	Yes	Case Studies	Topics related to different operating systems
38	V-Sem	Fundamentals of CMOS VLSI	10EC56	Yes	Interactive Simulations	Topics related tocontrolling of various parts of vechiles
39	V-Sem	DSP Lab	10ECL57	Yes	Laboratory Course	Experiential Learning course
40	V-Sem	Analog Communication Lab + LIC Lab	10ECL58	Yes	Laboratory Course	Experiential Learning course

41	VI-Sem	Digital Communication	10EC61	Yes	Self-learning/Project work	Topics related to the mathematical representation of signal, symbol, noise and
42	VI-Sem	Microprocessors	10EC62	Yes	Collaborative Learning	Topics related to Embedded Controller lab
43	VI-Sem	Microelectronics Circuits	10EC63	Yes	Collaborative Learning	Topics related to VLSI Lab
44	VI-Sem	Antennas and Propagation	10EC64	Yes	Collaborative Learning	Topics related to Computer Networks Lab
45	VI-Sem	Operating Systems	10EC65	Yes	Case Studies	Topics related to basics of telecommunication networks ,digital transmission of data and the evolution of switching systems
46	VI-Sem	Digital System Design using Verilog	10EC666	Yes	Interactive Simulations	Topics related to HDL Lab
47	VI-Sem	Advanced Communication Lab	10ECL67	Yes	Laboratory Course	Experiential Learning course
48	VI-Sem	Microprocessor Lab	10ECL68	Yes	Laboratory Course	Experiential Learning course
49	VII-Sem	Computer Communication Networks	10EC71	Yes	Interactive Simulations	Topics related to Advanced Communication lab
50	VII-Sem	Optical Fiber Communication	10EC72	Yes	Self-learning/Project work	Topics related to various Image processing Techniques and algorithm
51	VII-Sem	Power Electronics	10EC73	Yes	Industrial Visit	Students acquire the Knowledge on R and D ,BRAC engineer would be highly inspired on how nuclear power can be put into power by dumping out coal as the primary source.
52	VII-Sem	Embedded System Design	10EC74	Yes	Case Studies	Topics related to multimedia communication across different networks.
53	VII-Sem	DSP Algorithms and Architecture	10EC751	Yes	Case Studies	Topics related to Satellite Communication & its applications
54	VII-Sem	Image Processing	10EC763	Yes	Case Studies	Topics related to Image Processing & its applications
55	VII-Sem	Advanced Communication Lab	10EC76	Yes	Laboratory Course	Experiential Learning course
56	VII-Sem	VLSI Lab	10EC77	Yes	Laboratory Course	Experiential Learning course
57	VIII-Sem	Wireless Communication	10EC81	Yes	Case Studies	Topics related to basics of LTE standardization phases and specifications.
58	VIII-Sem	Digital Switching Systems	10EC82	Yes	Case Studies	Topics related to basic principle of optical fiber communication
59	VIII-Sem	Network Security	10EC832	Yes	Case Studies	Topics related to about security concerns in Email and Internet Protocol
60	VIII-Sem	Real Time Operating Systems	10EC842	Yes	Case Studies	Experiential Learning course
61	VIII-Sem	Project Work-II	10ECP85	Yes	Project Work	Experiential Learning course
62	VIII-Sem	Seminar	10ECS86	Yes	Field Work/ Self Learning	Experiential Learning course

No. of Courses	62
No. of Experiential Learning Courses	60
% of Experiential Learning Courses	97



Department of Electrical & Electronics Engineering

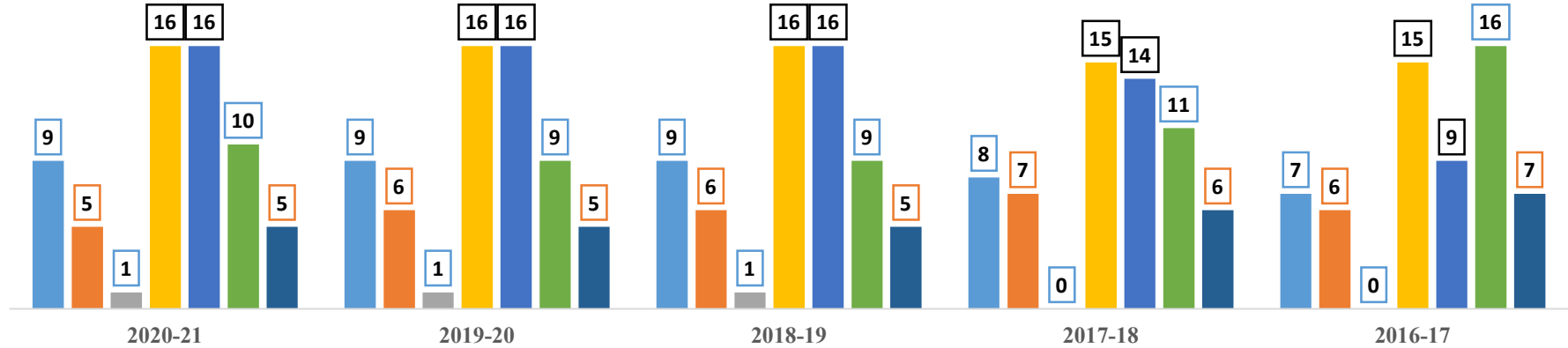
SL No.	Academic Year	Total No. of course	No. of Experiential Course
1	2020-21	64	62
2	2019-20	64	62
3	2018-19	64	62
4	2017-18	62	61
5	2016-17	62	60


Note:	The experiential courses is Categorized into Project Work/ Field Work Internship/Laboratory Course/ Collaborative Learning/ Interactive Simulations/ Case studies
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Academic Year	No. of Project Work related Courses	No. of Field Work related Course	No. of Internship related Courses	No. of Laboratory related Courses	No. of Collaborative learning Courses	No. of Interactive Simulations Courses	No. of Case study Courses
2020-21	9	5	1	16	16	10	5
2019-20	9	6	1	16	16	9	5
2018-19	9	6	1	16	16	9	5
2017-18	8	7	0	15	14	11	6
2016-17	7	6	0	15	9	16	7

EEE-Experiential Learning courses

- No. of Project Work related Courses
- No. of Field Work related Course
- No. of Internship related Courses
- No. of Laboratory related Courses
- No. of Collaborative learning Courses
- No. of Interactive Simulations Courses
- No. of Case study Courses




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Department of Electrical & Electronics Engineering
List of Experiential Learning Courses for Academic Year-2020-21

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/Laboratory/ Collaborative Learning/ Interactive Simulations/ Case studies	Justification
1	I/II Sem	Calculus and Linear Algebra	18MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	18PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Basic Electrical Engg.	18ELE13/23	Yes	Collaborative Learning	Topics related to Electrical Lab
4	I/II Sem	Elements of Civil Engineering & Mechanics	18CIV14/24	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
5	I/II Sem	Engineering Graphics	18EGDL15/25	Yes	Laboratory Course	Experiential Learning course
6	I/II Sem	Engineering Physics Lab	18PHYL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Basic Electrical Engineering Lab	18ELEL17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	Technical English- I	18EGH18	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
9	I/II Sem	Advanced calculus and Numerical Methods	18MAT21	Yes	Case Studies	Calculus can be used for analysis purpose in higher semester
10	I/II Sem	Engineering Chemistry	18CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	C programming for problem solving	18CPS13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Basic Electronics	18ELN14/24	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L &C can be studied in AEC lab
13	I/II Sem	Elements of Mechanical Engineering	18ME15/25	Yes	Interactive Simulations	Topics related to IC engine can be delivered through Machine shops lab
14	I/II Sem	Engineering Chemistry Lab	18CHEL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	C Programming Lab	18CPL17/27	Yes	Laboratory Course	Experiential Learning course

16	I/II Sem	Technical English- II	18EGH28	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
17	III Sem	Transform Calculus, Fourier Series and Numerical Techniques	18MAT31	Yes	Case Studies	Mathematical knowledge derived used in Higher semester courses for analysis purpose
18	III Sem	Electric Circuit Analysis	18EE32	Yes	Interactive Simulations	Topics related to Electronics lab
19	III Sem	Transformer & Generators	18EE33	Yes	Collaborative Learning	Topics related to Electrical machine lab
20	III Sem	Analog Electronics Circuits	18EE34	Yes	Collaborative Learning	Topics related to Electronics lab
21	III Sem	Digital System Design	18EE35	Yes	Collaborative Learning	Topics related to Electronics lab
22	III Sem	Electrical and Electronic Measurements	18EE36	Yes	Interactive Simulations	Measurements lab will provide information about bridges, Energy meters.
23	III Sem	Electrical Machines Laboratory -1	18EEL37	Yes	Laboratory Course	Experiential Learning course
24	III Sem	Electronics Laboratory	18EEL38	Yes	Laboratory Course	Experiential Learning course
25	III Sem	Aadalitha Kannada (Kannada for Administration)	18KAK39	No		
	III Sem	Vyavaharika Kannada (Kannada for communication)/	18KVK39	No		
26	IV Sem	Complex analysis, probability and statistical methods	18MAT41	Yes	Project Work	Statistical Methods can be used for Analysis purpose in Project work
27	IV Sem	Electrical Power Generation	18EE42	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain practical experience
28	IV Sem	Transmission & Distribution	18EE43	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain practical experience
29	IV Sem	Electric Motors	18EE44	Yes	Collaborative Learning	Topics related to Electrical machine lab
30	IV Sem	Electromagnetic Field Theory	18EE45	Yes	Interactive Simulations	Topics related to vectors, electromagnetic field can be simulated using virtual toolbox
31	IV Sem	Operational Amplifiers and Linear ICs	18EE46	Yes	Collaborative Learning	Topics related to OLIC lab
32	IV Sem	Electrical Machines Laboratory -2	18EEL47	Yes	Laboratory Course	Experiential Learning course
33	IV Sem	Operational Amplifiers and Linear ICs Lab	18EEL48	Yes	Laboratory Course	Experiential Learning course
34	IV Sem	Constitution of India, Professional Ethics and Cyber Law	18EEL49	No		
35	V-Sem	Management & Entrepreneurship	18EE51	Yes	Project Work	Project analysis, project report & drafting related topics discussed in M&E courses
36	V-Sem	Microcontrollers	18EE52	Yes	Collaborative Learning	Topics related to Microcontroller Lab
37	V-Sem	Power Electronics	18EE53	Yes	Collaborative Learning	Topics related to Power Electronics lab
38	V-Sem	Signals & Systems	18EE54	Yes	Interactive Simulations	Topics like sampling theorem can be performed in DSP lab
39	V-Sem	Electrical Machine Design	18EE55	yes	Case Studies	Design of Machines, transformer & generator for real time application.

