

G H RAISONI COLLEGE OF ENGINEERING NAGPUR

(An Autonomous Institute affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)
CRPF Gate No.3, Hingna Road, Digdoh Hills, Nagpur. Maharashtra-440016 (India)

Course wise Teaching Plan for Session : Winter 2017

Course : Mathematical Applications in Mechanical

Faculty : Archana A. Deshpande

Engineering Unit	Topic Code	Topic Covered	Date	Course	Section
	1	Discussion of syllabu	12/06/2017	BAML203	A
	2	Definition Of Laplace transform	13/06/2017	BAML203	A
	3	Properties of laplace transform	14/06/2017	BAML203	A
	4	Examples	15/06/2017	BAML203	A
	1	Tutorial:1	19/06/2017	BAML203	A
	5	convolution theorem	20/06/2017	BAML203	A
	6	Laplace transforms of periodic function	21/06/2017	BAML203	A
	7	Unit step function	22/06/2017	BAML203	A
	37	Examples	26/06/2017	BAML203	A
	8	Applications of Laplace transforms to solve ordinary differential equations &	27/06/2017	BAML203	A
	9	Applications of Laplace transforms to partial differential equations (one-dimensional wave & diffusion equations).	28/06/2017	BAML203	A
	2	Tutorial-2	03/07/2017	BAML203	A
2	11	Fourier series expansion	04/07/2017	BAML203	A
2	12	Fourier series for even & function	05/07/2017	BAML203	A
2	13	Fourier series for even & function	06/07/2017	BAML203	A
2	3	Tutorial-4	10/07/2017	BAML203	A
2	14	Change of interval	11/07/2017	BAML203	A
2	15	Half range expansion.	12/07/2017	BAML203	A
2	16	Harmonic analysis	13/07/2017	BAML203	A
3	17	Unit-III Fourier Transform: Definition	19/07/2017	BAML203	A
3	18	Fourier integral theorem	20/07/2017	BAML203	A

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Course : Mathematical Applications in Mechanical

Faculty : Archana A. Deshpande

Engineering Unit	Topic Code	Topic Covered	Date	Course	Section
3	5	Tutorial-5	24/07/2017	BAML203	A
3	19	Fourier sine & cosine integrals	25/07/2017	BAML203	A
3	20	Finite Fourier sine & cosine transforms	26/07/2017	BAML203	A
3	21	Parseval's identity	27/07/2017	BAML203	A
3	6	Tutorial-6	31/07/2017	BAML203	A
3	22	Convolution theorem	01/08/2017	BAML203	A
3	23	Partial differential equation of first order first degree i.e. Lagrange's form,	02/08/2017	BAML203	A
3	24	Linear homogeneous partial differential equation of higher order with constant coefficient	03/08/2017	BAML203	A
4	7	Tutorial-7	07/08/2017	BAML203	A
3	25	Method of separation of variables	08/08/2017	BAML203	A
3	26	Application to one dimensional heat & diffusion equation	09/08/2017	BAML203	A
3	27	Two dimensional Heat equations (Only steady state).	10/08/2017	BAML203	A
4	8	Tutorial-8	14/08/2017	BAML203	A
4	28	Unit -IV Partial differential equation: Partial differential equation of first order first degree i.e. Lagrange's form,	16/08/2017	BAML203	A
4	29	Partial differential equation of first order first degree i.e. Lagrange's form,	17/08/2017	BAML203	A
5	9	Tutorial-9	21/08/2017	BAML203	A
4	30	Linear homogeneous partial differential equation of higher order with constant coefficient,	22/08/2017	BAML203	A
4	31	Method of separation of variables	23/08/2017	BAML203	A
4	32	Application to one dimensional heat & diffusion equation, Two dimensional Heat equations. (Only steady state).	24/08/2017	BAML203	A

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Course wise Teaching Plan for Session : Winter 2017

Course : Mathematical Applications in Mechanical

Faculty : Archana A. Deshpande

Engineering Unit	Topic Code	Topic Covered	Date	Course	Section
6	10	Tutorial-10	28/08/2017	BAML203	A
5	33	Unit -V Complex Variables : Analytic function	30/08/2017	BAML203	A
5	34	Cauchy-Riemann conditions, Conjugate functions	31/08/2017	BAML203	A
5	35	Singularities, Cauchy's integral theorem and integral formula (statement only)	05/09/2017	BAML203	A
5	36	Taylor's and Laurent's theorem (Statement only)	06/09/2017	BAML203	A
5	38	Residue theorem	07/09/2017	BAML203	A
5	39	Contour integration	12/09/2017	BAML203	A
5	40	Evaluation of real & complex integral by residue theorem.	20/09/2017	BAML203	A
6	41	Conformal mapping, mapping by linear & inverse transformation.	21/09/2017	BAML203	A
6	42	Unit -VI Special function & series solution: Series solution of differential equation by Frobenius method	26/09/2017	BAML203	A
6	43	Bessel's function	27/09/2017	BAML203	A
6	44	Legendre's polynomials	28/09/2017	BAML203	A
6	45	Recurrence relations, Rodrigue formula	03/10/2017	BAML203	A

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Course wise Teaching Plan for Session : Winter 2017

Course : Kinematics of Machines

Faculty : Dr. Arvind K. Mahalle

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Vision, Mission of College and Department, Program Educational Objectives, Program Objective, Course objective and Outcomes	12/06/2017	BMEL204	A
1	2	Basic concepts of Mechanism, Link, Kinematic Pairs, Different Kinematics Pairs and Chain	14/06/2017	BMEL204	A
1	3	Video on operation of different types of linkages.	15/06/2017	BMEL204	A
1	4	Kinematic Chain, Mechanism, Machine and DOF,	16/06/2017	BMEL204	A
1	5	Video on working of different types of Mechanism.	19/06/2017	BMEL204	A
1	6	Grubler's Criterion, Classification of 4 Bar Mechanism, Kutzbach Theory, Classification of Mechanism	21/06/2017	BMEL204	A
1	60	class I and class II MECHANISM	21/06/2017	BMEL204	A
1	7	Inversion of 4 Bar chain and Slider Crank Mechanism,	22/06/2017	BMEL204	A
1	8	Showing of different inversions of four bar mechanism using models.	23/06/2017	BMEL204	A
2	62	Cam and Follower	26/06/2017	BMEL204	A
1	9	Practical demonstration on shaper machine for the concept of Quick return Mechanism	28/06/2017	BMEL204	A
2	61	Cam significance	28/06/2017	BMEL204	A
1	10	Mobility or DOF of a Mechanism, Exception of KT, Grashoff's law, Class I and II mechanisms	29/06/2017	BMEL204	A
1	11	Demonstration of mechanisms used in two wheelers in Yamaha Lab.	30/06/2017	BMEL204	A
2	12	Displacement, Velocity and Acceleration	03/07/2017	BMEL204	A
2	13	Analysis of Planer mechanism - Graphical Method,	05/07/2017	BMEL204	A
2	14	velocity analysis of mechanism	05/07/2017	BMEL204	A
2	15	Displacement , velocity analysis of mechanism- Analytical Method	06/07/2017	BMEL204	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Kinematics of Machines

Faculty : Dr. Arvind K. Mahalle

Unit	Topic Code	Topic Covered	Date	Course	Section
2	16	Coriolis component of acceleration - Basic theory and numerical Instantaneous center method ,Kennedy's theorem	07/07/2017	BMEL204	A
2	17	NPTEL lecture on Velocity Analysis.	10/07/2017	BMEL204	A
2	18	NPTEL lecture on Acceleration Analysis	12/07/2017	BMEL204	A
3	19	Concept of CAM , Comparison of Cam with linkages , Types of CAMS and Followers and applications	12/07/2017	BMEL204	A
3	20	Synthesis of CAM for different follower motions, Pressure angle and Parameters affecting CAM performance	13/07/2017	BMEL204	A
3	21	Demonstration and Actual showing of different CAM and its application.	14/07/2017	BMEL204	A
3	22	Concept of toothed wheels, compression with CAM	19/07/2017	BMEL204	A
3	23	Numericals on Kinfe edge follower CAM, Numericals on Roller follower CAM	19/07/2017	BMEL204	A
3	24	Demonstration and Actual showing of different Follower and its application	20/07/2017	BMEL204	A
3	25	Numericals on Mushrum follower CAM,	21/07/2017	BMEL204	A
3	26	Numericals on Tangent follower CAM	24/07/2017	BMEL204	A
4	27	Concept of toothed wheels, compression with CAM	27/07/2017	BMEL204	A
4	28	Tooth profiles, advantages and Limitations	28/07/2017	BMEL204	A
4	29	Demonstration of spur & helical gears using gear box of four wheeler.	31/07/2017	BMEL204	A
4	30	Gear Tooth Terminology, Conjugate Action and law	02/08/2017	BMEL204	A
4	31	Demonstration of Bevel & worm gears using differential gear box of four wheeler.	02/08/2017	BMEL204	A
4	32	Kinematics of Involute Gear Tooth Pairs	03/08/2017	BMEL204	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Kinematics of Machines

Faculty : Dr. Arvind K. Mahalle

Unit	Topic Code	Topic Covered	Date	Course	Section
4	33	Arc of Contact, Path of Approach & recess, No. of pairs of teeth in contact interference Undercutting	04/08/2017	BMEL204	A
5	34	Kinematics of Helical, Bevel, Spiral Gears	09/08/2017	BMEL204	A
5	35	Video on different gear trains.	09/08/2017	BMEL204	A
5	36	Kinematics of Worm, Rack and Pinion Gears	10/08/2017	BMEL204	A
5	37	Kinematics of Involute Gear Tooth Pairs	11/08/2017	BMEL204	A
5	38	Demonstration on lathe machine for gear trains.	14/08/2017	BMEL204	A
5	39	Kinematic and Torque analysis of simple and double epicyclic gear	16/08/2017	BMEL204	A
5	40	Kinematic and Torque analysis of simple and double epicyclic gear	16/08/2017	BMEL204	A
6	41	FBD, Condition of equilibrium, Analysis of all links	17/08/2017	BMEL204	A
6	42	Cam , Gear mechanism and their combinations	21/08/2017	BMEL204	A
6	43	Free body diagram	23/08/2017	BMEL204	A
6	44	Cognate Linkages	23/08/2017	BMEL204	A
6	45	Synthesis of 4 Bar Chain, Transmission Angle Optimization	24/08/2017	BMEL204	A
6	46	NPTEL lecture on Synthesis.	25/08/2017	BMEL204	A
6	47	Coupler Curves, Cognate Linkages	28/08/2017	BMEL204	A
6	48	NPTEL lecture on Frudenstien's Equation	30/08/2017	BMEL204	A
6	49	Advance Topic	30/08/2017	BMEL204	A
6	50	Advance Topic	31/08/2017	BMEL204	A
6	51	Rivision	01/09/2017	BMEL204	A
6	52	Rivision	04/09/2017	BMEL204	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Kinematics of Machines

Faculty : Dr. Arvind K. Mahalle

Unit	Topic Code	Topic Covered	Date	Course	Section
6	53	Rivision	06/09/2017	BMEL204	A
6	54	Rivision	06/09/2017	BMEL204	A
6	55	Rivision	07/09/2017	BMEL204	A
6	56	Rivision	08/09/2017	BMEL204	A
6	57	Rivision	11/09/2017	BMEL204	A
6	58	Rivision	15/09/2017	BMEL204	A
6	59	Rivision	18/09/2017	BMEL204	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Material Engineering

Faculty : A.M.Murhekar

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	UNIT I: Introduction to Basic Terms (System, Phase, Variables, and Components Etc.)	12/06/2017	BMEL203	A
1	1	Introduction: Course objectives, course outcomes, program outcomes, outcome based education, mapping of CO's with PO's, planning of CAE & TAE	12/06/2017	BMEL203	A
1	2	UNIT I: Introduction to Basic Terms (System, Phase, Variables, and Components Etc.)	13/06/2017	BMEL203	A
1	2	Alloys and solid solutions	13/06/2017	BMEL203	A
1	3	Hume Rothery rules	14/06/2017	BMEL203	A
1	3	Alloys and solid solutions	14/06/2017	BMEL203	A
1	4	Hume Rothery rules	19/06/2017	BMEL203	A
1	4	Time Temperature cooling curves, Binary phase diagrams Isomorphous systems, Partial miscibility	19/06/2017	BMEL203	A
1	5	Metallic systems completely miscible in liquid state and completely immiscible in solid state. Lever rule	20/06/2017	BMEL203	A
1	6	Equilibrium cooling, Microstructures under equilibrium cooling conditions, Eutectic, Hyper and hypoeutectic alloys.	21/06/2017	BMEL203	A
1	7	PPT on basic concept of Nanotechnology	27/06/2017	BMEL203	A
2	8	UNIT II: Introduction to ferrous materials, Allotropy of Iron	28/06/2017	BMEL203	A
2	9	Iron -Iron carbide equilibrium diagram	03/07/2017	BMEL203	A
2	10	Contd. Iron -Iron carbide equilibrium diagram. Definition of different phases.	04/07/2017	BMEL203	A
2	11	Contd. Iron -Iron carbide equilibrium diagram, Critical temperature, Invariant reactions	05/07/2017	BMEL203	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Material Engineering

Faculty : A.M.Murhekar

Unit	Topic Code	Topic Covered	Date	Course	Section
2	12	Microstructure under equilibrium cooling condition, Estimation of carbon from microstructures, structure property relationship.	10/07/2017	BMEL203	A
2	13	Purpose of alloying, Different alloying elements and their effect on enhancing the different characteristics	11/07/2017	BMEL203	A
2	14	Tool steels ,Video on synthesis of nanofluid using aluminium oxide nanoparticles.	12/07/2017	BMEL203	A
2	15	Stainless steels, spring steels. Designation of steels. AISI, ASTM, EN etc.	19/07/2017	BMEL203	A
3	16	UNIT III: Cast iron, White cast iron	24/07/2017	BMEL203	A
3	17	Maurer Diagram ,Grey cast iron, Types of grey cast iron	25/07/2017	BMEL203	A
3	18	Malleable cast iron, malleablizing cycle ,Nodular cast iron	26/07/2017	BMEL203	A
3	19	Video on working of scanning electron microscopy,Video on working of transmission electron microscopy.	31/07/2017	BMEL203	A
3	20	Alloy cast iron. Microstructure, Properties and Application of each type of cast iron.	01/08/2017	BMEL203	A
4	21	UNIT IV: Introduction, importance of heat treatment	02/08/2017	BMEL203	A
4	22	Basic heat treatments such as annealing,normalising	08/08/2017	BMEL203	A
4	23	Hardening and tempering, procedure, allied phases - martensite, retained austenite etc. and microstructure and their co-relation.	09/08/2017	BMEL203	A
4	24	TTT diagram, construction	14/08/2017	BMEL203	A
4	25	Heat treatment based on TTT curve. Industrial applications of different heat treatment processes	16/08/2017	BMEL203	A
4	26	Hardenability, Jominy end quench Test	21/08/2017	BMEL203	A
4	27	Contd. Hardenability, Jominy end quench Test	22/08/2017	BMEL203	A



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Course : Material Engineering

Faculty : A.M.Murhekar

Unit	Topic Code	Topic Covered	Date	Course	Section
4	28	Surface Treatments based on above such as Induction Hardening	23/08/2017	BMEL203	A
4	29	Contd. Surface Treatments	28/08/2017	BMEL203	A
4	30	Video on actual working of magnetic particle inspection.	30/08/2017	BMEL203	A
4	31	Video on actual working of ultrasonic inspection method, Video on actual working of radiographic inspection..	04/09/2017	BMEL203	A
4	32	UNIT V: Brief introduction to different nonferrous materials	05/09/2017	BMEL203	A
5	33	Aluminium and its alloy, eg. Aluminium Silicon, related phase diagram	06/09/2017	BMEL203	A
5	34	Contd. Aluminium and its alloy, eg. Aluminium Silicon, related phase diagram, Na modification	11/09/2017	BMEL203	A
5	35	Copper and its alloys, eg. Copper-zinc, Copper-tin, Dezincification, Seasons cracking	12/09/2017	BMEL203	A
5	36	Introduction to nano materials, high temperature smart materials, properties and relevant applications	18/09/2017	BMEL203	A
5	37	Video on nanoparticles size measurement and distribution, Explanation on electric furnace.	20/09/2017	BMEL203	A
5	38	Video on actual working of induction hardening and carburizing process for surface treatment.	25/09/2017	BMEL203	A
6	39	UNIT VI: Need of testing , Destructive testing, Mechanical testing, Tensile test	26/09/2017	BMEL203	A
6	40	Impact test Izod and Charpy test	27/09/2017	BMEL203	A
6	41	Hardness measurement, micro hardness	03/10/2017	BMEL203	A
6	42	Non destructive testing, Magnetic particle inspection	04/10/2017	BMEL203	A

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Course wise TeachingPlan for Session : Winter 2017

Course : Machine Drawing

Faculty : Ashish Yadav

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Objectives of subject, Introduction of Computer Aided Drafting Computer Aided Drafting and Design	12/06/2017	BMEL201	A
1	2	Principles of Drawings Scales as per ISO standards, Importance of Title Block and Part list Lines types	12/06/2017	BMEL201	A
1	3	Dimensions	17/06/2017	BMEL201	A
1	4	Principle of Dimensioning Counter Sink, Counter Bores Spot Faces	17/06/2017	BMEL201	A
1	5	Dimensions (with examples) Chamfers Screw Threads Tapered Features	19/06/2017	BMEL201	A
2	6	Drawing Layout and Lettering	24/06/2017	BMEL201	A
2	7	Prepare Two 2-D Geometrical Modal by using Sketching mode by using line, circle, trim extend command.	24/06/2017	BMEL201	A
2	8	Line thickness and its type.	24/06/2017	BMEL201	A
3	9	Convert 2D into 3D geometry	26/06/2017	BMEL201	A
3	11	Prepare the 3D geometrical model	03/07/2017	BMEL201	A
4	12	Prepare the 3D geometrical model	08/07/2017	BMEL201	A
4	13	Assembly preparation by using assembly relatedcommand in CAD Software,	08/07/2017	BMEL201	A
5	14	Sectioning Cutting Planes and Section Hatching Lines	10/07/2017	BMEL201	A
5	15	Half Sections Aligned Sections, Offset Sections, Sectioning Revolved	10/07/2017	BMEL201	A
5	16	Removed Sections, Local Sections, Successive Sections, Thin Sections	15/07/2017	BMEL201	A
5	17	Pactise on section modeling	22/07/2017	BMEL201	A
5	18	Pactise on section modeling	24/07/2017	BMEL201	A
5	19	Pactise on missing view	29/07/2017	BMEL201	A
5	20	Pactise on missing view	29/07/2017	BMEL201	A

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CRPF Gate No.3, Hingna Road,Digdoh Hills, Nagpur. Maharashtra-440016 (India)**Course wise TeachingPlan for Session : Winter 2017****Course : Machine Drawing****Faculty : Ashish Yadav**

Unit	Topic Code	Topic Covered	Date	Course	Section
6	21	Limits, Fits and Tolerance-Classifications of Fits System of Fits' Computations Selection of FitsMethod of Indicating Fits on Drawings	29/07/2017	BMEL201	A
6	22	Tolerance Grade Computations of Tolerance Positions of Tolerance Fundamental of Deviations Shaft and Hole Terminology Method of Placing Limit Dimensions	29/07/2017	BMEL201	A
6	23	Limits, Fits and Tolerance Need of Geometrical Tolerance Geometrical Characteristics of Symbols Indication of MMC Interpretation of Indication of Geometrical Tolerance	31/07/2017	BMEL201	A
6	24	Industrial applications of Limits & Fits	05/08/2017	BMEL201	A
6	25	Industrialapplications ofGeometric Tolerance	05/08/2017	BMEL201	A
6	26	Conventional Representations	05/08/2017	BMEL201	A
7	27	Common features, Springs, Gear Assemblies , Materials Interrupted views and Braking of Shaft, Pipe, Bar Surface finishing & Machining Symbols	14/08/2017	BMEL201	A
7	28	Conventional Representations-Common features, Springs, Gear Assemblies, Materials Interrupted views and Braking of Shaft, Pipe, Bar Surface finishing & Machining Symbols	21/08/2017	BMEL201	A
7	29	Screwed Fastenings Screw Thread, Nomenclature Threads Form of V Threads	26/08/2017	BMEL201	A
7	30	Form of Square Threads conventional representations	26/08/2017	BMEL201	A
7	31	Types of Joints-Riveted Joints and Riveting Classification	28/08/2017	BMEL201	A
7	32	Rivet Terminologies	28/08/2017	BMEL201	A
7	33	Welded Joints- Types of Welded Joints, Welds Symbols and its conventions	02/09/2017	BMEL201	A



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Course wise TeachingPlan for Session : Winter 2017

Unit	Topic Code	Topic Covered	Date	Course	Section
8	34	Flip lecture-Welding representation on drawing	02/09/2017	BMEL201	A
7	35	Pipes and Pipe Joints -Types of Pipe Joints,	04/09/2017	BMEL201	A
8	36	Piping Layout and Conventions	04/09/2017	BMEL201	A
8	37	Pulleys -Applications, Types	09/09/2017	BMEL201	A
8	38	Couplings -Applications, Types, Working Principles	09/09/2017	BMEL201	A
9	39	Assembly Drawing	11/09/2017	BMEL201	A
9	40	De-Assembly Drawing	16/09/2017	BMEL201	A
9	41	Production drawing	16/09/2017	BMEL201	A
10	42	Hands on Process planning sheet	25/09/2017	BMEL201	A
10	43	Hands on Process planning sheet	25/09/2017	BMEL201	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Kapil N bhasme

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Objectives of subject, Introduction of Computer Aided Drafting Computer Aided Drafting and Design	12/06/2017	BMEL201	A
1	2	Principles of Drawings Scales as per ISO standards, Importance of Title Block and Part list Lines types	12/06/2017	BMEL201	A
1	3	Dimensions	17/06/2017	BMEL201	A
1	4	Principle of Dimensioning Counter Sink, Counter Bores Spot Faces	17/06/2017	BMEL201	A
1	5	Dimensions (with examples) Chamfers Screw Threads Tapered Features	19/06/2017	BMEL201	A
2	6	Drawing Layout and Lettering	24/06/2017	BMEL201	A
2	7	Prepare Two 2-D Geometrical Modal by using Sketching mode by using line, circle, trim extend command.	24/06/2017	BMEL201	A
2	8	Line thickness and its type.	24/06/2017	BMEL201	A
3	9	Convert 2D into 3D geometry	26/06/2017	BMEL201	A
3	11	Prepare the 3D geometrical model	03/07/2017	BMEL201	A
4	12	Prepare the 3D geometrical model	08/07/2017	BMEL201	A
4	13	Assembly preparation by using assembly related command in CAD Software,	08/07/2017	BMEL201	A
5	14	Sectioning Cutting Planes and Section Hatching Lines	10/07/2017	BMEL201	A
5	15	Half Sections Aligned Sections, Offset Sections, Sectioning Revolved	10/07/2017	BMEL201	A
5	16	Removed Sections, Local Sections, Successive Sections, Thin Sections	15/07/2017	BMEL201	A
5	17	Pactise on section modeling	22/07/2017	BMEL201	A
5	18	Pactise on section modeling	24/07/2017	BMEL201	A
5	19	Pactise on missing view	29/07/2017	BMEL201	A
5	20	Pactise on missing view	29/07/2017	BMEL201	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Kapil N bhasme

Unit	Topic Code	Topic Covered	Date	Course	Section
6	21	Limits, Fits and Tolerance-Classifications of Fits System of Fits' Computations Selection of Fits Method of Indicating Fits on Drawings	29/07/2017	BMEL201	A
6	22	Tolerance Grade Computations of Tolerance Positions of Tolerance Fundamental of Deviations Shaft and Hole Terminology Method of Placing Limit Dimensions	29/07/2017	BMEL201	A
6	23	Limits, Fits and Tolerance Need of Geometrical Tolerance Geometrical Characteristics of Symbols Indication of MMC Interpretation of Indication of Geometrical Tolerance	31/07/2017	BMEL201	A
6	24	Industrial applications of Limits & Fits	05/08/2017	BMEL201	A
6	25	Industrial applications of Geometric Tolerance	05/08/2017	BMEL201	A
6	26	Conventional Representations	05/08/2017	BMEL201	A
7	27	Common features, Springs, Gear Assemblies, Materials Interrupted views and Braking of Shaft, Pipe, Bar Surface finishing & Machining Symbols	14/08/2017	BMEL201	A
7	28	Conventional Representations-Common features, Springs, Gear Assemblies, Materials Interrupted views and Braking of Shaft, Pipe, Bar Surface finishing & Machining Symbols	21/08/2017	BMEL201	A
7	29	Screwed Fastenings Screw Thread, Nomenclature Threads Form of V Threads	26/08/2017	BMEL201	A
7	30	Form of Square Threads conventional representations	26/08/2017	BMEL201	A
7	31	Types of Joints-Riveted Joints and Riveting Classification	28/08/2017	BMEL201	A
7	32	Rivet Terminologies	28/08/2017	BMEL201	A
7	33	Welded Joints- Types of Welded Joints, Welds Symbols and its conventions	02/09/2017	BMEL201	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Kapil N bhasme

Unit	Topic Code	Topic Covered	Date	Course	Section
8	34	Flip lecture-Welding representation on drawing	02/09/2017	BMEL201	A
7	35	Pipes and Pipe Joints -Types of Pipe Joints,	04/09/2017	BMEL201	A
8	36	Piping Layout and Conventions	04/09/2017	BMEL201	A
8	37	Pulleys -Applications, Types	09/09/2017	BMEL201	A
8	38	Couplings -Applications, Types, Working Principles	09/09/2017	BMEL201	A
9	39	Assembly Drawing	11/09/2017	BMEL201	A
9	40	De-Assembly Drawing	16/09/2017	BMEL201	A
9	41	Production drawing	16/09/2017	BMEL201	A
10	42	Hands on Process planning sheet	25/09/2017	BMEL201	A
10	43	Hands on Process planning sheet	25/09/2017	BMEL201	A

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Course wise Teaching Plan for Session : Winter 2017

Course : Engineering Thermodynamics

Faculty : Mohitkumar Gajanan Gabhane

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	To convey Course Outcomes, Program Outcomes to students. Declaration of TAE activities.	13/06/2017	BMEL205	A
1	2	Basic concepts and properties: Introduction to Thermodynamics, basic concepts, systems.	14/06/2017	BMEL205	A
1	3	Microscopic & macroscopic approaches properties and state of system.	15/06/2017	BMEL205	A
1	4	Point & path functions, thermodynamic equilibrium.	16/06/2017	BMEL205	A
1	5	Processes and cycles.	20/06/2017	BMEL205	A
1	6	Properties such as specific volume, pressure, temperature.	21/06/2017	BMEL205	A
1	7	Zeroth law of thermodynamics, temperature scales.	22/06/2017	BMEL205	A
2	8	Ideal gases and vapors: Difference between gases and Vapour, Ideal Gases.	23/06/2017	BMEL205	A
2	9	Gas constant, Heat and work, Work in compressible system.	27/06/2017	BMEL205	A
2	10	Heat transfer - a path function, Comparison of heat and work	28/06/2017	BMEL205	A
2	11	Phase change process of pure substance, Specific, sensible, Latent heat	29/06/2017	BMEL205	A
2	12	Triple point, critical point, Total heat of system.	30/06/2017	BMEL205	A
3	13	First law of thermodynamics : Classification of energy, Law of conservation of energy.	04/07/2017	BMEL205	A
3	14	First law of thermodynamics : Classification of energy, Law of conservation of energy.	05/07/2017	BMEL205	A
3	15	First law applied to closed system, Joules Experiment.	06/07/2017	BMEL205	A
3	16	Energy-a property of system, Internal energy - a function of temperature.	07/07/2017	BMEL205	A
3	17	Enthalpy, Specific heat at constant volume and pressure.	11/07/2017	BMEL205	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Engineering Thermodynamics

Faculty : Mohitkumar Gajanan Gabhane

Unit	Topic Code	Topic Covered	Date	Course	Section
3	18	Change in internal energy during non flow processes.	12/07/2017	BMEL205	A
3	19	Work done during various processes, P - V Diagram	13/07/2017	BMEL205	A
3	20	First law applied to Flow processes,	14/07/2017	BMEL205	A
3	21	Steady state process, mass & energy balance.	19/07/2017	BMEL205	A
3	22	SFEE and its applications.	20/07/2017	BMEL205	A
3	23	Work and heat transfer during steady flow processes.	21/07/2017	BMEL205	A
4	24	Second law of thermodynamics: Limitations of first law, Heat engine, Refrigerator, Heat pump.	25/07/2017	BMEL205	A
4	25	Statements of second law & their equivalence, PMM II	26/07/2017	BMEL205	A
4	26	Reversible & irreversible process,	27/07/2017	BMEL205	A
4	27	Carnot cycle & reversed Carnot cycle.	28/07/2017	BMEL205	A
4	28	COP of heat pump & refrigerator	01/08/2017	BMEL205	A
4	29	Entropy	02/08/2017	BMEL205	A
4	30	Entropy, Property of system, Clausius inequality	03/08/2017	BMEL205	A
4	31	Change of Entropy principle	04/08/2017	BMEL205	A
4	32	Change in entropy for ideal gases & during irreversible process.	08/08/2017	BMEL205	A
4	33	Principal increase of entropy	09/08/2017	BMEL205	A
5	34	Thermodynamic processes: Isobaric, Isochoric, isothermal, adiabatic, Polytropic.	10/08/2017	BMEL205	A
5	35	Throttling and free expansion, P - V & T - S diagrams	11/08/2017	BMEL205	A
5	36	Change in entropy numericals	16/08/2017	BMEL205	A
5	37	Work done, Heat Exchanged, Change in internal energy - Numericals	17/08/2017	BMEL205	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Engineering Thermodynamics

Faculty : Mohitkumar Gajanan Gabhane

Unit	Topic Code	Topic Covered	Date	Course	Section
5	38	Availability and irreversibility	22/08/2017	BMEL205	A
5	39	Gas power cycles: Otto, Diesel, Dual, sterling, Cycles.	23/08/2017	BMEL205	A
5	40	Their efficiency, MEP	24/08/2017	BMEL205	A
5	41	Numerical treatment.	30/08/2017	BMEL205	A
6	42	Vapour power Cycles: Properties of steam, specific volume and entropy	31/08/2017	BMEL205	A
6	43	Dryness fraction, throttling of steam.	01/09/2017	BMEL205	A
6	44	Numerical treatment.	05/09/2017	BMEL205	A
6	45	Rankine & modified Rankine cycle,	06/09/2017	BMEL205	A
6	46	Carnot cycle and its representation.	07/09/2017	BMEL205	A
6	47	Revision	08/09/2017	BMEL205	A
6	48	Revision	12/09/2017	BMEL205	A
6	49	Revision	15/09/2017	BMEL205	A
6	50	Revision	20/09/2017	BMEL205	A
6	51	Revision	21/09/2017	BMEL205	A
6	52	Revision	22/09/2017	BMEL205	A
6	53	Revision	26/09/2017	BMEL205	A
6	54	Revision	27/09/2017	BMEL205	A
6	55	Revision	03/10/2017	BMEL205	A
6	56	Revision	04/10/2017	BMEL205	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Dr. V N Bhiswar

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Unit: I - Introduction: Course objectives, course outcomes, program outcomes, outcome based education, mapping of CO's with PO's, planning of CAE & TAE	13/06/2017	BMEL202	A
	2	Properties of fluid: Density, specific gravity, & specific volume.	14/06/2017	BMEL202	A
	3	Properties of fluid: Dynamic viscosity & kinematic viscosity	15/06/2017	BMEL202	A
	1	Tutorial-1	16/06/2017	BMEL202	A
	4	Properties of fluid: Surface tension, capillarity & compressibility.	16/06/2017	BMEL202	A
	5	Video on surface tension	20/06/2017	BMEL202	A
	6	Video on Capillary action and meniscus formation	21/06/2017	BMEL202	A
	7	Vapor pressure, fluid pressure, pressure head, pressure intensity.	22/06/2017	BMEL202	A
	2	Tutorial-2	23/06/2017	BMEL202	A
	8	Concept of gage pressure, absolute pressure, vacuum pressure, & atmospheric pressure.	23/06/2017	BMEL202	A
	9	Manometers: Simple U-tube manometer & Differential U-tube manometer.	27/06/2017	BMEL202	A
	10	Mechanical gauges: Bordon tube pressure gauge.	28/06/2017	BMEL202	A
	11	Video on Pressure measurement using mechanical gauges.	29/06/2017	BMEL202	A
2	12	Unit : II Hydro static Forces	04/07/2017	BMEL202	A
2	13	Concept of Total pressure on immersed bodies	05/07/2017	BMEL202	A
2	14	Center of pressure	06/07/2017	BMEL202	A
2	3	Tutorial-3	07/07/2017	BMEL202	A
2	15	Buoyancy and flotation	07/07/2017	BMEL202	A
2	16	Determination of metacentric height	11/07/2017	BMEL202	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Dr. V N Bhiswar

Unit	Topic Code	Topic Covered	Date	Course	Section
2	17	Introduction to compressible flow	12/07/2017	BMEL202	A
2	18	Video on effect of variation in Metacentric height on floating bodies.	13/07/2017	BMEL202	A
2	4	Tutorial-4	14/07/2017	BMEL202	A
3	19	Unit: III Fluid flows: Types of fluid flows.	14/07/2017	BMEL202	A
3	20	Kinematics of fluid flow.	18/07/2017	BMEL202	A
3	21	Video on Flow net	19/07/2017	BMEL202	A
3	22	Continuity equation.	20/07/2017	BMEL202	A
3	5	Tutorial-5	21/07/2017	BMEL202	A
3	23	Euler's & Bernoulli's theorem.	21/07/2017	BMEL202	A
3	24	Venturimeter- Construction, principle of working, coefficient of discharge, derivation for discharge through venturimeter.	25/07/2017	BMEL202	A
3	25	Orifice meter- Construction, principle of working, hydraulic coefficient, derivation for discharge through orifice meter.	26/07/2017	BMEL202	A
3	26	Pitot Tube- Construction, principle of working.	27/07/2017	BMEL202	A
3	6	Tutorial-6	28/07/2017	BMEL202	A
3	27	YouTube video on flow velocity measurement	28/07/2017	BMEL202	A
3	28	Design of flow measuring devices.	01/08/2017	BMEL202	A
3	29	Demonstration on measurement of discharge for fluid machines	02/08/2017	BMEL202	A
3	30	Current Meter, Turbine Meter, Elbow Meter.	03/08/2017	BMEL202	A
4	7	Tutorial-7	04/08/2017	BMEL202	A
3	31	Video on turbine flow meter	04/08/2017	BMEL202	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Dr. V N Bhiswar

Unit	Topic Code	Topic Covered	Date	Course	Section
3	32	Application of Pascal's law for hydraulics system	08/08/2017	BMEL202	A
4	33	Unit: IV Flow through pipes: Laws of fluid friction (Laminar & Turbulent).	09/08/2017	BMEL202	A
4	34	Darcy's equation & Chezy's equation for frictional losses.	10/08/2017	BMEL202	A
4	8	Tutorial-8	11/08/2017	BMEL202	A
4	35	Minor losses in pipes.	11/08/2017	BMEL202	A
4	36	Hydraulic Gradient and Total Gradient line.	16/08/2017	BMEL202	A
4	37	Hydraulic power transmission through pipe, Energy Gradient.	17/08/2017	BMEL202	A
4	38	Pipes in series and parallel: Branched pipe.	22/08/2017	BMEL202	A
4	39	Three reservoir system, Siphon.	23/08/2017	BMEL202	A
4	40	Transmission of power through pipes.	24/08/2017	BMEL202	A
4	41	Water hammer due to sudden closure of valve.	29/08/2017	BMEL202	A
4	42	Video on Piping networks	30/08/2017	BMEL202	A
5	43	Unit: V Boundary layer concepts: Nominal thickness, displacement & momentum thickness.	31/08/2017	BMEL202	A
5	9	Tutorial-9	01/09/2017	BMEL202	A
5	44	Energy of the boundary layer, Boundary layer along a long thin plate & its characteristics.	01/09/2017	BMEL202	A
5	45	Laminar and Turbulent boundary layer.	05/09/2017	BMEL202	A
5	46	Separation of boundary layer on plane & curved surfaces & phenomenon of Flow separation	06/09/2017	BMEL202	A
5	47	Definition of Drag & Lift, flow past plates, cylinder & sphere.	07/09/2017	BMEL202	A
5	10	Tutorial-10	08/09/2017	BMEL202	A
5	48	Drag on sphere, cylinder & flat plate.	08/09/2017	BMEL202	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Dr. V N Bhaiwar

Unit	Topic Code	Topic Covered	Date	Course	Section
6	49	Unit: VI Dimensional Analysis: Fundamental dimensions, dimensional homogeneity.	12/09/2017	BMEL202	A
6	11	Tutorial-11	15/09/2017	BMEL202	A
6	50	Rayleigh's Method of dimensional analysis.	15/09/2017	BMEL202	A
6	51	Buckingham's Method of dimensional analysis.	19/09/2017	BMEL202	A
6	52	Dimensionless numbers & their significance.	20/09/2017	BMEL202	A
6	53	Hydraulic similitude, Types of models.	21/09/2017	BMEL202	A
6	12	Tutorial-12	22/09/2017	BMEL202	A
6	54	Model Testing	22/09/2017	BMEL202	A
6	55	Preparation of Nano fluids.	26/09/2017	BMEL202	A
6	56	Advance Topic	27/09/2017	BMEL202	A
6	57	Advance Topic	03/10/2017	BMEL202	A
6	58	Advance Topic	04/10/2017	BMEL202	A

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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Vinod M Wankar

Unit	Topic Code	Topic Covered	Date	Course	Section
	1	Introduction to Matlab	12/06/2017	BMEL209	A
	2	Matlab Environment	13/06/2017	BMEL209	A
	3	Command window management	14/06/2017	BMEL209	A
	4	Executing Expression from Matlab command	19/06/2017	BMEL209	A
	5	Executing Expression from Matlab command	20/06/2017	BMEL209	A
	6	Executing Expression from Matlab command	21/06/2017	BMEL209	A
	7	Matlab Function	26/06/2017	BMEL209	A
	8	Creation of .m file	27/06/2017	BMEL209	A
	9	Matrix and linear algebra review,	28/06/2017	BMEL209	A
	10	Matrix and linear algebra review,	03/07/2017	BMEL209	A
2	11	Vectors and matrices in MATLAB	04/07/2017	BMEL209	A
2	12	Vectors and matrices in MATLAB	05/07/2017	BMEL209	A
2	13	Matrix operations	10/07/2017	BMEL209	A
2	14	Matrix operations and functions in MATLAB	11/07/2017	BMEL209	A
2	15	functions in MATLAB	12/07/2017	BMEL209	A
3	16	Strings and Annotated Output	18/07/2017	BMEL209	A
3	17	Input/Output Data Files	19/07/2017	BMEL209	A
3	18	Cell Arrays	24/07/2017	BMEL209	A
3	19	Input Microsoft Excel Files	25/07/2017	BMEL209	A
3	20	Logical Operator (If, Switch, for loop, while loop statement),	26/07/2017	BMEL209	A
3	21	Logical Operator (If, Switch, for loop, while loop statement),	31/07/2017	BMEL209	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Vinod M Wankar

Unit	Topic Code	Topic Covered	Date	Course	Section
3	22	Logical Operator (If, Switch, for loop, while loop statement),	01/08/2017	BMEL209	A
3	23	Matlab Functions	02/08/2017	BMEL209	A
3	24	Use of Matlab Functions as per application	07/08/2017	BMEL209	A
4	25	Unit 4 2D/ 3D Graphics Introduction	08/08/2017	BMEL209	A
4	26	Graphics Management	09/08/2017	BMEL209	A
4	27	Basic 2D Plotting Commands	14/08/2017	BMEL209	A
4	28	Special Purpose Graphs	15/08/2017	BMEL209	A
4	29	Special Purpose Graphs	16/08/2017	BMEL209	A
4	30	Reading graphs	21/08/2017	BMEL209	A
4	31	Displaying and Manipulating Digital Images	22/08/2017	BMEL209	A
4	32	Graph Annotation and Enhancement	23/08/2017	BMEL209	A
4	33	Lines in 3D	28/08/2017	BMEL209	A
4	34	3D Surfaces	29/08/2017	BMEL209	A
5	35	Unit 5 Engineering Statistics using Matlab introduction	30/08/2017	BMEL209	A
5	36	Descriptive Statistical Quantities,	04/09/2017	BMEL209	A
5	37	Probability Distributions,	05/09/2017	BMEL209	A
5	38	Discrete Distributions,	06/09/2017	BMEL209	A
5	39	Continuous Distributions,	11/09/2017	BMEL209	A
5	40	Linear Regression,	12/09/2017	BMEL209	A
5	41	Multiple Linear Regression	13/09/2017	BMEL209	A
5	42	Design of Experiments	18/09/2017	BMEL209	A
5	43	Design of Experiments	19/09/2017	BMEL209	A

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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Vinod M Wankar

Unit	Topic Code	Topic Covered	Date	Course	Section
5	44	Analysis of Variance	20/09/2017	BMEL209	A
6	45	Unit 6 Fluid Mechanics in Matlab: Introduction	25/09/2017	BMEL209	A
6	46	Hydrostatics,	26/09/2017	BMEL209	A
6	47	Pressure Distribution in the Standard Atmosphere,	27/09/2017	BMEL209	A
6	48	Force on a Planar Gate,	02/10/2017	BMEL209	A
6	0	Internal Viscous Flow,	03/10/2017	BMEL209	A

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Course wise Teaching Plan for Session : Winter 2017

Course : Engineering Thermodynamics

Faculty : Kishor S Rambhad

Unit	Topic Code	Topic Covered	Date	Course	Section
	1	UNIT-I: Introduction to Thermodynamics, basic concepts, systems.	12/06/2017	BMEL205	B
	2	Microscopic & macroscopic approaches properties and state of system.	13/06/2017	BMEL205	B
	3	Point & path functions, thermodynamic equilibrium.	14/06/2017	BMEL205	B
	4	Processes and cycles. Properties such as specific volume, pressure, temperature	15/06/2017	BMEL205	B
	5	Zeroth law of thermodynamics, temperature scales	19/06/2017	BMEL205	B
	6	Difference between gases and Vapour, Ideal Gases. Gas Laws, Equation of state.	20/06/2017	BMEL205	B
	7	Gas constant, Heat and work, Work in compressible system.	21/06/2017	BMEL205	B
	8	Heat transfer - a path function, Comparison of heat and work	22/06/2017	BMEL205	B
	10	Video on equivalence of heat and work using Joules experiment	27/06/2017	BMEL205	B
	11	Video on verification of Charle's law	28/06/2017	BMEL205	B
2	12	UNIT-II: First law applied to closed system, Joules Experiment	29/06/2017	BMEL205	B
2	9	Energy-a property of system, Internal energy - a function of temperature.	03/07/2017	BMEL205	B
2	13	Enthalpy, Specific heat at constant volume and pressure. Change in internal energy during non flow processes.	04/07/2017	BMEL205	B
2	14	Work done during various processes, P - V Diagram	05/07/2017	BMEL205	B
2	15	First law applied to Flow processes, Steady state process, mass & energy balance.	06/07/2017	BMEL205	B
2	16	SFEE and its applications. Work and heat transfer during flow processes.	10/07/2017	BMEL205	B
2	17	Design of thermodynamic device applying SFEE	11/07/2017	BMEL205	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Engineering Thermodynamics

