
SYLLABUS

DR VISHWANATH KARAD
MIT - WORLD PEACE UNIVERSITY

FACULTY OF ENGINEERING
B. TECH. (MECHANICAL ENGINEERING)

BATCH – 2018-19

(Prof. L.K.Kshirsagar)
(Dean)



Dr. Vishwanath Karad

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TECHNOLOGY, RESEARCH, SOCIAL INNOVATION & PARTNERSHIPS

**B. Tech. (First Year) (Batch 2018-19),
Trimester – I**

Sr. No	Course Code	Name of Course	Type	Weekly Workload, Hrs			Credits		Assessment, Marks			
				Theory	Tutorial	Lab	Th	Lab	CCA	LCA	ETT	Total
1	ES113	Mathematics -I	BS	3	1	--	3	--	100	-	50	150
2	ES114	Physics	BS	3	1	2	3	1	100	50	50	200
3	CE111	Applied Mechanics	ES	3	1	2	3	1	100	50	50	200
4	ME112	Workshop Practices	ES	-	-	2	-	1	-	50	-	50
5	HS111	Effective Communication	HSS	2	-	2	1	1	50	50	-	100
6		Practicing Yoga and Meditation	WP	-		1	-	-	-	-	-	-
		Total :		11	03	09	10	04	350	200	150	700

Type: (Refer Para 11 of Academic Ord. 2017)

**Assessment Marks are valid only if Attendance criteria are met

Weekly Teaching Hours: **23**

Total Credits: First Year B. Tech Trimester I: **14**

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**B. Tech. (First Year) (Batch 2018-19),
Trimester – II**

Sr. No	Course Code	Name of Course	Type	Weekly Workload, Hrs			Credits		Assessment Marks **			
				Theory	Tutorial	Lab	Th	Lab	CCA	LCA	ETT	Total
1	ES123	Mathematics	BS	3	1	-	3	-	100	-	50	150
2	ES124	Chemistry	BS	3	-	2	2	1	50	50	50	150
3	ME123	Material Science For Engineers	BS	3	-	2	2	1	50	50	50	150
4	ME122	Engineering Graphics	ES	2	-	2	1	1	-	50	50	100
5	CS122	Computer Programming	ES	3	-	2	2	1	50	50	50	150
6	WPC 1	World Famous Philosophers, Sages/Saints and Great Kings	WP	3	-	-	2	-	70	-	30	100
7		Rural Immersion Programme	WP	-	-	-	-	-	-	-	-	-
8		Practicing Yoga and Meditation	WP	-	-	1	-	-	-	-	-	-
		Total:		17	01	09	12	04	320	200	280	800

Type: (Refer Para 11 of Academic Ord. 2017)

**Assessment Marks are valid only if Attendance criteria are met

Weekly Teaching Hours: **27**

Total Credits: First Year B. Tech Trimester II: **16**

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**B. Tech. (First Year) (Batch 2018-19),
Trimester – III**

Sr. No	Course Code	Name of Course	Type	Weekly Workload, Hrs			Credits		Assessment Marks**			
				Theory	Tutorial	Lab	Th	Lab	CCA	LCA	ETT	Total
1	ES131	Biology	BS	3	-	-	2	-	50	-	50	100
2	ME133	Engineering Design Principles	ES	3	-	2	2	1	50	50	50	150
3	EL131	Engineering Science Elective Course I*	ES	3	-	2	2	1	50	50	50	150
4	EL132	Engineering Science Elective Course II*	ES	3	-	2	2	1	50	50	50	150
5	WPC 2	Gandhian Philosophy	WP	3	-	-	2	-	50	-	50	100
6		Practicing Yoga and Meditation	WP	-	-	1	-	-	-	-	-	-
		Total :		15	0	07	10	03	250	150	250	650

Type: (Refer Para 11 of Academic Ord. 2017)