40	V-Sem	High Voltage Engg	18EE56	Yes	Interactive Simulations	Topics related to Relay & HV Engg which will be addressed in HV Lab
41	V-Sem	Microcontroller Laboratory	18EEL57	Yes	Laboratory Course	Experiential Learning course
42	V-Sem	Power Electronics Laboratory	18EEL58	Yes	Laboratory Course	Experiential Learning course
43	V-Sem	Environmental Studies	18CIV59	No		
44	VI-Sem	Control Systems	18EE61	Yes	Collaborative Learning	Topics related to CS Lab
45	VI-Sem	Power System Analysis-1	18EE62	Yes	Interactive Simulations	Topics related per unit system modeling can be performed in PSS Lab
46	VI-Sem	Digital signal Processing	18EE63	Yes	Collaborative Learning	Topics related to DSP Lab
47	VI-Sem	Computer Aided Electrical Drawing	18EE643	Yes	Laboratory Course	Design of Machines using modern tool software
48	VI-Sem	Open Elective - Renewable Energy Sources	18EE662	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain practical experience
49	VI-Sem	Digital Signal Processing Laboratory	18EEL68	Yes	Laboratory Course	Experiential Learning course
50	VI-Sem	Mini Project	18EEMP68	Yes	Project Work	Experiential Learning course
51	VII-Sem	Power Systems Analysis-2	17EE71	Yes	Collaborative Learning	Topics related to Power system Simulation Lab
52	VII-Sem	Power System Protection	17EE72	Yes	Collaborative Learning	Topics related to Relay & HV Engg.
53	VII-Sem	High Voltage Engg	17EE73	Yes	Collaborative Learning	Topics related to Relay & HV Engg.
54	VII-Sem	Utilization of Electrical Power	17EE742	Yes	Interactive Simulations	Topic related to laboratory experiments specify to Regenerative Braking
55	VII-Sem	Testing and Commissioning of Power System Apparatus	17EE756	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain additional information about testing & commissioning of power system apparatus
56	VII-Sem	Power system Simulation Laboratory	17EEL76	Yes	Laboratory Course	Experiential Learning course
57	VII-Sem	Relay and High Voltage Laboratory	17EEL77	Yes	Laboratory Course	Experiential Learning course
58	VII-Sem	Project Work Phase-I + Project work Seminar	17EEP78	Yes	Project Work	Experiential Learning course
59	VIII-Sem	Power System Control & Operation	17EE81	Yes	Interactive Simulations	Topic like reliability , hydrothermal penalty factors related to power system laboratory
60	VIII-Sem	Industrial Drives and Applications	17EE82	Yes	Project Work	Simulation projects can be carried on Industrial Drives
61	VIII-Sem	Integration of Distributed Generation	17EE833	Yes	Project Work	Simulation projects can be carried on DG
62	VIII-Sem	Internship/ Professional Practice	17EE84	Yes	Internship	Experiential Learning course
63	VIII-Sem	Project Work-II	17EEP85	Yes	Project Work	Experiential Learning course
64	VIII-Sem	Seminar	17EES86	Yes	Field Work/Visit	Experiential Learning course
No. of Courses			64			
No. of Experiential Learning Courses			62			
% of Experiential Learning Courses			97			

Department of Electrical & Electronics Engineering
List of Experiential Learning Courses for Academic Year-2019-20

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/Laboratory/ Collaborative Learning/ Interactive Simulations/ Case studies	Justification
1	I/II Sem	Calculus and Linear Algebra	18MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	18PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Basic Electrical Engg.	18ELE13/23	Yes	Collaborative Learning	Topics related to Electrical Lab
4	I/II Sem	Elements of Civil Engineering & Mechanics	18CIV14/24	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
5	I/II Sem	Engineering Graphics	18EGDL15/25	Yes	Laboratory Course	Experiential Learning course
6	I/II Sem	Engineering Physics Lab	18PHYL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Basic Electrical Engineering Lab	18ELEL17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	Technical English- I	18EGH18	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
9	I/II Sem	Advanced calculus and Numerical Methods	18MAT21	Yes	Case Studies	Calculus can be used for analysis purpose in higher semester
10	I/II Sem	Engineering Chemistry	18CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	C programming for problem solving	18CPS13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Basic Electronics	18ELN14/24	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
13	I/II Sem	Elements of Mechanical Engineering	18ME15/25	Yes	Interactive Simulations	Topics related to IC engine can be delivered through Machine shops lab
14	I/II Sem	Engineering Chemistry Lab	18CHEL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	C Programming Lab	18CPL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Technical English- II	18EGH28	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work

17	III Sem	Transform Calculus, Fourier Series and Numerical Techniques	18MAT31	Yes	Case Studies	Mathematical knowledge derived used in Higher semester courses for analysis purpose
18	III Sem	Electric Circuit Analysis	18EE32	Yes	Interactive Simulations	Topics related to Electronics lab
19	III Sem	Transformer & Generators	18EE33	Yes	Collaborative Learning	Topics related to Electrical machine lab
20	III Sem	Analog Electronics Circuits	18EE34	Yes	Collaborative Learning	Topics related to Electronics lab
21	III Sem	Digital System Design	18EE35	Yes	Collaborative Learning	Topics related to Electronics lab
22	III Sem	Electrical and Electronic Measurements	18EE36	Yes	Interactive Simulations	Measurements lab will provide information about bridges, Energy meters.
23	III Sem	Electrical Machines Laboratory -1	18EEL37	Yes	Laboratory Course	Experiential Learning course
24	III Sem	Electronics Laboratory	18EEL38	Yes	Laboratory Course	Experiential Learning course
25	III Sem	Aadalitha Kannada (Kannada for Administration)	18KAK39	No		
	III Sem	Vyavaharika Kannada (Kannada for communication)/	18KVK39	No		
26	IV Sem	Complex analysis, probability and statistical methods	18MAT41	Yes	Project Work	Statistical Methods can be used for Analysis purpose in Project work
27	IV Sem	Electrical Power Generation	18EE42	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain practical experience
28	IV Sem	Transmission & Distribution	18EE43	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain practical experience
29	IV Sem	Electric Motors	18EE44	Yes	Collaborative Learning	Topics related to Electrical machine lab
30	IV Sem	Electromagnetic Field Theory	18EE45	Yes	Interactive Simulations	Topics related to vectors, electromagnetic field can be simulated using virtual toolbox
31	IV Sem	Operational Amplifiers and Linear ICs	18EE46	Yes	Collaborative Learning	Topics related to OLIC lab
32	IV Sem	Electrical Machines Laboratory -2	18EEL47	Yes	Laboratory Course	Experiential Learning course
33	IV Sem	Operational Amplifiers and Linear ICs Lab	18EEL48	Yes	Laboratory Course	Experiential Learning course
34	IV Sem	Constitution of India, Professional Ethics and Cyber Law	18EEL49	No		
35	V-Sem	Management & Entrepreneurship	17EE51	Yes	Project Work	Project analysis, project report & drafting related topics discussed in M&E courses
36	V-Sem	Microcontrollers	17EE52	Yes	Collaborative Learning	Topics related to Microcontroller Lab
37	V-Sem	Power Electronics	17EE53	Yes	Collaborative Learning	Topics related to Power Electronics lab
38	V-Sem	Signals & Systems	17EE54	Yes	Interactive Simulations	Topics like sampling theorem can be performed in DSP lab
39	V-Sem	Electrical Engineering Materials	17EE552	yes	Field Work/Visit	Field Visit to testing institute to gain practical experience
40	V-Sem	Renewable Energy Sources	17EE563	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain practical experience
41	V-Sem	Microcontroller Laboratory	17EEL57	Yes	Laboratory Course	Experiential Learning course

42	V-Sem	Power Electronics Laboratory	17EEL58	Yes	Laboratory Course	Experiential Learning course
43	VI-Sem	Control Systems	17EE61	Yes	Collaborative Learning	Topics related to CS Lab
44	VI-Sem	Power System Analysis-1	17EE62	Yes	Interactive Simulations	Topics related per unit system modeling can be performed in PSS Lab
45	VI-Sem	Digital signal Processing	17EE63	Yes	Collaborative Learning	Topics related to DSP Lab
46	VI-Sem	Electrical Machine Design	17EE64	Yes	Case Studies	Design of Machines, transformer & generator for real time application.
47	VI-Sem	Computer Aided Electrical Drawing	17EE651	Yes	Laboratory Course	Design of Machines using modern tool software
48	VI-Sem	Sensors & Transducers	17EE662	Yes	Project Work	Addon course introduced for self-learning & also used in project work for field sensing purposes
49	VI-Sem	Control System Laboratory	17EEL67	Yes	Laboratory Course	Experiential Learning course
50	VI-Sem	Digital Signal Processing Laboratory	17EEL68	Yes	Laboratory Course	Experiential Learning course
51	VII-Sem	Power Systems Analysis-2	15EE71	Yes	Collaborative Learning	Topics related to Power system Simulation Lab
52	VII-Sem	Power System Protection	15EE72	Yes	Collaborative Learning	Topics related to Relay & HV Engg.
53	VII-Sem	High Voltage Engg	15EE73	Yes	Collaborative Learning	Topics related to Relay & HV Engg.
54	VII-Sem	Utilization of Electrical Power	15EE742	Yes	Interactive Simulations	Topic related to laboratory experiments specify to Regenerative Braking
55	VII-Sem	Testing and Commissioning of Power System Apparatus	15EE756	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain additional information about testing & commissioning of power system apparatus
56	VII-Sem	Power system Simulation Laboratory	15EEL76	Yes	Laboratory Course	Experiential Learning course
57	VII-Sem	Relay and High Voltage Laboratory	15EEL77	Yes	Laboratory Course	Experiential Learning course
58	VII-Sem	Project Work Phase-I + Project work Seminar	15EEP78	Yes	Project Work	Experiential Learning course
59	VIII-Sem	Power System Control & Operation	15EE81	Yes	Interactive Simulations	Topic like reliability , hydrothermal penalty factors related to power system laboratory
60	VIII-Sem	Industrial Drives and Applications	15EE82	Yes	Project Work	Simulation projects can be carried on Industrial Drives
61	VIII-Sem	Integration of Distributed Generation	15EE833	Yes	Project Work	Simulation projects can be carried on DG
62	VIII-Sem	Internship/ Professional Practice	15EE84	Yes	Internship	Experiential Learning course
63	VIII-Sem	Project Work-II	15EEP85	Yes	Project Work	Experiential Learning course
64	VIII-Sem	Seminar	15EES86	Yes	Field Work/Visit	Experiential Learning course
No. of Courses			64			
No. of Experiential Learning Courses			62			
% of Experiential Learning Courses			97			