Faculty : Kishor S Rambhad

Unit	Topic Code	Topic Covered	Date	Course	Section
2	18	Video on second law verification	12/07/2017	BMEL205	B
3	19	UNIT-III: Limitations of first law, Heat engine, Refrigerator, Heat pump.	13/07/2017	BMEL205	B
3	22	COP of heat pump & refrigerator, Numericals	19/07/2017	BMEL205	B
3	23	Inequality theorem	20/07/2017	BMEL205	B
3	24	Application of Gas Power Cycles to IC Engines (Petrol Engine), Visit to Automobile, Yamaha Lab	24/07/2017	BMEL205	B
3	25	Application of Gas Power Cycles to IC Engines (Diesel Engine), Visit to Automobile, Yamaha Lab	25/07/2017	BMEL205	B
4	26	UNIT-IV: Entropy, Property of system, Clausius inequality	26/07/2017	BMEL205	B
4	27	Change in entropy for ideal gases & during irreversible process.	27/07/2017	BMEL205	B
4	28	Principal increase of entropy, Numericals	31/07/2017	BMEL205	B
4	29	Application of Vapour Power Cycles to steam power plant - videos of working	01/08/2017	BMEL205	B
4	30	Measurement of dryness fraction - videos of calorimeter's working	02/08/2017	BMEL205	B
5	31	UNIT -V : Gas power cycles, Engine terminology	03/08/2017	BMEL205	B
5	32	Otto Cycle, Work done, MEP	07/08/2017	BMEL205	B
5	33	Diesel, Dual cycles, Numericals	08/08/2017	BMEL205	B
5	34	Comparison of Otto, Diesel, Dual Cycles	09/08/2017	BMEL205	B
5	35	Sterling cycle, Ericsson cycles Numericals	10/08/2017	BMEL205	B
5	36	Application of second law to Refrigeration systems through videos & visit to RAC lab	14/08/2017	BMEL205	B
6	38	UNIT -VI: Vapour power Cycles: Properties of steam, specific volume and entropy	16/08/2017	BMEL205	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Engineering Thermodynamics

Faculty : Kishor S Rambhad

Unit	Topic Code	Topic Covered	Date	Course	Section
6	39	Phase change process of pure substance, Specific, sensible, Latent heat	17/08/2017	BMEL205	B
6	40	Triple point, critical point, and Total heat of system.	21/08/2017	BMEL205	B
6	41	Dryness fraction, throttling of steam.	22/08/2017	BMEL205	B
6	42	Steam tables and their use T - s & H - S Diagram	23/08/2017	BMEL205	B
6	43	Determination of dryness fraction.	24/08/2017	BMEL205	B
6	44	Rankine & modified Rankine cycle, Carnot cycle and its representation.	28/08/2017	BMEL205	B
6	37	Diesel, Dual cycles, Numericals	30/08/2017	BMEL205	B
6	45	Dryness fraction, throttling of steam.	31/08/2017	BMEL205	B
6	46	Video on second law verification	04/09/2017	BMEL205	B
6	20	UNIT-III: Limitations of first law, Heat engine, Refrigerator, Heat pump.	05/09/2017	BMEL205	B
1	21	REVISION OF UNIT I	06/09/2017	BMEL205	B
1	47	REVISION OF UNIT I	07/09/2017	BMEL205	B
2	51	REVISION OF UNIT II	07/09/2017	BMEL205	B
1	48	REVISION OF UNIT I	11/09/2017	BMEL205	B
1	49	REVISION OF UNIT I	12/09/2017	BMEL205	B
2	50	REVISION OF UNIT II	13/09/2017	BMEL205	B
2	52	REVISION OF UNIT II	18/09/2017	BMEL205	B
2	53	REVISION OF UNIT II	20/09/2017	BMEL205	B
2	54	REVISION OF UNIT II	21/09/2017	BMEL205	B
3	55	REVISION OF UNIT III	25/09/2017	BMEL205	B
3	56	REVISION OF UNIT III	26/09/2017	BMEL205	B

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Course wise Teaching Plan for Session : Winter 2017

Course : Engineering Thermodynamics

Faculty : Kishor S Rambhad

Unit	Topic Code	Topic Covered	Date	Course	Section
4	57	REVISION OF UNIT IV	27/09/2017	BMEL205	B
4	58	REVISION OF UNIT IV	28/09/2017	BMEL205	B
5	59	REVISION OF UNIT V	03/10/2017	BMEL205	B
5	60	REVISION OF UNIT V	04/10/2017	BMEL205	B
6	61	REVISION OF UNIT VI	05/10/2017	BMEL205	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Mr. Prashant P. Shingare

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Tutorial No 1.	12/06/2017	BMEL202	B
1	1	Unit: I Introduction: Course objectives, course outcomes, program outcomes, outcome based education, mapping of CO's with PO's, planning of CAE & TAE	13/06/2017	BMEL202	B
1	2	Unit I: Properties of fluid: Density, specific gravity, & specific volume.	13/06/2017	BMEL202	B
1	3	Properties of fluid: Dynamic viscosity & kinematic viscosity	14/06/2017	BMEL202	B
1	4	Properties of fluid: Surface tension, capillarity & compressibility.	16/06/2017	BMEL202	B
1	2	Tutorial No. 2.	19/06/2017	BMEL202	B
1	5	Video on surface tension	20/06/2017	BMEL202	B
1	6	Video on Capillary action and meniscus formation	20/06/2017	BMEL202	B
1	7	Vapor pressure, fluid pressure, pressure head, pressure intensity.	21/06/2017	BMEL202	B
1	8	Concept of gage pressure, absolute pressure, vacuum pressure, & atmospheric pressure.	23/06/2017	BMEL202	B
2	3	Tutorial No. 3.	26/06/2017	BMEL202	B
1	9	Manometers: Simple U-tube manometer & Differential U-tube manometer.	27/06/2017	BMEL202	B
1	10	Mechanical gauges: Bourdon tube pressure gauge.	27/06/2017	BMEL202	B
1	11	Video on Pressure measurement using mechanical gauges.	28/06/2017	BMEL202	B
2	12	Unit : II Hydrostatic Forces	30/06/2017	BMEL202	B
2	4	Tutorial No. 4.	03/07/2017	BMEL202	B
2	13	Concept of Total pressure on immersed bodies	04/07/2017	BMEL202	B
2	14	Center of pressure,	04/07/2017	BMEL202	B
2	15	Buoyancy and flotation	05/07/2017	BMEL202	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Mr. Prashant P. Shingare

Unit	Topic Code	Topic Covered	Date	Course	Section
2	16	Determination of metacentric height	07/07/2017	BMEL202	B
3	5	Tutorial No. 5	10/07/2017	BMEL202	B
2	17	Introduction to compressible flow	11/07/2017	BMEL202	B
2	18	Video on effect of variation in Metacentric height on floating bodies.	11/07/2017	BMEL202	B
3	19	Unit: III Fluid flows: Types of fluid flows.	12/07/2017	BMEL202	B
3	20	Kinematics of fluid flow.	14/07/2017	BMEL202	B
3	6	Tutorial No. 6	17/07/2017	BMEL202	B
3	21	Video on Flow net	19/07/2017	BMEL202	B
3	22	Continuity equation.	21/07/2017	BMEL202	B
3	7	Tutorial No. 7	24/07/2017	BMEL202	B
3	23	Euler's & Bernoulli's theorem.	25/07/2017	BMEL202	B
3	24	Venturimeter- Construction, principle of working, coefficient of discharge, derivation for discharge through venturimeter.	25/07/2017	BMEL202	B
3	25	Orifice meter- Construction, principle of working, hydraulic coefficient, derivation for discharge through orifice meter.	26/07/2017	BMEL202	B
3	26	Pitot Tube- Construction, principle of working.	28/07/2017	BMEL202	B
4	8	Tutorial No. 8	31/07/2017	BMEL202	B
3	27	YouTube video on flow velocity measurement	01/08/2017	BMEL202	B
3	28	Design of flow measuring devices.	01/08/2017	BMEL202	B
3	29	Demonstration on measurement of discharge for fluid machines	02/08/2017	BMEL202	B
3	30	Current Meter, Turbine Meter, Elbow Meter.	04/08/2017	BMEL202	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Mr. Prashant P. Shingare

Unit	Topic Code	Topic Covered	Date	Course	Section
4	9	Tutorial No. 9	07/08/2017	BMEL202	B
3	31	Video on turbine flow meter	08/08/2017	BMEL202	B
3	32	Application of Pascal's law for hydraulics system	08/08/2017	BMEL202	B
4	33	Unit: IV Flow through pipes: Laws of fluid friction (Laminar & Turbulent).	09/08/2017	BMEL202	B
4	34	Darcy's equation & Chezy's equation for frictional losses.	11/08/2017	BMEL202	B
4	10	Tutorial No. 10	14/08/2017	BMEL202	B
4	35	Minor losses in pipes.	16/08/2017	BMEL202	B
4	11	Tutorial No. 11	21/08/2017	BMEL202	B
4	36	Hydraulic Gradient and Total Gradient line.	22/08/2017	BMEL202	B
4	37	Hydraulic power transmission through pipe, Energy Gradient.	22/08/2017	BMEL202	B
4	38	Pipes in series and parallel: Branched pipe.	23/08/2017	BMEL202	B
5	12	Tutorial No. 12	28/08/2017	BMEL202	B
4	39	Three reservoir system, Syphon.	30/08/2017	BMEL202	B
5	13	Tutorial No. 13	04/09/2017	BMEL202	B
4	40	Transmission of power through pipes.	05/09/2017	BMEL202	B
4	41	Water hammer due to sudden closure of valve.	05/09/2017	BMEL202	B
4	42	Video on Piping networks	06/09/2017	BMEL202	B
5	43	Unit: V Boundary layer concepts: Nominal thickness, displacement & momentum thickness.	08/09/2017	BMEL202	B
6	14	Tutorial No. 14	11/09/2017	BMEL202	B
5	44	Energy of the boundary layer, Boundary layer along a long thin plate & its characteristics.	12/09/2017	BMEL202	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Mr. Prashant P. Shingare

Unit	Topic Code	Topic Covered	Date	Course	Section
5	45	Laminar and Turbulent boundary layer.	12/09/2017	BMEL202	B
5	46	Separation of boundary layer on plane & curved surfaces. Phenomenon of Flow separation	15/09/2017	BMEL202	B
6	15	Tutorial No. 15	18/09/2017	BMEL202	B
5	47	Definition of Drag & Lift, flow past plates, cylinder & sphere.	20/09/2017	BMEL202	B
5	48	Drag on sphere, cylinder & flat plate.	22/09/2017	BMEL202	B
6	16	Tutorial No. 16	25/09/2017	BMEL202	B
6	49	Unit: VI Dimensional Analysis: Fundamental dimensions, dimensional homogeneity.	26/09/2017	BMEL202	B
6	50	Rayleigh's Method of dimensional analysis.	26/09/2017	BMEL202	B
6	51	Buckingham's Method of dimensional analysis.	27/09/2017	BMEL202	B
6	52	Dimensionless numbers & their significance.	29/09/2017	BMEL202	B
6	53	Hydraulic similitude, Types of models.	03/10/2017	BMEL202	B
6	54	Model Testing	03/10/2017	BMEL202	B
6	55	Preparation of Nanofluids	04/10/2017	BMEL202	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Material Engineering

Faculty : S.B.Soni

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	UNIT I: Introduction to Basic Terms (System, Phase, Variables, and Components Etc.) related to equilibrium diagram	12/06/2017	BMEL203	B
1	2	Alloys and solid solutions	13/06/2017	BMEL203	B
1	3	Compounds.	14/06/2017	BMEL203	B
1	4	Hume Rothery rules	19/06/2017	BMEL203	B
1	5	Time Temperature cooling curves, Binary phase diagrams Isomorphous systems, Partial miscibility	20/06/2017	BMEL203	B
1	6	Metallic systems completely miscible in liquid state and completely immiscible in solid state. Lever rule	21/06/2017	BMEL203	B
1	7	Equilibrium cooling, Microstructures under equilibrium cooling conditions, Eutectic, Hyper and hypoeutectic alloys.	26/06/2017	BMEL203	B
1	8	PPT on basic concept of Nanotechnology	27/06/2017	BMEL203	B
2	9	UNIT II: Introduction to ferrous materials	28/06/2017	BMEL203	B
2	10	Allotropy of Iron	03/07/2017	BMEL203	B
2	11	Iron -Iron carbide equilibrium diagram	04/07/2017	BMEL203	B
2	12	Contd. Iron -Iron carbide equilibrium diagram, Critical temperature, Invariant reactions	05/07/2017	BMEL203	B
2	13	Microstructure under equilibrium cooling condition, Estimation of carbon from microstructures, structure property relationship.	10/07/2017	BMEL203	B
2	14	Purpose of alloying, Different alloying elements and their effect on enhancing the different characteristics	11/07/2017	BMEL203	B
2	15	Tool steels	12/07/2017	BMEL203	B
3	18	UNIT III: Cast iron, White cast iron	19/07/2017	BMEL203	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Material Engineering

Faculty : S.B.Soni

Unit	Topic Code	Topic Covered	Date	Course	Section
3	19	Maurer Diagram ,Grey cast iron, Types of grey cast iron	24/07/2017	BMEL203	B
3	20	Malleable cast iron, malleablizing cycle	25/07/2017	BMEL203	B
3	21	Nodular cast iron	26/07/2017	BMEL203	B
3	22	Video on working of scanning electron microscopy.	31/07/2017	BMEL203	B
3	23	Video on working of transmission electron microscopy	01/08/2017	BMEL203	B
3	24	Alloy cast iron. Microstructure, Properties and Application of each type of cast iron.	02/08/2017	BMEL203	B
4	25	UNIT IV: Introduction, importance of heat treatment	07/08/2017	BMEL203	B
4	26	Basic heat treatments such as annealing, Annealing, Normalizing	08/08/2017	BMEL203	B
4	27	Hardening and tempering, procedure, allied phases - martensite, retained austenite etc. and microstructure and their co-relation.	09/08/2017	BMEL203	B
4	28	TTT diagram, construction	14/08/2017	BMEL203	B
4	29	Heat treatment based on TTT curve. Industrial applications of different heat treatment processes	16/08/2017	BMEL203	B
4	30	Hardenability, Jominy end quench Test	21/08/2017	BMEL203	B
4	31	Surface Treatments based on above such as Induction Hardening	22/08/2017	BMEL203	B
4	32	Video on Magnetic Nanofluids Ferrofluids.	23/08/2017	BMEL203	B
4	33	Video on actual working of magnetic particle inspection, Video on actual working of ultrasonic inspection method.	28/08/2017	BMEL203	B
4	34	Video on actual working of radiographic inspection.	29/08/2017	BMEL203	B
4	35	UNIT V: Brief introduction to different nonferrous materials	30/08/2017	BMEL203	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Material Engineering

Faculty : S.B.Soni

Unit	Topic Code	Topic Covered	Date	Course	Section
5	36	Aluminium and its alloy, eg. Aluminium Silicon, related phase diagram, Na modification	04/09/2017	BMEL203	B
5	37	Contd. Aluminium and its alloy, eg. Aluminium Silicon, related phase diagram,	05/09/2017	BMEL203	B
5	38	Introduction to nano materials, high temperature smart materials, properties and relevant applications	06/09/2017	BMEL203	B
5	39	Video on nanoparticles size measurement and distribution.	11/09/2017	BMEL203	B
5	40	Video on actual working of induction hardening and carburizing process for surface treatment.	12/09/2017	BMEL203	B
5	41	Explanation on different alloyed steel and alloyed cast iron.	13/09/2017	BMEL203	B
5	42	Explanation on electric furnace.	18/09/2017	BMEL203	B
5	43	UNIT VI: Need of testing , Destructive testing, Mechanical testing, Tensile test	19/09/2017	BMEL203	B
6	44	Impact test Izod and Charpy test	20/09/2017	BMEL203	B
6	45	Hardness measurement, micro hardness	25/09/2017	BMEL203	B
6	46	Non destructive testing, Magnetic particle inspection	26/09/2017	BMEL203	B
6	47	Explanation on fatigue test machine.	27/09/2017	BMEL203	B
6	48	Demonstration on UG and PG projects.	02/10/2017	BMEL203	B
6	49	Study of nanomaterial like Al ₂ O ₃ , SiO ₂ etc.	03/10/2017	BMEL203	B
6	50	Advanced Topic Nanofluid	04/10/2017	BMEL203	B

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Course wise Teaching Plan for Session : Winter 2017

Course : Mathematical Applications in Mechanical

Faculty : Ashwini Lalke

Engineering Unit	Topic Code	Topic Covered	Date	Course	Section
	1	laplace transform	12/06/2017	BAML203	B
	2	Evaluation of integrals by L.T.	13/06/2017	BAML203	B
	39	Inverse LT	14/06/2017	BAML203	B
	3	Inverse L.T. & its properties	16/06/2017	BAML203	B
	4	convolution theorem	19/06/2017	BAML203	B
	5	Laplace transforms of periodic function	20/06/2017	BAML203	B
	1	Tutorial I	21/06/2017	BAML203	B
	6	Applications of Laplace transforms to solve ordinary differential equations &	23/06/2017	BAML203	B
	40	Application of Laplace Transform	26/06/2017	BAML203	B
	7	Applications of Laplace transforms to partial differential equations (one-dimensional wave & diffusion equations).	27/06/2017	BAML203	B
	2	Tutorial II	28/06/2017	BAML203	B
	41	unit step function	30/06/2017	BAML203	B
2	8	Unit -II Fourier series and Harmonic analysis : Periodic function	03/07/2017	BAML203	B
2	9	Fourier series expansion	04/07/2017	BAML203	B
2	3	Tutorial III	05/07/2017	BAML203	B
2	10	Fourier series for even & function	07/07/2017	BAML203	B
2	11	Change of interval	10/07/2017	BAML203	B
2	12	Half range expansion.	11/07/2017	BAML203	B
2	4	Tutorial IV	12/07/2017	BAML203	B
2	13	Harmonic analysis	14/07/2017	BAML203	B
3	5	Tutorial V	19/07/2017	BAML203	B

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Course : Mathematical Applications in Mechanical

Faculty : Ashwini Lalke

Engineering Unit	Topic Code	Topic Covered	Date	Course	Section
3	14	Unit-III Fourier Transform: Definition	21/07/2017	BAML203	B
3	15	Fourier integral theorem	24/07/2017	BAML203	B
3	16	Fourier sine & cosine integrals	25/07/2017	BAML203	B
3	6	Tutorial VI	26/07/2017	BAML203	B
3	17	Finite Fourier sine & cosine transforms	28/07/2017	BAML203	B
3	18	Parseval's identity	31/07/2017	BAML203	B
3	19	Convolution theorem	01/08/2017	BAML203	B
4	7	Tutorial VII	02/08/2017	BAML203	B
4	20	Unit -IV Partial differential equation: Partial differential equation of first order first degree i.e. Lagrange's form,	04/08/2017	BAML203	B
4	21	Partial differential equation of first order first degree i.e. Lagrange's form,	08/08/2017	BAML203	B
4	8	Tutorial VIII	09/08/2017	BAML203	B
4	22	Linear homogeneous partial differential equation of higher order with constant coefficient,	11/08/2017	BAML203	B
4	23	Method of separation of variables	14/08/2017	BAML203	B
5	9	Tutorial IX	16/08/2017	BAML203	B
4	24	Application to one dimensional heat & diffusion equation, Two dimensional Heat equations. (Only steady state).	21/08/2017	BAML203	B
5	25	Unit -V Complex Variables : Analytic function	22/08/2017	BAML203	B
5	10	Tutorial X	23/08/2017	BAML203	B
5	26	Cauchy-Riemann conditions, Conjugate functions	28/08/2017	BAML203	B
5	11	Tutorial XI	30/08/2017	BAML203	B
5	27	Singularities, Cauchy's integral theorem and integral formula (statement only)	01/09/2017	BAML203	B

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Course wise Teaching Plan for Session : Winter 2017

Course : Mathematical Applications in Mechanical

Faculty : Ashwini Lalke

Engineering Unit	Topic Code	Topic Covered	Date	Course	Section
5	28	Taylor's and Laurent's theorem (Statement only)	04/09/2017	BAML203	B
5	29	Residue theorem	05/09/2017	BAML203	B
6	12	Tutorial XII	06/09/2017	BAML203	B
5	30	Contour integration	08/09/2017	BAML203	B
5	31	Evaluation of real & complex integral by residue theorem.	11/09/2017	BAML203	B
5	32	Conformal mapping, mapping by linear & inverse transformation.	12/09/2017	BAML203	B
6	33	Unit -VI Special function & series solution: Series solution of differential equation by Frobenius method	15/09/2017	BAML203	B
6	34	Bessel's function	18/09/2017	BAML203	B
6	13	Tutorial XIII	20/09/2017	BAML203	B
6	35	Legendre polynomials	22/09/2017	BAML203	B
6	36	Recurrence relations	25/09/2017	BAML203	B
6	37	Rodrigue formula	26/09/2017	BAML203	B
6	14	Tutorial XIV	27/09/2017	BAML203	B
6	38	Rodrigue formula	03/10/2017	BAML203	B

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Course wise Teaching Plan for Session : Winter 2017

Course : Kinematics of Machines

Faculty : Skumar S Kumbhalkar

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Introduction to PO, PSo, COs and Basics of Kinematics of Machines and different links	25/08/2017	BMEL204	C
1	2	Video on operation of different types of linkages. Kinematic Chain, Mechanism, Machine and DOF,	28/08/2017	BMEL204	C
1	3	Video on working of different types of Mechanism. Grubler's Criterion, Classification of 4 Bar Mechanism, Kutzbach Theory, Classification of Mechanism	28/08/2017	BMEL204	C
1	4	Inversion of 4 Bar chain and Slider Crank Mechanism, Showing of different inversions of four bar mechanism using models.	30/08/2017	BMEL204	C
1	5	Practical demonstration on shaper machine for the concept of Quick return Mechanism,	31/08/2017	BMEL204	C
1	6	Mobility or DOF of a Mechanism, Exception of KT, Grashoff's law, Class I and II mechanisms, Demonstration of mechanisms used in two wheelers in Yamaha Lab.	01/09/2017	BMEL204	C
2	7	Displacement, Velocity and Acceleration, Analysis of Planer mechanism - Graphical Method,	04/09/2017	BMEL204	C
2	8	Displacement, velocity analysis of mechanism- Analytical Method	04/09/2017	BMEL204	C
2	9	Coriolis component of acceleration - Basic theory and numerical Instantaneous center method, Kennedy's theorem	06/09/2017	BMEL204	C
2	10	NPTEL lecture on Velocity Analysis.	07/09/2017	BMEL204	C
2	11	NPTEL lecture on Acceleration Analysis	08/09/2017	BMEL204	C
2	12	Concept of CAM, Comparison of Cam with linkages, Types of CAMS and Followers and applications	11/09/2017	BMEL204	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Kinematics of Machines

Faculty : Skumar S Kumbhalkar

Unit	Topic Code	Topic Covered	Date	Course	Section
2	13	Synthesis of CAM for different follower motions, Pressure angle and Parameters affecting CAM performance, Demonstration and Actual showing of different CAM and its application.	11/09/2017	BMEL204	C
3	14	Concept of toothed wheels, compression with CAM, Numericals on Kinfe edge follower CAM, Numericals on Roller follower CAM	15/09/2017	BMEL204	C
3	15	Demonstration and Actual showing of different Follower and its application	18/09/2017	BMEL204	C
3	16	Numericals on Mushroom follower CAM, Numericals on Tangent follower CAM	18/09/2017	BMEL204	C
3	17	Concept of toothed wheels, compression with CAM, Demonstration of spur & helical gears using gear box of four wheeler. Gear Tooth Terminology, Conjugate Action and law	20/09/2017	BMEL204	C
3	18	Demonstration of Bevel & worm gears using differential gear box of four wheeler., Kinematics of Involute Gear Tooth Pairs	21/09/2017	BMEL204	C
4	19	Arc of Contact, Path of Approach & recess, No. of pairs of teeth in contact ,Interference ,Undercutting, Kinematics of Helical, Bevel, Spiral Gears	22/09/2017	BMEL204	C
4	20	Video on different gear trains. Kinematics of Worm, Rack and Pinion Gears	25/09/2017	BMEL204	C
5	21	Kinematics of Involute Gear Tooth Pairs	27/09/2017	BMEL204	C
5	22	Demonstration on lathe machine for gear trains.	28/09/2017	BMEL204	C
5	23	Kinematic and Torque analysis of simple and double epicyclic gear	29/09/2017	BMEL204	C
5	24	Kinematic and Torque analysis of simple and double epicyclic gear	02/10/2017	BMEL204	C
6	25	FBD, Condition of equilibrium, Analysis of all links, Cognate Linkages	02/10/2017	BMEL204	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Kinematics of Machines

Faculty : Skumar S Kumbhalkar

Unit	Topic Code	Topic Covered	Date	Course	Section
6	26	Cam , Gear mechanism and their combinations, NPTEL lecture on Frudenstien's Equation	04/10/2017	BMEL204	C
6	27	Synthesis of 4 Bar Chain, Transmission Angle Optimization, NPTEL lecture on Synthesis.	05/10/2017	BMEL204	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Mr. Vipin Suresh Rao Khangar

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Objectives of subject, Introduction of Computer Aided Drafting Computer Aided Drafting and Design	12/06/2017	BMEL201	C
1	2	Principles of Drawings Scales as per ISO standards, Importance of Title Block and Part list Lines types	13/06/2017	BMEL201	C
1	3	Dimensions-Principle of Dimensioning Counter Sink, Counter Bores Spot Faces	16/06/2017	BMEL201	C
1	4	Dimensions (with examples) Chamfers Screw Threads Tapered Features	19/06/2017	BMEL201	C
1	5	Drawing Layout and Lettering	20/06/2017	BMEL201	C
1	6	Prepare Two 2-D Geometrical Modal by using Sketching mode by using line, circle, trim extend command.	23/06/2017	BMEL201	C
1	7	Line thickness and its type.	26/06/2017	BMEL201	C
1	8	Instruction of part modeling icon	27/06/2017	BMEL201	C
2	9	Convert 2D into 3D geometrical Modal	30/06/2017	BMEL201	C
2	10	Part Modeling and assembly	03/07/2017	BMEL201	C
2	11	Prepare the 3D geometrical model	04/07/2017	BMEL201	C
2	12	Prepare the 3D geometrical model	07/07/2017	BMEL201	C
2	13	Assembly preparation by using assembly related command in CAD Software,	10/07/2017	BMEL201	C
2	14	Sectioning Cutting Planes and Section Hatching Lines	11/07/2017	BMEL201	C
2	15	Half Sections Aligned Sections, Offset Sections, Sectioning Revolved	14/07/2017	BMEL201	C
2	16	Removed Sections, Local Sections, Successive Sections, Thin Sections	21/07/2017	BMEL201	C
2	17	Pactise on section modeling	24/07/2017	BMEL201	C
2	18	Pactise on section modeling	25/07/2017	BMEL201	C
2	19	Pactise on missing view	28/07/2017	BMEL201	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Mr. Vipin Suresh Rao Khangar

Unit	Topic Code	Topic Covered	Date	Course	Section
2	20	Pactise on missing view	01/08/2017	BMEL201	C
3	21	Limits, Fits and Tolerance-Classifications of Fits System of Fits' Computations Selection of Fits Method of Indicating Fits on Drawings	04/08/2017	BMEL201	C
3	22	Tolerance Grade Computations of Tolerance Positions of Tolerance Fundamental of Deviations Shaft and Hole Terminology Method of Placing Limit Dimensions	08/08/2017	BMEL201	C
3	23	Limits, Fits and Tolerance Need of Geometrical Tolerance Geometrical Characteristics of Symbols Indication of MMC Interpretation of Indication of Geometrical Tolerance	11/08/2017	BMEL201	C
3	24	Industrial applications of Limits & Fits	14/08/2017	BMEL201	C
3	25	Industrial applications of Geometric Tolerance	21/08/2017	BMEL201	C
4	26	Conventional Representations-Common features, Springs, Gear Assemblies, Materials Interrupted views and Braking of Shaft, Pipe, Bar Surface finishing & Machining Symbols	22/08/2017	BMEL201	C
4	27	Conventional Representations-Common features, Springs, Gear Assemblies, Materials Interrupted views and Braking of Shaft, Pipe, Bar Surface finishing & Machining Symbols	28/08/2017	BMEL201	C
4	28	Screwed Fastenings Screw Thread, Nomenclature Threads Form of V Threads	01/09/2017	BMEL201	C
4	29	Form of Square Threads conventional representations	04/09/2017	BMEL201	C
5	30	Types of Joints-Riveted Joints and Riveting Classification	05/09/2017	BMEL201	C
5	31	Rivet Terminologies	08/09/2017	BMEL201	C
5	32	Welded Joints- Types of Welded Joints, Welds Symbols and its conventions	11/09/2017	BMEL201	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Mr. Vipin Suresh Rao Khangar

Unit	Topic Code	Topic Covered	Date	Course	Section
5	33	Flip lecture-Welding representation on drawing	12/09/2017	BMEL201	C
5	34	Pipes and Pipe Joints -Types of Pipe Joints,	15/09/2017	BMEL201	C
5	35	Piping Layout and Conventions	18/09/2017	BMEL201	C
5	36	Pulleys -Applications, Types	19/09/2017	BMEL201	C
5	37	Couplings -Applications, Types, Working Principles	22/09/2017	BMEL201	C
6	38	Assembly Drawing	25/09/2017	BMEL201	C
6	39	Assembly Drawing	26/09/2017	BMEL201	C
6	40	De-Assembly Drawing	29/09/2017	BMEL201	C
6	41	Production drawing	03/10/2017	BMEL201	C

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Course wise Teaching Plan for Session : Winter 2017

Course : Mathematical Applications in Mechanical

Faculty : Archana A. Deshpande

Engineering Unit	Topic Code	Topic Covered	Date	Course	Section
	1	Unit I Laplace Transforms: definition and their simple properties	25/08/2017	BAML203	C
	2	Transform of derivatives and integrals,	25/08/2017	BAML203	C
	3	Evaluation of integrals by L.T.	28/08/2017	BAML203	C
	1	Tutorial-1	29/08/2017	BAML203	C
	4	Inverse L.T. & its properties	29/08/2017	BAML203	C
	5	convolution theorem	01/09/2017	BAML203	C
	6	Laplace transforms of periodic function	01/09/2017	BAML203	C
	7	Unit step function	04/09/2017	BAML203	C
	1	Tutorial-1	05/09/2017	BAML203	C
	8	Applications of Laplace transforms to solve ordinary differential equations &	08/09/2017	BAML203	C
	9	Applications of Laplace transforms to partial differential equations (one-dimensional wave & diffusion equations).	08/09/2017	BAML203	C
2	10	Unit -II Fourier series and Harmonic analysis : Periodic function	11/09/2017	BAML203	C
2	2	Tutorial-2	12/09/2017	BAML203	C
2	11	Fourier series expansion	15/09/2017	BAML203	C
2	12	Fourier series for even & function	15/09/2017	BAML203	C
2	13	Fourier series for even & function	18/09/2017	BAML203	C
3	3	Tutorial-3	19/09/2017	BAML203	C
2	14	Change of interval	22/09/2017	BAML203	C
2	15	Half range expansion.	22/09/2017	BAML203	C
2	16	Harmonic analysis	25/09/2017	BAML203	C
4	4	Tutorial-4	26/09/2017	BAML203	C

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Course wise Teaching Plan for Session : Winter 2017

Course : Mathematical Applications in Mechanical

Faculty : Archana A. Deshpande

Engineering Unit	Topic Code	Topic Covered	Date	Course	Section
3	17	Unit-III Fourier Transform: Definition	29/09/2017	BAML203	C
3	18	Fourier integral theorem	29/09/2017	BAML203	C
5	5	Tutorial-5	02/10/2017	BAML203	C
3	19	Fourier sine & cosine integrals	02/10/2017	BAML203	C
3	20	Finite Fourier sine & cosine transforms	06/10/2017	BAML203	C
3	21	Parseval's identity	06/10/2017	BAML203	C

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Course wise Teaching Plan for Session : Winter 2017

Course : Engineering Thermodynamics

Faculty : Mr. Yogesh Narayan

Unit	Topic Code	Topic Covered	Date	Course	Nandanwa Section
1	1	Introduction to Thermodynamics, basic concepts, systems.	28/08/2017	BMEL205	C
1	2	Microscopic & macroscopic approaches properties and state of system.	30/08/2017	BMEL205	C
1	3	Point & path functions, thermodynamic equilibrium.	30/08/2017	BMEL205	C
1	4	Properties such as specific volume, pressure, temperature. Zeroth law of thermodynamics, temperature scales.	31/08/2017	BMEL205	C
1	5	Difference between gases and Vapour, Ideal Gases. Gas Laws, Equation of state.	04/09/2017	BMEL205	C
1	6	Gas constant, Heat and work, Work in compressible system.	05/09/2017	BMEL205	C
2	7	First law applied to closed system, Joules Experiment.	06/09/2017	BMEL205	C
2	8	Energy-a property of system, Internal energy - a function of temperature.	06/09/2017	BMEL205	C
2	9	Enthalpy, Specific heat at constant volume and pressure. Change in internal energy during non flow processes.	07/09/2017	BMEL205	C
2	10	Work done during various processes, P - V Diagram	11/09/2017	BMEL205	C
2	11	SFEE and its applications.	12/09/2017	BMEL205	C
2	12	Work and heat transfer during flow processes.	13/09/2017	BMEL205	C
3	13	Limitations of first law, Heat engine, Refrigerator, Heat pump.	13/09/2017	BMEL205	C
3	14	Statements of second law & their equivalence, PMM II	14/09/2017	BMEL205	C
3	15	Reversible & irreversible process, Carnot cycle & reversed Carnot cycle.	18/09/2017	BMEL205	C
3	16	COP of heat pump & refrigerator	20/09/2017	BMEL205	C
4	17	Entropy, Property of system, Clausius inequality	20/09/2017	BMEL205	C
4	18	Change in entropy for ideal gases & during irreversible process.	21/09/2017	BMEL205	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Engineering Thermodynamics

Faculty : Mr. Yogesh Narayan

Unit	Topic Code	Topic Covered	Date	Course	Nandanwa Section
4	19	Principal increase of entropy	25/09/2017	BMEL205	C
4	20	Availability, Irreversibility	26/09/2017	BMEL205	C
5	21	Gas power cycles: Otto, Diesel, Dual, sterling, Cycles.	27/09/2017	BMEL205	C
5	22	Their efficiency, MEP	27/09/2017	BMEL205	C
6	23	Phase change process of pure substance, Specific, sensible, Latent heat	28/09/2017	BMEL205	C
6	24	Triple point, critical point, and Total heat of system.	03/10/2017	BMEL205	C
6	25	Vapour power Cycles: Properties of steam, specific volume and entropy	04/10/2017	BMEL205	C
6	26	Steam tables and their use T - s & H - S Diagram	04/10/2017	BMEL205	C
6	27	Determination of dryness fraction.	05/10/2017	BMEL205	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Shyamkumar D Chavhan

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Unit: I Introduction: Course objectives, course outcomes, program outcomes, outcome based education, mapping of CO's with PO's, planning of CAE & TAE	28/08/2017	BMEL202	C
1	2	Unit I: Properties of fluid: Density, specific gravity, & specific volume. Properties of fluid: Dynamic viscosity & kinematic viscosity Properties of fluid: Surface tension, capillarity & compressibility.	30/08/2017	BMEL202	C
1	3	Vapor pressure, fluid pressure, pressure head, pressure intensity. Concept of gauge pressure, absolute pressure, vacuum pressure, & atmospheric pressure.	31/08/2017	BMEL202	C
1	4	Manometers: Simple U-tube manometer & Differential U-tube manometer. Mechanical gauges: Bourdon tube pressure gauge. Video on Pressure measurement using mechanical gauges.	31/08/2017	BMEL202	C
2	5	Unit : II Hydrostatic Forces Concept of Total pressure on immersed bodies Center of pressure,	04/09/2017	BMEL202	C
1	1	Numerical on Unit 1	05/09/2017	BMEL202	C
2	6	Buoyancy and flotation	06/09/2017	BMEL202	C
2	7	Determination of metacentric height Introduction to compressible flow	07/09/2017	BMEL202	C
2	8	Video on effect of variation in Meta centric height on floating bodies	07/09/2017	BMEL202	C
3	9	Types of fluid flow kinematics of fluid flow & Video on Flow net	11/09/2017	BMEL202	C
1	2	Numerical on Unit 1	12/09/2017	BMEL202	C
3	10	Continuity equation Euler's & Bernoulli's theorem	18/09/2017	BMEL202	C
1	3	Numerical on Unit 2	19/09/2017	BMEL202	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Shyamkumar D Chavhan

Unit	Topic Code	Topic Covered	Date	Course	Section
3	11	Venturimeter- Construction, principle of working, coefficient of discharge, derivation for discharge through venturimeter	20/09/2017	BMEL202	C
3	12	Orifice meter- Construction, principle of working, hydraulic coefficient, derivation for discharge through orifice meter	21/09/2017	BMEL202	C
3	13	Pitot Tube- Construction, principle of working Current Meter, Turbine Meter, Elbow Meter	21/09/2017	BMEL202	C
4	14	Laws of fluid friction (Laminar & Turbulent) Darcy's equation & Chezy's equation for frictional losses.	25/09/2017	BMEL202	C
1	4	Numerical on Unit 3	26/09/2017	BMEL202	C
4	15	Minor losses in pipes Hydraulic Gradient and Total Gradient line	27/09/2017	BMEL202	C
4	16	Hydraulic power transmission through pipe, Energy Gradient Pipes in series and parallel: Branched pipe.	28/09/2017	BMEL202	C
5	17	Energy of the boundary layer, Boundary layer along a long thin plate & its characteristics Laminar and Turbulent boundary layer.	28/09/2017	BMEL202	C
1	5	Numerical on Unit 5	03/10/2017	BMEL202	C
5	18	Separation of boundary layer on plane & curved surfaces. Phenomenon of Flow separation Definition of Drag & Lift, flow past plates, cylinder & sphere.	04/10/2017	BMEL202	C
6	19	Rayleigh's Method of dimensional analysis. Buckingham's Method of dimensional analysis.	05/10/2017	BMEL202	C
6	20	Dimensionless numbers & their significance. Hydraulic similitude, Types of models.	05/10/2017	BMEL202	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Vivek V Bhandarkar

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Objectives of subject, Introduction of Computer Aided Drafting Computer Aided Drafting and Design, Principles of Drawings Scales as per ISO standards, Importance of Title Block and Part list Lines types	25/08/2017	BMEL201	C
1	2	Dimensions-Principle of Dimensioning Counter Sink, Counter Bores Spot Faces, Dimensions (with examples) Chamfers Screw Threads Tapered Features	28/08/2017	BMEL201	C
1	3	Drawing Layout and Lettering, Prepare Two 2-D Geometrical Modal by using Sketching mode by using line, circle, trim extend command.	29/08/2017	BMEL201	C
1	4	Line thickness and its type, Instruction of part modeling icon	01/09/2017	BMEL201	C
2	5	Convert 2D into 3D geometrical Modal, Part Modeling and assembly	04/09/2017	BMEL201	C
2	6	Prepare the 3D geometrical model, Prepare the 3D geometrical model	05/09/2017	BMEL201	C
2	7	Assembly preparation by using assembly related command in CAD Software, Sectioning Cutting Planes and Section Hatching Lines	08/09/2017	BMEL201	C
2	8	Half Sections Aligned Sections, Offset Sections, Sectioning Revolved, Removed Sections, Local Sections, Successive Sections, Thin Sections	11/09/2017	BMEL201	C
2	9	Pactise on section modeling	12/09/2017	BMEL201	C
2	10	Pactise on missing view	15/09/2017	BMEL201	C
3	11	Limits, Fits and Tolerance-Classifications of Fits System of Fits' Computations Selection of Fits Method of Indicating Fits on Drawings, Tolerance Grade Computations of Tolerance Positions of Tolerance Fundamental of Deviations Shaft and Hole Terminology M	18/09/2017	BMEL201	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Vivek V Bhandarkar

Unit	Topic Code	Topic Covered	Date	Course	Section
3	12	Limits, Fits and Tolerance Need of Geometrical Tolerance Geometrical Characteristics of Symbols Indication of MMC Interpretation of Indication of Geometrical Tolerance, Industrial applications of Limits & Fits	19/09/2017	BMEL201	C
3	13	Industrial applications of Geometric Tolerance	22/09/2017	BMEL201	C
4	14	Conventional Representations-Common features, Springs, Gear Assemblies, Materials Interrupted views and Braking of Shaft, Pipe, Bar Surface finishing & Machining Symbols	25/09/2017	BMEL201	C
4	15	Screwed Fastenings Screw Thread, Nomenclature Threads Form of V Threads, Form of Square Threads conventional representations	26/09/2017	BMEL201	C
5	16	Types of Joints-Riveted Joints and Riveting Classification, Rivet Terminologies	29/09/2017	BMEL201	C
5	17	Welded Joints- Types of Welded Joints, Welds Symbols and its conventions, Flip lecture-Welding representation on drawing	02/10/2017	BMEL201	C
5	18	Pipes and Pipe Joints -Types of Pipe Joints, Piping Layout and Conventions	03/10/2017	BMEL201	C
5	19	Pulleys -Applications, Types, Couplings -Applications, Types, Working Principles	06/10/2017	BMEL201	C
6	20	Assembly Drawing, De-Assembly Drawing	09/10/2017	BMEL201	C
6	21	Production drawing	10/10/2017	BMEL201	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Mr. Amol Dilip Pitale

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Introduction to fluid power, Properties of Fluid: Density, Specific gravity, Specific Weight, Specific Volume Dynamic Viscosity	25/08/2017	BMEL202	D
1	2	Types of Fluid, Kinematic Viscosity, Surface tension, Capillarity ,Vapour Pressure	28/08/2017	BMEL202	D
1	3	Comprehensibility Fluid pressure, Pressure head	29/08/2017	BMEL202	D
1	1	Numerical on Viscosity , Surface Tension & Capillary	30/08/2017	BMEL202	D
1	4	Pressure intensity Concept of absolute, vacuum, gauge pressure, atmospheric Pressure	30/08/2017	BMEL202	D
1	5	Concept of Total pressure on immersed bodies, center of pressure.	31/08/2017	BMEL202	D
1	6	Types of fluid flows, Kinematics of fluid flow, Continuity equation	01/09/2017	BMEL202	D
2	7	Bernoulli's theorem and equation	04/09/2017	BMEL202	D
2	8	Venturimeter - Construction, principle of working, Coefficient of discharge, Derivation for discharge through venturimeter	05/09/2017	BMEL202	D
1	2	numerical on Pressure Guage	06/09/2017	BMEL202	D
2	9	Orifice meter - Construction, Principle of working, Derivation for discharge through Orifice meter	06/09/2017	BMEL202	D
2	10	Pitot tube - Construction, Principle of Working	07/09/2017	BMEL202	D
2	11	Current Meter, Turbine Meter, Elbowmeter.	08/09/2017	BMEL202	D
3	12	Laws of fluid friction	11/09/2017	BMEL202	D
3	13	Darcy's equation and Chezy's equation for frictional losses	12/09/2017	BMEL202	D
2	3	Numerical on Venturimeter & Orifice Meter	13/09/2017	BMEL202	D
3	14	Minor losses in pipes	13/09/2017	BMEL202	D

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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Mr. Amol Dilip Pitale