**Assessment Marks are valid only if Attendance criteria are met

Weekly Teaching Hours: **22**

Total Credits: First Year B. Tech. Trimester III: **13**

Total First Year B. Tech. Credits: **14+16+13=43**

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*** Any two courses other than parent/ home discipline can be chosen from the list given below.**

Sr. No.	Course Code	Name of Course
1	CE132	Introduction to Civil Engineering
2	ME134	Introduction to Mechanical Engineering
3	CS132	Introduction to Computer Science and Engineering
4	FE132	Introduction to Electrical Engineering
5	EC132	Introduction to Electronics Engineering
6	PO131	Introduction to Polymer Engineering
7	PE131	Introduction to Petroleum Engineering
8	CH131	Introduction to Chemical Engineering



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**B. Tech. (Second Year) (Batch 2018-19),
Trimester – IV**

Sr. No.	Course Code	Name of Course	Type	Weekly Workload, Hrs			Credits		Assessment Marks**			
				Theory	Tutorial	Lab	Th	Lab	CCA	LCA	ETT	Total
1	ME211	Strength of Materials	ES	3	-	2	2	1	50	50	50	150
2	ME212	Manufacturing Processes	PC	3	-	2	2	1	50	50	50	150
3	ME213	Basic Thermodynamics	BS	3	-	2	2	1	50	50	50	150
4	EE215	Applied Electrical & Electronics Engineering	PC	3	-	2	2	1	50	50	50	150
5	ME214	Mechanical Engineering Software Laboratory I	PC	-	-	4	-	2	-	100	-	100
6	IC	Indian Constitution/ Environmental Science	HSS	2	-	-	1	-	50	-	-	50
Total :				14	00	12	09	06	250	300	200	750

Type: (Refer Para 11 of Academic Ord. 2017)

**Assessment Marks are valid only if Attendance criteria are met

Weekly Teaching Hours: **26**

Total Credits: Second Year B. Tech. Trimester I: 15

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**B. Tech. (Second Year) (Batch 2018-19),
Trimester – V**

Sr. No	Course Code	Name of Course	Type	Weekly Workload, Hrs			Credits		Assessment Marks**			
				Theory	Tutorial	Lab	Th	Lab	CCA	LCA	ETT	Total
1	ME221	Theory of Machines	PC	3	-	2	2	1	50	50	50	150
2	ME222	Fluid Mechanics	ES	3	-	2	2	1	50	50	50	150
3	ES223	Mathematics -III	BS	3	1	-	3	-	100	-	50	150
4	ME224	Engineering Metallurgy	PC	3	-	2	2	1	50	50	50	150
5	WPC 1	World Famous Philosophers, Sages/ Saints and Great Kings	WP	3	-	-	2	-	70	-	30	100
6		National Study Tour	WP	-	-	-	-	-	-	-	-	-
		Total		15	01	06	11	03	320	150	230	700

Type: (Refer Para 11 of Academic Ord. 2017)

**Assessment Marks are valid only if Attendance criteria are met

Weekly Teaching Hours: **22**

Total Credits: Second Year B. Tech.Trimester II: 14

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**B. Tech. (Second Year) (Batch 2018-19),
Trimester – VI**

Sr. No	Course Code	Name of Course	Type	Weekly Workload, Hrs			Credits		Assessment Marks**			
				Theory	Tutorial	Lab	Th	Lab	CCA	LCA	ETT	Total
1	ME231	Applied Thermodynamics	PC	3	-	2	2	1	50	50	50	150
2	ME232	Hydraulics & Pneumatics	PC	3	-	2	2	1	50	50	50	150
3	ME233	Design of Machine Elements	PC	3	-	2	2	1	50	50	50	150
4	ME234	Metrology	PC	3	-	2	2	1	50	50	50	150
5		Environmental Science/ Indian Constitution	HSS	2	-	-	1	-	50	-	-	50
		Total :		14	-	08	09	04	250	200	200	650

Type: (Refer Para 11 of Academic Ord. 2017)