Department of Electrical & Electronics Engineering
List of Experiential Learning Courses for Academic Year-2018-19

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/Laboratory/ Collaborative Learning/ Interactive Simulations/ Case studies	Justification
1	I/II Sem	Calculus and Linear Algebra	18MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	18PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Basic Electrical Engg.	18ELE13/23	Yes	Collaborative Learning	Topics related to Electrical Lab
4	I/II Sem	Elements of Civil Engineering & Mechanics	18CIV14/24	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
5	I/II Sem	Engineering Graphics	18EGDL15/25	Yes	Laboratory Course	Experiential Learning course
6	I/II Sem	Engineering Physics Lab	18PHYL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Basic Electrical Engineering Lab	18EEL17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	Technical English- I	18EGH18	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
9	I/II Sem	Advanced calculus and Numerical Methods	18MAT21	Yes	Case Studies	Calculus can be used for analysis process
10	I/II Sem	Engineering Chemistry	18CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	C programming for problem solving	18CPS13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Basic Electronics	18ELN14/24	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
13	I/II Sem	Elements of Mechanical Engineering	18ME15/25	Yes	Interactive Simulations	Topics related to IC engine can be delivered through Machine shops lab
14	I/II Sem	Engineering Chemistry Lab	18CHEL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	C Programming Lab	18CPL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Technical English- II	18EGH28	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
17	III Sem	Engineering Mathematics-III	17MAT31	Yes	Case Studies	Mathematical knowledge derived used in Higher semester courses for analysis purpose

18	III Sem	Electric Circuit Analysis	17EE32	Yes	Interactive Simulations	Topics related to Electronics lab
19	III Sem	Transformer & Generators	17EE33	Yes	Collaborative Learning	Topics related to Electrical machine lab
20	III Sem	Analog Electronics Circuits	17EE34	Yes	Collaborative Learning	Topics related to Electronics lab
21	III Sem	Digital System Design	17EE35	Yes	Collaborative Learning	Topics related to Electronics lab
22	III Sem	Electrical and Electronic Measurements	17EE36	Yes	Interactive Simulations	Measurements lab will provide information about bridges, Energy meters.
23	III Sem	Electrical Machines Laboratory -1	17EEL37	Yes	Laboratory Course	Experiential Learning course
24	III Sem	Electronics Laboratory	17EEL38	Yes	Laboratory Course	Experiential Learning course
25	III Sem	Aadalitha Kannada (Kannada for Administration)	17KAK39	No		
	III Sem	Vyavaharika Kannada (Kannada for communication)/	17KVK39	No		
26	IV Sem	Engineering Mathematics-IV	17MAT41	Yes	Project Work	Statistical Methods can be used for Analysis purpose in Project work
27	IV Sem	Electrical Power Generation	17EE42	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain practical experience
28	IV Sem	Transmission & Distribution	17EE43	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain practical experience
29	IV Sem	Electric Motors	17EE44	Yes	Collaborative Learning	Topics related to Electrical machine lab
30	IV Sem	Electromagnetic Field Theory	17EE45	Yes	Interactive Simulations	Topics related to vectors, electromagnetic field can be simulated using virtual toolbox
31	IV Sem	Operational Amplifiers and Linear ICs	17EE46	Yes	Collaborative Learning	Topics related to OLIC lab
32	IV Sem	Electrical Machines Laboratory -2	17EEL47	Yes	Laboratory Course	Experiential Learning course
33	IV Sem	Operational Amplifiers and Linear ICs Lab	17EEL48	Yes	Laboratory Course	Experiential Learning course
34	IV Sem	Constitution of India, Professional Ethics and Cyber Law	17EEL49	No		
35	V-Sem	Management & Entrepreneurship	15EE51	Yes	Project Work	Project analysis, project report & drafting related topics discussed in M&E courses
36	V-Sem	Microcontrollers	15EE52	Yes	Collaborative Learning	Topics related to Microcontroller Lab
37	V-Sem	Power Electronics	15EE53	Yes	Collaborative Learning	Topics related to Power Electronics lab
38	V-Sem	Signals & Systems	15EE54	Yes	Interactive Simulations	Topics like sampling theorem can be performed in DSP lab
39	V-Sem	Electrical Engineering Materials	15EE552	yes	Field Work/Visit	Field Visit to testing institute to gain practical experience

40	V-Sem	Renewable Energy Sources	15EE563	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain practical experience
41	V-Sem	Microcontroller Laboratory	15EEL57	Yes	Laboratory Course	Experiential Learning course
42	V-Sem	Power Electronics Laboratory	15EEL58	Yes	Laboratory Course	Experiential Learning course
43	VI-Sem	Control Systems	15EE61	Yes	Collaborative Learning	Topics related to CS Lab
44	VI-Sem	Power System Analysis-I	15EE62	Yes	Interactive Simulations	Topics related per unit system modeling can be performed in PSS Lab
45	VI-Sem	Digital signal Processing	15EE63	Yes	Collaborative Learning	Topics related to DSP Lab
46	VI-Sem	Electrical Machine Design	15EE64	Yes	Case Studies	Design of Machines, transformer & generator for real time application.
47	VI-Sem	Computer Aided Electrical Drawing	15EE651	Yes	Laboratory Course	Design of Machines using modern tool software
48	VI-Sem	Sensors & Transducers	15EE662	Yes	Project Work	Addon course introduced for self-learning & also used in project work for field sensing purposes
49	VI-Sem	Control System Laboratory	15EEL67	Yes	Laboratory Course	Experiential Learning course
50	VI-Sem	Digital Signal Processing Laboratory	15EEL68	Yes	Laboratory Course	Experiential Learning course
51	VII-Sem	Power Systems Analysis-2	15EE71	Yes	Collaborative Learning	Topics related to Power system Simulation Lab
52	VII-Sem	Power System Protection	15EE72	Yes	Collaborative Learning	Topics related to Relay & HV Engg.
53	VII-Sem	High Voltage Engg	15EE73	Yes	Collaborative Learning	Topics related to Relay & HV Engg.
54	VII-Sem	Utilization of Electrical Power	15EE742	Yes	Interactive Simulations	Topic related to laboratory experiments specify to Regenerative Braking
55	VII-Sem	Testing and Commissioning of Power System Apparatus	15EE756	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain additional information about testing & commissioning of power system apparatus
56	VII-Sem	Power system Simulation Laboratory	15EEL76	Yes	Laboratory Course	Experiential Learning course
57	VII-Sem	Relay and High Voltage Laboratory	15EEL77	Yes	Laboratory Course	Experiential Learning course
58	VII-Sem	Project Work Phase-I + Project work Seminar	15EEP78	Yes	Project Work	Experiential Learning course
59	VIII-Sem	Power System Control & Operation	15EE81	Yes	Interactive Simulations	Topic like reliability , hydrothermal penalty factors related to power system laboratory
60	VIII-Sem	Industrial Drives and Applications	15EE82	Yes	Project Work	Simulation projects can be carried on Industrial Drives
61	VIII-Sem	Integration of Distributed Generation	15EE833	Yes	Project Work	Simulation projects can be carried on DG
62	VIII-Sem	Internship/ Professional Practice	15EE84	Yes	Internship	Experiential Learning course
63	VIII-Sem	Project Work-II	15EEP85	Yes	Project Work	Experiential Learning course
64	VIII-Sem	Seminar	15EES86	Yes	Field Work/Visit	Experiential Learning course
No. of Courses			64			
No. of Experiential Learning Courses			62			
% of Experiential Learning Courses			97			

Department of Electrical & Electronics Engineering
List of Experiential Learning Courses for Academic Year-2017-18

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/Laboratory/ Collaborative Learning/ Interactive Simulations/ Case studies	Justification
1	I/II Sem	Engineering Mathematics-I	17MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	17PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Elements of Civil Engineering & Mechanics	17CIV13/23	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
4	I/II Sem	Elements of Mechanical Engineering	17ME14/24	Yes	Case Studies	Topics related to IC engine can be delivered through Machine shops lab
5	I/II Sem	Basic Electrical Engineering	17ELE15/25	Yes	Interactive Simulations	Topics related to verifications of KVL & KCL can be implemented.
6	I/II Sem	Workshop Practice	17WSL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Engineering Physics Lab	17PHY17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	English Language	17ENG18	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
9	I/II Sem	Engineering Mathematics-II	17MAT21	Yes	Case Studies	Calculus can be used for analysis process
10	I/II Sem	Engineering Chemistry	17CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	Programming in C & Data Structures	17PCD13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Computer Aided Engineering Drawing	17CED14/24	Yes	Laboratory Course	Experiential Learning course
13	I/II Sem	Basic Electronics	17ELN15/25	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
14	I/II Sem	Computer Programming Lab	17CPL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	Engineering Chemistry Lab	17CHEL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Environmental Studies	17CIV18/28	No		