Unit	Topic Code	Topic Covered	Date	Course	Section
3	15	Hydraulic gradient and total gradient line	14/09/2017	BMEL202	D
3	16	Pipe in series and parallel	15/09/2017	BMEL202	D
3	17	Branched pipes; three reservoir system; Syphon	18/09/2017	BMEL202	D
3	18	Transmission of power through pipes; Water Hammer pressure	19/09/2017	BMEL202	D
2	4	Numerical on Pitot Tube	20/09/2017	BMEL202	D
4	19	Nominal thickness, Displacement and Momentum thickness .energy of the boundary layer	20/09/2017	BMEL202	D
4	20	Boundary layer along a long thin plate and its characteristics	21/09/2017	BMEL202	D
4	21	Laminar boundary layer; Turbulent boundary layer	22/09/2017	BMEL202	D
4	22	Separation of boundary layer on plane and curved surfaces	25/09/2017	BMEL202	D
4	23	Drag & Lift: Definition of drag and lift	26/09/2017	BMEL202	D
3	5	Numerical on Losses in pipe, HGL & EGL	27/09/2017	BMEL202	D
5	24	Momentum principle and its application	27/09/2017	BMEL202	D
5	25	Derivation for force exerted on fixed plate	28/09/2017	BMEL202	D
5	26	Derivation force exerted on series of moving vanes	29/09/2017	BMEL202	D
6	27	Fundamental dimensions, dimensional Homogeneity	02/10/2017	BMEL202	D
6	28	Rayleigh's method and Buckingham' s' method	03/10/2017	BMEL202	D
3	6	Numerical on pipes in series & Parallel	04/10/2017	BMEL202	D
6	29	dimension less numbers and their significance	04/10/2017	BMEL202	D
6	30	dimension less numbers and their significance	05/10/2017	BMEL202	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Vivek V Bhandarkar

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Objectives of subject, Introduction of Computer Aided Drafting Computer Aided Drafting and Design, Principles of Drawings Scales as per ISO standards, Importance of Title Block and Part list Lines types	29/08/2017	BMEL201	D
1	2	Dimensions-Principle of Dimensioning Counter Sink, Counter Bores Spot Faces, Dimensions (with examples) Chamfers Screw Threads Tapered Features	30/08/2017	BMEL201	D
1	3	Drawing Layout and Lettering, Prepare Two 2-D Geometrical Modal by using Sketching mode by using line, circle, trim extend command.	31/08/2017	BMEL201	D
1	4	Line thickness and its type, Instruction of part modeling icon	05/09/2017	BMEL201	D
2	5	Convert 2D into 3D geometrical Modal, Part Modeling and assembly	06/09/2017	BMEL201	D
2	6	Prepare the 3D geometrical model, Prepare the 3D geometrical model	07/09/2017	BMEL201	D
2	7	Assembly preparation by using assembly related command in CAD Software, Sectioning Cutting Planes and Section Hatching Lines	12/09/2017	BMEL201	D
2	8	Half Sections Aligned Sections, Offset Sections, Sectioning Revolved, Removed Sections, Local Sections, Successive Sections, Thin Sections	13/09/2017	BMEL201	D
2	9	Pactise on section modeling	14/09/2017	BMEL201	D
2	10	Pactise on missing view	19/09/2017	BMEL201	D
3	11	Limits, Fits and Tolerance-Classifications of Fits System of Fits' Computations Selection of Fits Method of Indicating Fits on Drawings, Tolerance Grade Computations of Tolerance Positions of Tolerance Fundamental of Deviations Shaft and Hole Terminology M	20/09/2017	BMEL201	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Vivek V Bhandarkar

Unit	Topic Code	Topic Covered	Date	Course	Section
3	12	Limits, Fits and Tolerance Need of Geometrical Tolerance Geometrical Characteristics of Symbols Indication of MMC Interpretation of Indication of Geometrical Tolerance, Industrial applications of Limits & Fits	21/09/2017	BMEL201	D
3	13	Industrial applications of Geometric Tolerance	26/09/2017	BMEL201	D
4	14	Conventional Representations-Common features, Springs, Gear Assemblies, Materials Interrupted views and Braking of Shaft, Pipe, Bar Surface finishing & Machining Symbols	27/09/2017	BMEL201	D
4	15	Screwed Fastenings Screw Thread, Nomenclature Threads Form of V Threads, Form of Square Threads conventional representations	28/09/2017	BMEL201	D
5	16	Types of Joints-Riveted Joints and Riveting Classification, Rivet Terminologies	03/10/2017	BMEL201	D
5	17	Welded Joints- Types of Welded Joints, Welds Symbols and its conventions, Flip lecture-Welding representation on drawing	04/10/2017	BMEL201	D
5	18	Pipes and Pipe Joints -Types of Pipe Joints, Piping Layout and Conventions	05/10/2017	BMEL201	D
5	19	Pulleys -Applications, Types, Couplings -Applications, Types, Working Principles	10/10/2017	BMEL201	D
6	20	Assembly Drawing, De-Assembly Drawing	11/10/2017	BMEL201	D
6	21	Production drawing	12/10/2017	BMEL201	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Material Engineering

Faculty : Vednath P Kalbande

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	UNIT I: Introduction to Basic Terms (System, Phase, Variables, Components Etc.)	21/08/2017	BMEL203	D
1	2	Contd. Introduction to Basic Terms (System, Phase, Variables, Components Etc.) related to equilibrium diagram	22/08/2017	BMEL203	D
1	3	Alloys and solid solutions	23/08/2017	BMEL203	D
1	4	Compounds.	25/08/2017	BMEL203	D
1	5	Hume Rothery rules	28/08/2017	BMEL203	D
1	6	Time Temperature cooling curves, Binary phase diagrams Isomorphous systems, Partial miscibility	29/08/2017	BMEL203	D
1	7	Metallic systems completely miscible in liquid state and completely immiscible in solid state. Lever rule	30/08/2017	BMEL203	D
1	8	Equilibrium cooling, Microstructures under equilibrium cooling conditions, Eutectic, Hyper and hypoeutectic alloys.	01/09/2017	BMEL203	D
2	9	UNIT II: Introduction to ferrous materials	04/09/2017	BMEL203	D
2	10	Allotropy of Iron	05/09/2017	BMEL203	D
2	11	Iron -Iron carbide equilibrium diagram	06/09/2017	BMEL203	D
2	12	Contd. Iron -Iron carbide equilibrium diagram	08/09/2017	BMEL203	D
2	13	Contd. Iron -Iron carbide equilibrium diagram, Critical temperature, Invariant reactions	11/09/2017	BMEL203	D
2	14	Microstructure under equilibrium cooling condition, Estimation of carbon from microstructures, structure property relationship.	12/09/2017	BMEL203	D
2	15	Purpose of alloying, Different alloying elements and their effect on enhancing the different characteristics	13/09/2017	BMEL203	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Material Engineering

Faculty : Vednath P Kalbande

Unit	Topic Code	Topic Covered	Date	Course	Section
2	16	Tool steels Stainless steels, spring steels. Designation of steels. AISI, ASTM, EN etc.	15/09/2017	BMEL203	D
3	17	UNIT III: Cast iron, White cast iron	18/09/2017	BMEL203	D
3	18	Maurer Diagram ,Grey cast iron, Types of grey cast iron	19/09/2017	BMEL203	D
3	19	Malleable cast iron, malleablizing cycle	20/09/2017	BMEL203	D
3	20	Nodular cast iron	22/09/2017	BMEL203	D
3	21	Alloy cast iron. Microstructure, Properties and Application of each type of cast iron.	25/09/2017	BMEL203	D
4	22	UNIT IV: Introduction, importance of heat treatment	26/09/2017	BMEL203	D
4	23	Basic heat treatments such as annealing	27/09/2017	BMEL203	D
4	24	Annealing, Normalizing	29/09/2017	BMEL203	D
4	25	Hardening and tempering, procedure, allied phases - martensite, retained austenite etc. and microstructure and their co-relation.	02/10/2017	BMEL203	D
4	26	TTT diagram, construction	03/10/2017	BMEL203	D
4	27	Heat treatment based on TTT curve. Industrial applications of different heat treatment processes	04/10/2017	BMEL203	D
4	28	Hardenability, Jominy end quench Test	06/10/2017	BMEL203	D
5	29	UNIT V: Brief introduction to different nonferrous materials	09/10/2017	BMEL203	D
6	32	Impact test Izod and Charpy test	10/10/2017	BMEL203	D
0	0	Advanced Topic Nanofluid	11/10/2017	BMEL203	D
6	33	Hardness measurement, micro hardness	11/10/2017	BMEL203	D
6	34	Non destructive testing, Magnetic particle inspection	13/10/2017	BMEL203	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Material Engineering

Faculty : Vednath P Kalbande

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1	1	UNIT I: Introduction to Basic Terms (System, Phase, Variables, Components Etc.)	21/08/2017	BMEL203	D
1	2	Contd. Introduction to Basic Terms (System, Phase, Variables, Components Etc.) related to equilibrium diagram	22/08/2017	BMEL203	D
1	3	Alloys and solid solutions	23/08/2017	BMEL203	D
1	4	Compounds.	25/08/2017	BMEL203	D
1	5	Hume Rothery rules	28/08/2017	BMEL203	D
1	6	Time Temperature cooling curves, Binary phase diagrams Isomorphous systems, Partial miscibility	29/08/2017	BMEL203	D
1	7	Metallic systems completely miscible in liquid state and completely immiscible in solid state. Lever rule	30/08/2017	BMEL203	D
1	8	Equilibrium cooling, Microstructures under equilibrium cooling conditions, Eutectic, Hyper and hypoeutectic alloys.	01/09/2017	BMEL203	D
2	9	UNIT II: Introduction to ferrous materials	04/09/2017	BMEL203	D
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2	11	Iron -Iron carbide equilibrium diagram	06/09/2017	BMEL203	D
2	12	Contd. Iron -Iron carbide equilibrium diagram	08/09/2017	BMEL203	D
2	13	Contd. Iron -Iron carbide equilibrium diagram, Critical temperature, Invariant reactions	11/09/2017	BMEL203	D
2	14	Microstructure under equilibrium cooling condition, Estimation of carbon from microstructures, structure property relationship.	12/09/2017	BMEL203	D
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Faculty : Vednath P Kalbande

Unit	Topic Code	Topic Covered	Date	Course	Section
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3	17	UNIT III: Cast iron, White cast iron	18/09/2017	BMEL203	D
3	18	Maurer Diagram ,Grey cast iron, Types of grey cast iron	19/09/2017	BMEL203	D
3	19	Malleable cast iron, malleablizing cycle	20/09/2017	BMEL203	D
3	20	Nodular cast iron	22/09/2017	BMEL203	D
3	21	Alloy cast iron. Microstructure, Properties and Application of each type of cast iron.	25/09/2017	BMEL203	D
4	22	UNIT IV: Introduction, importance of heat treatment	26/09/2017	BMEL203	D
4	23	Basic heat treatments such as annealing	27/09/2017	BMEL203	D
4	24	Annealing, Normalizing	29/09/2017	BMEL203	D
4	25	Hardening and tempering, procedure, allied phases - martensite, retained austenite etc. and microstructure and their co-relation.	02/10/2017	BMEL203	D
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5	29	UNIT V: Brief introduction to different nonferrous materials	09/10/2017	BMEL203	D
6	32	Impact test Izod and Charpy test	10/10/2017	BMEL203	D
0	0	Advanced Topic Nanofluid	11/10/2017	BMEL203	D
6	33	Hardness measurement, micro hardness	11/10/2017	BMEL203	D
6	34	Non destructive testing, Magnetic particle inspection	13/10/2017	BMEL203	D

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Course wise Teaching Plan for Session : Winter 2017

Course : Mathematical Applications in Mechanical

Faculty : Ashwini Lalke

Engineering Unit	Topic Code	Topic Covered	Date	Course	Section
	1	Unit I Laplace Transforms: definition and their simple properties	25/08/2017	BAML203	D
	1	Laplace transform property	25/08/2017	BAML203	D
	2	inverse of laplace transform	28/08/2017	BAML203	D
	2	Transform of derivatives and integrals,	28/08/2017	BAML203	D
	1	Tutorial I	31/08/2017	BAML203	D
	3	Evaluation of integrals by L.T.	31/08/2017	BAML203	D
	4	Inverse L.T. & its properties	31/08/2017	BAML203	D
	5	convolution theorem	01/09/2017	BAML203	D
	6	Laplace transforms of periodic function	03/09/2017	BAML203	D
	7	Unit step function	04/09/2017	BAML203	D
	2	Tutorial II	07/09/2017	BAML203	D
	8	Applications of Laplace transforms to solve ordinary differential equations &	07/09/2017	BAML203	D
	9	Applications of Laplace transforms to partial differential equations (one-dimensional wave & diffusion equations).	07/09/2017	BAML203	D
2	10	Unit -II Fourier series and Harmonic analysis : Periodic function	08/09/2017	BAML203	D
2	11	Fourier series expansion	11/09/2017	BAML203	D
2	12	Fourier series for even & function	14/09/2017	BAML203	D
2	13	Fourier series for even & function	14/09/2017	BAML203	D
2	14	Change of interval	15/09/2017	BAML203	D
2	15	Half range expansion.	18/09/2017	BAML203	D
2	16	Harmonic analysis	21/09/2017	BAML203	D
3	17	Unit-III Fourier Transform: Definition	21/09/2017	BAML203	D

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Course wise Teaching Plan for Session : Winter 2017

Course : Mathematical Applications in Mechanical

Faculty : Ashwini Lalke

Engineering Unit	Topic Code	Topic Covered	Date	Course	Section
3	18	Fourier integral theorem	22/09/2017	BAML203	D
3	19	Fourier sine & cosine integrals	25/09/2017	BAML203	D
3	20	Finite Fourier sine & cosine transforms	28/09/2017	BAML203	D
3	21	Finite Fourier sine & cosine transforms	28/09/2017	BAML203	D
3	21	Parseval's identity	29/09/2017	BAML203	D
3	21	Parseval's identity	05/10/2017	BAML203	D
3	21	Parseval's identity	05/10/2017	BAML203	D

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Course wise Teaching Plan for Session : Winter 2017

Course : Kinematics of Machines

Faculty : Laukik . P. Raut

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Introduction to Kinematics of Machine	25/08/2017	BMEL204	D
1	2	Simple Mechanism, chain, kinematic chain	25/08/2017	BMEL204	D
1	3	Degree of freedom, estimation of degree of freedom of mechanism by Grubler's criterion and other methods	28/08/2017	BMEL204	D
1	4	Harding's notations, classification of four bar chain [class - I & class - II]	30/08/2017	BMEL204	D
1	5	inversion of four-bar-chain, Kutzbach theory of multiple drives, Kutzbach theory of multiple drives	31/08/2017	BMEL204	D
2	6	Quantitative kinematic analysis of mechanism: Displacement, Velocity	01/09/2017	BMEL204	D
2	7	Acceleration analysis of planer mechanism by graphical method	01/09/2017	BMEL204	D
2	8	Acceleration analysis of planer mechanism by analytical method [complex number method / matrix method]	04/09/2017	BMEL204	D
2	9	Coriolis component of acceleration, Instantaneous center method	06/09/2017	BMEL204	D
2	10	Kennedy's theorem	07/09/2017	BMEL204	D
3	11	Concepts of cam mechanism, comparison of cam mechanism with linkages	08/09/2017	BMEL204	D
3	12	Types of cams and followers and applications, Synthesis of cam for different types of follower motion like constant velocity	08/09/2017	BMEL204	D
3	13	Synthesis of cam for different types of follower motion like parabolic, Pressure angle in cam	11/09/2017	BMEL204	D
3	14	Pressure angle in cam	13/09/2017	BMEL204	D
4	15	Concept of motion transmission by toothed wheels, comparison with cams and linkages, various tooth profiles	14/09/2017	BMEL204	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Kinematics of Machines

Faculty : Laukik . P. Raut

Unit	Topic Code	Topic Covered	Date	Course	Section
4	16	gear tooth terminologies, concept of conjugate action, Law of conjugate action, kinematics of involutes gear tooth pairs during the contact duration	15/09/2017	BMEL204	D
4	17	Highlighting locus of the point of contact, Arc of contact, numbers of pairs of teeth in contact	15/09/2017	BMEL204	D
4	18	path of approach and path of recess, interference	18/09/2017	BMEL204	D
4	19	undercutting for involutes profile teeth	20/09/2017	BMEL204	D
5	20	Kinematics of helical, bevel gear	21/09/2017	BMEL204	D
5	21	Kinematics of worm gears, pinion gear	22/09/2017	BMEL204	D
5	22	kinematic analysis of simple epicyclic gear trains	22/09/2017	BMEL204	D
6	23	Introduction to coupler curves, Robert's Law of cognate linkages	25/09/2017	BMEL204	D
6	24	Synthesis of four bar chain for gross motion, Frudenstein equation and its application for function generation	27/09/2017	BMEL204	D
6	25	Practical demonstration on shaper machine for the concept of Quick return Mechanism. Demonstration of mechanisms used in two wheelers in Yamaha Lab.	28/09/2017	BMEL204	D
6	26	Showing of different inversions of four bar mechanism using models, Video on working of different types of Mechanism.	29/09/2017	BMEL204	D
6	27	Demonstration and Actual showing of different CAM and its application.	29/09/2017	BMEL204	D
6	28	Demonstration of Bevel & worm gears using differential gear box of four wheeler, Demonstration on lathe machine for gear trains, NPTEL lecture on Synthesis	04/10/2017	BMEL204	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Vivek V Bhandarkar

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Objectives of subject, Introduction of Computer Aided Drafting Computer Aided Drafting and Design, Principles of Drawings Scales as per ISO standards, Importance of Title Block and Part list Lines types	29/08/2017	BMEL201	D
1	2	Dimensions-Principle of Dimensioning Counter Sink, Counter Bores Spot Faces, Dimensions (with examples) Chamfers Screw Threads Tapered Features	30/08/2017	BMEL201	D
1	3	Drawing Layout and Lettering, Prepare Two 2-D Geometrical Modal by using Sketching mode by using line, circle, trim extend command.	31/08/2017	BMEL201	D
1	4	Line thickness and its type, Instruction of part modeling icon	05/09/2017	BMEL201	D
2	5	Convert 2D into 3D geometrical Modal, Part Modeling and assembly	06/09/2017	BMEL201	D
2	6	Prepare the 3D geometrical model, Prepare the 3D geometrical model	07/09/2017	BMEL201	D
2	7	Assembly preparation by using assembly related command in CAD Software, Sectioning Cutting Planes and Section Hatching Lines	12/09/2017	BMEL201	D
2	8	Half Sections Aligned Sections, Offset Sections, Sectioning Revolved, Removed Sections, Local Sections, Successive Sections, Thin Sections	13/09/2017	BMEL201	D
2	9	Pactise on section modeling	14/09/2017	BMEL201	D
2	10	Pactise on missing view	19/09/2017	BMEL201	D
3	11	Limits, Fits and Tolerance-Classifications of Fits System of Fits' Computations Selection of Fits Method of Indicating Fits on Drawings, Tolerance Grade Computations of Tolerance Positions of Tolerance Fundamental of Deviations Shaft and Hole Terminology M	20/09/2017	BMEL201	D



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Course : Machine Drawing

Faculty : Vivek V Bhandarkar

Unit	Topic Code	Topic Covered	Date	Course	Section
3	12	Limits, Fits and Tolerance Need of Geometrical Tolerance Geometrical Characteristics of Symbols Indication of MMC Interpretation of Indication of Geometrical Tolerance, Industrial applications of Limits & Fits	21/09/2017	BMEL201	D
3	13	Industrial applications of Geometric Tolerance	26/09/2017	BMEL201	D
4	14	Conventional Representations-Common features, Springs, Gear Assemblies, Materials Interrupted views and Braking of Shaft, Pipe, Bar Surface finishing & Machining Symbols	27/09/2017	BMEL201	D
4	15	Screwed Fastenings Screw Thread, Nomenclature Threads Form of V Threads, Form of Square Threads conventional representations	28/09/2017	BMEL201	D
5	16	Types of Joints-Riveted Joints and Riveting Classification, Rivet Terminologies	03/10/2017	BMEL201	D
5	17	Welded Joints- Types of Welded Joints, Welds Symbols and its conventions, Flip lecture-Welding representation on drawing	04/10/2017	BMEL201	D
5	18	Pipes and Pipe Joints -Types of Pipe Joints, Piping Layout and Conventions	05/10/2017	BMEL201	D
5	19	Pulleys -Applications, Types, Couplings -Applications, Types, Working Principles	10/10/2017	BMEL201	D
6	20	Assembly Drawing, De-Assembly Drawing	11/10/2017	BMEL201	D
6	21	Production drawing	12/10/2017	BMEL201	D

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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Vinod M Wankar

Unit	Topic Code	Topic Covered	Date	Course	Section
	1	Introduction to Matlab	12/06/2017	BMEL209	A
	2	Matlab Environment	13/06/2017	BMEL209	A
	3	Command window management	14/06/2017	BMEL209	A
	4	Executing Expression from Matlab command	19/06/2017	BMEL209	A
	5	Executing Expression from Matlab command	20/06/2017	BMEL209	A
	6	Executing Expression from Matlab command	21/06/2017	BMEL209	A
	7	Matlab Function	26/06/2017	BMEL209	A
	8	Creation of .m file	27/06/2017	BMEL209	A
	9	Matrix and linear algebra review,	28/06/2017	BMEL209	A
	10	Matrix and linear algebra review,	03/07/2017	BMEL209	A
2	11	Vectors and matrices in MATLAB	04/07/2017	BMEL209	A
2	12	Vectors and matrices in MATLAB	05/07/2017	BMEL209	A
2	13	Matrix operations	10/07/2017	BMEL209	A
2	14	Matrix operations and functions in MATLAB	11/07/2017	BMEL209	A
2	15	functions in MATLAB	12/07/2017	BMEL209	A
3	16	Strings and Annotated Output	18/07/2017	BMEL209	A
3	17	Input/Output Data Files	19/07/2017	BMEL209	A
3	18	Cell Arrays	24/07/2017	BMEL209	A
3	19	Input Microsoft Excel Files	25/07/2017	BMEL209	A
3	20	Logical Operator (If, Switch, for loop, while loop statement),	26/07/2017	BMEL209	A
3	21	Logical Operator (If, Switch, for loop, while loop statement),	31/07/2017	BMEL209	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Vinod M Wankar

Unit	Topic Code	Topic Covered	Date	Course	Section
3	22	Logical Operator (If, Switch, for loop, while loop statement),	01/08/2017	BMEL209	A
3	23	Matlab Functions	02/08/2017	BMEL209	A
3	24	Use of Matlab Functions as per application	07/08/2017	BMEL209	A
4	25	Unit 4 2D/ 3D Graphics Introduction	08/08/2017	BMEL209	A
4	26	Graphics Management	09/08/2017	BMEL209	A
4	27	Basic 2D Plotting Commands	14/08/2017	BMEL209	A
4	28	Special Purpose Graphs	15/08/2017	BMEL209	A
4	29	Special Purpose Graphs	16/08/2017	BMEL209	A
4	30	Reading graphs	21/08/2017	BMEL209	A
4	31	Displaying and Manipulating Digital Images	22/08/2017	BMEL209	A
4	32	Graph Annotation and Enhancement	23/08/2017	BMEL209	A
4	33	Lines in 3D	28/08/2017	BMEL209	A
4	34	3D Surfaces	29/08/2017	BMEL209	A
5	35	Unit 5 Engineering Statistics using Matlab introduction	30/08/2017	BMEL209	A
5	36	Descriptive Statistical Quantities,	04/09/2017	BMEL209	A
5	37	Probability Distributions,	05/09/2017	BMEL209	A
5	38	Discrete Distributions,	06/09/2017	BMEL209	A
5	39	Continuous Distributions,	11/09/2017	BMEL209	A
5	40	Linear Regression,	12/09/2017	BMEL209	A
5	41	Multiple Linear Regression	13/09/2017	BMEL209	A
5	42	Design of Experiments	18/09/2017	BMEL209	A
5	43	Design of Experiments	19/09/2017	BMEL209	A

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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Vinod M Wankar

Unit	Topic Code	Topic Covered	Date	Course	Section
5	44	Analysis of Variance	20/09/2017	BMEL209	A
6	45	Unit 6 Fluid Mechanics in Matlab: Introduction	25/09/2017	BMEL209	A
6	46	Hydrostatics,	26/09/2017	BMEL209	A
6	47	Pressure Distribution in the Standard Atmosphere,	27/09/2017	BMEL209	A
6	48	Force on a Planar Gate,	02/10/2017	BMEL209	A
6	0	Internal Viscous Flow,	03/10/2017	BMEL209	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Design-I

Faculty : Dr. V N Bhaishwar

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Unit: 1 Introduction: Course objectives, course outcomes, program outcomes, outcome based education, mapping of CO's with PO's, planning of CAE and TAE	12/06/2017	BMEL304	A
1	2	Definition of Design, Types of Design, Design Process, Need, Defining the Problem.	13/06/2017	BMEL304	A
1	1	Tutorial-1	14/06/2017	BMEL304	A
1	3	Feasibility, Preliminary, Design Alternatives, Final Design Selection, Preliminary And Final Plans & Drawings.	16/06/2017	BMEL304	A
1	4	Failure criterion and manufacturing considerations in design, basis of good design, failure of machine Parts.	19/06/2017	BMEL304	A
1	5	Power point presentation on various stages of Design	20/06/2017	BMEL304	A
1	2	Tutorial-2	21/06/2017	BMEL304	A
1	6	Deformations, Wear, Corrosion, Manufacturing Methods, Machining Tolerance, Surface Finish, Cost, Design consideration in Casting and Forging.	23/06/2017	BMEL304	A
1	7	Mechanical properties, applications and designations as per ISI & their equivalence with other standards of engineering materials.	26/06/2017	BMEL304	A
1	8	Power point presentation on Mechanical Properties of Materials	27/06/2017	BMEL304	A
2	3	Tutorial-3	28/06/2017	BMEL304	A
1	9	Selection of Materials, Temperature effects on properties of materials such as cast iron, plain carbon steel, alloy steels, aluminum & copper alloys, cast steel, plastics, polymers & composites & their applications.	03/07/2017	BMEL304	A
1	10	Power point presentation on Selection of Materials	04/07/2017	BMEL304	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Design-I

Faculty : Dr. V N Bhaiwar

Unit	Topic Code	Topic Covered	Date	Course	Section
2	4	Tutorial-4	05/07/2017	BMEL304	A
2	11	Unit-2 Design of cotter and knuckle joint, shrink and press fit joints.	07/07/2017	BMEL304	A
2	12	Riveted joint for structural works (Uniform strength joint) & eccentric loaded riveted joint.	10/07/2017	BMEL304	A
2	13	NPTEL lectures on design of Riveted Joints	11/07/2017	BMEL304	A
3	5	Tutorial-5	12/07/2017	BMEL304	A
2	14	Welded Joint: Design of single transverse, double transverse, parallel fillet, combination fillet butt joint, eccentrically loaded welded joint.	14/07/2017	BMEL304	A
3	6	Tutorial-6	19/07/2017	BMEL304	A
2	15	NPTEL lectures on design of Welded joints.	21/07/2017	BMEL304	A
2	16	Bolted Joint: Design of bolted fasteners, bolts of uniform strength, bolted joints under eccentric loading. Design of lever: hand lever, foot lever and bell crank lever.	24/07/2017	BMEL304	A
3	17	Unit-3 Design of Power Screw.	25/07/2017	BMEL304	A
4	7	Tutorial-7	26/07/2017	BMEL304	A
3	18	NPTEL Lecture on design procedure of screw jack.	28/07/2017	BMEL304	A
3	19	Derivation of expression for deflection and shear stress in helical spring. Design of helical spring.	31/07/2017	BMEL304	A
3	20	NPTEL Lecture on design of helical compression spring.	01/08/2017	BMEL304	A
4	8	Tutorial-8	02/08/2017	BMEL304	A
3	21	Design of Leaf Spring.	04/08/2017	BMEL304	A
3	22	Demonstration of Suspension System in YAMAHA and Automobile Lab.	07/08/2017	BMEL304	A
4	23	Unit-4 Kinematics of friction drives such as brakes.	08/08/2017	BMEL304	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Design-I

Faculty : Dr. V N Bhaiwar

Unit	Topic Code	Topic Covered	Date	Course	Section
5	9	Tutorial-9	09/08/2017	BMEL304	A
4	24	Design of friction clutch: single plate & Multiplate	11/08/2017	BMEL304	A
4	25	Design of cone clutch.	14/08/2017	BMEL304	A
5	10	Tutorial-10	16/08/2017	BMEL304	A
4	26	Design of centrifugal clutch.	21/08/2017	BMEL304	A
4	27	Demonstration of clutches in YAMAHA and Automobile Lab.	22/08/2017	BMEL304	A
6	11	Tutorial-11	23/08/2017	BMEL304	A
4	28	Design of band brake.	28/08/2017	BMEL304	A
4	29	Design of internal expanding brake.	29/08/2017	BMEL304	A
6	12	Tutorial-12	30/08/2017	BMEL304	A
4	30	Video/Animation on Principle of operation of air brake system.	01/09/2017	BMEL304	A
4	31	Video/Animation on Anti-lock Braking System	04/09/2017	BMEL304	A
4	32	Video/Animation on Principle of operation of Hydraulic brake system	05/09/2017	BMEL304	A
6	13	Tutorial-13	06/09/2017	BMEL304	A
4	33	Demonstration of Brakes in YAMAHA and Automobile Lab.	08/09/2017	BMEL304	A
5	34	Unit-5: Classification of thin and thick cylindrical pressure vessel & stresses. ASME code of pressure vessel.	11/09/2017	BMEL304	A
5	35	NPTEL Lecture on Pressure Vessel	12/09/2017	BMEL304	A
5	36	Design of pressure vessel when it is subjected to internal pressure & ASME code of piping when it is subjected to internal pressure.	15/09/2017	BMEL304	A
5	37	Expression for circumferential and longitudinal stresses	18/09/2017	BMEL304	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Design-I

Faculty : Dr. V N Bhaiwar

Unit	Topic Code	Topic Covered	Date	Course	Section
5	38	Design of pressure vessel, heads and cover Plate.	19/09/2017	BMEL304	A
6	14	Tutorial-14	20/09/2017	BMEL304	A
6	39	Unit-6 Design of transmission shafts on the basis of strength, rigidity, and critical speed.	22/09/2017	BMEL304	A
6	40	Numerical on the Design of Shaft	25/09/2017	BMEL304	A
6	41	NPTEL Lecture on design of Shaft	26/09/2017	BMEL304	A
6	15	Tutorial-15	27/09/2017	BMEL304	A
6	42	Advance Topic : Optimization in Design	03/10/2017	BMEL304	A
6	16	Tutorial-16	04/10/2017	BMEL304	A

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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : Mr. Ashish Suresh Rao Raut

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Introduction to subjects & PO CO	12/06/2017	BMEL305	A
1	2	Significance of measurement	13/06/2017	BMEL305	A
1	3	Application of measuring instruments, Types of measuring instruments	14/06/2017	BMEL305	A
1	4	General configuration and functional elements of measuring instruments	15/06/2017	BMEL305	A
1	5	Flip lecture / Video on basic concept of Generalized Measurement system & its configuration.	19/06/2017	BMEL305	A
1	6	Types of inputs, Various methods of correction	20/06/2017	BMEL305	A
1	7	Interfering and modifying inputs	21/06/2017	BMEL305	A
2	8	Static characteristics	22/06/2017	BMEL305	A
2	9	Different types of errors	27/06/2017	BMEL305	A
2	10	Combination of component errors in overall systems	28/06/2017	BMEL305	A
2	11	Dynamic characteristics	29/06/2017	BMEL305	A
2	12	General mathematical model of zero order, first order and second order instruments	03/07/2017	BMEL305	A
2	13	Response of first order instruments	04/07/2017	BMEL305	A
2	14	Response of second order instruments	05/07/2017	BMEL305	A
2	15	Inputs step, ramp, impulse and frequency	06/07/2017	BMEL305	A
3	16	Types of strain gauges, strain gauge circuits	10/07/2017	BMEL305	A
3	17	Calibration, Temperature compensation	11/07/2017	BMEL305	A
3	18	Use of strain gauges on rotating shafts	12/07/2017	BMEL305	A
3	19	Selection and installation of strain gauges	13/07/2017	BMEL305	A
3	20	Video on operation of digital strain gauge.	19/07/2017	BMEL305	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : Mr. Ashish Suresh Rao Raut

Unit	Topic Code	Topic Covered	Date	Course	Section
3	21	Basic methods of pressure measurement, dead weight gauges and manometers	20/07/2017	BMEL305	A
3	22	Elastic transducers and force balance transducers	24/07/2017	BMEL305	A
3	23	Strain gauge pressure cell, High pressure measurement Bridgeman type	25/07/2017	BMEL305	A
3	24	Low pressure Measurement - McLeod, Krudsen,	26/07/2017	BMEL305	A
3	25	Low pressure Measurement - ionization, Thermal conductivity gauges	27/07/2017	BMEL305	A
3	26	Flip lecture / Video on working of various digital pressure gauges.	31/07/2017	BMEL305	A
4	27	Force measurement using transducer (pneumatic and hydraulic load cells)	01/08/2017	BMEL305	A
4	28	Force measurement using transducer (strain gauge load cells, piezoelectric load cells)	02/08/2017	BMEL305	A
4	29	Torque measurement on rotating shaft, electrical type dynamometer	03/08/2017	BMEL305	A
4	30	Measurements of displacement, velocity strain gauges, Measurements of accelerate strain gauges	08/08/2017	BMEL305	A
4	31	Hands on practice on force measurement.	09/08/2017	BMEL305	A
4	32	LVDT, capacitive transducer	10/08/2017	BMEL305	A
4	33	photoelectric & Inductive transducers, encoder	14/08/2017	BMEL305	A
4	34	Animated Video on working of digital motion measurement instruments.	16/08/2017	BMEL305	A
4	35	Construction- Venturi, orifice	17/08/2017	BMEL305	A
4	36	Dall tube, rotameter, Positive displacement flow meters, Turbine meter, electro-magnetic flow meter	21/08/2017	BMEL305	A
4	37	Pressure probes- Pitot static tube, Pressure probes-yaw tube anemometer	22/08/2017	BMEL305	A
4	38	Flip lecture / Video on actual working of digital flow measurement devices.	23/08/2017	BMEL305	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : Mr. Ashish Suresh Rao Raut

Unit	Topic Code	Topic Covered	Date	Course	Section
5	39	Measurement of temperature using Liquid in glass thermometer	24/08/2017	BMEL305	A
5	40	Pressure thermometers, Bimetallic thermometers	28/08/2017	BMEL305	A
5	41	Thermocouples, resistance thermometers, thermistors	30/08/2017	BMEL305	A
5	42	Video on actual working of digital temperature measurement	31/08/2017	BMEL305	A
5	43	Video on actual working of digital temperature measurement in industry (high temp mmt).	04/09/2017	BMEL305	A
5	44	Radiation and optical pyrometer	05/09/2017	BMEL305	A
5	45	Various mechanical type tachometers, Electrical type tachometers, stroboscope	06/09/2017	BMEL305	A
6	46	Hands on practices on assembly & details speed measurement devices used in industry.	07/09/2017	BMEL305	A
6	47	liquid level Measurements, Vibration Measurement, Humidity Measurement	11/09/2017	BMEL305	A
6	48	Video on actual working of advanced vibration measurement.	12/09/2017	BMEL305	A
6	49	Video on actual working of advancement in humidity measurement	18/09/2017	BMEL305	A
6	50	Video on actual working of advanced device used for liquid level measurement (Case Study).	20/09/2017	BMEL305	A
6	51	Flip lecture on electronics devices used in measurement.	21/09/2017	BMEL305	A
6	52	Demonstration on UG and PG projects for measurement	25/09/2017	BMEL305	A
6	53	Case study on various measuring devices in real life.	26/09/2017	BMEL305	A
6	54	Calibration, Temperature compensation	27/09/2017	BMEL305	A
6	55	Revision	03/10/2017	BMEL305	A
6	56	Revision	04/10/2017	BMEL305	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : Mr. Ashish Suresh Rao Raut

Unit	Topic Code	Topic Covered	Date	Course	Section
6	57	Revision	05/10/2017	BMEL305	A

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Course wise Teaching Plan for Session : Winter 2017

Course : Manufacturing Process II

Faculty : Shyamkumar D Chavhan

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Vision, Mission of College and Department, Program Educational Objectives, Program Objective, Course objective and Outcomes	13/06/2017	BMEL306	A
1	2	UNIT I Introduction to Casting Process, Pattern making process & its types	15/06/2017	BMEL306	A
1	3	Video on operation of Multi piece pattern.	16/06/2017	BMEL306	A
1	4	materials used for patterns , pattern making allowances	20/06/2017	BMEL306	A
1	5	colour codes used in Core making: - Types, core material and its properties	22/06/2017	BMEL306	A
1	6	molding sand and its composition, molding sand properties	23/06/2017	BMEL306	A
1	7	Actual showing of different types of sand used in molding.	27/06/2017	BMEL306	A
1	8	Types of sand mould	30/06/2017	BMEL306	A
2	9	UNIT II Gating design - elements of gating systems	04/07/2017	BMEL306	A
2	10	pouring time, riser design	06/07/2017	BMEL306	A
2	11	Melting furnaces - Types, Electric furnace, Induction furnace	07/07/2017	BMEL306	A
2	12	Video on operation of Cupola Furnace	11/07/2017	BMEL306	A
2	13	Foundry mechanism : Special casting processes such as investment Casting . Video on operation of Investment casting	13/07/2017	BMEL306	A
2	14	Video on operation of blast Furnace	14/07/2017	BMEL306	A
2	15	Centrifugal Casting, Shell Molding , Video on operation of centrifugal casting.	20/07/2017	BMEL306	A
2	16	Co Molding, Slush Casting,	21/07/2017	BMEL306	A
2	17	Die Casting	25/07/2017	BMEL306	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Manufacturing Process II

Faculty : Shyamkumar D Chavhan

Unit	Topic Code	Topic Covered	Date	Course	Section
3	18	UNIT III Introduction to Forming processes Advantages and drawbacks of Forming processes	27/07/2017	BMEL306	A
3	19	Forging Video on forging operations	28/07/2017	BMEL306	A
3	20	Rolling,	01/08/2017	BMEL306	A
3	21	Extrusion,	03/08/2017	BMEL306	A
3	22	Video on operation of wire drawing	04/08/2017	BMEL306	A
4	23	UNIT IV Introduction to Powder Metallurgy	08/08/2017	BMEL306	A
4	24	Powder manufacture and Conditioning	10/08/2017	BMEL306	A
4	25	Production of Sintered Structural components	11/08/2017	BMEL306	A
4	26	Self lubricating bearing. Cemented Carbides, Ceramics, Sintered Carbide cutting tools	15/08/2017	BMEL306	A
4	43	Introduction and types of composites	17/08/2017	BMEL306	A
4	27	Composite Materials : Classification	22/08/2017	BMEL306	A
4	28	Different types of composite materials and its applications. Video on operation of Sintering	24/08/2017	BMEL306	A
5	29	UNIT V Introduction to Joining processes	29/08/2017	BMEL306	A
5	30	Soldering, Brazing Processes.	31/08/2017	BMEL306	A
5	31	Video on operation of brazing	01/09/2017	BMEL306	A
5	32	Types of Welding. Arc Welding and Gas Welding Processes	05/09/2017	BMEL306	A
5	33	Defects and Inspection of Welding Joints , Showing of different welding defect welded part	07/09/2017	BMEL306	A
5	34	Video on operation of underwater welding	08/09/2017	BMEL306	A
5	35	Weldability of Metals , Welding equipments of Fixtures	12/09/2017	BMEL306	A



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Course : Manufacturing Process II

Faculty : Shyamkumar D Chavhan

Unit	Topic Code	Topic Covered	Date	Course	Section
6	36	UNIT VI Introduction Processing of Plastic, Thermoplastic, Thermosetting plasticss	15/09/2017	BMEL306	A
6	37	General properties and applications of Thermosetting and Thermo Plastics	19/09/2017	BMEL306	A
6	38	General Plastic Processes: Extrusion	21/09/2017	BMEL306	A
6	39	Video on operation of Calendaring	22/09/2017	BMEL306	A
6	40	Injection Moulding, compression Moulding, Video on operation of Injection molding	26/09/2017	BMEL306	A
6	41	Transfer Moulding Blow Moulding, Embossing	03/10/2017	BMEL306	A
6	42	Advance topic	05/10/2017	BMEL306	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Energy Conversion I

Faculty : Dr. Rupesh Suresh Rao Shelke

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Unit-I: Steam Generators: Introduction, Scheme, syllabus, course objective, course outcome, Introduction, Importance and Scope of Subject, Prerequisites for learning Subject	12/06/2017	BMEL210	A
	2	Principle of steam generation,	14/06/2017	BMEL210	A
	1	Tutorial 1	15/06/2017	BMEL210	A
	3	Classification of steam generators	15/06/2017	BMEL210	A
	4	Fire tube	16/06/2017	BMEL210	A
	5	Water tube steam generators,	19/06/2017	BMEL210	A
	6	High pressure steam generators, Boiler mountings ,Boiler accessories	21/06/2017	BMEL210	A
	1	Tutorial 2	22/06/2017	BMEL210	A
	7	Basic concept of thermal power plant	22/06/2017	BMEL210	A
	8	Operation of thermal power plant	23/06/2017	BMEL210	A
	9	Working of thermal power plant	28/06/2017	BMEL210	A
	1	Tutorial 3	29/06/2017	BMEL210	A
2	10	Unit-II: Chimney Draught: Drought and its classification,	29/06/2017	BMEL210	A
2	11	Chimney height, Chimney diameter,	30/06/2017	BMEL210	A
2	12	Efficiency condition for maximum discharge,	03/07/2017	BMEL210	A
2	13	Performance of steam generators.	05/07/2017	BMEL210	A
1	1	Tutorial 4	06/07/2017	BMEL210	A
2	14	Evaporation capacity., Equivalent evaporation boiler efficiency.	06/07/2017	BMEL210	A
2	15	Actual working of water tube boilers.	07/07/2017	BMEL210	A
2	16	Actual working of fire tube boilers.	10/07/2017	BMEL210	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Energy Conversion I

Faculty : Dr. Rupesh Suresh Rao Shelke

Unit	Topic Code	Topic Covered	Date	Course	Section
2	17	Unit-III: Fluidized bed boilers:- bubbling fluidized bed boilers.	12/07/2017	BMEL210	A
1	1	Tutorial 5	13/07/2017	BMEL210	A
2	18	Circulating fluidized bed boilers (elementary treatment expected),	13/07/2017	BMEL210	A
3	19	Fuels for steam generators	14/07/2017	BMEL210	A
3	20	gradation and analysis of coal, coal handling system,	19/07/2017	BMEL210	A
1	1	Tutorial 6	20/07/2017	BMEL210	A
3	21	ash collection and handling system	20/07/2017	BMEL210	A
3	22	Flue gas analysis Feed water supply systems.	21/07/2017	BMEL210	A
3	23	Animation Working of low pressure boilers.	24/07/2017	BMEL210	A
3	24	Video Working of high pressure boilers.	26/07/2017	BMEL210	A
1	1	Tutorial 7	27/07/2017	BMEL210	A
3	25	Simulation Working of advanced cooling tower.	27/07/2017	BMEL210	A
3	26	Unit-IV: Steam nozzles:- adiabatic expansion in nozzles,	28/07/2017	BMEL210	A
3	27	maximum discharge	31/07/2017	BMEL210	A
4	28	critical pressure ratio and effects of friction,	02/08/2017	BMEL210	A
1	1	Tutorial 8	03/08/2017	BMEL210	A
4	29	calculation of throat and exit areas, supersaturated flow, Wilson line,	03/08/2017	BMEL210	A
4	30	steam turbines principles of working of steam turbine	04/08/2017	BMEL210	A
4	31	classification of steam turbines,	09/08/2017	BMEL210	A
1	1	Tutorial 9	10/08/2017	BMEL210	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Energy Conversion I