**Assessment Marks are valid only if Attendance criteria are met

Weekly Teaching Hours: **22**

Total Credits: Second Year B. Tech. Trimester III: 13

Total Second Year B. Tech Credits: 15+14+13 = 42

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**B. Tech. (Third Year) (Batch 2018-19),
Trimester – VII**

Sr. No	Course Code	Name of Course	Type	Weekly Workload, Hrs			Credits		Assessment Marks**			
				Theory	Tutorial	Lab	Th	Lab	CCA	LCA	ETT	Total
1	ME311	Turbo Machines	PC	3	-	2	2	1	50	50	50	150
2	ME312	Professional Elective I	PE	3	-	2	2	1	50	50	50	150
3	ME313	Open Elective I	OE	3	-	2	2	1	50	50	50	150
4	ME314	Design of Transmission Systems	PC	3	-	2	2	1	50	50	50	150
		Finance and Accounting	HSS	3	-	-	2	-	50	-	50	100
6	WPC 6	Human Values & Professional Ethics	WP	3	-	-	2	-	50	-	50	100
		Total :		18	-	8	12	04	300	200	300	800

Type: (Refer Para 11 of Academic Ord. 2017)

**Assessment Marks are valid only if Attendance criteria are met

Weekly Teaching Hours: **26**

Total Credits: Third Year B. Tech. Trimester I: 16

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**B. Tech. (Third Year) (Batch 2018-19),
Trimester – VIII**

Sr. No	Course Code	Name of Course	Type	Weekly Workload, Hrs			Credits		Assessment Marks**			
				Theory	Tutorial	Lab	Th	Lab	CCA	LCA	ETT	Total
1	ME321	Mechatronics	PC	3	-	2	2	1	50	50	50	150
2	ME322	Heat Transfer	PC	3	-	2	2	1	50	50	50	150
3	ME323	Professional Elective II	PE	3	-	2	2	1	50	50	50	150
4	ME324	Open Elective II	OE	3	-	2	2	1	50	50	50	150
5	ME315	Mechanical Engineering Software Laboratory- II	PC	-	-	4	-	2	-	100	-	100
6	WPC 4	Indian Culture and Heritage	WP	3	-	-	2	-	50	-	50	100
Total :				15	-	12	10	06	250	300	250	800

Type: (Refer Para 11 of Academic Ord. 2017)

**Assessment Marks are valid only if Attendance criteria are met

Weekly Teaching Hours: **27**

Total Credits: Third Year B. Tech. Trimester II: 16

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**B. Tech. (Third Year) (Batch 2018-19),
Trimester – IX**

Sr. No	Course Code	Name of Course	Type	Weekly Workload, Hrs			Credits		Assessment Marks**			
				Theory	Tutorial	Lab	Th	Lab	CCA	LCA	ETT	Total
1	ME331	Dynamics of Machinery	PC	3	-	2	2	1	50	50	50	150
2	ME332	Numerical Methods	PC	3	-	2	2	1	50	50	50	150
3	ME333	Professional Elective III	PE	3	-	2	2	1	50	50	50	150
4	ME334	Open Elective III	OE	3	-	2	2	1	50	50	50	150
5	ME335	Seminar/ Mini Project	PR	-	-	2	-	1	-	50	-	50
6	WPC 5	Science and Spirituality	WP	3	-	-	2	-	50	-	50	100
7		International Study Tour	WP	-	-	-	-	-	-	-	-	-
		Total :		15	-	10	10	05	250	250	250	750

Type: (Refer Para 11 of Academic Ord. 2017)

**Assessment Marks are valid only if Attendance criteria are met

Weekly Teaching Hours: **25**

Total Credits: Third Year B. Tech Trimester III: **15**

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Total Third Year B. Tech Credits: **16+16+15 = 47**



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**B. Tech. (Final Year) (Batch 2018-19),
Trimester – X**