17	III Sem	Engineering Mathematics-III	15MAT31	Yes	Case Studies	Mathematical knowledge derived used in Higher semester courses for analysis purpose
18	III Sem	Electric Circuit Analysis	15EE32	Yes	Interactive Simulations	Topics related to Electronics lab
19	III Sem	Transformer & Generators	15EE33	Yes	Collaborative Learning	Topics related to Electrical machine lab
20	III Sem	Analog Electronics Circuits	15EE34	Yes	Collaborative Learning	Topics related to Electronics lab
21	III Sem	Digital System Design	15EE35	Yes	Collaborative Learning	Topics related to Electronics lab
22	III Sem	Electrical and Electronic Measurements	15EE36	Yes	Interactive Simulations	Measurements lab will provide information about bridges, Energy meters.
23	III Sem	Electrical Machines Laboratory -1	15EEL37	Yes	Laboratory Course	Experiential Learning course
24	III Sem	Electronics Laboratory	15EEL38	Yes	Laboratory Course	Experiential Learning course
25	IV Sem	Engineering Mathematics-IV	15MAT41	Yes	Project Work	Statistical, probability Methods can be used for Analysis purpose in Project work
26	IV Sem	Electrical Power Generation	15EE42	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain practical experience
27	IV Sem	Transmission & Distribution	15EE43	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain practical experience
28	IV Sem	Electric Motors	15EE44	Yes	Collaborative Learning	Topics related to Electrical machine lab
29	IV Sem	Electromagnetic Field Theory	15EE45	Yes	Interactive Simulations	Topics related to vectors, electromagnetic field can be simulated using virtual toolbox
30	IV Sem	Operational Amplifiers and Linear ICs	15EE46	Yes	Collaborative Learning	Topics related to OLIC lab
31	IV Sem	Electrical Machines Laboratory -2	15EEL47	Yes	Laboratory Course	Experiential Learning course
32	IV Sem	Operational Amplifiers and Linear ICs Lab	15EEL48	Yes	Laboratory Course	Experiential Learning course
33	V-Sem	Management & Entrepreneurship	15EE51	Yes	Project Work	Project analysis, project report & drafting related topics discussed in M&E courses
34	V-Sem	Microcontrollers	15EE52	Yes	Collaborative Learning	Topics related to Microcontroller Lab
35	V-Sem	Power Electronics	15EE53	Yes	Collaborative Learning	Topics related to Power Electronics lab
36	V-Sem	Signals & Systems	15EE54	Yes	Interactive Simulations	Topics like sampling theorem can be performed in DSP lab
37	V-Sem	Electrical Engineering Materials	15EE552	yes	Field Work/Visit	Field Visit to testing institute to gain practical experience
38	V-Sem	Renewable Energy Sources	15EE563	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain practical experience
39	V-Sem	Microcontroller Laboratory	15EEL57	Yes	Laboratory Course	Experiential Learning course
40	V-Sem	Power Electronics Laboratory	15EEL58	Yes	Laboratory Course	Experiential Learning course
41	VI-Sem	Control Systems	15EE61	Yes	Collaborative Learning	Topics related to CS Lab
42	VI-Sem	Power System Analysis-1	15EE62	Yes	Interactive Simulations	Topics related per unit system modeling can be performed in PSS Lab

43	VI-Sem	Digital signal Processing	15EE63	Yes	Collaborative Learning	Topics related to DSP Lab
44	VI-Sem	Electrical Machine Design	15EE64	Yes	Case Studies	Design of Machines, transformer & generator for real time application.
45	VI-Sem	Computer Aided Electrical Drawing	15EE651	Yes	Laboratory Course	Design of Machines using modern tool software
46	VI-Sem	Sensors & Transducers	15EE662	Yes	Project Work	Addon course introduced for self-learning & also used in project work for field sensing purposes
47	VI-Sem	Control System Laboratory	15EEL67	Yes	Laboratory Course	Experiential Learning course
48	VI-Sem	Digital Signal Processing Laboratory	15EEL68	Yes	Laboratory Course	Experiential Learning course
49	VII-Sem	Computer Techniques in Power System Analysis	10EE71	Yes	Collaborative Learning	Topics related to Power system Simulation Lab
50	VII-Sem	Electrical Power Utilization	10EE72	Yes	Interactive Simulations	Topic related to laboratory experiments specify to Regenerative Braking
51	VII-Sem	High Voltage Engg	10EE73	Yes	Collaborative Learning	Topics related to Relay & HV Engg.
52	VII-Sem	Industrial Drives and Applications	10EE74	Yes	Project Work	Simulation projects can be carried on Industrial Drives
53	VII-Sem	Testing and Commissioning of Power System Apparatus	10EE756	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain additional information about testing & commissioning of power system apparatus
54	VII-Sem	VLSI Circuits and Design	10EE764	Yes	Interactive Simulations	Topics like Transistors design, floor plan & adders circuit can be simulated using software tools
55	VII-Sem	Rely and High Voltage Laboratory	10EEL77	Yes	Laboratory Course	Experiential Learning course
56	VII-Sem	Power system Simulation Laboratory	10EEL78	Yes	Project Work	Experiential Learning course
57	VIII-Sem	Electrical Design, Estimation and Costing	10EE81	Yes	Interactive Simulations	Electrical Estimation of domestic, commercial can be carried out in real time with subject knowledge
58	VIII-Sem	Power System Operation and Control	10EE82	Yes	Interactive Simulations	Topic like reliability , hydrothermal penalty factors related to power system laboratory
59	VIII-Sem	Renewable Energy Sources	10EE836	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain practical experience
60	VIII-Sem	Energy Auditing & Demand Side Management	10EE842	Yes	Project Work	Energy auditing case study can be performed at College work
61	VIII-Sem	Project Work-II	10EEP85	Yes	Project Work	Experiential Learning course
62	VIII-Sem	Seminar	10EES86	Yes	Field Work/Visit	Experiential Learning course

No. of Courses	62
No. of Experiential Learning Courses	61
% of Experiential Learning Courses	98



Department of Electrical & Electronics Engineering
List of Experiential Learning Courses for Academic Year-2016-17

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/Laboratory/ Collaborative Learning/ Interactive Simulations/ Case studies	Justification
1	I/II Sem	Engineering Mathematics-I	15MAT11	Yes	Case Studeis	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	15PHY12/22	Yes	Case Studeis	Topics related to Physics Lab
3	I/II Sem	Elements of Civil Engineering & Mechanics	15CIV13/23	Yes	Case Studeis	Topics related to design of structure, bridge & support which comes in electrical estimation course
4	I/II Sem	Elements of Mechanical Engineering	15ME14/24	Yes	Case Studeis	Topics related to IC engine can be delivered through Machine shops lab
5	I/II Sem	Basic Electrical Engineering	15ELE15/25	Yes	Interactive Simulations	Topics related to verifications of KVL & KCL can be implemented.
6	I/II Sem	Workshop Practice	15WSL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Engineering Physics Lab	15PHYL17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	Constitution of India, Professional Ethics and Human Rights	15CPH18/28	No		
9	I/II Sem	Engineering Mathematics-II	15MAT21	Yes	Case Studeis	Calculus can be used for analysis process
10	I/II Sem	Engineering Chemistry	15CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	Programming in C & Data Structures	15PCD13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Computer Aided Engineering Drawing	15CED14/24	Yes	Laboratory Course	Experiential Learning course
13	I/II Sem	Basic Electronics	15ELN15/25	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L &C can be studied in AEC lab
14	I/II Sem	Computer Programming Lab	15CPL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	Engineering Chemistry Lab	15CHEL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Environmental Studies	15CIV18/28	No		
17	III Sem	Engineering Mathematics-III	15MAT31	Yes	Case Studeis	Mathematical knowledge derived used in Higher semester courses for analysis purpose
18	III Sem	Electric Circuit Analysis	15EE32	Yes	Interactive Simulations	Topics related to Electronics lab
19	III Sem	Transformer & Generators	15EE33	Yes	Collaborative Learning	Topics related to Electrical machine lab

20	III Sem	Analog Electronics Circuits	15EE34	Yes	Collaborative Learning	Topics related to Electronics lab
21	III Sem	Digital System Design	15EE35	Yes	Collaborative Learning	Topics related to Electronics lab
22	III Sem	Electrical and Electronic Measurements	15EE36	Yes	Interactive Simulations	Measurements lab will provide information about bridges, Energy meters.
23	III Sem	Electrical Machines Laboratory -1	15EEL37	Yes	Laboratory Course	Experiential Learning course
24	III Sem	Electronics Laboratory	15EEL38	Yes	Laboratory Course	Experiential Learning course
25	IV Sem	Engineering Mathematics-IV	15MAT41	Yes	Project Work	Statistical Methods can be used for Analysis purpose in Project work
26	IV Sem	Electrical Power Generation	15EE42	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain practical experience
27	IV Sem	Transmission & Distribution	15EE43	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain practical experience
28	IV Sem	Electric Motors	15EE44	Yes	Collaborative Learning	Topics related to Electrical machine lab
29	IV Sem	Electromagnetic Field Theory	15EE45	Yes	Interactive Simulations	Topics related to vectors, electromagnetic field can be simulated using virtual toolbox
30	IV Sem	Operational Amplifiers and Linear ICs	15EE46	Yes	Collaborative Learning	Topics related to OLIC lab
31	IV Sem	Electrical Machines Laboratory -2	15EEL47	Yes	Laboratory Course	Experiential Learning course
32	IV Sem	Operational Amplifiers and Linear ICs Lab	15EEL48	Yes	Laboratory Course	Experiential Learning course
33	V-Sem	Management & Entrepreneurship	10AL51	Yes	Project Work	Project analysis, project report & drafting related topics discussed in M&E courses
34	V-Sem	Signals and Systems	10EE52	Yes	Interactive Simulations	Topics related sampling theorem & signal generation can be simulated using software tools
35	V-Sem	Transmission and Distribution	10EE53	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain practical experience
36	V-Sem	DC. Machines and Synchronous Machines	10EE54	Yes	Interactive Simulations	Topics related to Load test on DC machine will be performed at machines Lab
37	V-Sem	Modern Control theory	10EE55	Yes	Interactive Simulations	Model design of DC motors can be simulated using software tools
38	V-Sem	Linear IC's and Applications	10EE56	Yes	Interactive Simulations	Op-amp operations can be simulated in AEC labs
39	V-Sem	Measurements and Circuit Simulation Laboratory	10EEL57	Yes	Laboratory Course	Experiential Learning course
40	V-Sem	Transformers and Induction Machines Laboratory	10EEL58	Yes	Laboratory Course	Experiential Learning course