Faculty : Dr. Rupesh Suresh Rao Shelke

Unit	Topic Code	Topic Covered	Date	Course	Section
4	32	Comparison of impulse and reaction turbines compounding of steam turbine.	10/08/2017	BMEL210	A
4	33	NPTEL video on actual working of backpressure turbines.	11/08/2017	BMEL210	A
4	34	NPTEL video on actual working of condensate extraction turbines.	14/08/2017	BMEL210	A
4	35	Youtube video on actual working of advanced steam condensers	16/08/2017	BMEL210	A
1	1	Tutorial 10	17/08/2017	BMEL210	A
4	36	Unit-V: Energy losses in steam turbines: flow of steam through turbine blades	17/08/2017	BMEL210	A
5	37	Ideal and actual reheat factors, ,	21/08/2017	BMEL210	A
5	38	velocity diagrams, graphical and analytical methods work done, Thrust and power,	23/08/2017	BMEL210	A
1	1	Tutorial 11	24/08/2017	BMEL210	A
5	39	Dimensions and proportioning of the blades,	24/08/2017	BMEL210	A
5	40	steam turbine efficiencies, condition for maximum efficiencies, reheat and regenerative cycles, governing of steam turbines	28/08/2017	BMEL210	A
5	41	NPTEL video on actual working of condensate extraction turbines.	30/08/2017	BMEL210	A
1	1	Tutorial 12	31/08/2017	BMEL210	A
5	42	NPTEL video on actual working of advanced steam condensers.	31/08/2017	BMEL210	A
5	43	Unit-VI: Steam condensers and cooling tower: types of condensers,	04/09/2017	BMEL210	A
1	1	Tutorial 13	06/09/2017	BMEL210	A
5	44	classification of condensers, Design calculations for surface condensers,	06/09/2017	BMEL210	A
5	45	Dalton's law of pressures sources of air leakages and air removal,	07/09/2017	BMEL210	A



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Course : Energy Conversion I

Faculty : Dr. Rupesh Suresh Rao Shelke

Unit	Topic Code	Topic Covered	Date	Course	Section
6	46	Air ejectors cooling towers, Wet cooling, dry cooling towers cooling ponds.	08/09/2017	BMEL210	A
6	47	Advanced topic- Supercritical power generation	11/09/2017	BMEL210	A
6	48	Explanation on trigeneration technology	15/09/2017	BMEL210	A
6	49	Demonstration on UG and PG projects.	18/09/2017	BMEL210	A
6	50	Study of critical and supercritical thermal power plants.	20/09/2017	BMEL210	A
1	1	Tutorial 14	21/09/2017	BMEL210	A
6	51	Extra classes	21/09/2017	BMEL210	A
6	52	Revision	22/09/2017	BMEL210	A
6	53	Revision	25/09/2017	BMEL210	A
6	54	Revision	27/09/2017	BMEL210	A
6	55	Revision	04/10/2017	BMEL210	A
1	1	Tutorial 15	05/10/2017	BMEL210	A
6	56	Revision	05/10/2017	BMEL210	A

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Course wise Teaching Plan for Session : Winter 2017

Course : Manufacturing Process II

Faculty : Shyamkumar D Chavhan

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Vision, Mission of College and Department, Program Educational Objectives, Program Objective, Course objective and Outcomes	13/06/2017	BMEL306	A
1	2	UNIT I Introduction to Casting Process, Pattern making process & its types	15/06/2017	BMEL306	A
1	3	Video on operation of Multi piece pattern.	16/06/2017	BMEL306	A
1	4	materials used for patterns , pattern making allowances	20/06/2017	BMEL306	A
1	5	colour codes used in Core making: - Types, core material and its properties	22/06/2017	BMEL306	A
1	6	molding sand and its composition, molding sand properties	23/06/2017	BMEL306	A
1	7	Actual showing of different types of sand used in molding.	27/06/2017	BMEL306	A
1	8	Types of sand mould	30/06/2017	BMEL306	A
2	9	UNIT II Gating design - elements of gating systems	04/07/2017	BMEL306	A
2	10	pouring time, riser design	06/07/2017	BMEL306	A
2	11	Melting furnaces - Types, Electric furnace, Induction furnace	07/07/2017	BMEL306	A
2	12	Video on operation of Cupola Furnace	11/07/2017	BMEL306	A
2	13	Foundry mechanism : Special casting processes such as investment Casting . Video on operation of Investment casting	13/07/2017	BMEL306	A
2	14	Video on operation of blast Furnace	14/07/2017	BMEL306	A
2	15	Centrifugal Casting, Shell Molding , Video on operation of centrifugal casting.	20/07/2017	BMEL306	A
2	16	Co Molding, Slush Casting,	21/07/2017	BMEL306	A
2	17	Die Casting	25/07/2017	BMEL306	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Manufacturing Process II

Faculty : Shyamkumar D Chavhan

Unit	Topic Code	Topic Covered	Date	Course	Section
3	18	UNIT III Introduction to Forming processes Advantages and drawbacks of Forming processes	27/07/2017	BMEL306	A
3	19	Forging Video on forging operations	28/07/2017	BMEL306	A
3	20	Rolling,	01/08/2017	BMEL306	A
3	21	Extrusion,	03/08/2017	BMEL306	A
3	22	Video on operation of wire drawing	04/08/2017	BMEL306	A
4	23	UNIT IV Introduction to Powder Metallurgy	08/08/2017	BMEL306	A
4	24	Powder manufacture and Conditioning	10/08/2017	BMEL306	A
4	25	Production of Sintered Structural components	11/08/2017	BMEL306	A
4	26	Self lubricating bearing. Cemented Carbides, Ceramics, Sintered Carbide cutting tools	15/08/2017	BMEL306	A
4	43	Introduction and types of composites	17/08/2017	BMEL306	A
4	27	Composite Materials : Classification	22/08/2017	BMEL306	A
4	28	Different types of composite materials and its applications. Video on operation of Sintering	24/08/2017	BMEL306	A
5	29	UNIT V Introduction to Joining processes	29/08/2017	BMEL306	A
5	30	Soldering, Brazing Processes.	31/08/2017	BMEL306	A
5	31	Video on operation of brazing	01/09/2017	BMEL306	A
5	32	Types of Welding. Arc Welding and Gas Welding Processes	05/09/2017	BMEL306	A
5	33	Defects and Inspection of Welding Joints , Showing of different welding defect welded part	07/09/2017	BMEL306	A
5	34	Video on operation of underwater welding	08/09/2017	BMEL306	A
5	35	Weldability of Metals , Welding equipments of Fixtures	12/09/2017	BMEL306	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Manufacturing Process II

Faculty : Shyamkumar D Chavhan

Unit	Topic Code	Topic Covered	Date	Course	Section
6	36	UNIT VI Introduction Processing of Plastic, Thermoplastic, Thermosetting plasticss	15/09/2017	BMEL306	A
6	37	General properties and applications of Thermosetting and Thermo Plastics	19/09/2017	BMEL306	A
6	38	General Plastic Processes: Extrusion	21/09/2017	BMEL306	A
6	39	Video on operation of Calendaring	22/09/2017	BMEL306	A
6	40	Injection Moulding, compression Moulding, Video on operation of Injection molding	26/09/2017	BMEL306	A
6	41	Transfer Moulding Blow Moulding, Embossing	03/10/2017	BMEL306	A
6	42	Advance topic	05/10/2017	BMEL306	A

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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : S.B.Soni

Unit	Topic Code	Topic Covered	Date	Course	Section
	1	Unit 1 Introduction to Matlab	13/06/2017	BMEL209	B
	2	Matlab Environment	15/06/2017	BMEL209	B
	3	Command window management	16/06/2017	BMEL209	B
	4	Executing Expression from Matlab command	20/06/2017	BMEL209	B
	5	Executing Expression from Matlab command	22/06/2017	BMEL209	B
	6	Basic Matlab Syntax	23/06/2017	BMEL209	B
	7	Matlab Function	27/06/2017	BMEL209	B
	8	Creation of .m file	29/06/2017	BMEL209	B
2	9	Unit 2 Matrices and vectors	30/06/2017	BMEL209	B
2	10	Matrix and linear algebra review,	04/07/2017	BMEL209	B
2	11	Matrix and linear algebra review	06/07/2017	BMEL209	B
2	12	Vectors and matrices in MATLAB	07/07/2017	BMEL209	B
2	13	Vectors and matrices in MATLAB	11/07/2017	BMEL209	B
2	15	Matrix operations and functions in MATLAB	14/07/2017	BMEL209	B
3	17	Strings and Annotated Output	20/07/2017	BMEL209	B
3	18	Input/Output Data Files	21/07/2017	BMEL209	B
3	19	Cell Arrays	25/07/2017	BMEL209	B
3	20	Input Microsoft Excel Files	27/07/2017	BMEL209	B
3	21	Logical Operator (If, Switch, for loop, while loop statement),	28/07/2017	BMEL209	B
3	22	Logical Operator (If, Switch, for loop, while loop statement),	01/08/2017	BMEL209	B
3	23	Matlab Functions	03/08/2017	BMEL209	B
3	24	Use of Matlab Functions as per application	04/08/2017	BMEL209	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : S.B.Soni

Unit	Topic Code	Topic Covered	Date	Course	Section
4	25	Unit 4 2D/ 3D Graphics Introduction	08/08/2017	BMEL209	B
4	26	Graphics Management	10/08/2017	BMEL209	B
4	27	Basic 2D Plotting Commands	11/08/2017	BMEL209	B
4	28	Special Purpose Graphs, Reading graphs	17/08/2017	BMEL209	B
4	29	Displaying and Manipulating Digital Images	18/08/2017	BMEL209	B
4	30	Graph Annotation and Enhancement	22/08/2017	BMEL209	B
4	31	Lines in 3D	24/08/2017	BMEL209	B
4	32	3D Surfaces	25/08/2017	BMEL209	B
4	33	Unit 5 Engineering Statistics using Matlab introduction	29/08/2017	BMEL209	B
5	34	Descriptive Statistical Quantities,	31/08/2017	BMEL209	B
5	35	Probability Distributions,	01/09/2017	BMEL209	B
5	36	Discrete Distributions,	05/09/2017	BMEL209	B
5	37	Continuous Distributions,	07/09/2017	BMEL209	B
5	38	Linear Regression,	08/09/2017	BMEL209	B
5	39	Multiple Linear Regression	12/09/2017	BMEL209	B
5	40	Design of Experiments	14/09/2017	BMEL209	B
5	41	Analysis of Variance	15/09/2017	BMEL209	B
5	42	Unit 6 Fluid Mechanics in Matlab: Introduction	19/09/2017	BMEL209	B
6	43	Hydrostatics,	21/09/2017	BMEL209	B
6	44	Pressure Distribution in the Standard Atmosphere,	22/09/2017	BMEL209	B
6	45	Force on a Planar Gate,	26/09/2017	BMEL209	B
6	46	Internal Viscous Flow,	28/09/2017	BMEL209	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : S.B.Soni

Unit	Topic Code	Topic Covered	Date	Course	Section
6	47	Laminar Flow in a Horizontal Pipe with Circular Cross Section	29/09/2017	BMEL209	B
6	48	Downward Turbulent Flow in a Vertical Pipe,	03/10/2017	BMEL209	B
6	49	Three Connected Reservoirs, External flow	05/10/2017	BMEL209	B

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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : Akshay S Wagh

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Introduction to subjects & PO CO	12/06/2017	BMEL305	B
1	2	Significance of measurement	13/06/2017	BMEL305	B
1	3	Application of measuring instruments, Types of measuring instruments	14/06/2017	BMEL305	B
1	4	General configuration and functional elements of measuring instruments	16/06/2017	BMEL305	B
1	5	Flip lecture / Video on basic concept of Generalised Measurement system & its configuration.	19/06/2017	BMEL305	B
1	6	Types of inputs, Various methods of correction	20/06/2017	BMEL305	B
1	7	Interfering and modifying inputs	21/06/2017	BMEL305	B
2	8	Static characteristics	23/06/2017	BMEL305	B
2	9	Different types of errors	27/06/2017	BMEL305	B
2	10	Combination of component errors in overall systems	28/06/2017	BMEL305	B
2	11	Dynamic characteristics	30/06/2017	BMEL305	B
2	12	General mathematical model of zero order, first order and second order instruments	03/07/2017	BMEL305	B
2	13	Response of first order instruments	04/07/2017	BMEL305	B
2	14	Response of second order instruments	05/07/2017	BMEL305	B
2	15	Inputs step, ramp, impulse and frequency	07/07/2017	BMEL305	B
3	16	Types of strain gauges, strain gauge circuits	10/07/2017	BMEL305	B
3	17	Calibration, Temperature compensation	11/07/2017	BMEL305	B
3	18	Use of strain gauges on rotating shafts	12/07/2017	BMEL305	B
3	19	Selection and installation of strain gauges	14/07/2017	BMEL305	B
3	22	Elastic transducers and force balance transducers	19/07/2017	BMEL305	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : Akshay S Wagh

Unit	Topic Code	Topic Covered	Date	Course	Section
3	23	Strain gauge pressure cell, High pressure measurement Bridgeman type	21/07/2017	BMEL305	B
3	24	Low pressure Measurement - McLeod, Krudsen,	24/07/2017	BMEL305	B
3	25	Low pressure Measurement - ionization, Thermal conductivity gauges	25/07/2017	BMEL305	B
3	26	Flip lecture / Video on working of various digital pressure gauges.	26/07/2017	BMEL305	B
4	27	Force measurement using transducer (pneumatic and hydraulic load cells)	28/07/2017	BMEL305	B
4	28	Force measurement using transducer (strain gauge load cells, piezoelectric load cells)	31/07/2017	BMEL305	B
4	29	Torque measurement on rotating shaft, electrical type dynamometer	01/08/2017	BMEL305	B
4	30	Measurements of displacement, velocity strain gauges, Measurements of accelerate strain gauges	02/08/2017	BMEL305	B
4	31	Hands on practice on force measurement.	04/08/2017	BMEL305	B
4	32	LVDT, capacitive transducer	08/08/2017	BMEL305	B
4	33	photoelectric & Inductive transducers, encoder	09/08/2017	BMEL305	B
4	34	Animated Video on working of digital motion measurement instruments.	11/08/2017	BMEL305	B
4	35	Construction- Venturi, orifice	14/08/2017	BMEL305	B
4	36	Dall tube, rotameter, Positive displacement flow meters, Turbine meter, electro-magnetic flow meter	16/08/2017	BMEL305	B
4	37	Pressure probes- Pitot static tube, Pressure probes-yaw tube anemometer	18/08/2017	BMEL305	B
4	38	Flip lecture / Video on actual working of digital flow measurement devices.	21/08/2017	BMEL305	B
5	39	Measurement of temperature using Liquid in glass thermometer	22/08/2017	BMEL305	B
5	40	Pressure thermometers, Bimetallic thermometers	23/08/2017	BMEL305	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : Akshay S Wagh

Unit	Topic Code	Topic Covered	Date	Course	Section
5	41	Thermocouples, resistance thermometers, thermistors	28/08/2017	BMEL305	B
5	42	Video on actual working of digital temperature measurement	30/08/2017	BMEL305	B
5	43	Video on actual working of digital temperature measurement in industry (high temp mmt).	01/09/2017	BMEL305	B
5	44	Radiation and optical pyrometer	04/09/2017	BMEL305	B
5	45	Various mechanical type tachometers, Electrical type tachometers, stroboscope	05/09/2017	BMEL305	B
6	46	Hands on practices on assembly & details speed measurement devices used in industry.	06/09/2017	BMEL305	B
6	47	liquid level Measurements, Vibration Measurement, Humidity Measurement	08/09/2017	BMEL305	B
6	48	Video on actual working of advanced vibration measurement.	11/09/2017	BMEL305	B
6	49	Video on actual working of advancement in humidity measurement	12/09/2017	BMEL305	B
6	50	Video on actual working of advanced device used for liquid level measurement (Case Study).	13/09/2017	BMEL305	B
6	51	Flip lecture on electronics devices used in measurement.	15/09/2017	BMEL305	B
6	52	Demonstration on UG and PG projects for measurement	18/09/2017	BMEL305	B
6	53	Demonstration on UG and PG projects for measurement	20/09/2017	BMEL305	B
6	54	Case study on various measuring devices in real life.	22/09/2017	BMEL305	B
6	55	Calibration, Temperature compensation	25/09/2017	BMEL305	B
6	56	Revision	26/09/2017	BMEL305	B
0	0	Revision	27/09/2017	BMEL305	B
0	0	Revision	29/09/2017	BMEL305	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : Akshay S Wagh

Unit	Topic Code	Topic Covered	Date	Course	Section
0	0	Revision	03/10/2017	BMEL305	B
0	0	Revision	04/10/2017	BMEL305	B

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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Akshay S Wagh

Unit	Topic Code	Topic Covered	Date	Course	Section
	1	Unit 1 Introduction to Matlab	13/06/2017	BMEL209	C
	2	Matlab Environment	15/06/2017	BMEL209	C
	3	Command window management	16/06/2017	BMEL209	C
	4	Executing Expression from Matlab command	20/06/2017	BMEL209	C
	5	Executing Expression from Matlab command	22/06/2017	BMEL209	C
	6	Basic Matlab Syntax	23/06/2017	BMEL209	C
	7	Matlab Function	27/06/2017	BMEL209	C
	7	Matlab Function	27/06/2017	BMEL209	C
2	9	Unit 2 Matrices and vectors	30/06/2017	BMEL209	C
2	10	Matrix and linear algebra review,	04/07/2017	BMEL209	C
2	11	Matrix and linear algebra review	06/07/2017	BMEL209	C
2	12	Vectors and matrices in MATLAB	07/07/2017	BMEL209	C
2	13	Vectors and matrices in MATLAB	11/07/2017	BMEL209	C
2	14	Matrix operations	13/07/2017	BMEL209	C
2	15	Matrix operations and functions in MATLAB	14/07/2017	BMEL209	C
3	17	Unit 3 Data Input / Output	20/07/2017	BMEL209	C
3	18	Strings and Annotated Output	21/07/2017	BMEL209	C
3	19	Input/Output Data Files	25/07/2017	BMEL209	C
3	20	Cell Arrays	27/07/2017	BMEL209	C
3	21	Input Microsoft Excel Files	28/07/2017	BMEL209	C
3	22	Logical Operator (If, Switch, for loop, while loop statement),	01/08/2017	BMEL209	C
3	23	Logical Operator (If, Switch, for loop, while loop statement),	03/08/2017	BMEL209	C



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Course : Computer Application in Mech. Engg.

Faculty : Akshay S Wagh

Unit	Topic Code	Topic Covered	Date	Course	Section
3	24	Logical Operator (If, Switch, for loop, while loop statement),	04/08/2017	BMEL209	C
3	25	Matlab Functions	08/08/2017	BMEL209	C
3	26	Use of Matlab Functions as per application	10/08/2017	BMEL209	C
4	27	Unit 4 2D/ 3D Graphics Introduction	11/08/2017	BMEL209	C
4	28	Graphics Management	17/08/2017	BMEL209	C
4	29	Basic 2D Plotting Commands	18/08/2017	BMEL209	C
4	30	Special Purpose Graphs	22/08/2017	BMEL209	C
4	31	Special Purpose Graphs	24/08/2017	BMEL209	C
4	32	Reading graphs	31/08/2017	BMEL209	C
4	33	Displaying and Manipulating Digital Images	01/09/2017	BMEL209	C
4	34	Graph Annotation and Enhancement	05/09/2017	BMEL209	C
4	35	Lines in 3D	07/09/2017	BMEL209	C
4	36	3D Surfaces	08/09/2017	BMEL209	C
5	37	Unit 5 Engineering Statistics using Matlab introduction	12/09/2017	BMEL209	C
5	38	Descriptive Statistical Quantities,	12/09/2017	BMEL209	C
5	39	Probability Distributions,	14/09/2017	BMEL209	C
5	40	Discrete Distributions,	14/09/2017	BMEL209	C
5	41	Continuous Distributions,	15/09/2017	BMEL209	C
5	42	Linear Regression,	15/09/2017	BMEL209	C
5	43	Multiple Linear Regression	21/09/2017	BMEL209	C
5	44	Design of Experiments	22/09/2017	BMEL209	C
5	45	Design of Experiments	22/09/2017	BMEL209	C

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Course : Computer Application in Mech. Engg.

Faculty : Akshay S Wagh

Unit	Topic Code	Topic Covered	Date	Course	Section
5	46	Analysis of Variance	26/09/2017	BMEL209	C
6	47	Unit 6 Fluid Mechanics in Matlab: Introduction	28/09/2017	BMEL209	C
6	48	Hydrostatics,	28/09/2017	BMEL209	C
6	49	Pressure Distribution in the Standard Atmosphere,	29/09/2017	BMEL209	C
6	50	Force on a Planar Gate,	29/09/2017	BMEL209	C
6	51	Internal Viscous Flow,	03/10/2017	BMEL209	C
6	52	Laminar Flow in a Horizontal Pipe with Circular Cross Section	03/10/2017	BMEL209	C
6	53	Downward Turbulent Flow in a Vertical Pipe,	05/10/2017	BMEL209	C
6	54	Three Connected Reservoirs, External flow	05/10/2017	BMEL209	C

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Course : Computer Application in Mech. Engg.

Faculty : Manish R. Nikhade

Unit	Topic Code	Topic Covered	Date	Course	Section
	1	Unit 1 Introduction to Matlab ; Matlab Environment	13/06/2017	BMEL209	C
	2	Command window management	15/06/2017	BMEL209	C
	3	Executing Expression from Matlab command	16/06/2017	BMEL209	C
	4	Basic Matlab Syntax	20/06/2017	BMEL209	C
	5	Matlab Function	22/06/2017	BMEL209	C
	6	Creation of .m file	23/06/2017	BMEL209	C
2	7	Unit 2 Matrices and vectors; Matrix and linear algebra review,	27/06/2017	BMEL209	C
2	8	Vectors and matrices in MATLAB	29/06/2017	BMEL209	C
2	9	Matrix operations	30/06/2017	BMEL209	C
2	10	Matrix operations and functions in MATLAB	04/07/2017	BMEL209	C
3	11	Unit 3 Data Input / Output ; Strings and Annotated Output	06/07/2017	BMEL209	C
3	12	Input/Output Data Files	07/07/2017	BMEL209	C
3	13	Cell Arrays	11/07/2017	BMEL209	C
3	15	Logical Operator (If, Switch, for loop, while loop statement),	14/07/2017	BMEL209	C
3	16	Logical Operator (If, Switch, for loop, while loop statement),	18/07/2017	BMEL209	C
3	17	Matlab Functions , Use of Matlab Functions as per application	20/07/2017	BMEL209	C
3	18	Matlab Functions , Use of Matlab Functions as per application	21/07/2017	BMEL209	C
4	19	Unit 4 2D/ 3D Graphics Introduction	25/07/2017	BMEL209	C
4	20	Graphics Management	27/07/2017	BMEL209	C
4	21	Basic 2D Plotting Commands	28/07/2017	BMEL209	C
4	22	Special Purpose Graphs	01/08/2017	BMEL209	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Manish R. Nikhade

Unit	Topic Code	Topic Covered	Date	Course	Section
4	23	Reading graphs	03/08/2017	BMEL209	C
4	24	Displaying and Manipulating Digital Images	04/08/2017	BMEL209	C
4	25	Graph Annotation and Enhancement	08/08/2017	BMEL209	C
4	26	Lines in 3D	10/08/2017	BMEL209	C
4	27	3D Surfaces	11/08/2017	BMEL209	C
5	28	Unit 5 Engineering Statistics using Matlab introduction	22/08/2017	BMEL209	C
5	29	Descriptive Statistical Quantities,	24/08/2017	BMEL209	C
5	30	Probability Distributions,	25/08/2017	BMEL209	C
5	14	probability distribution	29/08/2017	BMEL209	C
5	44	Discrete Distributions,	31/08/2017	BMEL209	C
5	32	Continuous Distributions,	01/09/2017	BMEL209	C
5	33	Linear Regression,	05/09/2017	BMEL209	C
5	34	Multiple Linear Regression	07/09/2017	BMEL209	C
5	45	Multiple Linear Regression	08/09/2017	BMEL209	C
5	35	Design of Experiments, Analysis of Variance	12/09/2017	BMEL209	C
6	36	Unit 6 Fluid Mechanics in Matlab: Introduction	14/09/2017	BMEL209	C
6	37	Hydrostatics,	15/09/2017	BMEL209	C
6	46	Hydrostatics,	19/09/2017	BMEL209	C
6	38	Pressure Distribution in the Standard Atmosphere,	21/09/2017	BMEL209	C
6	39	Force on a Planar Gate,	22/09/2017	BMEL209	C
6	40	Internal Viscous Flow,	26/09/2017	BMEL209	C
6	41	Laminar Flow in a Horizontal Pipe with Circular Cross Section	28/09/2017	BMEL209	C



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Course : Computer Application in Mech. Engg.

Faculty : Manish R. Nikhade

Unit	Topic Code	Topic Covered	Date	Course	Section
6	42	Downward Turbulent Flow in a Vertical Pipe,	29/09/2017	BMEL209	C
6	43	Three Connected Reservoirs, External flow	03/10/2017	BMEL209	C

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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Akshay S Wagh

Unit	Topic Code	Topic Covered	Date	Course	Section
	1	Unit 1 Introduction to Matlab	13/06/2017	BMEL209	C
	2	Matlab Environment	15/06/2017	BMEL209	C
	3	Command window management	16/06/2017	BMEL209	C
	4	Executing Expression from Matlab command	20/06/2017	BMEL209	C
	5	Executing Expression from Matlab command	22/06/2017	BMEL209	C
	6	Basic Matlab Syntax	23/06/2017	BMEL209	C
	7	Matlab Function	27/06/2017	BMEL209	C
	7	Matlab Function	27/06/2017	BMEL209	C
2	9	Unit 2 Matrices and vectors	30/06/2017	BMEL209	C
2	10	Matrix and linear algebra review,	04/07/2017	BMEL209	C
2	11	Matrix and linear algebra review	06/07/2017	BMEL209	C
2	12	Vectors and matrices in MATLAB	07/07/2017	BMEL209	C
2	13	Vectors and matrices in MATLAB	11/07/2017	BMEL209	C
2	14	Matrix operations	13/07/2017	BMEL209	C
2	15	Matrix operations and functions in MATLAB	14/07/2017	BMEL209	C
3	17	Unit 3 Data Input / Output	20/07/2017	BMEL209	C
3	18	Strings and Annotated Output	21/07/2017	BMEL209	C
3	19	Input/Output Data Files	25/07/2017	BMEL209	C
3	20	Cell Arrays	27/07/2017	BMEL209	C
3	21	Input Microsoft Excel Files	28/07/2017	BMEL209	C
3	22	Logical Operator (If, Switch, for loop, while loop statement),	01/08/2017	BMEL209	C
3	23	Logical Operator (If, Switch, for loop, while loop statement),	03/08/2017	BMEL209	C



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Course : Computer Application in Mech. Engg.

Faculty : Akshay S Wagh

Unit	Topic Code	Topic Covered	Date	Course	Section
3	24	Logical Operator (If, Switch, for loop, while loop statement),	04/08/2017	BMEL209	C
3	25	Matlab Functions	08/08/2017	BMEL209	C
3	26	Use of Matlab Functions as per application	10/08/2017	BMEL209	C
4	27	Unit 4 2D/ 3D Graphics Introduction	11/08/2017	BMEL209	C
4	28	Graphics Management	17/08/2017	BMEL209	C
4	29	Basic 2D Plotting Commands	18/08/2017	BMEL209	C
4	30	Special Purpose Graphs	22/08/2017	BMEL209	C
4	31	Special Purpose Graphs	24/08/2017	BMEL209	C
4	32	Reading graphs	31/08/2017	BMEL209	C
4	33	Displaying and Manipulating Digital Images	01/09/2017	BMEL209	C
4	34	Graph Annotation and Enhancement	05/09/2017	BMEL209	C
4	35	Lines in 3D	07/09/2017	BMEL209	C
4	36	3D Surfaces	08/09/2017	BMEL209	C
5	37	Unit 5 Engineering Statistics using Matlab introduction	12/09/2017	BMEL209	C
5	38	Descriptive Statistical Quantities,	12/09/2017	BMEL209	C
5	39	Probability Distributions,	14/09/2017	BMEL209	C
5	40	Discrete Distributions,	14/09/2017	BMEL209	C
5	41	Continuous Distributions,	15/09/2017	BMEL209	C
5	42	Linear Regression,	15/09/2017	BMEL209	C
5	43	Multiple Linear Regression	21/09/2017	BMEL209	C
5	44	Design of Experiments	22/09/2017	BMEL209	C
5	45	Design of Experiments	22/09/2017	BMEL209	C

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Course : Computer Application in Mech. Engg.

Faculty : Akshay S Wagh

Unit	Topic Code	Topic Covered	Date	Course	Section
5	46	Analysis of Variance	26/09/2017	BMEL209	C
6	47	Unit 6 Fluid Mechanics in Matlab: Introduction	28/09/2017	BMEL209	C
6	48	Hydrostatics,	28/09/2017	BMEL209	C
6	49	Pressure Distribution in the Standard Atmosphere,	29/09/2017	BMEL209	C
6	50	Force on a Planar Gate,	29/09/2017	BMEL209	C
6	51	Internal Viscous Flow,	03/10/2017	BMEL209	C
6	52	Laminar Flow in a Horizontal Pipe with Circular Cross Section	03/10/2017	BMEL209	C
6	53	Downward Turbulent Flow in a Vertical Pipe,	05/10/2017	BMEL209	C
6	54	Three Connected Reservoirs, External flow	05/10/2017	BMEL209	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Energy Conversion I

Faculty : Vednath P Kalbande

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Unit-I: Steam Generators: Introduction, Scheme, syllabus, course objective, course outcome, Introduction, Importance and Scope of Subject, Prerequisites for learning Subject	13/06/2017	BMEL210	C
1	2	Principle of steam generation,	14/06/2017	BMEL210	C
1	1	Numerical 1	15/06/2017	BMEL210	C
1	3	Classification of steam generators	16/06/2017	BMEL210	C
1	4	Fire tube	16/06/2017	BMEL210	C
1	5	Water tube steam generators,	20/06/2017	BMEL210	C
1	6	High pressure steam generators, Boiler mountings ,Boiler accessories	21/06/2017	BMEL210	C
2	2	Numerical 2	22/06/2017	BMEL210	C
1	7	Basic concept of thermal power plant	23/06/2017	BMEL210	C
1	8	Operation of thermal power plant	23/06/2017	BMEL210	C
1	9	Working of thermal power plant	27/06/2017	BMEL210	C
2	10	Unit-II: Chimney Draught: Drought and its classification,	28/06/2017	BMEL210	C
3	3	Tutorial 3	30/06/2017	BMEL210	C
2	11	Chimney height, Chimney diameter,	04/07/2017	BMEL210	C
2	12	Efficiency condition for maximum discharge,	05/07/2017	BMEL210	C
2	13	Boiler Draught	06/07/2017	BMEL210	C
4	4	Numerical 4	07/07/2017	BMEL210	C
2	14	Evaporation Capacity of boiler	07/07/2017	BMEL210	C
2	15	Actual working of water tube boilers.	11/07/2017	BMEL210	C
2	16	Actual working of fire tube boilers.	12/07/2017	BMEL210	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Energy Conversion I

Faculty : Vednath P Kalbande

Unit	Topic Code	Topic Covered	Date	Course	Section
3	17	Unit-III Fluidised bed	13/07/2017	BMEL210	C
2	5	Tutorial 5	14/07/2017	BMEL210	C
3	18	Circulating fluidized bed boilers (elementary treatment expected),	14/07/2017	BMEL210	C
3	19	Fuels for steam generators	19/07/2017	BMEL210	C
3	20	gradation and analysis of coal, coal handling system,	20/07/2017	BMEL210	C
3	6	Tutorial 6	21/07/2017	BMEL210	C
3	21	ash collection and handling system	21/07/2017	BMEL210	C
3	22	Flue gas analysis Feed water supply systems.	25/07/2017	BMEL210	C
3	23	Animation Working of low pressure boilers.	26/07/2017	BMEL210	C
3	7	Numerical 7	27/07/2017	BMEL210	C
3	24	Video Working of high pressure boilers.	28/07/2017	BMEL210	C
3	25	Simulation Working of advanced cooling tower.	28/07/2017	BMEL210	C
4	26	Unit-IV: Steam nozzles:- adiabatic expansion in nozzles,	01/08/2017	BMEL210	C
4	27	maximum discharge	02/08/2017	BMEL210	C
4	8	Numerical 8	03/08/2017	BMEL210	C
4	28	critical pressure ratio and effects of friction,	04/08/2017	BMEL210	C
4	29	calculation of throat and exit areas, supersaturated flow, Wilson line,	04/08/2017	BMEL210	C
4	30	steam turbines principles of working of steam turbine	08/08/2017	BMEL210	C
4	31	classification of steam turbines,	09/08/2017	BMEL210	C
4	9	Numerical 9	10/08/2017	BMEL210	C
4	32	Comparison of impulse and reaction turbines compounding of steam turbine.	11/08/2017	BMEL210	C



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Course : Energy Conversion I

Faculty : Vednath P Kalbande

Unit	Topic Code	Topic Covered	Date	Course	Section
4	33	NPTEL video on actual working of backpressure turbines.	11/08/2017	BMEL210	C
4	34	NPTEL video on actual working of condensate extraction turbines.	16/08/2017	BMEL210	C
4	10	Numerical 10	17/08/2017	BMEL210	C
4	35	Youtube video on actual working of advanced steam condensers	22/08/2017	BMEL210	C
5	36	Unit-V: Energy losses in steam turbines: flow of steam through turbine blades	23/08/2017	BMEL210	C
5	11	Numerical 11	24/08/2017	BMEL210	C
5	37	Ideal and actual reheat factors, ,	25/08/2017	BMEL210	C
5	38	velocity diagrams, graphical and analytical methods work done, Thrust and power,	25/08/2017	BMEL210	C
5	39	Dimensions and proportioning of the blades,	29/08/2017	BMEL210	C
5	40	steam turbine efficiencies, condition for maximum efficiencies, reheat and regenerative cycles, governing of steam turbines	30/08/2017	BMEL210	C
5	12	Numerical 12	31/08/2017	BMEL210	C
5	41	NPTEL video on actual working of condensate extraction turbines.	01/09/2017	BMEL210	C
5	42	NPTEL video on actual working of advanced steam condensers.	01/09/2017	BMEL210	C
6	43	Unit-VI: Steam condensers and cooling tower: types of condensers,	05/09/2017	BMEL210	C
6	44	classification of condensers, Design calculations for surface condensers,	06/09/2017	BMEL210	C
5	13	Numerical 13	07/09/2017	BMEL210	C
6	45	Dalton's law of pressures sources of air leakages and air removal,	08/09/2017	BMEL210	C
6	46	Air ejectors cooling towers, Wet cooling, dry cooling towers cooling ponds.	08/09/2017	BMEL210	C



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Course : Energy Conversion I

Faculty : Vednath P Kalbande

Unit	Topic Code	Topic Covered	Date	Course	Section
6	47	Advanced topic- Supercritical power generation	12/09/2017	BMEL210	C
6	14	Numerical 14	14/09/2017	BMEL210	C
6	48	Explanation on trigeneration technology	15/09/2017	BMEL210	C
6	49	Demonstration on UG and PG projects.	15/09/2017	BMEL210	C
6	50	Study of critical and supercritical thermal power plants.	19/09/2017	BMEL210	C
6	51	Revision	20/09/2017	BMEL210	C
6	15	Numerical 15	21/09/2017	BMEL210	C
6	52	Revision	22/09/2017	BMEL210	C
6	53	Revision	22/09/2017	BMEL210	C
6	54	Revision	26/09/2017	BMEL210	C
6	55	Revision	27/09/2017	BMEL210	C
6	16	Numerical 16	28/09/2017	BMEL210	C
6	56	Revision	29/09/2017	BMEL210	C
6	57	Revision	29/09/2017	BMEL210	C
6	58	Revision	03/10/2017	BMEL210	C
6	59	Revision	04/10/2017	BMEL210	C
6	17	Numerical 17	05/10/2017	BMEL210	C

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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : S.K.Bhagat

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Vision, Mission of College and Department, Program Educational Objectives, Program Objective, Course objective and Outcomes	12/06/2017	BMEL305	C
	2	Introduction to subjects & PO CO	13/06/2017	BMEL305	C
	3	Significance of measurement	14/06/2017	BMEL305	C
	4	Application of measuring instruments, Types of measuring instruments	16/06/2017	BMEL305	C
	5	General configuration and functional elements of measuring instruments	19/06/2017	BMEL305	C
	6	Flip lecture / Video on basic concept of Generalised Measurement system & its configuration.	20/06/2017	BMEL305	C
	7	Types of inputs, Various methods of correction	21/06/2017	BMEL305	C
	8	Interfering and modifying inputs	23/06/2017	BMEL305	C
	62	revision	26/06/2017	BMEL305	C
2	9	Static characteristics	27/06/2017	BMEL305	C
2	10	Different types of errors	28/06/2017	BMEL305	C
2	11	Combination of component errors in overall systems	30/06/2017	BMEL305	C
2	12	Dynamic characteristics	03/07/2017	BMEL305	C
2	13	General mathematical model of zero order, first order and second order instruments	04/07/2017	BMEL305	C
2	14	Response of first order instruments	05/07/2017	BMEL305	C
2	15	Response of second order instruments	07/07/2017	BMEL305	C
2	16	Inputs step, ramp, impulse and frequency	10/07/2017	BMEL305	C
3	17	Types of strain gauges, strain gauge circuits	11/07/2017	BMEL305	C
3	18	Calibration, Temperature compensation	12/07/2017	BMEL305	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : S.K.Bhagat

Unit	Topic Code	Topic Covered	Date	Course	Section
3	19	Use of strain gauges on rotating shafts	14/07/2017	BMEL305	C
3	22	Basic methods of pressure measurement, dead weight gauges and manometers	19/07/2017	BMEL305	C
3	23	Elastic transducers and force balance transducers	21/07/2017	BMEL305	C
3	24	Strain gauge pressure cell, High pressure measurement Bridgeman type	24/07/2017	BMEL305	C
3	25	Low pressure Measurement - McLeod, Krudsen,	25/07/2017	BMEL305	C
3	26	Low pressure Measurement - ionization, Thermal conductivity gauges	26/07/2017	BMEL305	C
3	27	Flip lecture / Video on working of various digital pressure gauges.	28/07/2017	BMEL305	C
4	28	Force measurement using transducer (pneumatic and hydraulic load cells)	31/07/2017	BMEL305	C
4	29	Force measurement using transducer (strain gauge load cells, piezoelectric load cells)	01/08/2017	BMEL305	C
4	30	Torque measurement on rotating shaft, electrical type dynamometer	02/08/2017	BMEL305	C
4	31	Measurements of displacement, velocity strain gauges, Measurements of accelerate strain gauges	04/08/2017	BMEL305	C
4	32	Hands on practice on force measurement.	08/08/2017	BMEL305	C
4	33	LVDT, capacitive transducer	09/08/2017	BMEL305	C
4	34	photoelectric & Inductive transducers, encoder	11/08/2017	BMEL305	C
4	35	Animated Video on working of digital motion measurement instruments.	14/08/2017	BMEL305	C
4	36	Construction- Venturi, orifice	16/08/2017	BMEL305	C
4	37	Dall tube, rotameter, Positive displacement flow meters, Turbine meter, electro-magnetic flow meter	18/08/2017	BMEL305	C
4	38	Pressure probes- Pitot static tube, Pressure probes-yaw tube anemometer	21/08/2017	BMEL305	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : S.K.Bhagat

Unit	Topic Code	Topic Covered	Date	Course	Section
4	39	Flip lecture / Video on actual working of digital flow measurement devices.	22/08/2017	BMEL305	C
5	40	Measurement of temperature using Liquid in glass thermometer	23/08/2017	BMEL305	C
5	41	Pressure thermometers, Bimetallic thermometers	25/08/2017	BMEL305	C
5	42	Thermocouples, resistance thermometers, thermistors	28/08/2017	BMEL305	C
5	43	Video on actual working of digital temperature measurement	30/08/2017	BMEL305	C
5	44	Video on actual working of digital temperature measurement in industry (high temp mmt).	01/09/2017	BMEL305	C
5	45	Radiation and optical pyrometer	04/09/2017	BMEL305	C
5	46	Various mechanical type tachometers, Electrical type tachometers, stroboscope	05/09/2017	BMEL305	C
6	47	Hands on practices on assembly & details speed measurement devices used in industry.	06/09/2017	BMEL305	C
6	48	liquid level Measurements, Vibration Measurement, Humidity Measurement	08/09/2017	BMEL305	C
6	49	Video on actual working of advanced vibration measurement.	11/09/2017	BMEL305	C
6	50	Video on actual working of advancement in humidity measurement	12/09/2017	BMEL305	C
6	51	Video on actual working of advanced device used for liquid level measurement (Case Study).	13/09/2017	BMEL305	C
6	52	Flip lecture on electronics devices used in measurement.	15/09/2017	BMEL305	C
6	53	Demonstration on UG and PG projects for measurement	18/09/2017	BMEL305	C
6	54	Case study on various measuring devices in real life.	20/09/2017	BMEL305	C
6	55	Calibration, Temperature compensation	22/09/2017	BMEL305	C
6	56	Revision	25/09/2017	BMEL305	C

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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : S.K.Bhagat

Unit	Topic Code	Topic Covered	Date	Course	Section
6	57	Revision	26/09/2017	BMEL305	C
6	58	Revision	27/09/2017	BMEL305	C
6	59	thermistors, radiation and optical pyrometer	29/09/2017	BMEL305	C
6	60	revision	03/10/2017	BMEL305	C
6	61	test	04/10/2017	BMEL305	C

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Course wise Teaching Plan for Session : Winter 2017

Course : Manufacturing Process II

Faculty : pooja pise

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Vision, Mission of College and Department, Program Educational Objectives, Program Objective, Course objective and Outcomes	14/06/2017	BMEL306	C
1	2	UNIT I Introduction to Casting Process, Pattern making process & its types	15/06/2017	BMEL306	C
1	3	Video on operation of Multi piece pattern.	16/06/2017	BMEL306	C
1	4	materials used for patterns , pattern making allowances	21/06/2017	BMEL306	C
1	5	colour codes used in Core making: - Types, core material and its properties	22/06/2017	BMEL306	C
1	6	molding sand and its composition, molding sand properties	23/06/2017	BMEL306	C
1	7	Actual showing of different types of sand used in molding.	28/06/2017	BMEL306	C
1	8	Types of sand mould	30/06/2017	BMEL306	C
2	10	UNIT II Gating design - elements of gating systems	05/07/2017	BMEL306	C
2	11	pouring time, riser design	06/07/2017	BMEL306	C
2	12	Melting furnaces - Types, Electric furnace, Induction furnace	07/07/2017	BMEL306	C
2	13	Video on operation of Cupola Furnace	12/07/2017	BMEL306	C
2	14	"Foundry mechanism : Special casting processes such as investment Casting Video on operation of Investment casting"	13/07/2017	BMEL306	C
2	15	Video on operation of blast Furnace	14/07/2017	BMEL306	C
2	16	Centrifugal Casting, Shell Molding , Video on operation of centrifugal casting.	19/07/2017	BMEL306	C
2	17	CO2 Molding, Slush Casting,	20/07/2017	BMEL306	C
2	18	Die Casting	21/07/2017	BMEL306	C



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Course : Manufacturing Process II

Faculty : pooja pise

Unit	Topic Code	Topic Covered	Date	Course	Section
3	19	UNIT III Introduction to Forming processes	26/07/2017	BMEL306	C
3	20	Advantages and drawbacks of Forming processes	27/07/2017	BMEL306	C
3	21	Forging	28/07/2017	BMEL306	C
3	22	Video on forging operations	02/08/2017	BMEL306	C
3	23	Rolling,	03/08/2017	BMEL306	C
3	24	Extrusion	04/08/2017	BMEL306	C
3	25	Video on operation of wire drawing	09/08/2017	BMEL306	C
4	26	UNIT IV Introduction to Powder Metallurgy	10/08/2017	BMEL306	C
4	27	Powder manufacture and Conditioning	11/08/2017	BMEL306	C
4	28	Production of Sintered Structural components	16/08/2017	BMEL306	C
4	29	Self lubricating bearing. Cemented Carbides, Ceramics, Sintered Carbide cutting tools	17/08/2017	BMEL306	C
4	30	Composite Materials : Classification	23/08/2017	BMEL306	C
4	31	Different types of composite materials and its applications. Video on operation of Sintering	24/08/2017	BMEL306	C
5	32	UNIT V Introduction to Joining processes	30/08/2017	BMEL306	C
5	33	Soldering, Brazing Processes.	31/08/2017	BMEL306	C
5	34	Video on operation of brazing	06/09/2017	BMEL306	C
5	35	Types of Welding. Arc Welding and Gas Welding Processes	07/09/2017	BMEL306	C
5	36	Defects and Inspection of Welding Joints , Showing of different welding defect welded part	08/09/2017	BMEL306	C
5	37	Video on operation of underwater welding	15/09/2017	BMEL306	C
5	38	Weldability of Metals , Welding equipments of Fixtures	20/09/2017	BMEL306	C