Sr. No	Course Code	Name of Course	Type	Weekly Workload, Hrs			Credits		Assessment Marks**			
				Theory	Tutorial	Lab	Th	Lab	CCA	LCA	ETT	Total
1	ME411	Professional Elective IV	PE	3	-	2	2	1	50	50	50	150
2	ME412	Professional Elective V	PE	3	-	2	2	1	50	50	50	150
3	ME413	Open Elective IV	OE	3	-	2	2	1	50	50	50	150
4	ME414	Mini Project/ Interdisciplinary Project	PR	-	-	4	-	2	--	100	-	100
5		Strategic Planning & Leadership	LPC	3	-	-	2	-	50	-	50	100
		Total :		12	-	10	08	05	200	250	200	650

Type: (Refer Para 11 of Academic Ord. 2017)

**Assessment Marks are valid only if Attendance criteria are met

Weekly Teaching Hours: **22**

Total Credits: Final Year B. Tech Trimester I: 13

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**B. Tech.(Final Year) (Batch 2018-19)_
Trimester – XI**

Sr. No	Course Code	Name of Course	Type	Weekly Workload, Hrs			Credits		Assessment Marks**			
				Theory	Tutorial	Lab	Th	Lab	CCA	LCA	ETT	Total
1	ME 421	Professional Elective VI	PE	3	-	2	2	1	50	50	50	150
2	ME 422	Open Elective V	OE	3	-	2	2	1	50	50	50	150
3	ME 423	Open Elective VI	OE	3	-	2	2	1	50	50	50	150
4	ME 424	Capstone Project: Stage I	PR	-	-	6	-	2	-	100	-	100
Total :				09	-	12	6	5	150	250	150	550

Type: (Refer Para 11 of Academic Ord. 2017)

**Assessment Marks are valid only if Attendance criteria are met

Weekly Teaching Hours: **21**

Total Credits: Final Year B. Tech. Trimester II: 11

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**B. Tech. (Final Year) (Batch 2018-19),
Trimester – XII**

Sr. No.	Course Code	Name of Course	Type	Weekly Workload, Hrs			Credits		Assessment Marks**			
				Theory	Tutorial	Lab	Th	Lab	CCA	LCA	ETT	Total
1	ME431	Capstone Project with/ without Internship : Stage II	PR	-	-	24	-	10	-	300	-	300
		Total :		-	-	24	-	10	-	300	-	300

Type: (Refer Para 11 of Academic Ord. 2017)

**Assessment Marks are valid only if Attendance criteria are met

Weekly Teaching Hours: **24**

Total Credits: Final Year B. Tech. Trimester III: 10

Total Final Year B. Tech Credits: 13+11+10 = 34

Total B. Tech. Credits:

43+42+47+34 = 166 Credits + 6 Credits earned through MOOCs

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List of Professional Electives offered

Professional Elective	Course Code	Name of Course
PE I	ME 312A	Synthesis Of Mechanisms
	ME 312 B	Power Plant Engineering
	ME 312 C	Advanced Martials
PE II	ME 323 A	Mechanical System Design
	ME 323 B	Automotive Engineering
	ME 323 C	Advanced Manufacturing Processes
PE III	ME 333 A	Finite Element Method
	ME 333 B	Refrigeration and Air Conditioning
	ME 333 C	Additive Manufacturing
PE IV	ME 411 A	Vehicle Dynamics
	ME 411 B	Computational Fluid Dynamics
	ME 411 C	Industrial Robotics
	ME 411 D	Product Design and Development
PE V	ME 412 A	Tribology
	ME 412 B	Cryogenics
	ME 412 C	Simulation and Sheet Metal Forming
	ME 412 D	Product Life Cycle Management
PE VI	ME 421 A	Mechanical System Modeling
	ME 421 B	Thermo-fluid System Design
	ME 421 C	Welding Technology
	ME 421 D	Digital Manufacturing

- Every candidate will register for at least three MOOC courses. Students to submit the credits earned in MOOCs courses for inclusion in their grade sheet.
- World Peace programmes like rural immersion, national study tour are mandatory for graduation.