41	VI-Sem	Power System Analysis and Stability	10EE61	Yes	Interactive Simulations	Topics related per unit system modeling can be performed in PSS Lab
42	VI-Sem	Switchgear & Protection	10EE62	Yes	Interactive Simulations	Topics related to relay operation, fuse etc., will be performed at Relay & HV Lab
43	VI-Sem	Electrical Machine Design	10EE63	Yes	Case Studeis	Design of Machines, transformer & generator for real time application.
44	VI-Sem	Digital Signal Processing	10EE64	Yes	Interactive Simulations	Convolution of sequence can be simulated using software tools.
45	VI-Sem	Computer Aided Electrical Drawing	10EE65	Yes	Laboratory Course	Experiential Learning course
46	VI-Sem	Advanced Power Electronics	10EE662	Yes	Project Work	Convertors like Buck, boost can be used in project work
47	VI-Sem	D.C. Machines and Synchronous Machines Laboratory	10EEL67	Yes	Laboratory Course	Experiential Learning course
48	VI-Sem	Control System Laboratory	10EEL68	Yes	Laboratory Course	Experiential Learning course
49	VII-Sem	Computer Techniques in Power System Analysis	10EE71	Yes	Collaborative Learning	Topics related to Power system Simulation Lab
50	VII-Sem	Electrical Power Utilization	10EE72	Yes	Interactive Simulations	Topic related to laboratory experiments specify to Regenerative Braking
51	VII-Sem	High Voltage Engg	10EE73	Yes	Collaborative Learning	Topics related to Relay & HV Engg.
52	VII-Sem	Industrial Drives and Applications	10EE74	Yes	Project Work	Simulation projects can be carried on Industrial Drives
53	VII-Sem	Testing and Commissioning of Power System Apparatus	10EE756	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain additional information about testing & commissioning of power system apparatus
54	VII-Sem	VLSI Circuits and Design	10EE764	Yes	Interactive Simulations	Topics like Transistors design, floor plan & adders circuit can be simulated using software tools
55	VII-Sem	Rely and High Voltage Laboratory	10EEL77	Yes	Laboratory Course	Experiential Learning course
56	VII-Sem	Power system Simulation Laboratory	10EEL78	Yes	Project Work	Experiential Learning course
57	VIII-Sem	Electrical Design, Estimation and Costing	10EE81	Yes	Interactive Simulations	Electrical Estimation of domestic, commercial can be carried out in real time with subject knowledge
58	VIII-Sem	Power System Operation and Control	10EE82	Yes	Interactive Simulations	Topic like reliability , hydrothermal penalty factors related to power system laboratory
59	VIII-Sem	Renewable Energy Sources	10EE836	Yes	Field Work/Visit	Field Visit to Substation/ Power plant to gain practical experience
60	VIII-Sem	Energy Auditing & Demand Side Management	10EE842	Yes	Project Work	Energy auditing case study can be performed at College work
61	VIII-Sem	Project Work	10EEP85	Yes	Project Work	Experiential Learning course
62	VIII-Sem	Seminar	10EES86	Yes	Field Work/Visit	Experiential Learning course
No. of Courses			62			
No. of Experiential Learning Courses			60			
% of Experiential Learning Courses			97			



Department of Mechanical Engineering

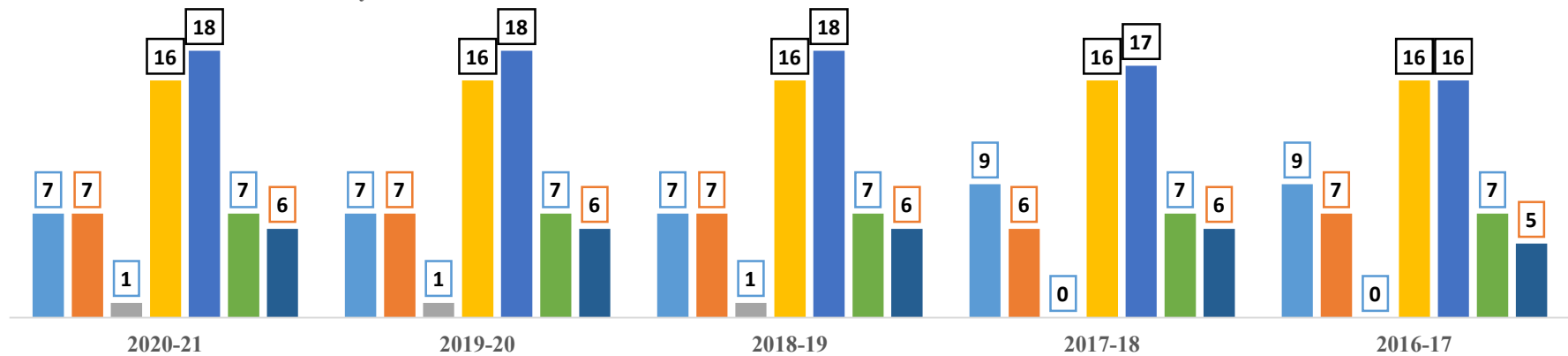
SL No.	Academic Year	Total No. of course	No. of Experiential Course
1	2020-21	65	63
2	2019-20	65	62
3	2018-19	65	62
4	2017-18	63	61
5	2016-17	62	60


Note:	The experiential courses is Categorized into Project Work/ Field Work Internship/Laboratory Course/ Collaborative Learning/ Interactive Simulations/ Case studies
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Academic Year	No. of Project Work related Courses	No. of Field Work related Course	No. of Internship related Courses	No. of Laboratory related Courses	No. of Collaborative learning Courses	No. of Interactive Simulations Courses	No. of Case study Courses
2020-21	7	7	1	16	18	7	6
2019-20	7	7	1	16	18	7	6
2018-19	7	7	1	16	18	7	6
2017-18	9	6	0	16	17	7	6
2016-17	9	7	0	16	16	7	5

ME-Experiential Learning courses of last five years

- No. of Project Work related Courses
- No. of Field Work related Course
- No. of Internship related Courses
- No. of Laboratory related Courses
- No. of Collaborative learning Courses
- No. of Interactive Simulations Courses
- No. of Case study Courses




HOD
 Department of Mechanical Engineering
 ATME College of Engineering
 Mysuru - 570028

Department of Mechanical Engineering
List of Experiential Learning Courses for Academic Year-2020-21

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/ Collabrative Learning/ Interactive Simulation/case study	Justification
1	I/II Sem	Calculus and Linear Algebra	18MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	18PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Basic Electrical Engg.	18ELE13/23	Yes	Collaborative Learning	Topics related to Electrical Lab
4	I/II Sem	Elements of Civil Engineering & Mechanics	18CIV14/24	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
5	I/II Sem	Engineering Graphics	18EGDL15/25	Yes	Laboratory Course	Experiential Learning course
6	I/II Sem	Engineering Physics Lab	18PHYL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Basic Electrical Engineering Lab	18EEL17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	Technical English- I	18EGH18	Yes	Project based learning	Topics gives student to enhance communication, technical skills in project work
9	I/II Sem	Advanced calculus and Numerical Methods	18MAT21	Yes	Case Studies	Calculus can be used for analysis purpose in higher semester
10	I/II Sem	Engineering Chemistry	18CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	C programming for problem solving	18CPS13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Basic Electronics	18ELN14/24	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
13	I/II Sem	Elements of Mechanical Engineering	18ME15/25	Yes	Interactive Simulations	Topics related to IC engine can be delivered through Machine shops lab
14	I/II Sem	Engineering Chemistry Lab	18CHEL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	C Programming Lab	18CPL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Technical English- II	18EGH28	Yes	Project based learning	Topics gives student to enhance communication, technical skills in project work
17	III Sem	Transform Calculus, Fourier Series and Numerical Techniques	18MAT31	Yes	Case Studies	Mathematical knowledge derived used in Higher semester courses for analysis purpose
18	III Sem	MOM	18ME32	Yes	Collaborative Learning	Topics related to MT lab and Ansys lab
19	III Sem	Basic Thermodynamics	18ME33	Yes	Interactive	Topics related to thermodynamics
20	III Sem	Material Science	18ME34	Yes	Collaborative Learning	Topics related to MT lab
21	III Sem	Metal cutting and forming	18EE35A/45A	Yes	Collaborative Learning	Experiential Learning course
22	III Sem	Metal Casting and welding	18EE35B/45B	Yes	Collaborative Learning	Topics related to Machine shop & workshop and FF lab
23	III / IV Sem	Computer Aided Machine Drawing	18ME36A/46A	Yes	Laboratory Course	Experiential Learning course

24	III Sem	Mechanical Measurements & Metrology	18ME36B/46B	Yes	Collaborative Learning	Experiential Learning course
25	III / IV Sem	Material Testing Lab	18MEL37A/47A	Yes	Laboratory Course	Experiential Learning course
26	III / IV Sem	Mechanical Measurements & Metrology Lab	18MEL37B/47B	Yes	Laboratory Course	Experiential Learning course
27	III / IV Sem	Workshop and Machine shop practice Lab	18MEL38A/48A	Yes	Laboratory Course	Experiential Learning course
28	III / IV Sem	Foundry, Forging and Welding lab	18MEL38B/48B	Yes	Laboratory Course	Experiential Learning course
29	III / IV Sem	Constitution of India ,Professional Ethic & Human rights	18CPH39/49	No		
30	IV Sem	Engineering Mathematics-IV	18MAT41	Yes	Case Studies	Statistical Methods can be used for Analysis purpose in Project work
31	IV Sem	Applied Thermodynamics	18ME42	Yes	Interactive	Topics related to thermodynamics
32	IV Sem	Fluid Mechanics	18ME43	Yes	Collaborative Learning	Experiential Learning course
33	IV Sem	Kinematics of Machines	18ME44	Yes	Collaborative Learning	Project based learning
34	III / IV Sem	Vyavaharika Kannada	18KVK39/49	No		
35	V-Sem	Management and Engineering Economics	18ME51	Yes	Project based learning	Project analysis, project report & drafting related topics discussed in M&E courses
36	V-Sem	Dynamics of Machinery	18ME52	Yes	Collaborative Learning	Project based learning
37	V-Sem	Turbo machines	18ME53	Yes	Collaborative Learning	Experiential Learning course
38	V-Sem	Design of Machine Elements-I	18ME54	Yes	Interactive	Design of componets
39	V-Sem	Energy and Environment	18ME56	Yes	Field Work/ Visit	Case studies
40	V-Sem	NTM	18ME55	Yes	Field Work/ Visit	Field Visit to Indutry
41	V-Sem	Fluid Mechanics and Machinery Lab	18MEL57	Yes	Laboratory Course	Experiential Learning course
42	V-Sem	Energy Lab	18MEL58	Yes	Laboratory Course	Experiential Learning course
43	V-sem	Envrionment Studies	18CIV59	No		
44	VI-Sem	Finite Element Analysis	18ME61	Yes	Collaborative Learning	Experiential Learning course
45	VI-Sem	Design of Machine Elements-II	18ME62	Yes	Collaborative Learning	Experiential Learning course
46	VI-Sem	Heat Transfer	18ME63	Yes	Collaborative Learning	Experiential Learning course
47	VI-Sem	Non-Traditional Machining	18ME641	Yes	Interactive	Design of componets
48	VI-Sem	Supply Chain Management	18ME653	Yes	Field Work/ Visit	Topics related to workshop practice
49	VI-Sem	Heat Transfer Lab	18MEL67	Yes	Laboratory Course	Experiential Learning course
50	VI-Sem	Modeling And Analysis Lab	18MEL68	Yes	Laboratory Course	Experiential Learning course
51	VI-Sem	Mini-project	18MEM68	Yes	Case Studies	Case studies of some company quality policies
52	VII-Sem	Energy Engineering	17ME71	Yes	Field Work/ Visit	Field Visit to Indutry
53	VII-Sem	Fluid Power Systems	17ME72	Yes	Collaborative Learning	Experiential Learning course