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Course : Manufacturing Process II

Faculty : pooja pise

Unit	Topic Code	Topic Covered	Date	Course	Section
6	39	UNIT VI Introduction Processing of Plastics	21/09/2017	BMEL306	C
6	40	Thermoplastic, Thermosetting plastics	22/09/2017	BMEL306	C
6	41	General properties and applications of Thermosetting and Thermo Plastics	27/09/2017	BMEL306	C
6	42	General Plastic Processes: Extrusion	28/09/2017	BMEL306	C
6	43	Video on operation of Calendaring	29/09/2017	BMEL306	C
6	44	"Injection Moulding, compression Moulding, Video on operation of Injection molding"	04/10/2017	BMEL306	C
6	45	Transfer Moulding Blow Moulding, Embossing	05/10/2017	BMEL306	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Design-I

Faculty : VISHAL N. KSHIRSAGAR

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Introduction: Course objectives, course outcomes, program outcomes, outcome based education, mapping of CO's with PO's, planning of CAE and TAE	12/06/2017	BMEL304	C
1	2	Definition of Design, Types of Design, Design Process, Need, Defining the Problem.	12/06/2017	BMEL304	C
1	3	Feasibility, Preliminary, Design Alternatives, Final Design Selection, Preliminary And Final Plans & Drawings.	14/06/2017	BMEL304	C
1	3	Feasibility, Preliminary, Design Alternatives, Final Design Selection, Preliminary And Final Plans & Drawings.	14/06/2017	BMEL304	C
1	1	Tutorial-1	15/06/2017	BMEL304	C
1	4	Failure criterion and manufacturing considerations in design, basis of good design, failure of machine Parts.	19/06/2017	BMEL304	C
1	5	Power point presentation on various stages of Design	19/06/2017	BMEL304	C
2	2	Tutorial-2	20/06/2017	BMEL304	C
1	6	Deformations, Wear, Corrosion, Manufacturing Methods, Machining Tolerance, Surface Finish, Cost, Design consideration in Casting and Forging.	21/06/2017	BMEL304	C
1	43	Temperature effects on properties of materials such as cast iron, plain carbon steel, alloy steels, aluminum & copper alloys	26/06/2017	BMEL304	C
1	44	Temperature effects on properties of material cast steel, plastics, polymers & composites & their applications.	26/06/2017	BMEL304	C
2	3	Tutorial-3	27/06/2017	BMEL304	C
1	7	Mechanical properties, applications and designations as per ISI & their equivalence with other standards of engineering materials.	28/06/2017	BMEL304	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Design-I

Faculty : VISHAL N. KSHIRSAGAR

Unit	Topic Code	Topic Covered	Date	Course	Section
1	8	Power point presentation on Mechanical Properties of Materials	03/07/2017	BMEL304	C
1	9	Selection of Materials, Temperature effects on properties of materials such as cast iron, plain carbon steel, alloy steels, aluminum & copper alloys, cast steel, plastics, polymers & composites & their applications.	03/07/2017	BMEL304	C
2	4	Tutorial-4	04/07/2017	BMEL304	C
1	10	Power point presentation on Selection of Materials	05/07/2017	BMEL304	C
2	11	Design of cotter and knuckle joint, shrink and press fit joints, Problem on Cotter and Knuckle joint	10/07/2017	BMEL304	C
2	12	Riveted joint for structural works (Uniform strength joint) & eccentric loaded riveted joint, Riveted Joint: Riveted joint for boiler	10/07/2017	BMEL304	C
2	5	Tutorial-5	11/07/2017	BMEL304	C
2	13	NPTEL lectures on design of Riveted Joints	12/07/2017	BMEL304	C
2	14	Welded Joint: Design of single transverse, double transverse	19/07/2017	BMEL304	C
2	15	parallel fillet, combination fillet butt joint, eccentrically loaded welded joint.	24/07/2017	BMEL304	C
2	15	parallel fillet, combination fillet butt joint, eccentrically loaded welded joint.	24/07/2017	BMEL304	C
2	16	Welded Joint: Parallel fillet, combination fillet butt joint, eccentrically loaded welded joint.	24/07/2017	BMEL304	C
2	17	NPTEL lectures on design of Welded joints.	26/07/2017	BMEL304	C
3	7	Tutorial-7	27/07/2017	BMEL304	C
2	18	Bolted Joint: Design of bolted fasteners, bolts of uniform strength, bolted joints under eccentric loading.	31/07/2017	BMEL304	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Design-I

Faculty : VISHAL N. KSHIRSAGAR

Unit	Topic Code	Topic Covered	Date	Course	Section
2	19	Bolts of uniform strength, bolted joints under eccentric loading, Problem on Bolted joint	31/07/2017	BMEL304	C
2	20	Design of lever: hand lever, foot lever and bell crank lever.	02/08/2017	BMEL304	C
3	8	Tutorial-8	03/08/2017	BMEL304	C
3	21	Design of Power Screw.	09/08/2017	BMEL304	C
4	9	Tutorial-9	10/08/2017	BMEL304	C
3	22	NPTEL Lecture on design procedure of screw jack.	14/08/2017	BMEL304	C
3	23	Derivation of expression for deflection and shear stress in helical spring, Design of helical spring.	14/08/2017	BMEL304	C
3	24	NPTEL Lecture on design of helical compression spring.	16/08/2017	BMEL304	C
4	10	Tutorial-10	17/08/2017	BMEL304	C
3	25	Design of Leaf Spring.	21/08/2017	BMEL304	C
3	26	Demonstration of Suspension System in YAMAHA and Automobile Lab.	21/08/2017	BMEL304	C
4	27	Kinematics of friction drives such as brakes.	23/08/2017	BMEL304	C
4	11	Tutorial-11	24/08/2017	BMEL304	C
4	28	Design of friction clutch: single plate, multiple plates.	28/08/2017	BMEL304	C
4	29	Design of cone clutch	28/08/2017	BMEL304	C
4	30	Design of centrifugal clutch.	30/08/2017	BMEL304	C
5	12	Tutorial-12	31/08/2017	BMEL304	C
4	31	Demonstration of Clutches in YAMAHA and Automobile Lab.	04/09/2017	BMEL304	C
4	32	Design of band brake, Design of internal expanding brake.	04/09/2017	BMEL304	C
4	33	Video/Animation on Principle of operation of air brake system.	06/09/2017	BMEL304	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Design-I

Faculty : VISHAL N. KSHIRSAGAR

Unit	Topic Code	Topic Covered	Date	Course	Section
5	13	Tutorial-13	07/09/2017	BMEL304	C
4	34	Video/Animation on Anti-lock Braking System, Video/Animation on Principle of operation of Hydraulic brake system	11/09/2017	BMEL304	C
4	35	Demonstration of Brakes in YAMAHA and Automobile Lab.	11/09/2017	BMEL304	C
5	36	Classification of thin and thick cylindrical pressure vessel, Stresses in thin and thick cylindrical pressure vessels, ASME code of pressure vessel	18/09/2017	BMEL304	C
5	37	NPTEL Lecture on Pressure Vessel	18/09/2017	BMEL304	C
5	38	Design of pressure vessel when it is subjected to internal pressure & ASME code of piping when it is subjected to internal pressure, Expression for circumferential and longitudinal stresses	20/09/2017	BMEL304	C
5	14	Tutorial-14	21/09/2017	BMEL304	C
5	39	Design of pressure vessel, heads and cover Plate, Problem on Design of Pressure Vessel	25/09/2017	BMEL304	C
6	40	Design of transmission shafts on the basis of strength, rigidity, and critical speed, Numerical on the Design of Shaft	25/09/2017	BMEL304	C
6	41	NPTEL Lecture on Design of Shaft	27/09/2017	BMEL304	C
6	15	Tutorial-15	28/09/2017	BMEL304	C
6	42	Advance Topic : Optimization in Design	04/10/2017	BMEL304	C
6	16	Tutorial-16	05/10/2017	BMEL304	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Product Design

Faculty : ABHIJEET A. RAUT

Unit	Topic Code	Topic Covered	Date	Course	Section
	1	Introduction to Product Design Subject, CO and PO, Overview	22/06/2017	BMEL406	A
	2	Introduction to Product life cycle	23/06/2017	BMEL406	A
	3	product life cycle	30/06/2017	BMEL406	A
	4	Design fundamentals, importance of product design	06/07/2017	BMEL406	A
	5	Types of design, product definition product specification	07/07/2017	BMEL406	A
	6	Phases of production development: conceptual, concept generation and evaluation methods	13/07/2017	BMEL406	A
2	7	Material selection, importance and classification of material, selection criteria	14/07/2017	BMEL406	A
2	8	Process selection - importance types of manufacturing processes and their classification	20/07/2017	BMEL406	A
2	9	Sources of information selection criteria material and process selection methods	21/07/2017	BMEL406	A
3	10	Aesthetics: Elements of design, principles of design	27/07/2017	BMEL406	A
3	11	Ergonomics: An overview, ergonomic issues in designing electronic products, design of controls	28/07/2017	BMEL406	A
3	12	Design of display. Ergonomics & Aesthetics consideration for development of control panel	03/08/2017	BMEL406	A
3	13	Introduction to Mechatronics, Expert System	04/08/2017	BMEL406	A
3	14	Mechatronics, Expert System	10/08/2017	BMEL406	A
4	15	Introduction to Automation, concept and scope of Computer integrated manufacturing	11/08/2017	BMEL406	A
4	16	Benchmarking, Types	17/08/2017	BMEL406	A
4	17	Design for manufacturing	24/08/2017	BMEL406	A
5	18	Concurrent engineering	31/08/2017	BMEL406	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Product Design

Faculty : ABHIJEET A. RAUT

Unit	Topic Code	Topic Covered	Date	Course	Section
5	19	Methods of cost estimates	01/09/2017	BMEL406	A
5	20	Introduction to Rapid prototyping, Importance, types of prototypes, Principles and Advantages	07/09/2017	BMEL406	A
5	21	Different types of RP , Interdisciplinary Applications	08/09/2017	BMEL406	A
5	24	Advance Topic	11/09/2017	BMEL406	A
5	25	Advance Topic	12/09/2017	BMEL406	A
5	22	Accuracy and economic consideration of RP	21/09/2017	BMEL406	A
5	23	Case Studies on RP & Case Studies on Product design & Development	22/09/2017	BMEL406	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Mathematical Applications in Mechanical

Faculty : Archana A. Deshpande

Engineering Unit	Topic Code	Topic Covered	Date	Course	Section
	1	Discussion of syllabu	12/06/2017	BAML203	A
	2	Definition Of Laplace transform	13/06/2017	BAML203	A
	3	Properties of laplace transform	14/06/2017	BAML203	A
	4	Examples	15/06/2017	BAML203	A
	1	Tutorial:1	19/06/2017	BAML203	A
	5	convolution theorem	20/06/2017	BAML203	A
	6	Laplace transforms of periodic function	21/06/2017	BAML203	A
	7	Unit step function	22/06/2017	BAML203	A
	37	Examples	26/06/2017	BAML203	A
	8	Applications of Laplace transforms to solve ordinary differential equations &	27/06/2017	BAML203	A
	9	Applications of Laplace transforms to partial differential equations (one-dimensional wave & diffusion equations).	28/06/2017	BAML203	A
	2	Tutorial-2	03/07/2017	BAML203	A
2	11	Fourier series expansion	04/07/2017	BAML203	A
2	12	Fourier series for even & function	05/07/2017	BAML203	A
2	13	Fourier series for even & function	06/07/2017	BAML203	A
2	3	Tutorial-4	10/07/2017	BAML203	A
2	14	Change of interval	11/07/2017	BAML203	A
2	15	Half range expansion.	12/07/2017	BAML203	A
2	16	Harmonic analysis	13/07/2017	BAML203	A
3	17	Unit-III Fourier Transform: Definition	19/07/2017	BAML203	A
3	18	Fourier integral theorem	20/07/2017	BAML203	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Mathematical Applications in Mechanical

Faculty : Archana A. Deshpande

Engineering Unit	Topic Code	Topic Covered	Date	Course	Section
3	5	Tutorial-5	24/07/2017	BAML203	A
3	19	Fourier sine & cosine integrals	25/07/2017	BAML203	A
3	20	Finite Fourier sine & cosine transforms	26/07/2017	BAML203	A
3	21	Parseval's identity	27/07/2017	BAML203	A
3	6	Tutorial-6	31/07/2017	BAML203	A
3	22	Convolution theorem	01/08/2017	BAML203	A
3	23	Partial differential equation of first order first degree i.e. Lagrange's form,	02/08/2017	BAML203	A
3	24	Linear homogeneous partial differential equation of higher order with constant coefficient	03/08/2017	BAML203	A
4	7	Tutorial-7	07/08/2017	BAML203	A
3	25	Method of separation of variables	08/08/2017	BAML203	A
3	26	Application to one dimensional heat & diffusion equation	09/08/2017	BAML203	A
3	27	Two dimensional Heat equations (Only steady state).	10/08/2017	BAML203	A
4	8	Tutorial-8	14/08/2017	BAML203	A
4	28	Unit -IV Partial differential equation: Partial differential equation of first order first degree i.e. Lagrange's form,	16/08/2017	BAML203	A
4	29	Partial differential equation of first order first degree i.e. Lagrange's form,	17/08/2017	BAML203	A
5	9	Tutorial-9	21/08/2017	BAML203	A
4	30	Linear homogeneous partial differential equation of higher order with constant coefficient,	22/08/2017	BAML203	A
4	31	Method of separation of variables	23/08/2017	BAML203	A
4	32	Application to one dimensional heat & diffusion equation, Two dimensional Heat equations. (Only steady state).	24/08/2017	BAML203	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Mathematical Applications in Mechanical

Faculty : Archana A. Deshpande

Engineering Unit	Topic Code	Topic Covered	Date	Course	Section
6	10	Tutorial-10	28/08/2017	BAML203	A
5	33	Unit -V Complex Variables : Analytic function	30/08/2017	BAML203	A
5	34	Cauchy-Riemann conditions, Conjugate functions	31/08/2017	BAML203	A
5	35	Singularities, Cauchy's integral theorem and integral formula (statement only)	05/09/2017	BAML203	A
5	36	Taylor's and Laurent's theorem (Statement only)	06/09/2017	BAML203	A
5	38	Residue theorem	07/09/2017	BAML203	A
5	39	Contour integration	12/09/2017	BAML203	A
5	40	Evaluation of real & complex integral by residue theorem.	20/09/2017	BAML203	A
6	41	Conformal mapping, mapping by linear & inverse transformation.	21/09/2017	BAML203	A
6	42	Unit -VI Special function & series solution: Series solution of differential equation by Frobenius method	26/09/2017	BAML203	A
6	43	Bessel's function	27/09/2017	BAML203	A
6	44	Legendre's polynomials	28/09/2017	BAML203	A
6	45	Recurrence relations, Rodrigue formula	03/10/2017	BAML203	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Kinematics of Machines

Faculty : Dr. Arvind K. Mahalle

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Vision, Mission of College and Department, Program Educational Objectives, Program Objective, Course objective and Outcomes	12/06/2017	BMEL204	A
1	2	Basic concepts of Mechanism, Link, Kinematic Pairs, Different Kinematics Pairs and Chain	14/06/2017	BMEL204	A
1	3	Video on operation of different types of linkages.	15/06/2017	BMEL204	A
1	4	Kinematic Chain, Mechanism, Machine and DOF,	16/06/2017	BMEL204	A
1	5	Video on working of different types of Mechanism.	19/06/2017	BMEL204	A
1	6	Grubler's Criterion, Classification of 4 Bar Mechanism, Kutzbach Theory, Classification of Mechanism	21/06/2017	BMEL204	A
1	60	class I and class II MECHANISM	21/06/2017	BMEL204	A
1	7	Inversion of 4 Bar chain and Slider Crank Mechanism,	22/06/2017	BMEL204	A
1	8	Showing of different inversions of four bar mechanism using models.	23/06/2017	BMEL204	A
2	62	Cam and Follower	26/06/2017	BMEL204	A
1	9	Practical demonstration on shaper machine for the concept of Quick return Mechanism	28/06/2017	BMEL204	A
2	61	Cam significance	28/06/2017	BMEL204	A
1	10	Mobility or DOF of a Mechanism, Exception of KT, Grashoff's law, Class I and II mechanisms	29/06/2017	BMEL204	A
1	11	Demonstration of mechanisms used in two wheelers in Yamaha Lab.	30/06/2017	BMEL204	A
2	12	Displacement, Velocity and Acceleration	03/07/2017	BMEL204	A
2	13	Analysis of Planer mechanism - Graphical Method,	05/07/2017	BMEL204	A
2	14	velocity analysis of mechanism	05/07/2017	BMEL204	A
2	15	Displacement , velocity analysis of mechanism- Analytical Method	06/07/2017	BMEL204	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Kinematics of Machines

Faculty : Dr. Arvind K. Mahalle

Unit	Topic Code	Topic Covered	Date	Course	Section
2	16	Coriolis component of acceleration - Basic theory and numerical Instantaneous center method , Kennedy's theorem	07/07/2017	BMEL204	A
2	17	NPTEL lecture on Velocity Analysis.	10/07/2017	BMEL204	A
2	18	NPTEL lecture on Acceleration Analysis	12/07/2017	BMEL204	A
3	19	Concept of CAM , Comparison of Cam with linkages , Types of CAMS and Followers and applications	12/07/2017	BMEL204	A
3	20	Synthesis of CAM for different follower motions, Pressure angle and Parameters affecting CAM performance	13/07/2017	BMEL204	A
3	21	Demonstration and Actual showing of different CAM and its application.	14/07/2017	BMEL204	A
3	22	Concept of toothed wheels, compression with CAM	19/07/2017	BMEL204	A
3	23	Numericals on Kinfe edge follower CAM, Numericals on Roller follower CAM	19/07/2017	BMEL204	A
3	24	Demonstration and Actual showing of different Follower and its application	20/07/2017	BMEL204	A
3	25	Numericals on Mushroom follower CAM,	21/07/2017	BMEL204	A
3	26	Numericals on Tangent follower CAM	24/07/2017	BMEL204	A
4	27	Concept of toothed wheels, compression with CAM	27/07/2017	BMEL204	A
4	28	Tooth profiles, advantages and Limitations	28/07/2017	BMEL204	A
4	29	Demonstration of spur & helical gears using gear box of four wheeler.	31/07/2017	BMEL204	A
4	30	Gear Tooth Terminology, Conjugate Action and law	02/08/2017	BMEL204	A
4	31	Demonstration of Bevel & worm gears using differential gear box of four wheeler.	02/08/2017	BMEL204	A
4	32	Kinematics of Involute Gear Tooth Pairs	03/08/2017	BMEL204	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Kinematics of Machines

Faculty : Dr. Arvind K. Mahalle

Unit	Topic Code	Topic Covered	Date	Course	Section
4	33	Arc of Contact, Path of Approach & recess, No. of pairs of teeth in contact interference Undercutting	04/08/2017	BMEL204	A
5	34	Kinematics of Helical, Bevel, Spiral Gears	09/08/2017	BMEL204	A
5	35	Video on different gear trains.	09/08/2017	BMEL204	A
5	36	Kinematics of Worm, Rack and Pinion Gears	10/08/2017	BMEL204	A
5	37	Kinematics of Involute Gear Tooth Pairs	11/08/2017	BMEL204	A
5	38	Demonstration on lathe machine for gear trains.	14/08/2017	BMEL204	A
5	39	Kinematic and Torque analysis of simple and double epicyclic gear	16/08/2017	BMEL204	A
5	40	Kinematic and Torque analysis of simple and double epicyclic gear	16/08/2017	BMEL204	A
6	41	FBD, Condition of equilibrium, Analysis of all links	17/08/2017	BMEL204	A
6	42	Cam , Gear mechanism and their combinations	21/08/2017	BMEL204	A
6	43	Free body diagram	23/08/2017	BMEL204	A
6	44	Cognate Linkages	23/08/2017	BMEL204	A
6	45	Synthesis of 4 Bar Chain, Transmission Angle Optimization	24/08/2017	BMEL204	A
6	46	NPTEL lecture on Synthesis.	25/08/2017	BMEL204	A
6	47	Coupler Curves, Cognate Linkages	28/08/2017	BMEL204	A
6	48	NPTEL lecture on Frudenstien's Equation	30/08/2017	BMEL204	A
6	49	Advance Topic	30/08/2017	BMEL204	A
6	50	Advance Topic	31/08/2017	BMEL204	A
6	51	Rivision	01/09/2017	BMEL204	A
6	52	Rivision	04/09/2017	BMEL204	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Kinematics of Machines

Faculty : Dr. Arvind K. Mahalle

Unit	Topic Code	Topic Covered	Date	Course	Section
6	53	Rivision	06/09/2017	BMEL204	A
6	54	Rivision	06/09/2017	BMEL204	A
6	55	Rivision	07/09/2017	BMEL204	A
6	56	Rivision	08/09/2017	BMEL204	A
6	57	Rivision	11/09/2017	BMEL204	A
6	58	Rivision	15/09/2017	BMEL204	A
6	59	Rivision	18/09/2017	BMEL204	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Material Engineering

Faculty : A.M.Murhekar

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	UNIT I: Introduction to Basic Terms (System, Phase, Variables, and Components Etc.)	12/06/2017	BMEL203	A
1	1	Introduction: Course objectives, course outcomes, program outcomes, outcome based education, mapping of CO's with PO's, planning of CAE & TAE	12/06/2017	BMEL203	A
1	2	UNIT I: Introduction to Basic Terms (System, Phase, Variables, and Components Etc.)	13/06/2017	BMEL203	A
1	2	Alloys and solid solutions	13/06/2017	BMEL203	A
1	3	Hume Rothery rules	14/06/2017	BMEL203	A
1	3	Alloys and solid solutions	14/06/2017	BMEL203	A
1	4	Hume Rothery rules	19/06/2017	BMEL203	A
1	4	Time Temperature cooling curves, Binary phase diagrams Isomorphous systems, Partial miscibility	19/06/2017	BMEL203	A
1	5	Metallic systems completely miscible in liquid state and completely immiscible in solid state. Lever rule	20/06/2017	BMEL203	A
1	6	Equilibrium cooling, Microstructures under equilibrium cooling conditions, Eutectic, Hyper and hypoeutectic alloys.	21/06/2017	BMEL203	A
1	7	PPT on basic concept of Nanotechnology	27/06/2017	BMEL203	A
2	8	UNIT II: Introduction to ferrous materials, Allotropy of Iron	28/06/2017	BMEL203	A
2	9	Iron -Iron carbide equilibrium diagram	03/07/2017	BMEL203	A
2	10	Contd. Iron -Iron carbide equilibrium diagram. Definition of different phases.	04/07/2017	BMEL203	A
2	11	Contd. Iron -Iron carbide equilibrium diagram, Critical temperature, Invariant reactions	05/07/2017	BMEL203	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Material Engineering

Faculty : A.M.Murhekar

Unit	Topic Code	Topic Covered	Date	Course	Section
2	12	Microstructure under equilibrium cooling condition, Estimation of carbon from microstructures, structure property relationship.	10/07/2017	BMEL203	A
2	13	Purpose of alloying, Different alloying elements and their effect on enhancing the different characteristics	11/07/2017	BMEL203	A
2	14	Tool steels ,Video on synthesis of nanofluid using aluminium oxide nanoparticles.	12/07/2017	BMEL203	A
2	15	Stainless steels, spring steels. Designation of steels. AISI, ASTM, EN etc.	19/07/2017	BMEL203	A
3	16	UNIT III: Cast iron, White cast iron	24/07/2017	BMEL203	A
3	17	Maurer Diagram ,Grey cast iron, Types of grey cast iron	25/07/2017	BMEL203	A
3	18	Malleable cast iron, malleablizing cycle ,Nodular cast iron	26/07/2017	BMEL203	A
3	19	Video on working of scanning electron microscopy,Video on working of transmission electron microscopy.	31/07/2017	BMEL203	A
3	20	Alloy cast iron. Microstructure, Properties and Application of each type of cast iron.	01/08/2017	BMEL203	A
4	21	UNIT IV: Introduction, importance of heat treatment	02/08/2017	BMEL203	A
4	22	Basic heat treatments such as annealing,normalising	08/08/2017	BMEL203	A
4	23	Hardening and tempering, procedure, allied phases - martensite, retained austenite etc. and microstructure and their co-relation.	09/08/2017	BMEL203	A
4	24	TTT diagram, construction	14/08/2017	BMEL203	A
4	25	Heat treatment based on TTT curve. Industrial applications of different heat treatment processes	16/08/2017	BMEL203	A
4	26	Hardenability, Jominy end quench Test	21/08/2017	BMEL203	A
4	27	Contd. Hardenability, Jominy end quench Test	22/08/2017	BMEL203	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Material Engineering

Faculty : A.M.Murhekar

Unit	Topic Code	Topic Covered	Date	Course	Section
4	28	Surface Treatments based on above such as Induction Hardening	23/08/2017	BMEL203	A
4	29	Contd. Surface Treatments	28/08/2017	BMEL203	A
4	30	Video on actual working of magnetic particle inspection.	30/08/2017	BMEL203	A
4	31	Video on actual working of ultrasonic inspection method, Video on actual working of radiographic inspection..	04/09/2017	BMEL203	A
4	32	UNIT V: Brief introduction to different nonferrous materials	05/09/2017	BMEL203	A
5	33	Aluminium and its alloy, eg. Aluminium Silicon, related phase diagram	06/09/2017	BMEL203	A
5	34	Contd. Aluminium and its alloy, eg. Aluminium Silicon, related phase diagram, Na modification	11/09/2017	BMEL203	A
5	35	Copper and its alloys, eg. Copper-zinc, Copper-tin, Dezincification, Seasons cracking	12/09/2017	BMEL203	A
5	36	Introduction to nano materials, high temperature smart materials, properties and relevant applications	18/09/2017	BMEL203	A
5	37	Video on nanoparticles size measurement and distribution, Explanation on electric furnace.	20/09/2017	BMEL203	A
5	38	Video on actual working of induction hardening and carburizing process for surface treatment.	25/09/2017	BMEL203	A
6	39	UNIT VI: Need of testing , Destructive testing, Mechanical testing, Tensile test	26/09/2017	BMEL203	A
6	40	Impact test Izod and Charpy test	27/09/2017	BMEL203	A
6	41	Hardness measurement, micro hardness	03/10/2017	BMEL203	A
6	42	Non destructive testing, Magnetic particle inspection	04/10/2017	BMEL203	A



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Course wise TeachingPlan for Session : Winter 2017

Course : Machine Drawing

Faculty : Ashish Yadav

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Objectives of subject, Introduction of Computer Aided Drafting Computer Aided Drafting and Design	12/06/2017	BMEL201	A
1	2	Principles of Drawings Scales as per ISO standards, Importance of Title Block and Part list Lines types	12/06/2017	BMEL201	A
1	3	Dimensions	17/06/2017	BMEL201	A
1	4	Principle of Dimensioning Counter Sink, Counter Bores Spot Faces	17/06/2017	BMEL201	A
1	5	Dimensions (with examples) Chamfers Screw Threads Tapered Features	19/06/2017	BMEL201	A
2	6	Drawing Layout and Lettering	24/06/2017	BMEL201	A
2	7	Prepare Two 2-D Geometrical Modal by using Sketching mode by using line, circle, trim extend command.	24/06/2017	BMEL201	A
2	8	Line thickness and its type.	24/06/2017	BMEL201	A
3	9	Convert 2D into 3D geometry	26/06/2017	BMEL201	A
3	11	Prepare the 3D geometrical model	03/07/2017	BMEL201	A
4	12	Prepare the 3D geometrical model	08/07/2017	BMEL201	A
4	13	Assembly preparation by using assembly relatedcommand in CAD Software,	08/07/2017	BMEL201	A
5	14	Sectioning Cutting Planes and Section Hatching Lines	10/07/2017	BMEL201	A
5	15	Half Sections Aligned Sections, Offset Sections, Sectioning Revolved	10/07/2017	BMEL201	A
5	16	Removed Sections, Local Sections, Successive Sections, Thin Sections	15/07/2017	BMEL201	A
5	17	Pactise on section modeling	22/07/2017	BMEL201	A
5	18	Pactise on section modeling	24/07/2017	BMEL201	A
5	19	Pactise on missing view	29/07/2017	BMEL201	A
5	20	Pactise on missing view	29/07/2017	BMEL201	A



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Course wise TeachingPlan for Session : Winter 2017

Course : Machine Drawing

Faculty : Ashish Yadav

Unit	Topic Code	Topic Covered	Date	Course	Section
6	21	Limits, Fits and Tolerance-Classifications of Fits System of Fits' Computations Selection of FitsMethod of Indicating Fits on Drawings	29/07/2017	BMEL201	A
6	22	Tolerance Grade Computations of Tolerance Positions of Tolerance Fundamental of Deviations Shaft and Hole Terminology Method of Placing Limit Dimensions	29/07/2017	BMEL201	A
6	23	Limits, Fits and Tolerance Need of Geometrical Tolerance Geometrical Characteristics of Symbols Indication of MMC Interpretation of Indication of Geometrical Tolerance	31/07/2017	BMEL201	A
6	24	Industrial applications of Limits & Fits	05/08/2017	BMEL201	A
6	25	Industrialapplications ofGeometric Tolerance	05/08/2017	BMEL201	A
6	26	Conventional Representations	05/08/2017	BMEL201	A
7	27	Common features, Springs, Gear Assemblies , Materials Interrupted views and Braking of Shaft, Pipe, Bar Surface finishing & Machining Symbols	14/08/2017	BMEL201	A
7	28	Conventional Representations-Common features, Springs, Gear Assemblies, Materials Interrupted views and Braking of Shaft, Pipe, Bar Surface finishing & Machining Symbols	21/08/2017	BMEL201	A
7	29	Screwed Fastenings Screw Thread, Nomenclature Threads Form of V Threads	26/08/2017	BMEL201	A
7	30	Form of Square Threads conventional representations	26/08/2017	BMEL201	A
7	31	Types of Joints-Riveted Joints and Riveting Classification	28/08/2017	BMEL201	A
7	32	Rivet Terminologies	28/08/2017	BMEL201	A
7	33	Welded Joints- Types of Welded Joints, Welds Symbols and its conventions	02/09/2017	BMEL201	A



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Course wise TeachingPlan for Session : Winter 2017

Course : Machine Drawing

Faculty : Ashish Yadav

Unit	Topic Code	Topic Covered	Date	Course	Section
8	34	Flip lecture-Welding representation on drawing	02/09/2017	BMEL201	A
7	35	Pipes and Pipe Joints -Types of Pipe Joints,	04/09/2017	BMEL201	A
8	36	Piping Layout and Conventions	04/09/2017	BMEL201	A
8	37	Pulleys -Applications, Types	09/09/2017	BMEL201	A
8	38	Couplings -Applications, Types, Working Principles	09/09/2017	BMEL201	A
9	39	Assembly Drawing	11/09/2017	BMEL201	A
9	40	De-Assembly Drawing	16/09/2017	BMEL201	A
9	41	Production drawing	16/09/2017	BMEL201	A
10	42	Hands on Process planning sheet	25/09/2017	BMEL201	A
10	43	Hands on Process planning sheet	25/09/2017	BMEL201	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Kapil N bhasme

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Objectives of subject, Introduction of Computer Aided Drafting Computer Aided Drafting and Design	12/06/2017	BMEL201	A
1	2	Principles of Drawings Scales as per ISO standards, Importance of Title Block and Part list Lines types	12/06/2017	BMEL201	A
1	3	Dimensions	17/06/2017	BMEL201	A
1	4	Principle of Dimensioning Counter Sink, Counter Bores Spot Faces	17/06/2017	BMEL201	A
1	5	Dimensions (with examples) Chamfers Screw Threads Tapered Features	19/06/2017	BMEL201	A
2	6	Drawing Layout and Lettering	24/06/2017	BMEL201	A
2	7	Prepare Two 2-D Geometrical Modal by using Sketching mode by using line, circle, trim extend command.	24/06/2017	BMEL201	A
2	8	Line thickness and its type.	24/06/2017	BMEL201	A
3	9	Convert 2D into 3D geometry	26/06/2017	BMEL201	A
3	11	Prepare the 3D geometrical model	03/07/2017	BMEL201	A
4	12	Prepare the 3D geometrical model	08/07/2017	BMEL201	A
4	13	Assembly preparation by using assembly related command in CAD Software,	08/07/2017	BMEL201	A
5	14	Sectioning Cutting Planes and Section Hatching Lines	10/07/2017	BMEL201	A
5	15	Half Sections Aligned Sections, Offset Sections, Sectioning Revolved	10/07/2017	BMEL201	A
5	16	Removed Sections, Local Sections, Successive Sections, Thin Sections	15/07/2017	BMEL201	A
5	17	Pactise on section modeling	22/07/2017	BMEL201	A
5	18	Pactise on section modeling	24/07/2017	BMEL201	A
5	19	Pactise on missing view	29/07/2017	BMEL201	A
5	20	Pactise on missing view	29/07/2017	BMEL201	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Kapil N bhasme

Unit	Topic Code	Topic Covered	Date	Course	Section
6	21	Limits, Fits and Tolerance-Classifications of Fits System of Fits' Computations Selection of Fits Method of Indicating Fits on Drawings	29/07/2017	BMEL201	A
6	22	Tolerance Grade Computations of Tolerance Positions of Tolerance Fundamental of Deviations Shaft and Hole Terminology Method of Placing Limit Dimensions	29/07/2017	BMEL201	A
6	23	Limits, Fits and Tolerance Need of Geometrical Tolerance Geometrical Characteristics of Symbols Indication of MMC Interpretation of Indication of Geometrical Tolerance	31/07/2017	BMEL201	A
6	24	Industrial applications of Limits & Fits	05/08/2017	BMEL201	A
6	25	Industrial applications of Geometric Tolerance	05/08/2017	BMEL201	A
6	26	Conventional Representations	05/08/2017	BMEL201	A
7	27	Common features, Springs, Gear Assemblies, Materials Interrupted views and Braking of Shaft, Pipe, Bar Surface finishing & Machining Symbols	14/08/2017	BMEL201	A
7	28	Conventional Representations-Common features, Springs, Gear Assemblies, Materials Interrupted views and Braking of Shaft, Pipe, Bar Surface finishing & Machining Symbols	21/08/2017	BMEL201	A
7	29	Screwed Fastenings Screw Thread, Nomenclature Threads Form of V Threads	26/08/2017	BMEL201	A
7	30	Form of Square Threads conventional representations	26/08/2017	BMEL201	A
7	31	Types of Joints-Riveted Joints and Riveting Classification	28/08/2017	BMEL201	A
7	32	Rivet Terminologies	28/08/2017	BMEL201	A
7	33	Welded Joints- Types of Welded Joints, Welds Symbols and its conventions	02/09/2017	BMEL201	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Kapil N bhasme

Unit	Topic Code	Topic Covered	Date	Course	Section
8	34	Flip lecture-Welding representation on drawing	02/09/2017	BMEL201	A
7	35	Pipes and Pipe Joints -Types of Pipe Joints,	04/09/2017	BMEL201	A
8	36	Piping Layout and Conventions	04/09/2017	BMEL201	A
8	37	Pulleys -Applications, Types	09/09/2017	BMEL201	A
8	38	Couplings -Applications, Types, Working Principles	09/09/2017	BMEL201	A
9	39	Assembly Drawing	11/09/2017	BMEL201	A
9	40	De-Assembly Drawing	16/09/2017	BMEL201	A
9	41	Production drawing	16/09/2017	BMEL201	A
10	42	Hands on Process planning sheet	25/09/2017	BMEL201	A
10	43	Hands on Process planning sheet	25/09/2017	BMEL201	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Engineering Thermodynamics

Faculty : Mohitkumar Gajanan Gabhane

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	To convey Course Outcomes, Program Outcomes to students. Declaration of TAE activities.	13/06/2017	BMEL205	A
1	2	Basic concepts and properties: Introduction to Thermodynamics, basic concepts, systems.	14/06/2017	BMEL205	A
1	3	Microscopic & macroscopic approaches properties and state of system.	15/06/2017	BMEL205	A
1	4	Point & path functions, thermodynamic equilibrium.	16/06/2017	BMEL205	A
1	5	Processes and cycles.	20/06/2017	BMEL205	A
1	6	Properties such as specific volume, pressure, temperature.	21/06/2017	BMEL205	A
1	7	Zeroth law of thermodynamics, temperature scales.	22/06/2017	BMEL205	A
2	8	Ideal gases and vapors: Difference between gases and Vapour, Ideal Gases.	23/06/2017	BMEL205	A
2	9	Gas constant, Heat and work, Work in compressible system.	27/06/2017	BMEL205	A
2	10	Heat transfer - a path function, Comparison of heat and work	28/06/2017	BMEL205	A
2	11	Phase change process of pure substance, Specific, sensible, Latent heat	29/06/2017	BMEL205	A
2	12	Triple point, critical point, Total heat of system.	30/06/2017	BMEL205	A
3	13	First law of thermodynamics : Classification of energy, Law of conservation of energy.	04/07/2017	BMEL205	A
3	14	First law of thermodynamics : Classification of energy, Law of conservation of energy.	05/07/2017	BMEL205	A
3	15	First law applied to closed system, Joules Experiment.	06/07/2017	BMEL205	A
3	16	Energy-a property of system, Internal energy - a function of temperature.	07/07/2017	BMEL205	A
3	17	Enthalpy, Specific heat at constant volume and pressure.	11/07/2017	BMEL205	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Engineering Thermodynamics

Faculty : Mohitkumar Gajanan Gabhane

Unit	Topic Code	Topic Covered	Date	Course	Section
3	18	Change in internal energy during non flow processes.	12/07/2017	BMEL205	A
3	19	Work done during various processes, P - V Diagram	13/07/2017	BMEL205	A
3	20	First law applied to Flow processes,	14/07/2017	BMEL205	A
3	21	Steady state process, mass & energy balance.	19/07/2017	BMEL205	A
3	22	SFEE and its applications.	20/07/2017	BMEL205	A
3	23	Work and heat transfer during steady flow processes.	21/07/2017	BMEL205	A
4	24	Second law of thermodynamics: Limitations of first law, Heat engine, Refrigerator, Heat pump.	25/07/2017	BMEL205	A
4	25	Statements of second law & their equivalence, PMM II	26/07/2017	BMEL205	A
4	26	Reversible & irreversible process,	27/07/2017	BMEL205	A
4	27	Carnot cycle & reversed Carnot cycle.	28/07/2017	BMEL205	A
4	28	COP of heat pump & refrigerator	01/08/2017	BMEL205	A
4	29	Entropy	02/08/2017	BMEL205	A
4	30	Entropy, Property of system, Clausius inequality	03/08/2017	BMEL205	A
4	31	Change of Entropy principle	04/08/2017	BMEL205	A
4	32	Change in entropy for ideal gases & during irreversible process.	08/08/2017	BMEL205	A
4	33	Principal increase of entropy	09/08/2017	BMEL205	A
5	34	Thermodynamic processes: Isobaric, Isochoric, isothermal, adiabatic, Polytropic.	10/08/2017	BMEL205	A
5	35	Throttling and free expansion, P - V & T - S diagrams	11/08/2017	BMEL205	A
5	36	Change in entropy numericals	16/08/2017	BMEL205	A
5	37	Work done, Heat Exchanged, Change in internal energy - Numericals	17/08/2017	BMEL205	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Engineering Thermodynamics

Faculty : Mohitkumar Gajanan Gabhane

Unit	Topic Code	Topic Covered	Date	Course	Section
5	38	Availability and irreversibility	22/08/2017	BMEL205	A
5	39	Gas power cycles: Otto, Diesel, Dual, sterling, Cycles.	23/08/2017	BMEL205	A
5	40	Their efficiency, MEP	24/08/2017	BMEL205	A
5	41	Numerical treatment.	30/08/2017	BMEL205	A
6	42	Vapour power Cycles: Properties of steam, specific volume and entropy	31/08/2017	BMEL205	A
6	43	Dryness fraction, throttling of steam.	01/09/2017	BMEL205	A
6	44	Numerical treatment.	05/09/2017	BMEL205	A
6	45	Rankine & modified Rankine cycle,	06/09/2017	BMEL205	A
6	46	Carnot cycle and its representation.	07/09/2017	BMEL205	A
6	47	Revision	08/09/2017	BMEL205	A
6	48	Revision	12/09/2017	BMEL205	A
6	49	Revision	15/09/2017	BMEL205	A
6	50	Revision	20/09/2017	BMEL205	A
6	51	Revision	21/09/2017	BMEL205	A
6	52	Revision	22/09/2017	BMEL205	A
6	53	Revision	26/09/2017	BMEL205	A
6	54	Revision	27/09/2017	BMEL205	A
6	55	Revision	03/10/2017	BMEL205	A
6	56	Revision	04/10/2017	BMEL205	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Dr. V N Bhiswar

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Unit: I - Introduction: Course objectives, course outcomes, program outcomes, outcome based education, mapping of CO's with PO's, planning of CAE & TAE	13/06/2017	BMEL202	A
	2	Properties of fluid: Density, specific gravity, & specific volume.	14/06/2017	BMEL202	A
	3	Properties of fluid: Dynamic viscosity & kinematic viscosity	15/06/2017	BMEL202	A
	1	Tutorial-1	16/06/2017	BMEL202	A
	4	Properties of fluid: Surface tension, capillarity & compressibility.	16/06/2017	BMEL202	A
	5	Video on surface tension	20/06/2017	BMEL202	A
	6	Video on Capillary action and meniscus formation	21/06/2017	BMEL202	A
	7	Vapor pressure, fluid pressure, pressure head, pressure intensity.	22/06/2017	BMEL202	A
	2	Tutorial-2	23/06/2017	BMEL202	A
	8	Concept of gage pressure, absolute pressure, vacuum pressure, & atmospheric pressure.	23/06/2017	BMEL202	A
	9	Manometers: Simple U-tube manometer & Differential U-tube manometer.	27/06/2017	BMEL202	A
	10	Mechanical gauges: Bordon tube pressure gauge.	28/06/2017	BMEL202	A
	11	Video on Pressure measurement using mechanical gauges.	29/06/2017	BMEL202	A
2	12	Unit : II Hydro static Forces	04/07/2017	BMEL202	A
2	13	Concept of Total pressure on immersed bodies	05/07/2017	BMEL202	A
2	14	Center of pressure	06/07/2017	BMEL202	A
2	3	Tutorial-3	07/07/2017	BMEL202	A
2	15	Buoyancy and flotation	07/07/2017	BMEL202	A
2	16	Determination of metacentric height	11/07/2017	BMEL202	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Dr. V N Bhiswar