54	VII-Sem	Control Engineering	17ME73	Yes	Project based learning	Experiential Learning course
55	VII-Sem	Tribology	17ME742	Yes	Field Work/ Visit	Field Visit to Indutry
56	VII-Sem	Mechatronics	17ME753	Yes	Field Work/ Visit	Field Visit to Indutry
57	VII-Sem	Design Lab	17MEL76	Yes	Laboratory Course	Experiential Learning course
58	VII-Sem	CIM Lab	17MEL77	Yes	Laboratory Course	Experiential Learning course
59	VII-Sem	Project Work Phase 1-	17MEP78	Yes	Project based learning	Experiential Learning course
60	VIII-Sem	Operations Research	17ME81	Yes	Interactive	Experiential Learning course
61	VIII-Sem	Additive Manufacturing	17ME82	Yes	Field Work/ Visit	Field Visit to Indutry
62	VIII-Sem	ESA	17ME832	Yes	Project based learning	Project based learning
63	VIII-Sem	Internship/ Professional Practice	17ME84	Yes	Internship	Experiential Learning course
64	VIII-Sem	Project Work-II	17MEP85	Yes	Project Work	Project based learning
65	VIII-Sem	Seminar	17MES86	Yes	Field Work/ Visit	Experiential Learning course

Department of Mechanical Engineering

List of Experiential Learning Courses for Academic Year-2019-20

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/ Collaborative Learning/ Interactive Simulation/case	Justification
1	I/II Sem	Calculus and Linear Algebra	18MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	18PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Basic Electrical Engg.	18ELE13/23	Yes	Collaborative Learning	Topics related to Electrical Lab
4	I/II Sem	Elements of Civil Engineering & Mechanics	18CIV14/24	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
5	I/II Sem	Engineering Graphics	18EGDL15/25	Yes	Laboratory Course	Experiential Learning course
6	I/II Sem	Engineering Physics Lab	18PHYL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Basic Electrical Engineering Lab	18ELEL17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	Technical English- I	18EGH18	Yes	Project based learning	Topics gives student to enhance communication, technical skills in project work
9	I/II Sem	Advanced calculus and Numerical Methods	18MAT21	Yes	Case Studies	Calculus can be used for analysis purpose in higher semester
10	I/II Sem	Engineering Chemistry	18CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	C programming for problem solving	18CPS13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Basic Electronics	18ELN14/24	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
13	I/II Sem	Elements of Mechanical Engineering	18ME15/25	Yes	Interactive Simulations	Topics related to IC engine can be delivered through Machine shops lab
14	I/II Sem	Engineering Chemistry Lab	18CHEL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	C Programming Lab	18CPL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Technical English- II	18EGH28	Yes	Project based learning	Topics gives student to enhance communication, technical skills in project work
17	III Sem	Transform Calculus, Fourier Series and Numerical Techniques	18MAT31	Yes	Case Studies	Mathematical knowledge derived used in Higher semester courses for analysis purpose
18	III Sem	MOM	18ME32	Yes	Collaborative Learning	Topics related to MT lab and Ansys lab

19	III Sem	Basic Thermodynamics	18ME33	Yes	Interactive	Topics related to thermodynamics
20	III Sem	Material Science	18ME34	Yes	Collaborative Learning	Topics related to MT lab
21	III Sem	Metal cutting and forming	18EE35A/45A	Yes	Collaborative Learning	Experiential Learning course
22	III Sem	Metal Casting and welding	18EE35B/45B	Yes	Collaborative Learning	Topics related to Machine shop & workshop and FF lab
23	III / IV Sem	Computer Aided Machine Drawing	18ME36A/46A	Yes	Laboratory Course	Experiential Learning course
24	III Sem	Mechanical Measurements & Metrology	18ME36B/46B	Yes	Collaborative Learning	Experiential Learning course
25	III / IV Sem	Material Testing Lab	18MEL37A/47A	Yes	Laboratory Course	Experiential Learning course
26	III / IV Sem	Mechanical Measurements & Metrology Lab	18MEL37B/47B	Yes	Laboratory Course	Experiential Learning course
27	III / IV Sem	Workshop and Machine shop practice Lab	18MEL38A/48A	Yes	Laboratory Course	Experiential Learning course
28	III / IV Sem	Foundry, Forging and Welding lab	18MEL38B/48B	Yes	Laboratory Course	Experiential Learning course
29	III / IV Sem	Constitution of India ,Professional Ethic & Human rights	18CPH39/49	No		
30	IV Sem	Engineering Mathematics-IV	18MAT41	Yes	Case Studies	Statistical Methods can be used for Analysis purpose in Project work
31	IV Sem	Applied Thermodynamics	18ME42	Yes	Interactive	Topics related to thermodynamics
32	IV Sem	Fluid Mechanics	18ME43	Yes	Collaborative Learning	Experiential Learning course
33	IV Sem	Kinematics of Machines	18ME44	Yes	Collaborative Learning	Project based learning
34	III / IV Sem	Vyavaharika Kannada	18KVK39/49	No		
35	V-Sem	Management and Engineering Economics	17ME51	Yes	Project based learning	Project analysis, project report & drafting related topics discussed in M&E courses
36	V-Sem	Dynamics of Machinery	17ME52	Yes	Collaborative Learning	Project based learning
37	V-Sem	Turbo machines	17ME53	Yes	Collaborative Learning	Experiential Learning course
38	V-Sem	Design of Machine Elements-I	17ME54	Yes	Interactive	Design of componets
39	V-Sem	Energy and Environment	17ME562	Yes	Field Work/ Visit	Case studies
40	V-Sem	NTM	17ME554	Yes	Field Work/ Visit	Field Visit to Indutry
41	V-Sem	Fluid Mechanics and Machinery Lab	17MEL57	Yes	Laboratory Course	Experiential Learning course
42	V-Sem	Energy Lab	17MEL58	Yes	Laboratory Course	Experiential Learning course
43	VI-Sem	Finite Element Analysis	17ME61	Yes	Collaborative Learning	Experiential Learning course
44	VI-Sem	Computer Integrated Manufacturing	17ME62	Yes	Collaborative Learning	Experiential Learning course

45	VI-Sem	Heat Transfer	17ME63	Yes	Collaborative Learning	Experiential Learning course
46	VI-Sem	Design of Machine Elements-II	17ME64	Yes	Interactive	Design of componets
47	VI-Sem	Metal Forming	17ME653	Yes	Collaborative Learning	Topics related to workshop practice
48	VI-Sem	Automobile Engineering	17ME655	Yes	Field Work/ Visit	Topics related to EC lab
49	VI-Sem	TQM	17ME664	Yes	Case Studies	Case studies of some company quality policies
50	VI-Sem	Heat Transfer Lab	17MEL67	Yes	Laboratory Course	Experiential Learning course
51	VI-Sem	Modeling And Analysis Lab	17MEL68	Yes	Laboratory Course	Experiential Learning course
52	VII-Sem	Energy Engineering	15ME71	Yes	Field Work/ Visit	Field Visit to Indutry
53	VII-Sem	Fluid Power Systems	15ME72	Yes	Collaborative Learning	Experiential Learning course
54	VII-Sem	Control Engineering	15ME73	Yes	Project based learning	Experiential Learning course
55	VII-Sem	Tribology	15ME742	Yes	Field Work/ Visit	Field Visit to Indutry
56	VII-Sem	Mechatronics	15ME753	Yes	Field Work/ Visit	Field Visit to Indutry
57	VII-Sem	Design Lab	15MEL76	Yes	Laboratory Course	Experiential Learning course
58	VII-Sem	Computer Integrated Manufacturing Lab	15MEL77	Yes	Laboratory Course	Experiential Learning course
59	VII-Sem	Project Work Phase 1-	15MEP78	Yes	Project based learning	Experiential Learning course
60	VIII-Sem	Operations Research	15ME81	Yes	Interactive	Experiential Learning course
61	VIII-Sem	Additive Manufacturing	15ME82	Yes	Field Work/ Visit	Field Visit to Indutry
62	VIII-Sem	ESA	15ME832	Yes	Project based learning	Project based learning
63	VIII-Sem	Internship/ Professional Practice	15ME84	Yes	Internship	Experiential Learning course
64	VIII-Sem	Project Work-II	15MEP85	Yes	Project Work	Project based learning
65	VIII-Sem	Seminar	15MES86	Yes	Field Work/ Visit	Experiential Learning course

Department of Mechanical Engineering
List of Experiential Learning Courses for Academic Year-2018-19

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/ Collabrative Learning/ Interactive Simulation/case study	Justification
1	I/II Sem	Calculus and Linear Algebra	18MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	18PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Basic Electrical Engg.	18ELE13/23	Yes	Collaborative Learning	Topics related to Electrical Lab
4	I/II Sem	Elements of Civil Engineering & Mechanics	18CIV14/24	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
5	I/II Sem	Engineering Graphics	18EGDL15/25	Yes	Laboratory Course	Experiential Learning course
6	I/II Sem	Engineering Physics Lab	18PHYL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Basic Electrical Engineering Lab	18ELEL17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	Technical English	18EGH18	Yes	Project based learning	Topics gives student to enhance communication, technical skills in project work
9	I/II Sem	Advanced calculus and Numerical Methods	18MAT21	Yes	Case Studies	Calculus can be used for analysis process
10	I/II Sem	Engineering Chemistry	18CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	C programming for problem solving	18CPS13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Basic Electronics	18ELN14/24	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like P, L & C can be studied in AEC lab.
13	I/II Sem	Elements of Mechanical Engineering	18ME15/25	Yes	Interactive Simulations	Topics related to IC engine can be delivered through machine shops lab.
14	I/II Sem	Engineering Chemistry Lab	18CHEL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	C Programming Lab	18CPL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Technical English	18EGH28	Yes	Project based learning	Topics gives student to enhance communication, technical skills in project work.
17	III Sem	Engineering Mathematics - III	17MAT31	Yes	Case Studies	Mathematical knowledge derived used in Higher semester courses for analysis purpose
18	III Sem	Material Science	17ME32	Yes	Collaborative Learning	Topics related to MT lab and Ansys lab
19	III Sem	Basic Thermodynamics	17ME33	Yes	Interactive	Topics related to thermodynamics
20	III Sem	Mechanics of Materials	17ME34	Yes	Collaborative Learning	Topics related to MT lab
21	III Sem	Metal Casting and welding	17ME35A/45A	Yes	Collaborative Learning	Experiential Learning course
22	III Sem	Machine Tools and Operations	17ME35B/45B	Yes	Collaborative Learning	Topics related to Machine shop & workshop and FF lab
23	III / IV Sem	Computer Aided Machine Drawing	17ME36A/46A	Yes	Laboratory Course	Experiential Learning course
24	III Sem	Mechanical Measurements & Metrology	17ME36B/46B	Yes	Collaborative Learning	Experiential Learning course

25	III / IV Sem	Material Testing Lab	17MEL37A/47A	Yes	Laboratory Course	Experiential Learning course
26	III / IV Sem	Mechanical Measurements & Metrology Lab	17MEL37B/47B	Yes	Laboratory Course	Experiential Learning course
27	III / IV Sem	Foundry and Forging lab	17MEL38A/48A	Yes	Laboratory Course	Experiential Learning course
28	III / IV Sem	Machine Shop	17MEL38B/48B	Yes	Laboratory Course	Experiential Learning course
29	III / IV Sem	Constitution of India ,Professional Ethic & Human rights	17CPH39/49	No		
30	III / IV Sem	Vyavaharika Kannada	17KL39/49	No		
31	IV Sem	Engineering Mathematics-IV	17MAT41	Yes	Case Studies	Statistical Methods can be used for Analysis purpose in Project work
32	IV Sem	Kinematics of Machines	17ME42	Yes	Collaborative Learning	Project based learning
33	IV Sem	Applied Thermodynamics	17ME43	Yes	Interactive	Topics related to thermodynamics
34	IV Sem	Fluid Mechanics	17ME44	Yes	Collaborative Learning	Experiential Learning course
35	V-Sem	Management and Engineering Economics	15ME51	Yes	Project based learning	Project analysis, project report & drafting related topics discussed in M&E courses
36	V-Sem	Dynamics of Machinery	15ME52	Yes	Collaborative Learning	Project based learning
37	V-Sem	Turbo machines	15ME53	Yes	Collaborative Learning	Experiential Learning course
38	V-Sem	Design of Machine Elements-I	15ME54	Yes	Interactive	Design of componets
39	V-Sem	Non Traditional Machining	15ME554	Yes	Field Work/Visit	Learning new concepts in manufacturing
40	V-Sem	Energy and Environment	15ME562	Yes	Field Work/Visit	Field Visit to Indutry
41	V-Sem	Fluid Mechanics and Machinery Lab	15MEL57	Yes	Laboratory Course	Experiential Learning course
42	V-Sem	Energy Lab	15MEL58	Yes	Laboratory Course	Experiential Learning course
43	VI-Sem	Finite Element Method	15ME61	Yes	Collaborative Learning	Experiential Learning course
44	VI-Sem	Computer Integrated Manufacturing	15ME62	Yes	Collaborative Learning	Experiential Learning course
45	VI-Sem	Heat Transfer	15ME63	Yes	Collaborative Learning	Experiential Learning course
46	VI-Sem	Design of Machine Elements-II	15ME64	Yes	Interactive	Design of componets
47	VI-Sem	Metal Forming	15ME653	Yes	Project based learning	Topics related to workshop practice
48	VI-Sem	Automobile Engineering	15ME655	Yes	Field Work/Visit	Topics related to EC lab
49	VI-Sem	Total Quality Management	15ME664	Yes	Case Studies	Case studies of some company quality policies
50	VI-Sem	Heat Transfer Lab	15MEL67	Yes	Laboratory Course	Experiential Learning course
51	VI-Sem	Modeling And Analysis Lab	15MEL68	Yes	Laboratory Course	Simulations using softwares
52	VII-Sem	Energy Engineering	15ME71	Yes	Collaborative Learning	Project based learning
53	VII-Sem	Fluid Power Systems	15ME72	Yes	Collaborative Learning	Experiential Learning course
54	VII-Sem	Control Engineering	15ME73	Yes	Project based learning	Field Visit to Indutry
55	VII-Sem	Tribology	15ME742	Yes	Field Work/Visit	Field Visit to Indutry
56	VII-Sem	Mechatronics	15ME753	Yes	Field Work/Visit	Field Visit to Indutry
57	VII-Sem	Design Lab	15MEL76	Yes	Laboratory Course	Experiential Learning course
58	VII-Sem	Computer Integrated Manufacturing Lab	15MEL77	Yes	Laboratory Course	Experiential Learning course
59	VII-Sem	Project Work Phase 1-	15MEP78	Yes	Project based learning	Project based learning

60	VIII-Sem	Operations Research	15ME81	Yes	Interactive	Experiential Learning course
61	VIII-Sem	Additive Manufacturing	15ME82	Yes	Field Work/Visit	Field Visit to Industry
62	VIII-Sem	ESA	15ME832	Yes	Project based learning	Project based learning
63	VIII-Sem	Internship/ Professional Practice	15ME84	Yes	Internship	Experiential Learning course
64	VIII-Sem	Project Work-II	15MEP85	Yes	Project Work	Project based learning
65	VIII-Sem	Seminar	15MES86	Yes	Field Work/Visit	Experiential Learning course

Department of Mechanical Engineering
List of Experiential Learning Courses for Academic Year-2017-18

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/ Collabrative Learning/ Interactive Simulation/case study	Justification
1	I/II Sem	Engineering Mathematics - I	17MAT11	Yes	Case Studies	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	17PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Elements of Civil Engineering & Mechanics	17CIV13/23	Yes	Case Studies	Topics related to design of structure, bridge & support which comes in electrical estimation course
4	I/II Sem	Elements of Mechanical Engineering	17ME14/24	Yes	Case Studies	Topics related to IC engine can be delivered through Machine shops lab
5	I/II Sem	Basic Electrical Engg.	17ELE15/25	Yes	Interactive Simulations	Topics related to verifications of KVL & KCL can be implemented.
6	I/II Sem	Workshop Practice	17WSL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Engineering Physics Lab	17PHYL17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	English	17ENG18/28	Yes	Project Work	Topics gives student to enhance communication, technical skills in project work
9	I/II Sem	Engineering Mathematics - II	17MAT21	Yes	Case Studies	Calculus can be used for analysis process
10	I/II Sem	Engineering Chemistry	17CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	Programming in C and Data Structures	17PCD13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Computer Aided Engineering Drawing	17CED14/24	Yes	Laboratory Course	Experiential Learning course
13	I/II Sem	Basic Electronics	17ELN15/25	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
14	I/II Sem	Computer Programming Laboratory	17CPL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	Engineering Chemistry Laboratory	17CHEL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Environmental Studies	17CIV18/28	No		
17	III Sem	Engineering Mathematics - III	15MAT31	Yes	Case Studies	Mathematical knowledge derived used in Higher semester courses for analysis purpose
18	III Sem	Material Science	15ME32	Yes	Collaborative Learning	Topics related to MT lab and Ansys lab
19	III Sem	Basic Thermodynamics	15ME33	Yes	Interactive	Topics related to thermodynamics
20	III Sem	Mechanics of Materials	15ME34	Yes	Collaborative Learning	Topics related to MT lab
21	III Sem	Metal Casting and welding	15ME35A/45A	Yes	Collaborative Learning	Experiential Learning course
22	III Sem	Machine Tools and Operations	15ME35B/45B	Yes	Collaborative Learning	Topics related to Machine shop & workshop and FF lab

23	III / IV Sem	Computer Aided Machine Drawing	15ME36A/46A	Yes	Laboratory Course	Experiential Learning course
24	III Sem	Mechanical Measurements & Metrology	15ME36B/46B	Yes	Collaborative Learning	Experiential Learning course
25	III / IV Sem	Materials Testing Lab	15MEL37A/47A	Yes	Laboratory Course	Experiential Learning course
26	III / IV Sem	Mechanical Measurements & Metrology Lab	15MEL37B/47B	Yes	Laboratory Course	Experiential Learning course
27	III / IV Sem	Foundry and Forging lab	15MEL38A/48A	Yes	Laboratory Course	Experiential Learning course
28	III / IV Sem	Machine Shop	15MEL38B/48B	Yes	Laboratory Course	Experiential Learning course
29	IV Sem	Engineering Mathematics-IV	15MAT41	Yes	Case studies	Statistical Methods can be used for Analysis purpose in Project work
30	IV Sem	Kinematics of Machines	15ME42	Yes	Experiential Learning	Project based learning
31	IV Sem	Applied Thermodynamics	15ME43	Yes	Interactive	Topics related to thermodynamics
32	IV Sem	Fluid Mechanics	15ME44	Yes	Collaborative Learning	Experiential Learning course
33	V-Sem	Management and Engineering Economics	15ME51	Yes	Project Work	Project analysis, project report & drafting related topics discussed in M&E courses
34	V-Sem	Dynamics of Machinery	15ME52	Yes	Collaborative Learning	Project based learning
35	V-Sem	Turbo machines	15ME53	Yes	Collaborative Learning	Experiential Learning course
36	V-Sem	Design of Machine Elements-I	15ME54	Yes	Interactive	Design of componets
37	V-Sem	Non Traditional Machining	15ME554	Yes	Field Work/Visit	Learning new concepts in manufacturing
38	V-Sem	Energy and Environment	15ME562	Yes	Field Work/Visit	Case study
39	V-Sem	Fluid Mechanics and Machinery Lab	15MEL57	Yes	Laboratory Course	Experiential Learning course
40	V-Sem	Energy Lab	15MEL58	Yes	Laboratory Course	Experiential Learning course
41	VI-Sem	Finite Element Method	15ME61	Yes	Collaborative Learning	Experiential Learning course
42	VI-Sem	Computer Integrated Manufacturing	15ME62	Yes	Collaborative Learning	Experiential Learning course
43	VI-Sem	Heat Transfer	15ME63	Yes	Collaborative Learning	Experiential Learning course
44	VI-Sem	Design of Machine Elements-II	15ME64	Yes	Interactive	Design of componets
45	VI-Sem	Metal Forming	15ME653	Yes	Collaborative Learning	Topics related to workshop practice
46	VI-Sem	Automobile Engineering	15ME655	Yes	Field Work/Visit	Topics related to EC lab
47	VI-Sem	Total Quality Management	15ME664	Yes	Case Studies	Case studies of some company quality policies
48	VI-Sem	Heat Transfer Lab	15MEL67	Yes	Laboratory Course	Experiential Learning course
49	VI-Sem	Modeling And Analysis Lab	15MEL68	Yes	Laboratory Course	Simulations using softwares
50	VII-Sem	Economics	10ME71	Yes	Experiential Learning	collaborative learning(industrial visits)
51	VII-Sem	Mechanical Vibrations	10ME72	Yes	Collaborative Learning	Experiential Learning course
52	VII-Sem	Hydraulics and Pneumatics	10ME73	Yes	Field Work/Visit	learning Basics of hydraulic and Pneumatic systems
53	VII-Sem	Operations Research	10ME74	Yes	Interactive	Experiential Learning course
54	VII-Sem	Non Conventional Energy Resources	10ME754	Yes	Field Work/Visit	Field Visit to Indutry
55	VII-Sem	Experimental Stress Analysis	10ME761	Yes	Project Based	Project based learning
56	VII-Sem	Design Lab	10MEL77	Yes	Laboratory Course	Experiential Learning course
57	VII-Sem	CIM and Automation Lab	10MEL78	Yes	Laboratory Course	Experiential Learning course
58	VIII-Sem	Operations Management	10ME81	Yes	Case study	Experiential Learning course