Unit	Topic Code	Topic Covered	Date	Course	Section
2	17	Introduction to compressible flow	12/07/2017	BMEL202	A
2	18	Video on effect of variation in Metacentric height on floating bodies.	13/07/2017	BMEL202	A
2	4	Tutorial-4	14/07/2017	BMEL202	A
3	19	Unit: III Fluid flows: Types of fluid flows.	14/07/2017	BMEL202	A
3	20	Kinematics of fluid flow.	18/07/2017	BMEL202	A
3	21	Video on Flow net	19/07/2017	BMEL202	A
3	22	Continuity equation.	20/07/2017	BMEL202	A
3	5	Tutorial-5	21/07/2017	BMEL202	A
3	23	Euler's & Bernoulli's theorem.	21/07/2017	BMEL202	A
3	24	Venturimeter- Construction, principle of working, coefficient of discharge, derivation for discharge through venturimeter.	25/07/2017	BMEL202	A
3	25	Orifice meter- Construction, principle of working, hydraulic coefficient, derivation for discharge through orifice meter.	26/07/2017	BMEL202	A
3	26	Pitot Tube- Construction, principle of working.	27/07/2017	BMEL202	A
3	6	Tutorial-6	28/07/2017	BMEL202	A
3	27	YouTube video on flow velocity measurement	28/07/2017	BMEL202	A
3	28	Design of flow measuring devices.	01/08/2017	BMEL202	A
3	29	Demonstration on measurement of discharge for fluid machines	02/08/2017	BMEL202	A
3	30	Current Meter, Turbine Meter, Elbow Meter.	03/08/2017	BMEL202	A
4	7	Tutorial-7	04/08/2017	BMEL202	A
3	31	Video on turbine flow meter	04/08/2017	BMEL202	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Dr. V N Bhaiwar

Unit	Topic Code	Topic Covered	Date	Course	Section
3	32	Application of Pascal's law for hydraulics system	08/08/2017	BMEL202	A
4	33	Unit: IV Flow through pipes: Laws of fluid friction (Laminar & Turbulent).	09/08/2017	BMEL202	A
4	34	Darcy's equation & Chezy's equation for frictional losses.	10/08/2017	BMEL202	A
4	8	Tutorial-8	11/08/2017	BMEL202	A
4	35	Minor losses in pipes.	11/08/2017	BMEL202	A
4	36	Hydraulic Gradient and Total Gradient line.	16/08/2017	BMEL202	A
4	37	Hydraulic power transmission through pipe, Energy Gradient.	17/08/2017	BMEL202	A
4	38	Pipes in series and parallel: Branched pipe.	22/08/2017	BMEL202	A
4	39	Three reservoir system, Siphon.	23/08/2017	BMEL202	A
4	40	Transmission of power through pipes.	24/08/2017	BMEL202	A
4	41	Water hammer due to sudden closure of valve.	29/08/2017	BMEL202	A
4	42	Video on Piping networks	30/08/2017	BMEL202	A
5	43	Unit: V Boundary layer concepts: Nominal thickness, displacement & momentum thickness.	31/08/2017	BMEL202	A
5	9	Tutorial-9	01/09/2017	BMEL202	A
5	44	Energy of the boundary layer, Boundary layer along a long thin plate & its characteristics.	01/09/2017	BMEL202	A
5	45	Laminar and Turbulent boundary layer.	05/09/2017	BMEL202	A
5	46	Separation of boundary layer on plane & curved surfaces & phenomenon of Flow separation	06/09/2017	BMEL202	A
5	47	Definition of Drag & Lift, flow past plates, cylinder & sphere.	07/09/2017	BMEL202	A
5	10	Tutorial-10	08/09/2017	BMEL202	A
5	48	Drag on sphere, cylinder & flat plate.	08/09/2017	BMEL202	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Dr. V N Bhiswar

Unit	Topic Code	Topic Covered	Date	Course	Section
6	49	Unit: VI Dimensional Analysis: Fundamental dimensions, dimensional homogeneity.	12/09/2017	BMEL202	A
6	11	Tutorial-11	15/09/2017	BMEL202	A
6	50	Rayleigh's Method of dimensional analysis.	15/09/2017	BMEL202	A
6	51	Buckingham's Method of dimensional analysis.	19/09/2017	BMEL202	A
6	52	Dimensionless numbers & their significance.	20/09/2017	BMEL202	A
6	53	Hydraulic similitude, Types of models.	21/09/2017	BMEL202	A
6	12	Tutorial-12	22/09/2017	BMEL202	A
6	54	Model Testing	22/09/2017	BMEL202	A
6	55	Preparation of Nano fluids.	26/09/2017	BMEL202	A
6	56	Advance Topic	27/09/2017	BMEL202	A
6	57	Advance Topic	03/10/2017	BMEL202	A
6	58	Advance Topic	04/10/2017	BMEL202	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Vinod M Wankar

Unit	Topic Code	Topic Covered	Date	Course	Section
	1	Introduction to Matlab	12/06/2017	BMEL209	A
	2	Matlab Environment	13/06/2017	BMEL209	A
	3	Command window management	14/06/2017	BMEL209	A
	4	Executing Expression from Matlab command	19/06/2017	BMEL209	A
	5	Executing Expression from Matlab command	20/06/2017	BMEL209	A
	6	Executing Expression from Matlab command	21/06/2017	BMEL209	A
	7	Matlab Function	26/06/2017	BMEL209	A
	8	Creation of .m file	27/06/2017	BMEL209	A
	9	Matrix and linear algebra review,	28/06/2017	BMEL209	A
	10	Matrix and linear algebra review,	03/07/2017	BMEL209	A
2	11	Vectors and matrices in MATLAB	04/07/2017	BMEL209	A
2	12	Vectors and matrices in MATLAB	05/07/2017	BMEL209	A
2	13	Matrix operations	10/07/2017	BMEL209	A
2	14	Matrix operations and functions in MATLAB	11/07/2017	BMEL209	A
2	15	functions in MATLAB	12/07/2017	BMEL209	A
3	16	Strings and Annotated Output	18/07/2017	BMEL209	A
3	17	Input/Output Data Files	19/07/2017	BMEL209	A
3	18	Cell Arrays	24/07/2017	BMEL209	A
3	19	Input Microsoft Excel Files	25/07/2017	BMEL209	A
3	20	Logical Operator (If, Switch, for loop, while loop statement),	26/07/2017	BMEL209	A
3	21	Logical Operator (If, Switch, for loop, while loop statement),	31/07/2017	BMEL209	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Vinod M Wankar

Unit	Topic Code	Topic Covered	Date	Course	Section
3	22	Logical Operator (If, Switch, for loop, while loop statement),	01/08/2017	BMEL209	A
3	23	Matlab Functions	02/08/2017	BMEL209	A
3	24	Use of Matlab Functions as per application	07/08/2017	BMEL209	A
4	25	Unit 4 2D/ 3D Graphics Introduction	08/08/2017	BMEL209	A
4	26	Graphics Management	09/08/2017	BMEL209	A
4	27	Basic 2D Plotting Commands	14/08/2017	BMEL209	A
4	28	Special Purpose Graphs	15/08/2017	BMEL209	A
4	29	Special Purpose Graphs	16/08/2017	BMEL209	A
4	30	Reading graphs	21/08/2017	BMEL209	A
4	31	Displaying and Manipulating Digital Images	22/08/2017	BMEL209	A
4	32	Graph Annotation and Enhancement	23/08/2017	BMEL209	A
4	33	Lines in 3D	28/08/2017	BMEL209	A
4	34	3D Surfaces	29/08/2017	BMEL209	A
5	35	Unit 5 Engineering Statistics using Matlab introduction	30/08/2017	BMEL209	A
5	36	Descriptive Statistical Quantities,	04/09/2017	BMEL209	A
5	37	Probability Distributions,	05/09/2017	BMEL209	A
5	38	Discrete Distributions,	06/09/2017	BMEL209	A
5	39	Continuous Distributions,	11/09/2017	BMEL209	A
5	40	Linear Regression,	12/09/2017	BMEL209	A
5	41	Multiple Linear Regression	13/09/2017	BMEL209	A
5	42	Design of Experiments	18/09/2017	BMEL209	A
5	43	Design of Experiments	19/09/2017	BMEL209	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Vinod M Wankar

Unit	Topic Code	Topic Covered	Date	Course	Section
5	44	Analysis of Variance	20/09/2017	BMEL209	A
6	45	Unit 6 Fluid Mechanics in Matlab: Introduction	25/09/2017	BMEL209	A
6	46	Hydrostatics,	26/09/2017	BMEL209	A
6	47	Pressure Distribution in the Standard Atmosphere,	27/09/2017	BMEL209	A
6	48	Force on a Planar Gate,	02/10/2017	BMEL209	A
6	0	Internal Viscous Flow,	03/10/2017	BMEL209	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Engineering Thermodynamics

Faculty : Kishor S Rambhad

Unit	Topic Code	Topic Covered	Date	Course	Section
	1	UNIT-I: Introduction to Thermodynamics, basic concepts, systems.	12/06/2017	BMEL205	B
	2	Microscopic & macroscopic approaches properties and state of system.	13/06/2017	BMEL205	B
	3	Point & path functions, thermodynamic equilibrium.	14/06/2017	BMEL205	B
	4	Processes and cycles. Properties such as specific volume, pressure, temperature	15/06/2017	BMEL205	B
	5	Zeroth law of thermodynamics, temperature scales	19/06/2017	BMEL205	B
	6	Difference between gases and Vapour, Ideal Gases. Gas Laws, Equation of state.	20/06/2017	BMEL205	B
	7	Gas constant, Heat and work, Work in compressible system.	21/06/2017	BMEL205	B
	8	Heat transfer - a path function, Comparison of heat and work	22/06/2017	BMEL205	B
	10	Video on equivalence of heat and work using Joules experiment	27/06/2017	BMEL205	B
	11	Video on verification of Charle's law	28/06/2017	BMEL205	B
2	12	UNIT-II: First law applied to closed system, Joules Experiment	29/06/2017	BMEL205	B
2	9	Energy-a property of system, Internal energy - a function of temperature.	03/07/2017	BMEL205	B
2	13	Enthalpy, Specific heat at constant volume and pressure. Change in internal energy during non flow processes.	04/07/2017	BMEL205	B
2	14	Work done during various processes, P - V Diagram	05/07/2017	BMEL205	B
2	15	First law applied to Flow processes, Steady state process, mass & energy balance.	06/07/2017	BMEL205	B
2	16	SFEE and its applications. Work and heat transfer during flow processes.	10/07/2017	BMEL205	B
2	17	Design of thermodynamic device applying SFEE	11/07/2017	BMEL205	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Engineering Thermodynamics

Faculty : Kishor S Rambhad

Unit	Topic Code	Topic Covered	Date	Course	Section
2	18	Video on second law verification	12/07/2017	BMEL205	B
3	19	UNIT-III: Limitations of first law, Heat engine, Refrigerator, Heat pump.	13/07/2017	BMEL205	B
3	22	COP of heat pump & refrigerator, Numericals	19/07/2017	BMEL205	B
3	23	Inequality theorem	20/07/2017	BMEL205	B
3	24	Application of Gas Power Cycles to IC Engines (Petrol Engine), Visit to Automobile, Yamaha Lab	24/07/2017	BMEL205	B
3	25	Application of Gas Power Cycles to IC Engines (Diesel Engine), Visit to Automobile, Yamaha Lab	25/07/2017	BMEL205	B
4	26	UNIT-IV: Entropy, Property of system, Clausius inequality	26/07/2017	BMEL205	B
4	27	Change in entropy for ideal gases & during irreversible process.	27/07/2017	BMEL205	B
4	28	Principal increase of entropy, Numericals	31/07/2017	BMEL205	B
4	29	Application of Vapour Power Cycles to steam power plant - videos of working	01/08/2017	BMEL205	B
4	30	Measurement of dryness fraction - videos of calorimeter's working	02/08/2017	BMEL205	B
5	31	UNIT -V : Gas power cycles, Engine terminology	03/08/2017	BMEL205	B
5	32	Otto Cycle, Work done, MEP	07/08/2017	BMEL205	B
5	33	Diesel, Dual cycles, Numericals	08/08/2017	BMEL205	B
5	34	Comparison of Otto, Diesel, Dual Cycles	09/08/2017	BMEL205	B
5	35	Sterling cycle, Ericsson cycles Numericals	10/08/2017	BMEL205	B
5	36	Application of second law to Refrigeration systems through videos & visit to RAC lab	14/08/2017	BMEL205	B
6	38	UNIT -VI: Vapour power Cycles: Properties of steam, specific volume and entropy	16/08/2017	BMEL205	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Engineering Thermodynamics

Faculty : Kishor S Rambhad

Unit	Topic Code	Topic Covered	Date	Course	Section
6	39	Phase change process of pure substance, Specific, sensible, Latent heat	17/08/2017	BMEL205	B
6	40	Triple point, critical point, and Total heat of system.	21/08/2017	BMEL205	B
6	41	Dryness fraction, throttling of steam.	22/08/2017	BMEL205	B
6	42	Steam tables and their use T - s & H - S Diagram	23/08/2017	BMEL205	B
6	43	Determination of dryness fraction.	24/08/2017	BMEL205	B
6	44	Rankine & modified Rankine cycle, Carnot cycle and its representation.	28/08/2017	BMEL205	B
6	37	Diesel, Dual cycles, Numericals	30/08/2017	BMEL205	B
6	45	Dryness fraction, throttling of steam.	31/08/2017	BMEL205	B
6	46	Video on second law verification	04/09/2017	BMEL205	B
6	20	UNIT-III: Limitations of first law, Heat engine, Refrigerator, Heat pump.	05/09/2017	BMEL205	B
1	21	REVISION OF UNIT I	06/09/2017	BMEL205	B
1	47	REVISION OF UNIT I	07/09/2017	BMEL205	B
2	51	REVISION OF UNIT II	07/09/2017	BMEL205	B
1	48	REVISION OF UNIT I	11/09/2017	BMEL205	B
1	49	REVISION OF UNIT I	12/09/2017	BMEL205	B
2	50	REVISION OF UNIT II	13/09/2017	BMEL205	B
2	52	REVISION OF UNIT II	18/09/2017	BMEL205	B
2	53	REVISION OF UNIT II	20/09/2017	BMEL205	B
2	54	REVISION OF UNIT II	21/09/2017	BMEL205	B
3	55	REVISION OF UNIT III	25/09/2017	BMEL205	B
3	56	REVISION OF UNIT III	26/09/2017	BMEL205	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Engineering Thermodynamics

Faculty : Kishor S Rambhad

Unit	Topic Code	Topic Covered	Date	Course	Section
4	57	REVISION OF UNIT IV	27/09/2017	BMEL205	B
4	58	REVISION OF UNIT IV	28/09/2017	BMEL205	B
5	59	REVISION OF UNIT V	03/10/2017	BMEL205	B
5	60	REVISION OF UNIT V	04/10/2017	BMEL205	B
6	61	REVISION OF UNIT VI	05/10/2017	BMEL205	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Mr. Prashant P. Shingare

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Tutorial No 1.	12/06/2017	BMEL202	B
1	1	Unit: I Introduction: Course objectives, course outcomes, program outcomes, outcome based education, mapping of CO's with PO's, planning of CAE & TAE	13/06/2017	BMEL202	B
1	2	Unit I: Properties of fluid: Density, specific gravity, & specific volume.	13/06/2017	BMEL202	B
1	3	Properties of fluid: Dynamic viscosity & kinematic viscosity	14/06/2017	BMEL202	B
1	4	Properties of fluid: Surface tension, capillarity & compressibility.	16/06/2017	BMEL202	B
1	2	Tutorial No. 2.	19/06/2017	BMEL202	B
1	5	Video on surface tension	20/06/2017	BMEL202	B
1	6	Video on Capillary action and meniscus formation	20/06/2017	BMEL202	B
1	7	Vapor pressure, fluid pressure, pressure head, pressure intensity.	21/06/2017	BMEL202	B
1	8	Concept of gage pressure, absolute pressure, vacuum pressure, & atmospheric pressure.	23/06/2017	BMEL202	B
2	3	Tutorial No. 3.	26/06/2017	BMEL202	B
1	9	Manometers: Simple U-tube manometer & Differential U-tube manometer.	27/06/2017	BMEL202	B
1	10	Mechanical gauges: Bourdon tube pressure gauge.	27/06/2017	BMEL202	B
1	11	Video on Pressure measurement using mechanical gauges.	28/06/2017	BMEL202	B
2	12	Unit : II Hydrostatic Forces	30/06/2017	BMEL202	B
2	4	Tutorial No. 4.	03/07/2017	BMEL202	B
2	13	Concept of Total pressure on immersed bodies	04/07/2017	BMEL202	B
2	14	Center of pressure,	04/07/2017	BMEL202	B
2	15	Buoyancy and flotation	05/07/2017	BMEL202	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Mr. Prashant P. Shingare

Unit	Topic Code	Topic Covered	Date	Course	Section
2	16	Determination of metacentric height	07/07/2017	BMEL202	B
3	5	Tutorial No. 5	10/07/2017	BMEL202	B
2	17	Introduction to compressible flow	11/07/2017	BMEL202	B
2	18	Video on effect of variation in Metacentric height on floating bodies.	11/07/2017	BMEL202	B
3	19	Unit: III Fluid flows: Types of fluid flows.	12/07/2017	BMEL202	B
3	20	Kinematics of fluid flow.	14/07/2017	BMEL202	B
3	6	Tutorial No. 6	17/07/2017	BMEL202	B
3	21	Video on Flow net	19/07/2017	BMEL202	B
3	22	Continuity equation.	21/07/2017	BMEL202	B
3	7	Tutorial No. 7	24/07/2017	BMEL202	B
3	23	Euler's & Bernoulli's theorem.	25/07/2017	BMEL202	B
3	24	Venturimeter- Construction, principle of working, coefficient of discharge, derivation for discharge through venturimeter.	25/07/2017	BMEL202	B
3	25	Orifice meter- Construction, principle of working, hydraulic coefficient, derivation for discharge through orifice meter.	26/07/2017	BMEL202	B
3	26	Pitot Tube- Construction, principle of working.	28/07/2017	BMEL202	B
4	8	Tutorial No. 8	31/07/2017	BMEL202	B
3	27	YouTube video on flow velocity measurement	01/08/2017	BMEL202	B
3	28	Design of flow measuring devices.	01/08/2017	BMEL202	B
3	29	Demonstration on measurement of discharge for fluid machines	02/08/2017	BMEL202	B
3	30	Current Meter, Turbine Meter, Elbow Meter.	04/08/2017	BMEL202	B



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Course : Fluid Mechanics

Faculty : Mr. Prashant P. Shingare

Unit	Topic Code	Topic Covered	Date	Course	Section
4	9	Tutorial No. 9	07/08/2017	BMEL202	B
3	31	Video on turbine flow meter	08/08/2017	BMEL202	B
3	32	Application of Pascal's law for hydraulics system	08/08/2017	BMEL202	B
4	33	Unit: IV Flow through pipes: Laws of fluid friction (Laminar & Turbulent).	09/08/2017	BMEL202	B
4	34	Darcy's equation & Chezy's equation for frictional losses.	11/08/2017	BMEL202	B
4	10	Tutorial No. 10	14/08/2017	BMEL202	B
4	35	Minor losses in pipes.	16/08/2017	BMEL202	B
4	11	Tutorial No. 11	21/08/2017	BMEL202	B
4	36	Hydraulic Gradient and Total Gradient line.	22/08/2017	BMEL202	B
4	37	Hydraulic power transmission through pipe, Energy Gradient.	22/08/2017	BMEL202	B
4	38	Pipes in series and parallel: Branched pipe.	23/08/2017	BMEL202	B
5	12	Tutorial No. 12	28/08/2017	BMEL202	B
4	39	Three reservoir system, Syphon.	30/08/2017	BMEL202	B
5	13	Tutorial No. 13	04/09/2017	BMEL202	B
4	40	Transmission of power through pipes.	05/09/2017	BMEL202	B
4	41	Water hammer due to sudden closure of valve.	05/09/2017	BMEL202	B
4	42	Video on Piping networks	06/09/2017	BMEL202	B
5	43	Unit: V Boundary layer concepts: Nominal thickness, displacement & momentum thickness.	08/09/2017	BMEL202	B
6	14	Tutorial No. 14	11/09/2017	BMEL202	B
5	44	Energy of the boundary layer, Boundary layer along a long thin plate & its characteristics.	12/09/2017	BMEL202	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Mr. Prashant P. Shingare

Unit	Topic Code	Topic Covered	Date	Course	Section
5	45	Laminar and Turbulent boundary layer.	12/09/2017	BMEL202	B
5	46	Separation of boundary layer on plane & curved surfaces. Phenomenon of Flow separation	15/09/2017	BMEL202	B
6	15	Tutorial No. 15	18/09/2017	BMEL202	B
5	47	Definition of Drag & Lift, flow past plates, cylinder & sphere.	20/09/2017	BMEL202	B
5	48	Drag on sphere, cylinder & flat plate.	22/09/2017	BMEL202	B
6	16	Tutorial No. 16	25/09/2017	BMEL202	B
6	49	Unit: VI Dimensional Analysis: Fundamental dimensions, dimensional homogeneity.	26/09/2017	BMEL202	B
6	50	Rayleigh's Method of dimensional analysis.	26/09/2017	BMEL202	B
6	51	Buckingham's Method of dimensional analysis.	27/09/2017	BMEL202	B
6	52	Dimensionless numbers & their significance.	29/09/2017	BMEL202	B
6	53	Hydraulic similitude, Types of models.	03/10/2017	BMEL202	B
6	54	Model Testing	03/10/2017	BMEL202	B
6	55	Preparation of Nanofluids	04/10/2017	BMEL202	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Material Engineering

Faculty : S.B.Soni

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	UNIT I: Introduction to Basic Terms (System, Phase, Variables, and Components Etc.) related to equilibrium diagram	12/06/2017	BMEL203	B
1	2	Alloys and solid solutions	13/06/2017	BMEL203	B
1	3	Compounds.	14/06/2017	BMEL203	B
1	4	Hume Rothery rules	19/06/2017	BMEL203	B
1	5	Time Temperature cooling curves, Binary phase diagrams Isomorphous systems, Partial miscibility	20/06/2017	BMEL203	B
1	6	Metallic systems completely miscible in liquid state and completely immiscible in solid state. Lever rule	21/06/2017	BMEL203	B
1	7	Equilibrium cooling, Microstructures under equilibrium cooling conditions, Eutectic, Hyper and hypoeutectic alloys.	26/06/2017	BMEL203	B
1	8	PPT on basic concept of Nanotechnology	27/06/2017	BMEL203	B
2	9	UNIT II: Introduction to ferrous materials	28/06/2017	BMEL203	B
2	10	Allotropy of Iron	03/07/2017	BMEL203	B
2	11	Iron -Iron carbide equilibrium diagram	04/07/2017	BMEL203	B
2	12	Contd. Iron -Iron carbide equilibrium diagram, Critical temperature, Invariant reactions	05/07/2017	BMEL203	B
2	13	Microstructure under equilibrium cooling condition, Estimation of carbon from microstructures, structure property relationship.	10/07/2017	BMEL203	B
2	14	Purpose of alloying, Different alloying elements and their effect on enhancing the different characteristics	11/07/2017	BMEL203	B
2	15	Tool steels	12/07/2017	BMEL203	B
3	18	UNIT III: Cast iron, White cast iron	19/07/2017	BMEL203	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Material Engineering

Faculty : S.B.Soni

Unit	Topic Code	Topic Covered	Date	Course	Section
3	19	Maurer Diagram ,Grey cast iron, Types of grey cast iron	24/07/2017	BMEL203	B
3	20	Malleable cast iron, malleablizing cycle	25/07/2017	BMEL203	B
3	21	Nodular cast iron	26/07/2017	BMEL203	B
3	22	Video on working of scanning electron microscopy.	31/07/2017	BMEL203	B
3	23	Video on working of transmission electron microscopy	01/08/2017	BMEL203	B
3	24	Alloy cast iron. Microstructure, Properties and Application of each type of cast iron.	02/08/2017	BMEL203	B
4	25	UNIT IV: Introduction, importance of heat treatment	07/08/2017	BMEL203	B
4	26	Basic heat treatments such as annealing, Annealing, Normalizing	08/08/2017	BMEL203	B
4	27	Hardening and tempering, procedure, allied phases - martensite, retained austenite etc. and microstructure and their co-relation.	09/08/2017	BMEL203	B
4	28	TTT diagram, construction	14/08/2017	BMEL203	B
4	29	Heat treatment based on TTT curve. Industrial applications of different heat treatment processes	16/08/2017	BMEL203	B
4	30	Hardenability, Jominy end quench Test	21/08/2017	BMEL203	B
4	31	Surface Treatments based on above such as Induction Hardening	22/08/2017	BMEL203	B
4	32	Video on Magnetic Nanofluids Ferrofluids.	23/08/2017	BMEL203	B
4	33	Video on actual working of magnetic particle inspection, Video on actual working of ultrasonic inspection method.	28/08/2017	BMEL203	B
4	34	Video on actual working of radiographic inspection.	29/08/2017	BMEL203	B
4	35	UNIT V: Brief introduction to different nonferrous materials	30/08/2017	BMEL203	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Material Engineering

Faculty : S.B.Soni

Unit	Topic Code	Topic Covered	Date	Course	Section
5	36	Aluminium and its alloy, eg. Aluminium Silicon, related phase diagram, Na modification	04/09/2017	BMEL203	B
5	37	Contd. Aluminium and its alloy, eg. Aluminium Silicon, related phase diagram,	05/09/2017	BMEL203	B
5	38	Introduction to nano materials, high temperature smart materials, properties and relevant applications	06/09/2017	BMEL203	B
5	39	Video on nanoparticles size measurement and distribution.	11/09/2017	BMEL203	B
5	40	Video on actual working of induction hardening and carburizing process for surface treatment.	12/09/2017	BMEL203	B
5	41	Explanation on different alloyed steel and alloyed cast iron.	13/09/2017	BMEL203	B
5	42	Explanation on electric furnace.	18/09/2017	BMEL203	B
5	43	UNIT VI: Need of testing , Destructive testing, Mechanical testing, Tensile test	19/09/2017	BMEL203	B
6	44	Impact test Izod and Charpy test	20/09/2017	BMEL203	B
6	45	Hardness measurement, micro hardness	25/09/2017	BMEL203	B
6	46	Non destructive testing, Magnetic particle inspection	26/09/2017	BMEL203	B
6	47	Explanation on fatigue test machine.	27/09/2017	BMEL203	B
6	48	Demonstration on UG and PG projects.	02/10/2017	BMEL203	B
6	49	Study of nanomaterial like Al ₂ O ₃ , SiO ₂ etc.	03/10/2017	BMEL203	B
6	50	Advanced Topic Nanofluid	04/10/2017	BMEL203	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Mathematical Applications in Mechanical

Faculty : Ashwini Lalke

Engineering Unit	Topic Code	Topic Covered	Date	Course	Section
	1	laplace transform	12/06/2017	BAML203	B
	2	Evaluation of integrals by L.T.	13/06/2017	BAML203	B
	39	Inverse LT	14/06/2017	BAML203	B
	3	Inverse L.T. & its properties	16/06/2017	BAML203	B
	4	convolution theorem	19/06/2017	BAML203	B
	5	Laplace transforms of periodic function	20/06/2017	BAML203	B
	1	Tutorial I	21/06/2017	BAML203	B
	6	Applications of Laplace transforms to solve ordinary differential equations &	23/06/2017	BAML203	B
	40	Application of Laplace Transform	26/06/2017	BAML203	B
	7	Applications of Laplace transforms to partial differential equations (one-dimensional wave & diffusion equations).	27/06/2017	BAML203	B
	2	Tutorial II	28/06/2017	BAML203	B
	41	unit step function	30/06/2017	BAML203	B
2	8	Unit -II Fourier series and Harmonic analysis : Periodic function	03/07/2017	BAML203	B
2	9	Fourier series expansion	04/07/2017	BAML203	B
2	3	Tutorial III	05/07/2017	BAML203	B
2	10	Fourier series for even & function	07/07/2017	BAML203	B
2	11	Change of interval	10/07/2017	BAML203	B
2	12	Half range expansion.	11/07/2017	BAML203	B
2	4	Tutorial IV	12/07/2017	BAML203	B
2	13	Harmonic analysis	14/07/2017	BAML203	B
3	5	Tutorial V	19/07/2017	BAML203	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Mathematical Applications in Mechanical

Faculty : Ashwini Lalke

Engineering Unit	Topic Code	Topic Covered	Date	Course	Section
3	14	Unit-III Fourier Transform: Definition	21/07/2017	BAML203	B
3	15	Fourier integral theorem	24/07/2017	BAML203	B
3	16	Fourier sine & cosine integrals	25/07/2017	BAML203	B
3	6	Tutorial VI	26/07/2017	BAML203	B
3	17	Finite Fourier sine & cosine transforms	28/07/2017	BAML203	B
3	18	Parseval's identity	31/07/2017	BAML203	B
3	19	Convolution theorem	01/08/2017	BAML203	B
4	7	Tutorial VII	02/08/2017	BAML203	B
4	20	Unit -IV Partial differential equation: Partial differential equation of first order first degree i.e. Langle's form,	04/08/2017	BAML203	B
4	21	Partial differential equation of first order first degree i.e. Langle's form,	08/08/2017	BAML203	B
4	8	Tutorial VIII	09/08/2017	BAML203	B
4	22	Linear homogeneous partial differential equation of higher order with constant coefficient,	11/08/2017	BAML203	B
4	23	Method of separation of variables	14/08/2017	BAML203	B
5	9	Tutorial IX	16/08/2017	BAML203	B
4	24	Application to one dimensional heat & diffusion equation, Two dimensional Heat equations. (Only steady state).	21/08/2017	BAML203	B
5	25	Unit -V Complex Variables : Analytic function	22/08/2017	BAML203	B
5	10	Tutorial X	23/08/2017	BAML203	B
5	26	Cauchy-Riemann conditions, Conjugate functions	28/08/2017	BAML203	B
5	11	Tutorial XI	30/08/2017	BAML203	B
5	27	Singularities, Cauchy's integral theorem and integral formula (statement only)	01/09/2017	BAML203	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Mathematical Applications in Mechanical

Faculty : Ashwini Lalke

Engineering Unit	Topic Code	Topic Covered	Date	Course	Section
5	28	Taylor's and Laurent's theorem (Statement only)	04/09/2017	BAML203	B
5	29	Residue theorem	05/09/2017	BAML203	B
6	12	Tutorial XII	06/09/2017	BAML203	B
5	30	Contour integration	08/09/2017	BAML203	B
5	31	Evaluation of real & complex integral by residue theorem.	11/09/2017	BAML203	B
5	32	Conformal mapping, mapping by linear & inverse transformation.	12/09/2017	BAML203	B
6	33	Unit -VI Special function & series solution: Series solution of differential equation by Frobenius method	15/09/2017	BAML203	B
6	34	Bessel's function	18/09/2017	BAML203	B
6	13	Tutorial XIII	20/09/2017	BAML203	B
6	35	Legendre polynomials	22/09/2017	BAML203	B
6	36	Recurrence relations	25/09/2017	BAML203	B
6	37	Rodrigue formula	26/09/2017	BAML203	B
6	14	Tutorial XIV	27/09/2017	BAML203	B
6	38	Rodrigue formula	03/10/2017	BAML203	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Kinematics of Machines

Faculty : Skumar S Kumbhalkar

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Introduction to PO, PSo, COs and Basics of Kinematics of Machines and different links	25/08/2017	BMEL204	C
1	2	Video on operation of different types of linkages. Kinematic Chain, Mechanism, Machine and DOF,	28/08/2017	BMEL204	C
1	3	Video on working of different types of Mechanism. Grubler's Criterion, Classification of 4 Bar Mechanism, Kutzbach Theory, Classification of Mechanism	28/08/2017	BMEL204	C
1	4	Inversion of 4 Bar chain and Slider Crank Mechanism, Showing of different inversions of four bar mechanism using models.	30/08/2017	BMEL204	C
1	5	Practical demonstration on shaper machine for the concept of Quick return Mechanism,	31/08/2017	BMEL204	C
1	6	Mobility or DOF of a Mechanism, Exception of KT, Grashoff's law, Class I and II mechanisms, Demonstration of mechanisms used in two wheelers in Yamaha Lab.	01/09/2017	BMEL204	C
2	7	Displacement, Velocity and Acceleration, Analysis of Planer mechanism - Graphical Method,	04/09/2017	BMEL204	C
2	8	Displacement, velocity analysis of mechanism- Analytical Method	04/09/2017	BMEL204	C
2	9	Coriolis component of acceleration - Basic theory and numerical Instantaneous center method, Kennedy's theorem	06/09/2017	BMEL204	C
2	10	NPTEL lecture on Velocity Analysis.	07/09/2017	BMEL204	C
2	11	NPTEL lecture on Acceleration Analysis	08/09/2017	BMEL204	C
2	12	Concept of CAM, Comparison of Cam with linkages, Types of CAMS and Followers and applications	11/09/2017	BMEL204	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Kinematics of Machines

Faculty : Skumar S Kumbhalkar

Unit	Topic Code	Topic Covered	Date	Course	Section
2	13	Synthesis of CAM for different follower motions, Pressure angle and Parameters affecting CAM performance, Demonstration and Actual showing of different CAM and its application.	11/09/2017	BMEL204	C
3	14	Concept of toothed wheels, compression with CAM, Numericals on Kinfe edge follower CAM, Numericals on Roller follower CAM	15/09/2017	BMEL204	C
3	15	Demonstration and Actual showing of different Follower and its application	18/09/2017	BMEL204	C
3	16	Numericals on Mushrum follower CAM, Numericals on Tangent follower CAM	18/09/2017	BMEL204	C
3	17	Concept of toothed wheels, compression with CAM, Demonstration of spur & helical gears using gear box of four wheeler. Gear Tooth Terminology, Conjugate Action and law	20/09/2017	BMEL204	C
3	18	Demonstration of Bevel & worm gears using differential gear box of four wheeler., Kinematics of Involute Gear Tooth Pairs	21/09/2017	BMEL204	C
4	19	Arc of Contact, Path of Approach & recess, No. of pairs of teeth in contact ,Interference ,Undercutting, Kinematics of Helical, Bevel, Spiral Gears	22/09/2017	BMEL204	C
4	20	Video on different gear trains. Kinematics of Worm, Rack and Pinion Gears	25/09/2017	BMEL204	C
5	21	Kinematics of Involute Gear Tooth Pairs	27/09/2017	BMEL204	C
5	22	Demonstration on lathe machine for gear trains.	28/09/2017	BMEL204	C
5	23	Kinematic and Torque analysis of simple and double epicyclic gear	29/09/2017	BMEL204	C
5	24	Kinematic and Torque analysis of simple and double epicyclic gear	02/10/2017	BMEL204	C
6	25	FBD, Condition of equilibrium, Analysis of all links, Cognate Linkages	02/10/2017	BMEL204	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Kinematics of Machines

Faculty : Skumar S Kumbhalkar

Unit	Topic Code	Topic Covered	Date	Course	Section
6	26	Cam , Gear mechanism and their combinations, NPTEL lecture on Frudenstien's Equation	04/10/2017	BMEL204	C
6	27	Synthesis of 4 Bar Chain, Transmission Angle Optimization, NPTEL lecture on Synthesis.	05/10/2017	BMEL204	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Mr. Vipin Suresh Rao Khangar

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Objectives of subject, Introduction of Computer Aided Drafting Computer Aided Drafting and Design	12/06/2017	BMEL201	C
1	2	Principles of Drawings Scales as per ISO standards, Importance of Title Block and Part list Lines types	13/06/2017	BMEL201	C
1	3	Dimensions-Principle of Dimensioning Counter Sink, Counter Bores Spot Faces	16/06/2017	BMEL201	C
1	4	Dimensions (with examples) Chamfers Screw Threads Tapered Features	19/06/2017	BMEL201	C
1	5	Drawing Layout and Lettering	20/06/2017	BMEL201	C
1	6	Prepare Two 2-D Geometrical Modal by using Sketching mode by using line, circle, trim extend command.	23/06/2017	BMEL201	C
1	7	Line thickness and its type.	26/06/2017	BMEL201	C
1	8	Instruction of part modeling icon	27/06/2017	BMEL201	C
2	9	Convert 2D into 3D geometrical Modal	30/06/2017	BMEL201	C
2	10	Part Modeling and assembly	03/07/2017	BMEL201	C
2	11	Prepare the 3D geometrical model	04/07/2017	BMEL201	C
2	12	Prepare the 3D geometrical model	07/07/2017	BMEL201	C
2	13	Assembly preparation by using assembly related command in CAD Software,	10/07/2017	BMEL201	C
2	14	Sectioning Cutting Planes and Section Hatching Lines	11/07/2017	BMEL201	C
2	15	Half Sections Aligned Sections, Offset Sections, Sectioning Revolved	14/07/2017	BMEL201	C
2	16	Removed Sections, Local Sections, Successive Sections, Thin Sections	21/07/2017	BMEL201	C
2	17	Pactise on section modeling	24/07/2017	BMEL201	C
2	18	Pactise on section modeling	25/07/2017	BMEL201	C
2	19	Pactise on missing view	28/07/2017	BMEL201	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Mr. Vipin Suresh Rao Khangar

Unit	Topic Code	Topic Covered	Date	Course	Section
2	20	Pactise on missing view	01/08/2017	BMEL201	C
3	21	Limits, Fits and Tolerance-Classifications of Fits System of Fits' Computations Selection of Fits Method of Indicating Fits on Drawings	04/08/2017	BMEL201	C
3	22	Tolerance Grade Computations of Tolerance Positions of Tolerance Fundamental of Deviations Shaft and Hole Terminology Method of Placing Limit Dimensions	08/08/2017	BMEL201	C
3	23	Limits, Fits and Tolerance Need of Geometrical Tolerance Geometrical Characteristics of Symbols Indication of MMC Interpretation of Indication of Geometrical Tolerance	11/08/2017	BMEL201	C
3	24	Industrial applications of Limits & Fits	14/08/2017	BMEL201	C
3	25	Industrial applications of Geometric Tolerance	21/08/2017	BMEL201	C
4	26	Conventional Representations-Common features, Springs, Gear Assemblies, Materials Interrupted views and Braking of Shaft, Pipe, Bar Surface finishing & Machining Symbols	22/08/2017	BMEL201	C
4	27	Conventional Representations-Common features, Springs, Gear Assemblies, Materials Interrupted views and Braking of Shaft, Pipe, Bar Surface finishing & Machining Symbols	28/08/2017	BMEL201	C
4	28	Screwed Fastenings Screw Thread, Nomenclature Threads Form of V Threads	01/09/2017	BMEL201	C
4	29	Form of Square Threads conventional representations	04/09/2017	BMEL201	C
5	30	Types of Joints-Riveted Joints and Riveting Classification	05/09/2017	BMEL201	C
5	31	Rivet Terminologies	08/09/2017	BMEL201	C
5	32	Welded Joints- Types of Welded Joints, Welds Symbols and its conventions	11/09/2017	BMEL201	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Mr. Vipin Suresh Rao Khangar

Unit	Topic Code	Topic Covered	Date	Course	Section
5	33	Flip lecture-Welding representation on drawing	12/09/2017	BMEL201	C
5	34	Pipes and Pipe Joints -Types of Pipe Joints,	15/09/2017	BMEL201	C
5	35	Piping Layout and Conventions	18/09/2017	BMEL201	C
5	36	Pulleys -Applications, Types	19/09/2017	BMEL201	C
5	37	Couplings -Applications, Types, Working Principles	22/09/2017	BMEL201	C
6	38	Assembly Drawing	25/09/2017	BMEL201	C
6	39	Assembly Drawing	26/09/2017	BMEL201	C
6	40	De-Assembly Drawing	29/09/2017	BMEL201	C
6	41	Production drawing	03/10/2017	BMEL201	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Mathematical Applications in Mechanical

Faculty : Archana A. Deshpande

Engineering Unit	Topic Code	Topic Covered	Date	Course	Section
	1	Unit I Laplace Transforms: definition and their simple properties	25/08/2017	BAML203	C
	2	Transform of derivatives and integrals,	25/08/2017	BAML203	C
	3	Evaluation of integrals by L.T.	28/08/2017	BAML203	C
	1	Tutorial-1	29/08/2017	BAML203	C
	4	Inverse L.T. & its properties	29/08/2017	BAML203	C
	5	convolution theorem	01/09/2017	BAML203	C
	6	Laplace transforms of periodic function	01/09/2017	BAML203	C
	7	Unit step function	04/09/2017	BAML203	C
	1	Tutorial-1	05/09/2017	BAML203	C
	8	Applications of Laplace transforms to solve ordinary differential equations &	08/09/2017	BAML203	C
	9	Applications of Laplace transforms to partial differential equations (one-dimensional wave & diffusion equations).	08/09/2017	BAML203	C
2	10	Unit -II Fourier series and Harmonic analysis : Periodic function	11/09/2017	BAML203	C
2	2	Tutorial-2	12/09/2017	BAML203	C
2	11	Fourier series expansion	15/09/2017	BAML203	C
2	12	Fourier series for even & function	15/09/2017	BAML203	C
2	13	Fourier series for even & function	18/09/2017	BAML203	C
3	3	Tutorial-3	19/09/2017	BAML203	C
2	14	Change of interval	22/09/2017	BAML203	C
2	15	Half range expansion.	22/09/2017	BAML203	C
2	16	Harmonic analysis	25/09/2017	BAML203	C
4	4	Tutorial-4	26/09/2017	BAML203	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Mathematical Applications in Mechanical

Faculty : Archana A. Deshpande

Engineering Unit	Topic Code	Topic Covered	Date	Course	Section
3	17	Unit-III Fourier Transform: Definition	29/09/2017	BAML203	C
3	18	Fourier integral theorem	29/09/2017	BAML203	C
5	5	Tutorial-5	02/10/2017	BAML203	C
3	19	Fourier sine & cosine integrals	02/10/2017	BAML203	C
3	20	Finite Fourier sine & cosine transforms	06/10/2017	BAML203	C
3	21	Parseval's identity	06/10/2017	BAML203	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Engineering Thermodynamics

Faculty : Mr. Yogesh Narayan

Unit	Topic Code	Topic Covered	Date	Course	Nandanwa Section
1	1	Introduction to Thermodynamics, basic concepts, systems.	28/08/2017	BMEL205	C
1	2	Microscopic & macroscopic approaches properties and state of system.	30/08/2017	BMEL205	C
1	3	Point & path functions, thermodynamic equilibrium.	30/08/2017	BMEL205	C
1	4	Properties such as specific volume, pressure, temperature. Zeroth law of thermodynamics, temperature scales.	31/08/2017	BMEL205	C
1	5	Difference between gases and Vapour, Ideal Gases. Gas Laws, Equation of state.	04/09/2017	BMEL205	C
1	6	Gas constant, Heat and work, Work in compressible system.	05/09/2017	BMEL205	C
2	7	First law applied to closed system, Joules Experiment.	06/09/2017	BMEL205	C
2	8	Energy-a property of system, Internal energy - a function of temperature.	06/09/2017	BMEL205	C
2	9	Enthalpy, Specific heat at constant volume and pressure. Change in internal energy during non flow processes.	07/09/2017	BMEL205	C
2	10	Work done during various processes, P - V Diagram	11/09/2017	BMEL205	C
2	11	SFEE and its applications.	12/09/2017	BMEL205	C
2	12	Work and heat transfer during flow processes.	13/09/2017	BMEL205	C
3	13	Limitations of first law, Heat engine, Refrigerator, Heat pump.	13/09/2017	BMEL205	C
3	14	Statements of second law & their equivalence, PMM II	14/09/2017	BMEL205	C
3	15	Reversible & irreversible process, Carnot cycle & reversed Carnot cycle.	18/09/2017	BMEL205	C
3	16	COP of heat pump & refrigerator	20/09/2017	BMEL205	C
4	17	Entropy, Property of system, Clausius inequality	20/09/2017	BMEL205	C
4	18	Change in entropy for ideal gases & during irreversible process.	21/09/2017	BMEL205	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Engineering Thermodynamics