59	VIII-Sem	Control Engineering	10ME82	Yes	Project Work related	Project based learning
60	VIII-Sem	Power Plant Engineering	10ME833	Yes	Collaborative Learning	collaborative learning(industrial visits)
61	VIII-Sem	Automotive Engineering	10ME844	Yes	Internship	Experiential Learning course
62	VIII-Sem	Project Work	10ME85L	Yes	Project Work	Project based learning
63	VIII-Sem	Seminar	10ME86L	Yes	Field Work/Visit	Experiential Learning course



Department of Mechanical Engineering
List of Experiential Learning Courses for Academic Year-2016-17

Sl. No	SEM	Course	Course Code	Experiential Learning course	Category - Project Work/ Field Work Internship/ Collaborative Learning/ Interactive Simulation/case study	Justification
1	I/II Sem	Engineering Mathematics - I	15MAT11	Yes	Case Studeis	Higher Order DFL & linear algebra for analysis process
2	I/II Sem	Engineering Physics	15PHY12/22	Yes	Collaborative Learning	Topics related to Physics Lab
3	I/II Sem	Elements of Civil Engineering & Mechanics	15CIV13/23	Yes	Case Studeis	Topics related to design of structure, bridge & support which comes in electrical estimation course
4	I/II Sem	Elements of Mechanical Engineering	15EME14/24	Yes	Case Studeis	Topics related to IC engine can be delivered through Machine shops lab
5	I/II Sem	Basic Electrical Engg.	15ELE15/25	Yes	Interactive Simulations	Topics related to verifications of KVL & KCL can be implemented.
6	I/II Sem	Workshop Practice	15WSL16/26	Yes	Laboratory Course	Experiential Learning course
7	I/II Sem	Engineering Physics Lab	15PHYL17/27	Yes	Laboratory Course	Experiential Learning course
8	I/II Sem	Constitution of India, Professional Ethics and Human Rights (CPH)	15CPH18/28	No		
9	I/II Sem	Engineering Mathematics - II	15MAT21	Yes	Case Studeis	Calculus can be used for analysis process
10	I/II Sem	Engineering Chemistry	15CHE12/22	Yes	Collaborative Learning	Topics related to Chemistry Lab
11	I/II Sem	Programming in C and Data Structures	15PCD13/23	Yes	Collaborative Learning	Topics related to CCP Lab
12	I/II Sem	Computer Aided Engineering Drawing	15CED14/24	Yes	Laboratory Course	Experiential Learning course
13	I/II Sem	Basic Electronics	15ELN15/25	Yes	Interactive Simulations	Topics related like transistor behaviour & passive elements like R,L & C can be studied in AEC lab
14	I/II Sem	Computer Programming Laboratory	15CPL16/26	Yes	Laboratory Course	Experiential Learning course
15	I/II Sem	Engineering Chemistry Laboratory	15CHEL17/27	Yes	Laboratory Course	Experiential Learning course
16	I/II Sem	Environmental Studies	15CIV18/28	No		
17	III Sem	Engineering Mathematics - III	15MAT31	Yes	Case Studeis	Mathematical knowledge derived used in Higher semester courses for analysis purpose
18	III Sem	Material Science	15ME32	Yes	Collaborative Learning	Topics related to MT lab and Ansys lab
19	III Sem	Basic Thermodynamics	15ME33	Yes	Interactive	Topics related to thermodynamics
20	III Sem	Mechanics of Materials	15ME34	Yes	Collaborative Learning	Topics related to MT lab
21	III Sem	Metal Casting and welding	15ME35A/45A	Yes	Collaborative Learning	Experiential Learning course
22	III Sem	Machine Tools and Operations	15ME35B/45B	Yes	Collaborative Learning	Topics related to Machine shop & workshop and FF lab

23	III / IV Sem	Computer Aided Machine Drawing	15ME36A/46A	Yes	Laboratory Course	Experiential Learning course
24	III Sem	Mechanical Measurements & Metrology	15ME36B/46B	Yes	Collaborative Learning	Experiential Learning course
25	III / IV Sem	Materials Testing Lab	15MEL37A/47A	Yes	Laboratory Course	Experiential Learning course
26	III / IV Sem	Mechanical Measurements & Metrology Lab	15MEL37B/47B	Yes	Laboratory Course	Experiential Learning course
27	III / IV Sem	Foundry and Forging lab	15MEL38A/48A	Yes	Laboratory Course	Experiential Learning course
28	III / IV Sem	Machine Shop	15MEL38B/48B	Yes	Laboratory Course	Experiential Learning course
29	IV Sem	Engineering Mathematics-IV	15MAT41	Yes	Case Studeis	Statistical Methods can be used for Analysis purpose in Project work
30	IV Sem	Kinematics of Machines	15ME42	Yes	Collaborative Learning	Project based learning
31	IV Sem	Applied Thermodynamics	15ME43	Yes	Interactive	Topics related to thermodynamics
32	IV Sem	Fluid Mechanics	15ME44	Yes	Collaborative Learning	Experiential Learning course
33	V-Sem	Management and Entrepreneurship	10AL51	Yes	Project based learning	Project analysis, project report & drafting related topics discussed in M&E courses
34	V-Sem	Design of Machine Elements-I	10ME52	Yes	Interactive	Design of machine elements
35	V-Sem	Energy Engineering	10ME53	Yes	Collaborative Learning	Experiential Learning course
36	V-Sem	Dynamics of Machines	10ME54	Yes	Project based learning	Project based learning
37	V-Sem	Manufacturing Process III	10ME55	Yes	Collaborative Learning	collaborative learning(industrial visits)
38	V-Sem	Turbo Machines	10ME56	Yes	Field Work/Visit	Field Visit to Indutry
39	V-Sem	Fluid Mechanics and Machines Lab	10MEL57	Yes	Laboratory Course	Experiential Learning course
40	V-Sem	Energy Coversion Engineering Lab	10MEL58	Yes	Laboratory Course	Experiential Learning course
41	VI-Sem	Computer Integrated Manufacturing	10ME61	Yes	Collaborative Learning	Experiential Learning course
42	VI-Sem	Design of Machine Elements-II	10ME62	Yes	Interactive	Design of machine elements
43	VI-Sem	Heat & Mass Transfer	10ME63	Yes	Collaborative Learning	Experiential Learning course
44	VI-Sem	Finite Element Methods	10ME64	Yes	Collaborative Learning	Learning FEA analysis
45	VI-Sem	Mechatronics & Microprocessor	10ME65	Yes	Field Work/Visit	Experiential Learning
46	VI-Sem	Non - Traditional Machining	10ME665	Yes	Field Work/Visit	Experiential Learning
47	VI-Sem	Heat & Mass Transfer Lab	10MEL67	Yes	Laboratory Course	Experiential Learning course
48	VI-Sem	CAMA Lab	10MEL68	Yes	Laboratory Course	Simulations using softwares
49	VII-Sem	Economics	10ME71	Yes	Case Studeis	Field Visit to Indutry
50	VII-Sem	Mechanical Vibrations	10ME72	Yes	Collaborative Learning	Experiential Learning course
51	VII-Sem	Hydraulics and Pneumatics	10ME73	Yes	Field Work/Visit	learning Basics of hydaulic and Pneumatic systems
52	VII-Sem	Operations Research	10ME74	Yes	Interactive	Experiential Learning course
53	VII-Sem	Non Conventional Energy Resources	10ME754	Yes	Field Work/Visit	Field Visit to Indutry
54	VII-Sem	Experimental Stress Analysis	10ME761	Yes	Laboratory Course	Project based learning
55	VII-Sem	Design Lab	10MEL77	Yes	Laboratory Course	Experiential Learning course
56	VII-Sem	CIM and Automation Lab	10MEL78	Yes	Project based learning	Experiential Learning course
57	VIII-Sem	Operations Management	10ME81	Yes	Case Studeis	Experiential Learning course
58	VIII-Sem	Control Engineering	10ME82	Yes	Project based learning	Field Visit to Indutry

59	VIII-Sem	Power Plant Engineering	10ME833	Yes	Field Work/Visit	collaborative learning(industrial visits)
60	VIII-Sem	Automotive Engineering	10ME844	Yes	Internship	Experiential Learning course
61	VIII-Sem	Project Work	10ME85L	Yes	Project Work	Project based learning
62	VIII-Sem	Seminar	10ME86L	Yes	Field Work/Visit	Experiential Learning course