Faculty : Mr. Yogesh Narayan

Unit	Topic Code	Topic Covered	Date	Course	Nandanwa Section
4	19	Principal increase of entropy	25/09/2017	BMEL205	C
4	20	Availibility, Irreversibility	26/09/2017	BMEL205	C
5	21	Gas power cycles: Otto, Diesel, Dual, sterling, Cycles.	27/09/2017	BMEL205	C
5	22	Their efficiency, MEP	27/09/2017	BMEL205	C
6	23	Phase change process of pure substance, Specific, sensible, Latent heat	28/09/2017	BMEL205	C
6	24	Triple point, critical point, and Total heat of system.	03/10/2017	BMEL205	C
6	25	Vapour power Cycles: Properties of steam, specific volume and entropy	04/10/2017	BMEL205	C
6	26	Steam tables and their use T - s & H - S Diagram	04/10/2017	BMEL205	C
6	27	Determination of dryness fraction.	05/10/2017	BMEL205	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Shyamkumar D Chavhan

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Unit: I Introduction: Course objectives, course outcomes, program outcomes, outcome based education, mapping of CO's with PO's, planning of CAE & TAE	28/08/2017	BMEL202	C
1	2	Unit I: Properties of fluid: Density, specific gravity, & specific volume. Properties of fluid: Dynamic viscosity & kinematic viscosity Properties of fluid: Surface tension, capillarity & compressibility.	30/08/2017	BMEL202	C
1	3	Vapor pressure, fluid pressure, pressure head, pressure intensity. Concept of gauge pressure, absolute pressure, vacuum pressure, & atmospheric pressure.	31/08/2017	BMEL202	C
1	4	Manometers: Simple U-tube manometer & Differential U-tube manometer. Mechanical gauges: Bourdon tube pressure gauge. Video on Pressure measurement using mechanical gauges.	31/08/2017	BMEL202	C
2	5	Unit : II Hydrostatic Forces Concept of Total pressure on immersed bodies Center of pressure,	04/09/2017	BMEL202	C
1	1	Numerical on Unit 1	05/09/2017	BMEL202	C
2	6	Buoyancy and flotation	06/09/2017	BMEL202	C
2	7	Determination of metacentric height Introduction to compressible flow	07/09/2017	BMEL202	C
2	8	Video on effect of variation in Meta centric height on floating bodies	07/09/2017	BMEL202	C
3	9	Types of fluid flow kinematics of fluid flow & Video on Flow net	11/09/2017	BMEL202	C
1	2	Numerical on Unit 1	12/09/2017	BMEL202	C
3	10	Continuity equation Euler's & Bernoulli's theorem	18/09/2017	BMEL202	C
1	3	Numerical on Unit 2	19/09/2017	BMEL202	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Shyamkumar D Chavhan

Unit	Topic Code	Topic Covered	Date	Course	Section
3	11	Venturimeter- Construction, principle of working, coefficient of discharge, derivation for discharge through venturimeter	20/09/2017	BMEL202	C
3	12	Orifice meter- Construction, principle of working, hydraulic coefficient, derivation for discharge through orifice meter	21/09/2017	BMEL202	C
3	13	Pitot Tube- Construction, principle of working Current Meter, Turbine Meter, Elbow Meter	21/09/2017	BMEL202	C
4	14	Laws of fluid friction (Laminar & Turbulent) Darcy's equation & Chezy's equation for frictional losses.	25/09/2017	BMEL202	C
1	4	Numerical on Unit 3	26/09/2017	BMEL202	C
4	15	Minor losses in pipes Hydraulic Gradient and Total Gradient line	27/09/2017	BMEL202	C
4	16	Hydraulic power transmission through pipe, Energy Gradient Pipes in series and parallel: Branched pipe.	28/09/2017	BMEL202	C
5	17	Energy of the boundary layer, Boundary layer along a long thin plate & its characteristics Laminar and Turbulent boundary layer.	28/09/2017	BMEL202	C
1	5	Numerical on Unit 5	03/10/2017	BMEL202	C
5	18	Separation of boundary layer on plane & curved surfaces. Phenomenon of Flow separation Definition of Drag & Lift, flow past plates, cylinder & sphere.	04/10/2017	BMEL202	C
6	19	Rayleigh's Method of dimensional analysis. Buckingham's Method of dimensional analysis.	05/10/2017	BMEL202	C
6	20	Dimensionless numbers & their significance. Hydraulic similitude, Types of models.	05/10/2017	BMEL202	C



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CRPF Gate No.3, Hingna Road, Digidoh Hills, Nagpur. Maharashtra-440016 (India)

Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Vivek V Bhandarkar

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Objectives of subject, Introduction of Computer Aided Drafting Computer Aided Drafting and Design, Principles of Drawings Scales as per ISO standards, Importance of Title Block and Part list Lines types	25/08/2017	BMEL201	C
1	2	Dimensions-Principle of Dimensioning Counter Sink, Counter Bores Spot Faces, Dimensions (with examples) Chamfers Screw Threads Tapered Features	28/08/2017	BMEL201	C
1	3	Drawing Layout and Lettering, Prepare Two 2-D Geometrical Modal by using Sketching mode by using line, circle, trim extend command.	29/08/2017	BMEL201	C
1	4	Line thickness and its type, Instruction of part modeling icon	01/09/2017	BMEL201	C
2	5	Convert 2D into 3D geometrical Modal, Part Modeling and assembly	04/09/2017	BMEL201	C
2	6	Prepare the 3D geometrical model, Prepare the 3D geometrical model	05/09/2017	BMEL201	C
2	7	Assembly preparation by using assembly related command in CAD Software, Sectioning Cutting Planes and Section Hatching Lines	08/09/2017	BMEL201	C
2	8	Half Sections Aligned Sections, Offset Sections, Sectioning Revolved, Removed Sections, Local Sections, Successive Sections, Thin Sections	11/09/2017	BMEL201	C
2	9	Pactise on section modeling	12/09/2017	BMEL201	C
2	10	Pactise on missing view	15/09/2017	BMEL201	C
3	11	Limits, Fits and Tolerance-Classifications of Fits System of Fits' Computations Selection of Fits Method of Indicating Fits on Drawings, Tolerance Grade Computations of Tolerance Positions of Tolerance Fundamental of Deviations Shaft and Hole Terminology M	18/09/2017	BMEL201	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Vivek V Bhandarkar

Unit	Topic Code	Topic Covered	Date	Course	Section
3	12	Limits, Fits and Tolerance Need of Geometrical Tolerance Geometrical Characteristics of Symbols Indication of MMC Interpretation of Indication of Geometrical Tolerance, Industrial applications of Limits & Fits	19/09/2017	BMEL201	C
3	13	Industrial applications of Geometric Tolerance	22/09/2017	BMEL201	C
4	14	Conventional Representations-Common features, Springs, Gear Assemblies, Materials Interrupted views and Braking of Shaft, Pipe, Bar Surface finishing & Machining Symbols	25/09/2017	BMEL201	C
4	15	Screwed Fastenings Screw Thread, Nomenclature Threads Form of V Threads, Form of Square Threads conventional representations	26/09/2017	BMEL201	C
5	16	Types of Joints-Riveted Joints and Riveting Classification, Rivet Terminologies	29/09/2017	BMEL201	C
5	17	Welded Joints- Types of Welded Joints, Welds Symbols and its conventions, Flip lecture-Welding representation on drawing	02/10/2017	BMEL201	C
5	18	Pipes and Pipe Joints -Types of Pipe Joints, Piping Layout and Conventions	03/10/2017	BMEL201	C
5	19	Pulleys -Applications, Types, Couplings -Applications, Types, Working Principles	06/10/2017	BMEL201	C
6	20	Assembly Drawing, De-Assembly Drawing	09/10/2017	BMEL201	C
6	21	Production drawing	10/10/2017	BMEL201	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Mr. Amol Dilip Pitale

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Introduction to fluid power, Properties of Fluid: Density, Specific gravity, Specific Weight, Specific Volume Dynamic Viscosity	25/08/2017	BMEL202	D
1	2	Types of Fluid, Kinematic Viscosity, Surface tension, Capillarity, Vapour Pressure	28/08/2017	BMEL202	D
1	3	Comprehensibility Fluid pressure, Pressure head	29/08/2017	BMEL202	D
1	1	Numerical on Viscosity, Surface Tension & Capillary	30/08/2017	BMEL202	D
1	4	Pressure intensity Concept of absolute, vacuum, gauge pressure, atmospheric Pressure	30/08/2017	BMEL202	D
1	5	Concept of Total pressure on immersed bodies, center of pressure.	31/08/2017	BMEL202	D
1	6	Types of fluid flows, Kinematics of fluid flow, Continuity equation	01/09/2017	BMEL202	D
2	7	Bernoulli's theorem and equation	04/09/2017	BMEL202	D
2	8	Venturimeter - Construction, principle of working, Coefficient of discharge, Derivation for discharge through venturimeter	05/09/2017	BMEL202	D
1	2	numerical on Pressure Gauge	06/09/2017	BMEL202	D
2	9	Orifice meter - Construction, Principle of working, Derivation for discharge through Orifice meter	06/09/2017	BMEL202	D
2	10	Pitot tube - Construction, Principle of Working	07/09/2017	BMEL202	D
2	11	Current Meter, Turbine Meter, Elbowmeter.	08/09/2017	BMEL202	D
3	12	Laws of fluid friction	11/09/2017	BMEL202	D
3	13	Darcy's equation and Chezy's equation for frictional losses	12/09/2017	BMEL202	D
2	3	Numerical on Venturimeter & Orifice Meter	13/09/2017	BMEL202	D
3	14	Minor losses in pipes	13/09/2017	BMEL202	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Fluid Mechanics

Faculty : Mr. Amol Dilip Pitale

Unit	Topic Code	Topic Covered	Date	Course	Section
3	15	Hydraulic gradient and total gradient line	14/09/2017	BMEL202	D
3	16	Pipe in series and parallel	15/09/2017	BMEL202	D
3	17	Branched pipes; three reservoir system; Syphon	18/09/2017	BMEL202	D
3	18	Transmission of power through pipes; Water Hammer pressure	19/09/2017	BMEL202	D
2	4	Numerical on Pitot Tube	20/09/2017	BMEL202	D
4	19	Nominal thickness, Displacement and Momentum thickness .energy of the boundary layer	20/09/2017	BMEL202	D
4	20	Boundary layer along a long thin plate and its characteristics	21/09/2017	BMEL202	D
4	21	Laminar boundary layer; Turbulent boundary layer	22/09/2017	BMEL202	D
4	22	Separation of boundary layer on plane and curved surfaces	25/09/2017	BMEL202	D
4	23	Drag & Lift: Definition of drag and lift	26/09/2017	BMEL202	D
3	5	Numerical on Losses in pipe, HGL & EGL	27/09/2017	BMEL202	D
5	24	Momentum principle and its application	27/09/2017	BMEL202	D
5	25	Derivation for force exerted on fixed plate	28/09/2017	BMEL202	D
5	26	Derivation force exerted on series of moving vanes	29/09/2017	BMEL202	D
6	27	Fundamental dimensions, dimensional Homogeneity	02/10/2017	BMEL202	D
6	28	Rayleigh's method and Buckingham' s' method	03/10/2017	BMEL202	D
3	6	Numerical on pipes in series & Parallel	04/10/2017	BMEL202	D
6	29	dimension less numbers and their significance	04/10/2017	BMEL202	D
6	30	dimension less numbers and their significance	05/10/2017	BMEL202	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Vivek V Bhandarkar

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Objectives of subject, Introduction of Computer Aided Drafting Computer Aided Drafting and Design, Principles of Drawings Scales as per ISO standards, Importance of Title Block and Part list Lines types	29/08/2017	BMEL201	D
1	2	Dimensions-Principle of Dimensioning Counter Sink, Counter Bores Spot Faces, Dimensions (with examples) Chamfers Screw Threads Tapered Features	30/08/2017	BMEL201	D
1	3	Drawing Layout and Lettering, Prepare Two 2-D Geometrical Modal by using Sketching mode by using line, circle, trim extend command.	31/08/2017	BMEL201	D
1	4	Line thickness and its type, Instruction of part modeling icon	05/09/2017	BMEL201	D
2	5	Convert 2D into 3D geometrical Modal, Part Modeling and assembly	06/09/2017	BMEL201	D
2	6	Prepare the 3D geometrical model, Prepare the 3D geometrical model	07/09/2017	BMEL201	D
2	7	Assembly preparation by using assembly related command in CAD Software, Sectioning Cutting Planes and Section Hatching Lines	12/09/2017	BMEL201	D
2	8	Half Sections Aligned Sections, Offset Sections, Sectioning Revolved, Removed Sections, Local Sections, Successive Sections, Thin Sections	13/09/2017	BMEL201	D
2	9	Pactise on section modeling	14/09/2017	BMEL201	D
2	10	Pactise on missing view	19/09/2017	BMEL201	D
3	11	Limits, Fits and Tolerance-Classifications of Fits System of Fits' Computations Selection of Fits Method of Indicating Fits on Drawings, Tolerance Grade Computations of Tolerance Positions of Tolerance Fundamental of Deviations Shaft and Hole Terminology M	20/09/2017	BMEL201	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Vivek V Bhandarkar

Unit	Topic Code	Topic Covered	Date	Course	Section
3	12	Limits, Fits and Tolerance Need of Geometrical Tolerance Geometrical Characteristics of Symbols Indication of MMC Interpretation of Indication of Geometrical Tolerance, Industrial applications of Limits & Fits	21/09/2017	BMEL201	D
3	13	Industrial applications of Geometric Tolerance	26/09/2017	BMEL201	D
4	14	Conventional Representations-Common features, Springs, Gear Assemblies, Materials Interrupted views and Braking of Shaft, Pipe, Bar Surface finishing & Machining Symbols	27/09/2017	BMEL201	D
4	15	Screwed Fastenings Screw Thread, Nomenclature Threads Form of V Threads, Form of Square Threads conventional representations	28/09/2017	BMEL201	D
5	16	Types of Joints-Riveted Joints and Riveting Classification, Rivet Terminologies	03/10/2017	BMEL201	D
5	17	Welded Joints- Types of Welded Joints, Welds Symbols and its conventions, Flip lecture-Welding representation on drawing	04/10/2017	BMEL201	D
5	18	Pipes and Pipe Joints -Types of Pipe Joints, Piping Layout and Conventions	05/10/2017	BMEL201	D
5	19	Pulleys -Applications, Types, Couplings -Applications, Types, Working Principles	10/10/2017	BMEL201	D
6	20	Assembly Drawing, De-Assembly Drawing	11/10/2017	BMEL201	D
6	21	Production drawing	12/10/2017	BMEL201	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Material Engineering

Faculty : Vednath P Kalbande

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	UNIT I: Introduction to Basic Terms (System, Phase, Variables, Components Etc.)	21/08/2017	BMEL203	D
1	2	Contd. Introduction to Basic Terms (System, Phase, Variables, Components Etc.) related to equilibrium diagram	22/08/2017	BMEL203	D
1	3	Alloys and solid solutions	23/08/2017	BMEL203	D
1	4	Compounds.	25/08/2017	BMEL203	D
1	5	Hume Rothery rules	28/08/2017	BMEL203	D
1	6	Time Temperature cooling curves, Binary phase diagrams Isomorphous systems, Partial miscibility	29/08/2017	BMEL203	D
1	7	Metallic systems completely miscible in liquid state and completely immiscible in solid state. Lever rule	30/08/2017	BMEL203	D
1	8	Equilibrium cooling, Microstructures under equilibrium cooling conditions, Eutectic, Hyper and hypoeutectic alloys.	01/09/2017	BMEL203	D
2	9	UNIT II: Introduction to ferrous materials	04/09/2017	BMEL203	D
2	10	Allotropy of Iron	05/09/2017	BMEL203	D
2	11	Iron -Iron carbide equilibrium diagram	06/09/2017	BMEL203	D
2	12	Contd. Iron -Iron carbide equilibrium diagram	08/09/2017	BMEL203	D
2	13	Contd. Iron -Iron carbide equilibrium diagram, Critical temperature, Invariant reactions	11/09/2017	BMEL203	D
2	14	Microstructure under equilibrium cooling condition, Estimation of carbon from microstructures, structure property relationship.	12/09/2017	BMEL203	D
2	15	Purpose of alloying, Different alloying elements and their effect on enhancing the different characteristics	13/09/2017	BMEL203	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Material Engineering

Faculty : Vednath P Kalbande

Unit	Topic Code	Topic Covered	Date	Course	Section
2	16	Tool steels Stainless steels, spring steels. Designation of steels. AISI, ASTM, EN etc.	15/09/2017	BMEL203	D
3	17	UNIT III: Cast iron, White cast iron	18/09/2017	BMEL203	D
3	18	Maurer Diagram ,Grey cast iron, Types of grey cast iron	19/09/2017	BMEL203	D
3	19	Malleable cast iron, malleablizing cycle	20/09/2017	BMEL203	D
3	20	Nodular cast iron	22/09/2017	BMEL203	D
3	21	Alloy cast iron. Microstructure, Properties and Application of each type of cast iron.	25/09/2017	BMEL203	D
4	22	UNIT IV: Introduction, importance of heat treatment	26/09/2017	BMEL203	D
4	23	Basic heat treatments such as annealing	27/09/2017	BMEL203	D
4	24	Annealing, Normalizing	29/09/2017	BMEL203	D
4	25	Hardening and tempering, procedure, allied phases - martensite, retained austenite etc. and microstructure and their co-relation.	02/10/2017	BMEL203	D
4	26	TTT diagram, construction	03/10/2017	BMEL203	D
4	27	Heat treatment based on TTT curve. Industrial applications of different heat treatment processes	04/10/2017	BMEL203	D
4	28	Hardenability, Jominy end quench Test	06/10/2017	BMEL203	D
5	29	UNIT V: Brief introduction to different nonferrous materials	09/10/2017	BMEL203	D
6	32	Impact test Izod and Charpy test	10/10/2017	BMEL203	D
0	0	Advanced Topic Nanofluid	11/10/2017	BMEL203	D
6	33	Hardness measurement, micro hardness	11/10/2017	BMEL203	D
6	34	Non destructive testing, Magnetic particle inspection	13/10/2017	BMEL203	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Material Engineering

Faculty : Vednath P Kalbande

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	UNIT I: Introduction to Basic Terms (System, Phase, Variables, Components Etc.)	21/08/2017	BMEL203	D
1	2	Contd. Introduction to Basic Terms (System, Phase, Variables, Components Etc.) related to equilibrium diagram	22/08/2017	BMEL203	D
1	3	Alloys and solid solutions	23/08/2017	BMEL203	D
1	4	Compounds.	25/08/2017	BMEL203	D
1	5	Hume Rothery rules	28/08/2017	BMEL203	D
1	6	Time Temperature cooling curves, Binary phase diagrams Isomorphous systems, Partial miscibility	29/08/2017	BMEL203	D
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1	8	Equilibrium cooling, Microstructures under equilibrium cooling conditions, Eutectic, Hyper and hypoeutectic alloys.	01/09/2017	BMEL203	D
2	9	UNIT II: Introduction to ferrous materials	04/09/2017	BMEL203	D
2	10	Allotropy of Iron	05/09/2017	BMEL203	D
2	11	Iron -Iron carbide equilibrium diagram	06/09/2017	BMEL203	D
2	12	Contd. Iron -Iron carbide equilibrium diagram	08/09/2017	BMEL203	D
2	13	Contd. Iron -Iron carbide equilibrium diagram, Critical temperature, Invariant reactions	11/09/2017	BMEL203	D
2	14	Microstructure under equilibrium cooling condition, Estimation of carbon from microstructures, structure property relationship.	12/09/2017	BMEL203	D
2	15	Purpose of alloying, Different alloying elements and their effect on enhancing the different characteristics	13/09/2017	BMEL203	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Material Engineering

Faculty : Vednath P Kalbande

Unit	Topic Code	Topic Covered	Date	Course	Section
2	16	Tool steels Stainless steels, spring steels. Designation of steels. AISI, ASTM, EN etc.	15/09/2017	BMEL203	D
3	17	UNIT III: Cast iron, White cast iron	18/09/2017	BMEL203	D
3	18	Maurer Diagram ,Grey cast iron, Types of grey cast iron	19/09/2017	BMEL203	D
3	19	Malleable cast iron, malleablizing cycle	20/09/2017	BMEL203	D
3	20	Nodular cast iron	22/09/2017	BMEL203	D
3	21	Alloy cast iron. Microstructure, Properties and Application of each type of cast iron.	25/09/2017	BMEL203	D
4	22	UNIT IV: Introduction, importance of heat treatment	26/09/2017	BMEL203	D
4	23	Basic heat treatments such as annealing	27/09/2017	BMEL203	D
4	24	Annealing, Normalizing	29/09/2017	BMEL203	D
4	25	Hardening and tempering, procedure, allied phases - martensite, retained austenite etc. and microstructure and their co-relation.	02/10/2017	BMEL203	D
4	26	TTT diagram, construction	03/10/2017	BMEL203	D
4	27	Heat treatment based on TTT curve. Industrial applications of different heat treatment processes	04/10/2017	BMEL203	D
4	28	Hardenability, Jominy end quench Test	06/10/2017	BMEL203	D
5	29	UNIT V: Brief introduction to different nonferrous materials	09/10/2017	BMEL203	D
6	32	Impact test Izod and Charpy test	10/10/2017	BMEL203	D
0	0	Advanced Topic Nanofluid	11/10/2017	BMEL203	D
6	33	Hardness measurement, micro hardness	11/10/2017	BMEL203	D
6	34	Non destructive testing, Magnetic particle inspection	13/10/2017	BMEL203	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Mathematical Applications in Mechanical

Faculty : Ashwini Lalke

Engineering Unit	Topic Code	Topic Covered	Date	Course	Section
	1	Unit I Laplace Transforms: definition and their simple properties	25/08/2017	BAML203	D
	1	Laplace transform property	25/08/2017	BAML203	D
	2	inverse of laplace transform	28/08/2017	BAML203	D
	2	Transform of derivatives and integrals,	28/08/2017	BAML203	D
	1	Tutorial I	31/08/2017	BAML203	D
	3	Evaluation of integrals by L.T.	31/08/2017	BAML203	D
	4	Inverse L.T. & its properties	31/08/2017	BAML203	D
	5	convolution theorem	01/09/2017	BAML203	D
	6	Laplace transforms of periodic function	03/09/2017	BAML203	D
	7	Unit step function	04/09/2017	BAML203	D
	2	Tutorial II	07/09/2017	BAML203	D
	8	Applications of Laplace transforms to solve ordinary differential equations &	07/09/2017	BAML203	D
	9	Applications of Laplace transforms to partial differential equations (one-dimensional wave & diffusion equations).	07/09/2017	BAML203	D
2	10	Unit -II Fourier series and Harmonic analysis : Periodic function	08/09/2017	BAML203	D
2	11	Fourier series expansion	11/09/2017	BAML203	D
2	12	Fourier series for even & function	14/09/2017	BAML203	D
2	13	Fourier series for even & function	14/09/2017	BAML203	D
2	14	Change of interval	15/09/2017	BAML203	D
2	15	Half range expansion.	18/09/2017	BAML203	D
2	16	Harmonic analysis	21/09/2017	BAML203	D
3	17	Unit-III Fourier Transform: Definition	21/09/2017	BAML203	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Mathematical Applications in Mechanical

Faculty : Ashwini Lalke

Engineering Unit	Topic Code	Topic Covered	Date	Course	Section
3	18	Fourier integral theorem	22/09/2017	BAML203	D
3	19	Fourier sine & cosine integrals	25/09/2017	BAML203	D
3	20	Finite Fourier sine & cosine transforms	28/09/2017	BAML203	D
3	21	Finite Fourier sine & cosine transforms	28/09/2017	BAML203	D
3	21	Parseval's identity	29/09/2017	BAML203	D
3	21	Parseval's identity	05/10/2017	BAML203	D
3	21	Parseval's identity	05/10/2017	BAML203	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Kinematics of Machines

Faculty : Laukik . P. Raut

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Introduction to Kinematics of Machine	25/08/2017	BMEL204	D
1	2	Simple Mechanism, chain, kinematic chain	25/08/2017	BMEL204	D
1	3	Degree of freedom, estimation of degree of freedom of mechanism by Grubler's criterion and other methods	28/08/2017	BMEL204	D
1	4	Harding's notations, classification of four bar chain [class - I & class - II]	30/08/2017	BMEL204	D
1	5	inversion of four-bar-chain, Kutzbach theory of multiple drives, Kutzbach theory of multiple drives	31/08/2017	BMEL204	D
2	6	Quantitative kinematic analysis of mechanism: Displacement, Velocity	01/09/2017	BMEL204	D
2	7	Acceleration analysis of planer mechanism by graphical method	01/09/2017	BMEL204	D
2	8	Acceleration analysis of planer mechanism by analytical method [complex number method / matrix method]	04/09/2017	BMEL204	D
2	9	Coriolis component of acceleration, Instantaneous center method	06/09/2017	BMEL204	D
2	10	Kennedy's theorem	07/09/2017	BMEL204	D
3	11	Concepts of cam mechanism, comparison of cam mechanism with linkages	08/09/2017	BMEL204	D
3	12	Types of cams and followers and applications, Synthesis of cam for different types of follower motion like constant velocity	08/09/2017	BMEL204	D
3	13	Synthesis of cam for different types of follower motion like parabolic, Pressure angle in cam	11/09/2017	BMEL204	D
3	14	Pressure angle in cam	13/09/2017	BMEL204	D
4	15	Concept of motion transmission by toothed wheels, comparison with cams and linkages, various tooth profiles	14/09/2017	BMEL204	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Kinematics of Machines

Faculty : Laukik . P. Raut

Unit	Topic Code	Topic Covered	Date	Course	Section
4	16	gear tooth terminologies, concept of conjugate action, Law of conjugate action, kinematics of involutes gear tooth pairs during the contact duration	15/09/2017	BMEL204	D
4	17	Highlighting locus of the point of contact, Arc of contact, numbers of pairs of teeth in contact	15/09/2017	BMEL204	D
4	18	path of approach and path of recess, interference	18/09/2017	BMEL204	D
4	19	undercutting for involutes profile teeth	20/09/2017	BMEL204	D
5	20	Kinematics of helical, bevel gear	21/09/2017	BMEL204	D
5	21	Kinematics of worm gears, pinion gear	22/09/2017	BMEL204	D
5	22	kinematic analysis of simple epicyclic gear trains	22/09/2017	BMEL204	D
6	23	Introduction to coupler curves, Robert's Law of cognate linkages	25/09/2017	BMEL204	D
6	24	Synthesis of four bar chain for gross motion, Frudenstein equation and its application for function generation	27/09/2017	BMEL204	D
6	25	Practical demonstration on shaper machine for the concept of Quick return Mechanism. Demonstration of mechanisms used in two wheelers in Yamaha Lab.	28/09/2017	BMEL204	D
6	26	Showing of different inversions of four bar mechanism using models, Video on working of different types of Mechanism.	29/09/2017	BMEL204	D
6	27	Demonstration and Actual showing of different CAM and its application.	29/09/2017	BMEL204	D
6	28	Demonstration of Bevel & worm gears using differential gear box of four wheeler, Demonstration on lathe machine for gear trains, NPTEL lecture on Synthesis	04/10/2017	BMEL204	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Vivek V Bhandarkar

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Objectives of subject, Introduction of Computer Aided Drafting Computer Aided Drafting and Design, Principles of Drawings Scales as per ISO standards, Importance of Title Block and Part list Lines types	29/08/2017	BMEL201	D
1	2	Dimensions-Principle of Dimensioning Counter Sink, Counter Bores Spot Faces, Dimensions (with examples) Chamfers Screw Threads Tapered Features	30/08/2017	BMEL201	D
1	3	Drawing Layout and Lettering, Prepare Two 2-D Geometrical Modal by using Sketching mode by using line, circle, trim extend command.	31/08/2017	BMEL201	D
1	4	Line thickness and its type, Instruction of part modeling icon	05/09/2017	BMEL201	D
2	5	Convert 2D into 3D geometrical Modal, Part Modeling and assembly	06/09/2017	BMEL201	D
2	6	Prepare the 3D geometrical model, Prepare the 3D geometrical model	07/09/2017	BMEL201	D
2	7	Assembly preparation by using assembly related command in CAD Software, Sectioning Cutting Planes and Section Hatching Lines	12/09/2017	BMEL201	D
2	8	Half Sections Aligned Sections, Offset Sections, Sectioning Revolved, Removed Sections, Local Sections, Successive Sections, Thin Sections	13/09/2017	BMEL201	D
2	9	Pactise on section modeling	14/09/2017	BMEL201	D
2	10	Pactise on missing view	19/09/2017	BMEL201	D
3	11	Limits, Fits and Tolerance-Classifications of Fits System of Fits' Computations Selection of Fits Method of Indicating Fits on Drawings, Tolerance Grade Computations of Tolerance Positions of Tolerance Fundamental of Deviations Shaft and Hole Terminology M	20/09/2017	BMEL201	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Drawing

Faculty : Vivek V Bhandarkar

Unit	Topic Code	Topic Covered	Date	Course	Section
3	12	Limits, Fits and Tolerance Need of Geometrical Tolerance Geometrical Characteristics of Symbols Indication of MMC Interpretation of Indication of Geometrical Tolerance, Industrial applications of Limits & Fits	21/09/2017	BMEL201	D
3	13	Industrial applications of Geometric Tolerance	26/09/2017	BMEL201	D
4	14	Conventional Representations-Common features, Springs, Gear Assemblies, Materials Interrupted views and Braking of Shaft, Pipe, Bar Surface finishing & Machining Symbols	27/09/2017	BMEL201	D
4	15	Screwed Fastenings Screw Thread, Nomenclature Threads Form of V Threads, Form of Square Threads conventional representations	28/09/2017	BMEL201	D
5	16	Types of Joints-Riveted Joints and Riveting Classification, Rivet Terminologies	03/10/2017	BMEL201	D
5	17	Welded Joints- Types of Welded Joints, Welds Symbols and its conventions, Flip lecture-Welding representation on drawing	04/10/2017	BMEL201	D
5	18	Pipes and Pipe Joints -Types of Pipe Joints, Piping Layout and Conventions	05/10/2017	BMEL201	D
5	19	Pulleys -Applications, Types, Couplings -Applications, Types, Working Principles	10/10/2017	BMEL201	D
6	20	Assembly Drawing, De-Assembly Drawing	11/10/2017	BMEL201	D
6	21	Production drawing	12/10/2017	BMEL201	D



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Vinod M Wankar

Unit	Topic Code	Topic Covered	Date	Course	Section
	1	Introduction to Matlab	12/06/2017	BMEL209	A
	2	Matlab Environment	13/06/2017	BMEL209	A
	3	Command window management	14/06/2017	BMEL209	A
	4	Executing Expression from Matlab command	19/06/2017	BMEL209	A
	5	Executing Expression from Matlab command	20/06/2017	BMEL209	A
	6	Executing Expression from Matlab command	21/06/2017	BMEL209	A
	7	Matlab Function	26/06/2017	BMEL209	A
	8	Creation of .m file	27/06/2017	BMEL209	A
	9	Matrix and linear algebra review,	28/06/2017	BMEL209	A
	10	Matrix and linear algebra review,	03/07/2017	BMEL209	A
2	11	Vectors and matrices in MATLAB	04/07/2017	BMEL209	A
2	12	Vectors and matrices in MATLAB	05/07/2017	BMEL209	A
2	13	Matrix operations	10/07/2017	BMEL209	A
2	14	Matrix operations and functions in MATLAB	11/07/2017	BMEL209	A
2	15	functions in MATLAB	12/07/2017	BMEL209	A
3	16	Strings and Annotated Output	18/07/2017	BMEL209	A
3	17	Input/Output Data Files	19/07/2017	BMEL209	A
3	18	Cell Arrays	24/07/2017	BMEL209	A
3	19	Input Microsoft Excel Files	25/07/2017	BMEL209	A
3	20	Logical Operator (If, Switch, for loop, while loop statement),	26/07/2017	BMEL209	A
3	21	Logical Operator (If, Switch, for loop, while loop statement),	31/07/2017	BMEL209	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Vinod M Wankar

Unit	Topic Code	Topic Covered	Date	Course	Section
3	22	Logical Operator (If, Switch, for loop, while loop statement),	01/08/2017	BMEL209	A
3	23	Matlab Functions	02/08/2017	BMEL209	A
3	24	Use of Matlab Functions as per application	07/08/2017	BMEL209	A
4	25	Unit 4 2D/ 3D Graphics Introduction	08/08/2017	BMEL209	A
4	26	Graphics Management	09/08/2017	BMEL209	A
4	27	Basic 2D Plotting Commands	14/08/2017	BMEL209	A
4	28	Special Purpose Graphs	15/08/2017	BMEL209	A
4	29	Special Purpose Graphs	16/08/2017	BMEL209	A
4	30	Reading graphs	21/08/2017	BMEL209	A
4	31	Displaying and Manipulating Digital Images	22/08/2017	BMEL209	A
4	32	Graph Annotation and Enhancement	23/08/2017	BMEL209	A
4	33	Lines in 3D	28/08/2017	BMEL209	A
4	34	3D Surfaces	29/08/2017	BMEL209	A
5	35	Unit 5 Engineering Statistics using Matlab introduction	30/08/2017	BMEL209	A
5	36	Descriptive Statistical Quantities,	04/09/2017	BMEL209	A
5	37	Probability Distributions,	05/09/2017	BMEL209	A
5	38	Discrete Distributions,	06/09/2017	BMEL209	A
5	39	Continuous Distributions,	11/09/2017	BMEL209	A
5	40	Linear Regression,	12/09/2017	BMEL209	A
5	41	Multiple Linear Regression	13/09/2017	BMEL209	A
5	42	Design of Experiments	18/09/2017	BMEL209	A
5	43	Design of Experiments	19/09/2017	BMEL209	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Vinod M Wankar

Unit	Topic Code	Topic Covered	Date	Course	Section
5	44	Analysis of Variance	20/09/2017	BMEL209	A
6	45	Unit 6 Fluid Mechanics in Matlab: Introduction	25/09/2017	BMEL209	A
6	46	Hydrostatics,	26/09/2017	BMEL209	A
6	47	Pressure Distribution in the Standard Atmosphere,	27/09/2017	BMEL209	A
6	48	Force on a Planar Gate,	02/10/2017	BMEL209	A
6	0	Internal Viscous Flow,	03/10/2017	BMEL209	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Design-I

Faculty : Dr. V N Bhaiwar

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Unit: 1 Introduction: Course objectives, course outcomes, program outcomes, outcome based education, mapping of CO's with PO's, planning of CAE and TAE	12/06/2017	BMEL304	A
1	2	Definition of Design, Types of Design, Design Process, Need, Defining the Problem.	13/06/2017	BMEL304	A
1	1	Tutorial-1	14/06/2017	BMEL304	A
1	3	Feasibility, Preliminary, Design Alternatives, Final Design Selection, Preliminary And Final Plans & Drawings.	16/06/2017	BMEL304	A
1	4	Failure criterion and manufacturing considerations in design, basis of good design, failure of machine Parts.	19/06/2017	BMEL304	A
1	5	Power point presentation on various stages of Design	20/06/2017	BMEL304	A
1	2	Tutorial-2	21/06/2017	BMEL304	A
1	6	Deformations, Wear, Corrosion, Manufacturing Methods, Machining Tolerance, Surface Finish, Cost, Design consideration in Casting and Forging.	23/06/2017	BMEL304	A
1	7	Mechanical properties, applications and designations as per ISI & their equivalence with other standards of engineering materials.	26/06/2017	BMEL304	A
1	8	Power point presentation on Mechanical Properties of Materials	27/06/2017	BMEL304	A
2	3	Tutorial-3	28/06/2017	BMEL304	A
1	9	Selection of Materials, Temperature effects on properties of materials such as cast iron, plain carbon steel, alloy steels, aluminum & copper alloys, cast steel, plastics, polymers & composites & their applications.	03/07/2017	BMEL304	A
1	10	Power point presentation on Selection of Materials	04/07/2017	BMEL304	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Design-I

Faculty : Dr. V N Bhaiwar

Unit	Topic Code	Topic Covered	Date	Course	Section
2	4	Tutorial-4	05/07/2017	BMEL304	A
2	11	Unit-2 Design of cotter and knuckle joint, shrink and press fit joints.	07/07/2017	BMEL304	A
2	12	Riveted joint for structural works (Uniform strength joint) & eccentric loaded riveted joint.	10/07/2017	BMEL304	A
2	13	NPTEL lectures on design of Riveted Joints	11/07/2017	BMEL304	A
3	5	Tutorial-5	12/07/2017	BMEL304	A
2	14	Welded Joint: Design of single transverse, double transverse, parallel fillet, combination fillet butt joint, eccentrically loaded welded joint.	14/07/2017	BMEL304	A
3	6	Tutorial-6	19/07/2017	BMEL304	A
2	15	NPTEL lectures on design of Welded joints.	21/07/2017	BMEL304	A
2	16	Bolted Joint: Design of bolted fasteners, bolts of uniform strength, bolted joints under eccentric loading. Design of lever: hand lever, foot lever and bell crank lever.	24/07/2017	BMEL304	A
3	17	Unit-3 Design of Power Screw.	25/07/2017	BMEL304	A
4	7	Tutorial-7	26/07/2017	BMEL304	A
3	18	NPTEL Lecture on design procedure of screw jack.	28/07/2017	BMEL304	A
3	19	Derivation of expression for deflection and shear stress in helical spring. Design of helical spring.	31/07/2017	BMEL304	A
3	20	NPTEL Lecture on design of helical compression spring.	01/08/2017	BMEL304	A
4	8	Tutorial-8	02/08/2017	BMEL304	A
3	21	Design of Leaf Spring.	04/08/2017	BMEL304	A
3	22	Demonstration of Suspension System in YAMAHA and Automobile Lab.	07/08/2017	BMEL304	A
4	23	Unit-4 Kinematics of friction drives such as brakes.	08/08/2017	BMEL304	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Design-I

Faculty : Dr. V N Bhaiwar

Unit	Topic Code	Topic Covered	Date	Course	Section
5	9	Tutorial-9	09/08/2017	BMEL304	A
4	24	Design of friction clutch: single plate & Multiplate	11/08/2017	BMEL304	A
4	25	Design of cone clutch.	14/08/2017	BMEL304	A
5	10	Tutorial-10	16/08/2017	BMEL304	A
4	26	Design of centrifugal clutch.	21/08/2017	BMEL304	A
4	27	Demonstration of clutches in YAMAHA and Automobile Lab.	22/08/2017	BMEL304	A
6	11	Tutorial-11	23/08/2017	BMEL304	A
4	28	Design of band brake.	28/08/2017	BMEL304	A
4	29	Design of internal expanding brake.	29/08/2017	BMEL304	A
6	12	Tutorial-12	30/08/2017	BMEL304	A
4	30	Video/Animation on Principle of operation of air brake system.	01/09/2017	BMEL304	A
4	31	Video/Animation on Anti-lock Braking System	04/09/2017	BMEL304	A
4	32	Video/Animation on Principle of operation of Hydraulic brake system	05/09/2017	BMEL304	A
6	13	Tutorial-13	06/09/2017	BMEL304	A
4	33	Demonstration of Brakes in YAMAHA and Automobile Lab.	08/09/2017	BMEL304	A
5	34	Unit-5: Classification of thin and thick cylindrical pressure vessel & stresses. ASME code of pressure vessel.	11/09/2017	BMEL304	A
5	35	NPTEL Lecture on Pressure Vessel	12/09/2017	BMEL304	A
5	36	Design of pressure vessel when it is subjected to internal pressure & ASME code of piping when it is subjected to internal pressure.	15/09/2017	BMEL304	A
5	37	Expression for circumferential and longitudinal stresses	18/09/2017	BMEL304	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Design-I

Faculty : Dr. V N Bhiswar

Unit	Topic Code	Topic Covered	Date	Course	Section
5	38	Design of pressure vessel, heads and cover Plate.	19/09/2017	BMEL304	A
6	14	Tutorial-14	20/09/2017	BMEL304	A
6	39	Unit-6 Design of transmission shafts on the basis of strength, rigidity, and critical speed.	22/09/2017	BMEL304	A
6	40	Numerical on the Design of Shaft	25/09/2017	BMEL304	A
6	41	NPTEL Lecture on design of Shaft	26/09/2017	BMEL304	A
6	15	Tutorial-15	27/09/2017	BMEL304	A
6	42	Advance Topic : Optimization in Design	03/10/2017	BMEL304	A
6	16	Tutorial-16	04/10/2017	BMEL304	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : Mr. Ashish Suresh Rao Raut

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Introduction to subjects & PO CO	12/06/2017	BMEL305	A
1	2	Significance of measurement	13/06/2017	BMEL305	A
1	3	Application of measuring instruments, Types of measuring instruments	14/06/2017	BMEL305	A
1	4	General configuration and functional elements of measuring instruments	15/06/2017	BMEL305	A
1	5	Flip lecture / Video on basic concept of Generalized Measurement system & its configuration.	19/06/2017	BMEL305	A
1	6	Types of inputs, Various methods of correction	20/06/2017	BMEL305	A
1	7	Interfering and modifying inputs	21/06/2017	BMEL305	A
2	8	Static characteristics	22/06/2017	BMEL305	A
2	9	Different types of errors	27/06/2017	BMEL305	A
2	10	Combination of component errors in overall systems	28/06/2017	BMEL305	A
2	11	Dynamic characteristics	29/06/2017	BMEL305	A
2	12	General mathematical model of zero order, first order and second order instruments	03/07/2017	BMEL305	A
2	13	Response of first order instruments	04/07/2017	BMEL305	A
2	14	Response of second order instruments	05/07/2017	BMEL305	A
2	15	Inputs step, ramp, impulse and frequency	06/07/2017	BMEL305	A
3	16	Types of strain gauges, strain gauge circuits	10/07/2017	BMEL305	A
3	17	Calibration, Temperature compensation	11/07/2017	BMEL305	A
3	18	Use of strain gauges on rotating shafts	12/07/2017	BMEL305	A
3	19	Selection and installation of strain gauges	13/07/2017	BMEL305	A
3	20	Video on operation of digital strain gauge.	19/07/2017	BMEL305	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : Mr. Ashish Suresh Rao Raut

Unit	Topic Code	Topic Covered	Date	Course	Section
3	21	Basic methods of pressure measurement, dead weight gauges and manometers	20/07/2017	BMEL305	A
3	22	Elastic transducers and force balance transducers	24/07/2017	BMEL305	A
3	23	Strain gauge pressure cell, High pressure measurement Bridgeman type	25/07/2017	BMEL305	A
3	24	Low pressure Measurement - McLeod, Krudsen,	26/07/2017	BMEL305	A
3	25	Low pressure Measurement - ionization, Thermal conductivity gauges	27/07/2017	BMEL305	A
3	26	Flip lecture / Video on working of various digital pressure gauges.	31/07/2017	BMEL305	A
4	27	Force measurement using transducer (pneumatic and hydraulic load cells)	01/08/2017	BMEL305	A
4	28	Force measurement using transducer (strain gauge load cells, piezoelectric load cells)	02/08/2017	BMEL305	A
4	29	Torque measurement on rotating shaft, electrical type dynamometer	03/08/2017	BMEL305	A
4	30	Measurements of displacement, velocity strain gauges, Measurements of accelerate strain gauges	08/08/2017	BMEL305	A
4	31	Hands on practice on force measurement.	09/08/2017	BMEL305	A
4	32	LVDT, capacitive transducer	10/08/2017	BMEL305	A
4	33	photoelectric & Inductive transducers, encoder	14/08/2017	BMEL305	A
4	34	Animated Video on working of digital motion measurement instruments.	16/08/2017	BMEL305	A
4	35	Construction- Venturi, orifice	17/08/2017	BMEL305	A
4	36	Dall tube, rotameter, Positive displacement flow meters, Turbine meter, electro-magnetic flow meter	21/08/2017	BMEL305	A
4	37	Pressure probes- Pitot static tube, Pressure probes-yaw tube anemometer	22/08/2017	BMEL305	A
4	38	Flip lecture / Video on actual working of digital flow measurement devices.	23/08/2017	BMEL305	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : Mr. Ashish Suresh Rao Raut

Unit	Topic Code	Topic Covered	Date	Course	Section
5	39	Measurement of temperature using Liquid in glass thermometer	24/08/2017	BMEL305	A
5	40	Pressure thermometers, Bimetallic thermometers	28/08/2017	BMEL305	A
5	41	Thermocouples, resistance thermometers, thermistors	30/08/2017	BMEL305	A
5	42	Video on actual working of digital temperature measurement	31/08/2017	BMEL305	A
5	43	Video on actual working of digital temperature measurement in industry (high temp mmt).	04/09/2017	BMEL305	A
5	44	Radiation and optical pyrometer	05/09/2017	BMEL305	A
5	45	Various mechanical type tachometers, Electrical type tachometers, stroboscope	06/09/2017	BMEL305	A
6	46	Hands on practices on assembly & details speed measurement devices used in industry.	07/09/2017	BMEL305	A
6	47	liquid level Measurements, Vibration Measurement, Humidity Measurement	11/09/2017	BMEL305	A
6	48	Video on actual working of advanced vibration measurement.	12/09/2017	BMEL305	A
6	49	Video on actual working of advancement in humidity measurement	18/09/2017	BMEL305	A
6	50	Video on actual working of advanced device used for liquid level measurement (Case Study).	20/09/2017	BMEL305	A
6	51	Flip lecture on electronics devices used in measurement.	21/09/2017	BMEL305	A
6	52	Demonstration on UG and PG projects for measurement	25/09/2017	BMEL305	A
6	53	Case study on various measuring devices in real life.	26/09/2017	BMEL305	A
6	54	Calibration, Temperature compensation	27/09/2017	BMEL305	A
6	55	Revision	03/10/2017	BMEL305	A
6	56	Revision	04/10/2017	BMEL305	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : Mr. Ashish Suresh Rao Raut

Unit	Topic Code	Topic Covered	Date	Course	Section
6	57	Revision	05/10/2017	BMEL305	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Manufacturing Process II

Faculty : Shyamkumar D Chavhan

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Vision, Mission of College and Department, Program Educational Objectives, Program Objective, Course objective and Outcomes	13/06/2017	BMEL306	A
1	2	UNIT I Introduction to Casting Process, Pattern making process & its types	15/06/2017	BMEL306	A
1	3	Video on operation of Multi piece pattern.	16/06/2017	BMEL306	A
1	4	materials used for patterns , pattern making allowances	20/06/2017	BMEL306	A
1	5	colour codes used in Core making: - Types, core material and its properties	22/06/2017	BMEL306	A
1	6	molding sand and its composition, molding sand properties	23/06/2017	BMEL306	A
1	7	Actual showing of different types of sand used in molding.	27/06/2017	BMEL306	A
1	8	Types of sand mould	30/06/2017	BMEL306	A
2	9	UNIT II Gating design - elements of gating systems	04/07/2017	BMEL306	A
2	10	pouring time, riser design	06/07/2017	BMEL306	A
2	11	Melting furnaces - Types, Electric furnace, Induction furnace	07/07/2017	BMEL306	A
2	12	Video on operation of Cupola Furnace	11/07/2017	BMEL306	A
2	13	Foundry mechanism : Special casting processes such as investment Casting . Video on operation of Investment casting	13/07/2017	BMEL306	A
2	14	Video on operation of blast Furnace	14/07/2017	BMEL306	A
2	15	Centrifugal Casting, Shell Molding , Video on operation of centrifugal casting.	20/07/2017	BMEL306	A
2	16	Co Molding, Slush Casting,	21/07/2017	BMEL306	A
2	17	Die Casting	25/07/2017	BMEL306	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Manufacturing Process II

Faculty : Shyamkumar D Chavhan

Unit	Topic Code	Topic Covered	Date	Course	Section
3	18	UNIT III Introduction to Forming processes Advantages and drawbacks of Forming processes	27/07/2017	BMEL306	A
3	19	Forging Video on forging operations	28/07/2017	BMEL306	A
3	20	Rolling,	01/08/2017	BMEL306	A
3	21	Extrusion,	03/08/2017	BMEL306	A
3	22	Video on operation of wire drawing	04/08/2017	BMEL306	A
4	23	UNIT IV Introduction to Powder Metallurgy	08/08/2017	BMEL306	A
4	24	Powder manufacture and Conditioning	10/08/2017	BMEL306	A
4	25	Production of Sintered Structural components	11/08/2017	BMEL306	A
4	26	Self lubricating bearing. Cemented Carbides, Ceramics, Sintered Carbide cutting tools	15/08/2017	BMEL306	A
4	43	Introduction and types of composites	17/08/2017	BMEL306	A
4	27	Composite Materials : Classification	22/08/2017	BMEL306	A
4	28	Different types of composite materials and its applications. Video on operation of Sintering	24/08/2017	BMEL306	A
5	29	UNIT V Introduction to Joining processes	29/08/2017	BMEL306	A
5	30	Soldering, Brazing Processes.	31/08/2017	BMEL306	A
5	31	Video on operation of brazing	01/09/2017	BMEL306	A
5	32	Types of Welding. Arc Welding and Gas Welding Processes	05/09/2017	BMEL306	A
5	33	Defects and Inspection of Welding Joints , Showing of different welding defect welded part	07/09/2017	BMEL306	A
5	34	Video on operation of underwater welding	08/09/2017	BMEL306	A
5	35	Weldability of Metals , Welding equipments of Fixtures	12/09/2017	BMEL306	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Manufacturing Process II

Faculty : Shyamkumar D Chavhan

Unit	Topic Code	Topic Covered	Date	Course	Section
6	36	UNIT VI Introduction Processing of Plastic, Thermoplastic, Thermosetting plasticss	15/09/2017	BMEL306	A
6	37	General properties and applications of Thermosetting and Thermo Plastics	19/09/2017	BMEL306	A
6	38	General Plastic Processes: Extrusion	21/09/2017	BMEL306	A
6	39	Video on operation of Calendaring	22/09/2017	BMEL306	A
6	40	Injection Moulding, compression Moulding, Video on operation of Injection molding	26/09/2017	BMEL306	A
6	41	Transfer Moulding Blow Moulding, Embossing	03/10/2017	BMEL306	A
6	42	Advance topic	05/10/2017	BMEL306	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Energy Conversion I

Faculty : Dr. Rupesh Suresh Rao Shelke

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Unit-I: Steam Generators: Introduction, Scheme, syllabus, course objective, course outcome, Introduction, Importance and Scope of Subject, Prerequisites for learning Subject	12/06/2017	BMEL210	A
	2	Principle of steam generation,	14/06/2017	BMEL210	A
	1	Tutorial 1	15/06/2017	BMEL210	A
	3	Classification of steam generators	15/06/2017	BMEL210	A
	4	Fire tube	16/06/2017	BMEL210	A
	5	Water tube steam generators,	19/06/2017	BMEL210	A
	6	High pressure steam generators, Boiler mountings ,Boiler accessories	21/06/2017	BMEL210	A
	1	Tutorial 2	22/06/2017	BMEL210	A
	7	Basic concept of thermal power plant	22/06/2017	BMEL210	A
	8	Operation of thermal power plant	23/06/2017	BMEL210	A
	9	Working of thermal power plant	28/06/2017	BMEL210	A
	1	Tutorial 3	29/06/2017	BMEL210	A
2	10	Unit-II: Chimney Draught: Drought and its classification,	29/06/2017	BMEL210	A
2	11	Chimney height, Chimney diameter,	30/06/2017	BMEL210	A
2	12	Efficiency condition for maximum discharge,	03/07/2017	BMEL210	A
2	13	Performance of steam generators.	05/07/2017	BMEL210	A
1	1	Tutorial 4	06/07/2017	BMEL210	A
2	14	Evaporation capacity., Equivalent evaporation boiler efficiency.	06/07/2017	BMEL210	A
2	15	Actual working of water tube boilers.	07/07/2017	BMEL210	A
2	16	Actual working of fire tube boilers.	10/07/2017	BMEL210	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Energy Conversion I

Faculty : Dr. Rupesh Suresh Rao Shelke

Unit	Topic Code	Topic Covered	Date	Course	Section
2	17	Unit-III: Fluidized bed boilers:- bubbling fluidized bed boilers.	12/07/2017	BMEL210	A
1	1	Tutorial 5	13/07/2017	BMEL210	A
2	18	Circulating fluidized bed boilers (elementary treatment expected),	13/07/2017	BMEL210	A
3	19	Fuels for steam generators	14/07/2017	BMEL210	A
3	20	gradation and analysis of coal, coal handling system,	19/07/2017	BMEL210	A
1	1	Tutorial 6	20/07/2017	BMEL210	A
3	21	ash collection and handling system	20/07/2017	BMEL210	A
3	22	Flue gas analysis Feed water supply systems.	21/07/2017	BMEL210	A
3	23	Animation Working of low pressure boilers.	24/07/2017	BMEL210	A
3	24	Video Working of high pressure boilers.	26/07/2017	BMEL210	A
1	1	Tutorial 7	27/07/2017	BMEL210	A
3	25	Simulation Working of advanced cooling tower.	27/07/2017	BMEL210	A
3	26	Unit-IV: Steam nozzles:- adiabatic expansion in nozzles,	28/07/2017	BMEL210	A
3	27	maximum discharge	31/07/2017	BMEL210	A
4	28	critical pressure ratio and effects of friction,	02/08/2017	BMEL210	A
1	1	Tutorial 8	03/08/2017	BMEL210	A
4	29	calculation of throat and exit areas, supersaturated flow, Wilson line,	03/08/2017	BMEL210	A
4	30	steam turbines principles of working of steam turbine	04/08/2017	BMEL210	A
4	31	classification of steam turbines,	09/08/2017	BMEL210	A
1	1	Tutorial 9	10/08/2017	BMEL210	A



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Course : Energy Conversion I

Faculty : Dr. Rupesh Suresh Rao Shelke

Unit	Topic Code	Topic Covered	Date	Course	Section
4	32	Comparison of impulse and reaction turbines compounding of steam turbine.	10/08/2017	BMEL210	A
4	33	NPTEL video on actual working of backpressure turbines.	11/08/2017	BMEL210	A
4	34	NPTEL video on actual working of condensate extraction turbines.	14/08/2017	BMEL210	A
4	35	Youtube video on actual working of advanced steam condensers	16/08/2017	BMEL210	A
1	1	Tutorial 10	17/08/2017	BMEL210	A
4	36	Unit-V: Energy losses in steam turbines: flow of steam through turbine blades	17/08/2017	BMEL210	A
5	37	Ideal and actual reheat factors, ,	21/08/2017	BMEL210	A
5	38	velocity diagrams, graphical and analytical methods work done, Thrust and power,	23/08/2017	BMEL210	A
1	1	Tutorial 11	24/08/2017	BMEL210	A
5	39	Dimensions and proportioning of the blades,	24/08/2017	BMEL210	A
5	40	steam turbine efficiencies, condition for maximum efficiencies, reheat and regenerative cycles, governing of steam turbines	28/08/2017	BMEL210	A
5	41	NPTEL video on actual working of condensate extraction turbines.	30/08/2017	BMEL210	A
1	1	Tutorial 12	31/08/2017	BMEL210	A
5	42	NPTEL video on actual working of advanced steam condensers.	31/08/2017	BMEL210	A
5	43	Unit-VI: Steam condensers and cooling tower: types of condensers,	04/09/2017	BMEL210	A
1	1	Tutorial 13	06/09/2017	BMEL210	A
5	44	classification of condensers, Design calculations for surface condensers,	06/09/2017	BMEL210	A
5	45	Dalton's law of pressures sources of air leakages and air removal,	07/09/2017	BMEL210	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Energy Conversion I

Faculty : Dr. Rupesh Suresh Rao Shelke

Unit	Topic Code	Topic Covered	Date	Course	Section
6	46	Air ejectors cooling towers, Wet cooling, dry cooling towers cooling ponds.	08/09/2017	BMEL210	A
6	47	Advanced topic- Supercritical power generation	11/09/2017	BMEL210	A
6	48	Explanation on trigeneration technology	15/09/2017	BMEL210	A
6	49	Demonstration on UG and PG projects.	18/09/2017	BMEL210	A
6	50	Study of critical and supercritical thermal power plants.	20/09/2017	BMEL210	A
1	1	Tutorial 14	21/09/2017	BMEL210	A
6	51	Extra classes	21/09/2017	BMEL210	A
6	52	Revision	22/09/2017	BMEL210	A
6	53	Revision	25/09/2017	BMEL210	A
6	54	Revision	27/09/2017	BMEL210	A
6	55	Revision	04/10/2017	BMEL210	A
1	1	Tutorial 15	05/10/2017	BMEL210	A
6	56	Revision	05/10/2017	BMEL210	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Manufacturing Process II

Faculty : Shyamkumar D Chavhan

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Vision, Mission of College and Department, Program Educational Objectives, Program Objective, Course objective and Outcomes	13/06/2017	BMEL306	A
1	2	UNIT I Introduction to Casting Process, Pattern making process & its types	15/06/2017	BMEL306	A
1	3	Video on operation of Multi piece pattern.	16/06/2017	BMEL306	A
1	4	materials used for patterns , pattern making allowances	20/06/2017	BMEL306	A
1	5	colour codes used in Core making: - Types, core material and its properties	22/06/2017	BMEL306	A
1	6	molding sand and its composition, molding sand properties	23/06/2017	BMEL306	A
1	7	Actual showing of different types of sand used in molding.	27/06/2017	BMEL306	A
1	8	Types of sand mould	30/06/2017	BMEL306	A
2	9	UNIT II Gating design - elements of gating systems	04/07/2017	BMEL306	A
2	10	pouring time, riser design	06/07/2017	BMEL306	A
2	11	Melting furnaces - Types, Electric furnace, Induction furnace	07/07/2017	BMEL306	A
2	12	Video on operation of Cupola Furnace	11/07/2017	BMEL306	A
2	13	Foundry mechanism : Special casting processes such as investment Casting . Video on operation of Investment casting	13/07/2017	BMEL306	A
2	14	Video on operation of blast Furnace	14/07/2017	BMEL306	A
2	15	Centrifugal Casting, Shell Molding , Video on operation of centrifugal casting.	20/07/2017	BMEL306	A
2	16	Co Molding, Slush Casting,	21/07/2017	BMEL306	A
2	17	Die Casting	25/07/2017	BMEL306	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Manufacturing Process II

Faculty : Shyamkumar D Chavhan

Unit	Topic Code	Topic Covered	Date	Course	Section
3	18	UNIT III Introduction to Forming processes Advantages and drawbacks of Forming processes	27/07/2017	BMEL306	A
3	19	Forging Video on forging operations	28/07/2017	BMEL306	A
3	20	Rolling,	01/08/2017	BMEL306	A
3	21	Extrusion,	03/08/2017	BMEL306	A
3	22	Video on operation of wire drawing	04/08/2017	BMEL306	A
4	23	UNIT IV Introduction to Powder Metallurgy	08/08/2017	BMEL306	A
4	24	Powder manufacture and Conditioning	10/08/2017	BMEL306	A
4	25	Production of Sintered Structural components	11/08/2017	BMEL306	A
4	26	Self lubricating bearing. Cemented Carbides, Ceramics, Sintered Carbide cutting tools	15/08/2017	BMEL306	A
4	43	Introduction and types of composites	17/08/2017	BMEL306	A
4	27	Composite Materials : Classification	22/08/2017	BMEL306	A
4	28	Different types of composite materials and its applications. Video on operation of Sintering	24/08/2017	BMEL306	A
5	29	UNIT V Introduction to Joining processes	29/08/2017	BMEL306	A
5	30	Soldering, Brazing Processes.	31/08/2017	BMEL306	A
5	31	Video on operation of brazing	01/09/2017	BMEL306	A
5	32	Types of Welding. Arc Welding and Gas Welding Processes	05/09/2017	BMEL306	A
5	33	Defects and Inspection of Welding Joints , Showing of different welding defect welded part	07/09/2017	BMEL306	A
5	34	Video on operation of underwater welding	08/09/2017	BMEL306	A
5	35	Weldability of Metals , Welding equipments of Fixtures	12/09/2017	BMEL306	A



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Course : Manufacturing Process II

Faculty : Shyamkumar D Chavhan

Unit	Topic Code	Topic Covered	Date	Course	Section
6	36	UNIT VI Introduction Processing of Plastic, Thermoplastic, Thermosetting plasticss	15/09/2017	BMEL306	A
6	37	General properties and applications of Thermosetting and Thermo Plastics	19/09/2017	BMEL306	A
6	38	General Plastic Processes: Extrusion	21/09/2017	BMEL306	A
6	39	Video on operation of Calendaring	22/09/2017	BMEL306	A
6	40	Injection Moulding, compression Moulding, Video on operation of Injection molding	26/09/2017	BMEL306	A
6	41	Transfer Moulding Blow Moulding, Embossing	03/10/2017	BMEL306	A
6	42	Advance topic	05/10/2017	BMEL306	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : S.B.Soni

Unit	Topic Code	Topic Covered	Date	Course	Section
	1	Unit 1 Introduction to Matlab	13/06/2017	BMEL209	B
	2	Matlab Environment	15/06/2017	BMEL209	B
	3	Command window management	16/06/2017	BMEL209	B
	4	Executing Expression from Matlab command	20/06/2017	BMEL209	B
	5	Executing Expression from Matlab command	22/06/2017	BMEL209	B
	6	Basic Matlab Syntax	23/06/2017	BMEL209	B
	7	Matlab Function	27/06/2017	BMEL209	B
	8	Creation of .m file	29/06/2017	BMEL209	B
2	9	Unit 2 Matrices and vectors	30/06/2017	BMEL209	B
2	10	Matrix and linear algebra review,	04/07/2017	BMEL209	B
2	11	Matrix and linear algebra review	06/07/2017	BMEL209	B
2	12	Vectors and matrices in MATLAB	07/07/2017	BMEL209	B
2	13	Vectors and matrices in MATLAB	11/07/2017	BMEL209	B
2	15	Matrix operations and functions in MATLAB	14/07/2017	BMEL209	B
3	17	Strings and Annotated Output	20/07/2017	BMEL209	B
3	18	Input/Output Data Files	21/07/2017	BMEL209	B
3	19	Cell Arrays	25/07/2017	BMEL209	B
3	20	Input Microsoft Excel Files	27/07/2017	BMEL209	B
3	21	Logical Operator (If, Switch, for loop, while loop statement),	28/07/2017	BMEL209	B
3	22	Logical Operator (If, Switch, for loop, while loop statement),	01/08/2017	BMEL209	B
3	23	Matlab Functions	03/08/2017	BMEL209	B
3	24	Use of Matlab Functions as per application	04/08/2017	BMEL209	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : S.B.Soni

Unit	Topic Code	Topic Covered	Date	Course	Section
4	25	Unit 4 2D/ 3D Graphics Introduction	08/08/2017	BMEL209	B
4	26	Graphics Management	10/08/2017	BMEL209	B
4	27	Basic 2D Plotting Commands	11/08/2017	BMEL209	B
4	28	Special Purpose Graphs, Reading graphs	17/08/2017	BMEL209	B
4	29	Displaying and Manipulating Digital Images	18/08/2017	BMEL209	B
4	30	Graph Annotation and Enhancement	22/08/2017	BMEL209	B
4	31	Lines in 3D	24/08/2017	BMEL209	B
4	32	3D Surfaces	25/08/2017	BMEL209	B
4	33	Unit 5 Engineering Statistics using Matlab introduction	29/08/2017	BMEL209	B
5	34	Descriptive Statistical Quantities,	31/08/2017	BMEL209	B
5	35	Probability Distributions,	01/09/2017	BMEL209	B
5	36	Discrete Distributions,	05/09/2017	BMEL209	B
5	37	Continuous Distributions,	07/09/2017	BMEL209	B
5	38	Linear Regression,	08/09/2017	BMEL209	B
5	39	Multiple Linear Regression	12/09/2017	BMEL209	B
5	40	Design of Experiments	14/09/2017	BMEL209	B
5	41	Analysis of Variance	15/09/2017	BMEL209	B
5	42	Unit 6 Fluid Mechanics in Matlab: Introduction	19/09/2017	BMEL209	B
6	43	Hydrostatics,	21/09/2017	BMEL209	B
6	44	Pressure Distribution in the Standard Atmosphere,	22/09/2017	BMEL209	B
6	45	Force on a Planar Gate,	26/09/2017	BMEL209	B
6	46	Internal Viscous Flow,	28/09/2017	BMEL209	B



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Course : Computer Application in Mech. Engg.

Faculty : S.B.Soni

Unit	Topic Code	Topic Covered	Date	Course	Section
6	47	Laminar Flow in a Horizontal Pipe with Circular Cross Section	29/09/2017	BMEL209	B
6	48	Downward Turbulent Flow in a Vertical Pipe,	03/10/2017	BMEL209	B
6	49	Three Connected Reservoirs, External flow	05/10/2017	BMEL209	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : Akshay S Wagh

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Introduction to subjects & PO CO	12/06/2017	BMEL305	B
1	2	Significance of measurement	13/06/2017	BMEL305	B
1	3	Application of measuring instruments, Types of measuring instruments	14/06/2017	BMEL305	B
1	4	General configuration and functional elements of measuring instruments	16/06/2017	BMEL305	B
1	5	Flip lecture / Video on basic concept of Generalised Measurement system & its configuration.	19/06/2017	BMEL305	B
1	6	Types of inputs, Various methods of correction	20/06/2017	BMEL305	B
1	7	Interfering and modifying inputs	21/06/2017	BMEL305	B
2	8	Static characteristics	23/06/2017	BMEL305	B
2	9	Different types of errors	27/06/2017	BMEL305	B
2	10	Combination of component errors in overall systems	28/06/2017	BMEL305	B
2	11	Dynamic characteristics	30/06/2017	BMEL305	B
2	12	General mathematical model of zero order, first order and second order instruments	03/07/2017	BMEL305	B
2	13	Response of first order instruments	04/07/2017	BMEL305	B
2	14	Response of second order instruments	05/07/2017	BMEL305	B
2	15	Inputs step, ramp, impulse and frequency	07/07/2017	BMEL305	B
3	16	Types of strain gauges, strain gauge circuits	10/07/2017	BMEL305	B
3	17	Calibration, Temperature compensation	11/07/2017	BMEL305	B
3	18	Use of strain gauges on rotating shafts	12/07/2017	BMEL305	B
3	19	Selection and installation of strain gauges	14/07/2017	BMEL305	B
3	22	Elastic transducers and force balance transducers	19/07/2017	BMEL305	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : Akshay S Wagh

Unit	Topic Code	Topic Covered	Date	Course	Section
3	23	Strain gauge pressure cell, High pressure measurement Bridgeman type	21/07/2017	BMEL305	B
3	24	Low pressure Measurement - McLeod, Krudsen,	24/07/2017	BMEL305	B
3	25	Low pressure Measurement - ionization, Thermal conductivity gauges	25/07/2017	BMEL305	B
3	26	Flip lecture / Video on working of various digital pressure gauges.	26/07/2017	BMEL305	B
4	27	Force measurement using transducer (pneumatic and hydraulic load cells)	28/07/2017	BMEL305	B
4	28	Force measurement using transducer (strain gauge load cells, piezoelectric load cells)	31/07/2017	BMEL305	B
4	29	Torque measurement on rotating shaft, electrical type dynamometer	01/08/2017	BMEL305	B
4	30	Measurements of displacement, velocity strain gauges, Measurements of accelerate strain gauges	02/08/2017	BMEL305	B
4	31	Hands on practice on force measurement.	04/08/2017	BMEL305	B
4	32	LVDT, capacitive transducer	08/08/2017	BMEL305	B
4	33	photoelectric & Inductive transducers, encoder	09/08/2017	BMEL305	B
4	34	Animated Video on working of digital motion measurement instruments.	11/08/2017	BMEL305	B
4	35	Construction- Venturi, orifice	14/08/2017	BMEL305	B
4	36	Dall tube, rotameter, Positive displacement flow meters, Turbine meter, electro-magnetic flow meter	16/08/2017	BMEL305	B
4	37	Pressure probes- Pitot static tube, Pressure probes-yaw tube anemometer	18/08/2017	BMEL305	B
4	38	Flip lecture / Video on actual working of digital flow measurement devices.	21/08/2017	BMEL305	B
5	39	Measurement of temperature using Liquid in glass thermometer	22/08/2017	BMEL305	B
5	40	Pressure thermometers, Bimetallic thermometers	23/08/2017	BMEL305	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : Akshay S Wagh

Unit	Topic Code	Topic Covered	Date	Course	Section
5	41	Thermocouples, resistance thermometers, thermistors	28/08/2017	BMEL305	B
5	42	Video on actual working of digital temperature measurement	30/08/2017	BMEL305	B
5	43	Video on actual working of digital temperature measurement in industry (high temp mmt).	01/09/2017	BMEL305	B
5	44	Radiation and optical pyrometer	04/09/2017	BMEL305	B
5	45	Various mechanical type tachometers, Electrical type tachometers, stroboscope	05/09/2017	BMEL305	B
6	46	Hands on practices on assembly & details speed measurement devices used in industry.	06/09/2017	BMEL305	B
6	47	liquid level Measurements, Vibration Measurement, Humidity Measurement	08/09/2017	BMEL305	B
6	48	Video on actual working of advanced vibration measurement.	11/09/2017	BMEL305	B
6	49	Video on actual working of advancement in humidity measurement	12/09/2017	BMEL305	B
6	50	Video on actual working of advanced device used for liquid level measurement (Case Study).	13/09/2017	BMEL305	B
6	51	Flip lecture on electronics devices used in measurement.	15/09/2017	BMEL305	B
6	52	Demonstration on UG and PG projects for measurement	18/09/2017	BMEL305	B
6	53	Demonstration on UG and PG projects for measurement	20/09/2017	BMEL305	B
6	54	Case study on various measuring devices in real life.	22/09/2017	BMEL305	B
6	55	Calibration, Temperature compensation	25/09/2017	BMEL305	B
6	56	Revision	26/09/2017	BMEL305	B
0	0	Revision	27/09/2017	BMEL305	B
0	0	Revision	29/09/2017	BMEL305	B



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CRPF Gate No.3, Hingna Road, Digdoh Hills, Nagpur. Maharashtra-440016 (India)

Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : Akshay S Wagh

Unit	Topic Code	Topic Covered	Date	Course	Section
0	0	Revision	03/10/2017	BMEL305	B
0	0	Revision	04/10/2017	BMEL305	B



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Akshay S Wagh

Unit	Topic Code	Topic Covered	Date	Course	Section
	1	Unit 1 Introduction to Matlab	13/06/2017	BMEL209	C
	2	Matlab Environment	15/06/2017	BMEL209	C
	3	Command window management	16/06/2017	BMEL209	C
	4	Executing Expression from Matlab command	20/06/2017	BMEL209	C
	5	Executing Expression from Matlab command	22/06/2017	BMEL209	C
	6	Basic Matlab Syntax	23/06/2017	BMEL209	C
	7	Matlab Function	27/06/2017	BMEL209	C
	7	Matlab Function	27/06/2017	BMEL209	C
2	9	Unit 2 Matrices and vectors	30/06/2017	BMEL209	C
2	10	Matrix and linear algebra review,	04/07/2017	BMEL209	C
2	11	Matrix and linear algebra review	06/07/2017	BMEL209	C
2	12	Vectors and matrices in MATLAB	07/07/2017	BMEL209	C
2	13	Vectors and matrices in MATLAB	11/07/2017	BMEL209	C
2	14	Matrix operations	13/07/2017	BMEL209	C
2	15	Matrix operations and functions in MATLAB	14/07/2017	BMEL209	C
3	17	Unit 3 Data Input / Output	20/07/2017	BMEL209	C
3	18	Strings and Annotated Output	21/07/2017	BMEL209	C
3	19	Input/Output Data Files	25/07/2017	BMEL209	C
3	20	Cell Arrays	27/07/2017	BMEL209	C
3	21	Input Microsoft Excel Files	28/07/2017	BMEL209	C
3	22	Logical Operator (If, Switch, for loop, while loop statement),	01/08/2017	BMEL209	C
3	23	Logical Operator (If, Switch, for loop, while loop statement),	03/08/2017	BMEL209	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Akshay S Wagh

Unit	Topic Code	Topic Covered	Date	Course	Section
3	24	Logical Operator (If, Switch, for loop, while loop statement),	04/08/2017	BMEL209	C
3	25	Matlab Functions	08/08/2017	BMEL209	C
3	26	Use of Matlab Functions as per application	10/08/2017	BMEL209	C
4	27	Unit 4 2D/ 3D Graphics Introduction	11/08/2017	BMEL209	C
4	28	Graphics Management	17/08/2017	BMEL209	C
4	29	Basic 2D Plotting Commands	18/08/2017	BMEL209	C
4	30	Special Purpose Graphs	22/08/2017	BMEL209	C
4	31	Special Purpose Graphs	24/08/2017	BMEL209	C
4	32	Reading graphs	31/08/2017	BMEL209	C
4	33	Displaying and Manipulating Digital Images	01/09/2017	BMEL209	C
4	34	Graph Annotation and Enhancement	05/09/2017	BMEL209	C
4	35	Lines in 3D	07/09/2017	BMEL209	C
4	36	3D Surfaces	08/09/2017	BMEL209	C
5	37	Unit 5 Engineering Statistics using Matlab introduction	12/09/2017	BMEL209	C
5	38	Descriptive Statistical Quantities,	12/09/2017	BMEL209	C
5	39	Probability Distributions,	14/09/2017	BMEL209	C
5	40	Discrete Distributions,	14/09/2017	BMEL209	C
5	41	Continuous Distributions,	15/09/2017	BMEL209	C
5	42	Linear Regression,	15/09/2017	BMEL209	C
5	43	Multiple Linear Regression	21/09/2017	BMEL209	C
5	44	Design of Experiments	22/09/2017	BMEL209	C
5	45	Design of Experiments	22/09/2017	BMEL209	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Akshay S Wagh

Unit	Topic Code	Topic Covered	Date	Course	Section
5	46	Analysis of Variance	26/09/2017	BMEL209	C
6	47	Unit 6 Fluid Mechanics in Matlab: Introduction	28/09/2017	BMEL209	C
6	48	Hydrostatics,	28/09/2017	BMEL209	C
6	49	Pressure Distribution in the Standard Atmosphere,	29/09/2017	BMEL209	C
6	50	Force on a Planar Gate,	29/09/2017	BMEL209	C
6	51	Internal Viscous Flow,	03/10/2017	BMEL209	C
6	52	Laminar Flow in a Horizontal Pipe with Circular Cross Section	03/10/2017	BMEL209	C
6	53	Downward Turbulent Flow in a Vertical Pipe,	05/10/2017	BMEL209	C
6	54	Three Connected Reservoirs, External flow	05/10/2017	BMEL209	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Manish R. Nikhade

Unit	Topic Code	Topic Covered	Date	Course	Section
	1	Unit 1 Introduction to Matlab ; Matlab Environment	13/06/2017	BMEL209	C
	2	Command window management	15/06/2017	BMEL209	C
	3	Executing Expression from Matlab command	16/06/2017	BMEL209	C
	4	Basic Matlab Syntax	20/06/2017	BMEL209	C
	5	Matlab Function	22/06/2017	BMEL209	C
	6	Creation of .m file	23/06/2017	BMEL209	C
2	7	Unit 2 Matrices and vectors; Matrix and linear algebra review,	27/06/2017	BMEL209	C
2	8	Vectors and matrices in MATLAB	29/06/2017	BMEL209	C
2	9	Matrix operations	30/06/2017	BMEL209	C
2	10	Matrix operations and functions in MATLAB	04/07/2017	BMEL209	C
3	11	Unit 3 Data Input / Output ; Strings and Annotated Output	06/07/2017	BMEL209	C
3	12	Input/Output Data Files	07/07/2017	BMEL209	C
3	13	Cell Arrays	11/07/2017	BMEL209	C
3	15	Logical Operator (If, Switch, for loop, while loop statement),	14/07/2017	BMEL209	C
3	16	Logical Operator (If, Switch, for loop, while loop statement),	18/07/2017	BMEL209	C
3	17	Matlab Functions , Use of Matlab Functions as per application	20/07/2017	BMEL209	C
3	18	Matlab Functions , Use of Matlab Functions as per application	21/07/2017	BMEL209	C
4	19	Unit 4 2D/ 3D Graphics Introduction	25/07/2017	BMEL209	C
4	20	Graphics Management	27/07/2017	BMEL209	C
4	21	Basic 2D Plotting Commands	28/07/2017	BMEL209	C
4	22	Special Purpose Graphs	01/08/2017	BMEL209	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Manish R. Nikhade

Unit	Topic Code	Topic Covered	Date	Course	Section
4	23	Reading graphs	03/08/2017	BMEL209	C
4	24	Displaying and Manipulating Digital Images	04/08/2017	BMEL209	C
4	25	Graph Annotation and Enhancement	08/08/2017	BMEL209	C
4	26	Lines in 3D	10/08/2017	BMEL209	C
4	27	3D Surfaces	11/08/2017	BMEL209	C
5	28	Unit 5 Engineering Statistics using Matlab introduction	22/08/2017	BMEL209	C
5	29	Descriptive Statistical Quantities,	24/08/2017	BMEL209	C
5	30	Probability Distributions,	25/08/2017	BMEL209	C
5	14	probability distribution	29/08/2017	BMEL209	C
5	44	Discrete Distributions,	31/08/2017	BMEL209	C
5	32	Continuous Distributions,	01/09/2017	BMEL209	C
5	33	Linear Regression,	05/09/2017	BMEL209	C
5	34	Multiple Linear Regression	07/09/2017	BMEL209	C
5	45	Multiple Linear Regression	08/09/2017	BMEL209	C
5	35	Design of Experiments, Analysis of Variance	12/09/2017	BMEL209	C
6	36	Unit 6 Fluid Mechanics in Matlab: Introduction	14/09/2017	BMEL209	C
6	37	Hydrostatics,	15/09/2017	BMEL209	C
6	46	Hydrostatics,	19/09/2017	BMEL209	C
6	38	Pressure Distribution in the Standard Atmosphere,	21/09/2017	BMEL209	C
6	39	Force on a Planar Gate,	22/09/2017	BMEL209	C
6	40	Internal Viscous Flow,	26/09/2017	BMEL209	C
6	41	Laminar Flow in a Horizontal Pipe with Circular Cross Section	28/09/2017	BMEL209	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Manish R. Nikhade

Unit	Topic Code	Topic Covered	Date	Course	Section
6	42	Downward Turbulent Flow in a Vertical Pipe,	29/09/2017	BMEL209	C
6	43	Three Connected Reservoirs, External flow	03/10/2017	BMEL209	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Akshay S Wagh

Unit	Topic Code	Topic Covered	Date	Course	Section
	1	Unit 1 Introduction to Matlab	13/06/2017	BMEL209	C
	2	Matlab Environment	15/06/2017	BMEL209	C
	3	Command window management	16/06/2017	BMEL209	C
	4	Executing Expression from Matlab command	20/06/2017	BMEL209	C
	5	Executing Expression from Matlab command	22/06/2017	BMEL209	C
	6	Basic Matlab Syntax	23/06/2017	BMEL209	C
	7	Matlab Function	27/06/2017	BMEL209	C
	7	Matlab Function	27/06/2017	BMEL209	C
2	9	Unit 2 Matrices and vectors	30/06/2017	BMEL209	C
2	10	Matrix and linear algebra review,	04/07/2017	BMEL209	C
2	11	Matrix and linear algebra review	06/07/2017	BMEL209	C
2	12	Vectors and matrices in MATLAB	07/07/2017	BMEL209	C
2	13	Vectors and matrices in MATLAB	11/07/2017	BMEL209	C
2	14	Matrix operations	13/07/2017	BMEL209	C
2	15	Matrix operations and functions in MATLAB	14/07/2017	BMEL209	C
3	17	Unit 3 Data Input / Output	20/07/2017	BMEL209	C
3	18	Strings and Annotated Output	21/07/2017	BMEL209	C
3	19	Input/Output Data Files	25/07/2017	BMEL209	C
3	20	Cell Arrays	27/07/2017	BMEL209	C
3	21	Input Microsoft Excel Files	28/07/2017	BMEL209	C
3	22	Logical Operator (If, Switch, for loop, while loop statement),	01/08/2017	BMEL209	C
3	23	Logical Operator (If, Switch, for loop, while loop statement),	03/08/2017	BMEL209	C



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Faculty : Akshay S Wagh

Unit	Topic Code	Topic Covered	Date	Course	Section
3	24	Logical Operator (If, Switch, for loop, while loop statement),	04/08/2017	BMEL209	C
3	25	Matlab Functions	08/08/2017	BMEL209	C
3	26	Use of Matlab Functions as per application	10/08/2017	BMEL209	C
4	27	Unit 4 2D/ 3D Graphics Introduction	11/08/2017	BMEL209	C
4	28	Graphics Management	17/08/2017	BMEL209	C
4	29	Basic 2D Plotting Commands	18/08/2017	BMEL209	C
4	30	Special Purpose Graphs	22/08/2017	BMEL209	C
4	31	Special Purpose Graphs	24/08/2017	BMEL209	C
4	32	Reading graphs	31/08/2017	BMEL209	C
4	33	Displaying and Manipulating Digital Images	01/09/2017	BMEL209	C
4	34	Graph Annotation and Enhancement	05/09/2017	BMEL209	C
4	35	Lines in 3D	07/09/2017	BMEL209	C
4	36	3D Surfaces	08/09/2017	BMEL209	C
5	37	Unit 5 Engineering Statistics using Matlab introduction	12/09/2017	BMEL209	C
5	38	Descriptive Statistical Quantities,	12/09/2017	BMEL209	C
5	39	Probability Distributions,	14/09/2017	BMEL209	C
5	40	Discrete Distributions,	14/09/2017	BMEL209	C
5	41	Continuous Distributions,	15/09/2017	BMEL209	C
5	42	Linear Regression,	15/09/2017	BMEL209	C
5	43	Multiple Linear Regression	21/09/2017	BMEL209	C
5	44	Design of Experiments	22/09/2017	BMEL209	C
5	45	Design of Experiments	22/09/2017	BMEL209	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Computer Application in Mech. Engg.

Faculty : Akshay S Wagh

Unit	Topic Code	Topic Covered	Date	Course	Section
5	46	Analysis of Variance	26/09/2017	BMEL209	C
6	47	Unit 6 Fluid Mechanics in Matlab: Introduction	28/09/2017	BMEL209	C
6	48	Hydrostatics,	28/09/2017	BMEL209	C
6	49	Pressure Distribution in the Standard Atmosphere,	29/09/2017	BMEL209	C
6	50	Force on a Planar Gate,	29/09/2017	BMEL209	C
6	51	Internal Viscous Flow,	03/10/2017	BMEL209	C
6	52	Laminar Flow in a Horizontal Pipe with Circular Cross Section	03/10/2017	BMEL209	C
6	53	Downward Turbulent Flow in a Vertical Pipe,	05/10/2017	BMEL209	C
6	54	Three Connected Reservoirs, External flow	05/10/2017	BMEL209	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Energy Conversion I

Faculty : Vednath P Kalbande

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Unit-I: Steam Generators: Introduction, Scheme, syllabus, course objective, course outcome, Introduction, Importance and Scope of Subject, Prerequisites for learning Subject	13/06/2017	BMEL210	C
1	2	Principle of steam generation,	14/06/2017	BMEL210	C
1	1	Numerical 1	15/06/2017	BMEL210	C
1	3	Classification of steam generators	16/06/2017	BMEL210	C
1	4	Fire tube	16/06/2017	BMEL210	C
1	5	Water tube steam generators,	20/06/2017	BMEL210	C
1	6	High pressure steam generators, Boiler mountings ,Boiler accessories	21/06/2017	BMEL210	C
2	2	Numerical 2	22/06/2017	BMEL210	C
1	7	Basic concept of thermal power plant	23/06/2017	BMEL210	C
1	8	Operation of thermal power plant	23/06/2017	BMEL210	C
1	9	Working of thermal power plant	27/06/2017	BMEL210	C
2	10	Unit-II: Chimney Draught: Drought and its classification,	28/06/2017	BMEL210	C
3	3	Tutorial 3	30/06/2017	BMEL210	C
2	11	Chimney height, Chimney diameter,	04/07/2017	BMEL210	C
2	12	Efficiency condition for maximum discharge,	05/07/2017	BMEL210	C
2	13	Boiler Draught	06/07/2017	BMEL210	C
4	4	Numerical 4	07/07/2017	BMEL210	C
2	14	Evaporation Capacity of boiler	07/07/2017	BMEL210	C
2	15	Actual working of water tube boilers.	11/07/2017	BMEL210	C
2	16	Actual working of fire tube boilers.	12/07/2017	BMEL210	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Energy Conversion I

Faculty : Vednath P Kalbande

Unit	Topic Code	Topic Covered	Date	Course	Section
3	17	Unit-III Fluidised bed	13/07/2017	BMEL210	C
2	5	Tutorial 5	14/07/2017	BMEL210	C
3	18	Circulating fluidized bed boilers (elementary treatment expected),	14/07/2017	BMEL210	C
3	19	Fuels for steam generators	19/07/2017	BMEL210	C
3	20	gradation and analysis of coal, coal handling system,	20/07/2017	BMEL210	C
3	6	Tutorial 6	21/07/2017	BMEL210	C
3	21	ash collection and handling system	21/07/2017	BMEL210	C
3	22	Flue gas analysis Feed water supply systems.	25/07/2017	BMEL210	C
3	23	Animation Working of low pressure boilers.	26/07/2017	BMEL210	C
3	7	Numerical 7	27/07/2017	BMEL210	C
3	24	Video Working of high pressure boilers.	28/07/2017	BMEL210	C
3	25	Simulation Working of advanced cooling tower.	28/07/2017	BMEL210	C
4	26	Unit-IV: Steam nozzles:- adiabatic expansion in nozzles,	01/08/2017	BMEL210	C
4	27	maximum discharge	02/08/2017	BMEL210	C
4	8	Numerical 8	03/08/2017	BMEL210	C
4	28	critical pressure ratio and effects of friction,	04/08/2017	BMEL210	C
4	29	calculation of throat and exit areas, supersaturated flow, Wilson line,	04/08/2017	BMEL210	C
4	30	steam turbines principles of working of steam turbine	08/08/2017	BMEL210	C
4	31	classification of steam turbines,	09/08/2017	BMEL210	C
4	9	Numerical 9	10/08/2017	BMEL210	C
4	32	Comparison of impulse and reaction turbines compounding of steam turbine.	11/08/2017	BMEL210	C



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Course : Energy Conversion I

Faculty : Vednath P Kalbande

Unit	Topic Code	Topic Covered	Date	Course	Section
4	33	NPTEL video on actual working of backpressure turbines.	11/08/2017	BMEL210	C
4	34	NPTEL video on actual working of condensate extraction turbines.	16/08/2017	BMEL210	C
4	10	Numerical 10	17/08/2017	BMEL210	C
4	35	Youtube video on actual working of advanced steam condensers	22/08/2017	BMEL210	C
5	36	Unit-V: Energy losses in steam turbines: flow of steam through turbine blades	23/08/2017	BMEL210	C
5	11	Numerical 11	24/08/2017	BMEL210	C
5	37	Ideal and actual reheat factors, ,	25/08/2017	BMEL210	C
5	38	velocity diagrams, graphical and analytical methods work done, Thrust and power,	25/08/2017	BMEL210	C
5	39	Dimensions and proportioning of the blades,	29/08/2017	BMEL210	C
5	40	steam turbine efficiencies, condition for maximum efficiencies, reheat and regenerative cycles, governing of steam turbines	30/08/2017	BMEL210	C
5	12	Numerical 12	31/08/2017	BMEL210	C
5	41	NPTEL video on actual working of condensate extraction turbines.	01/09/2017	BMEL210	C
5	42	NPTEL video on actual working of advanced steam condensers.	01/09/2017	BMEL210	C
6	43	Unit-VI: Steam condensers and cooling tower: types of condensers,	05/09/2017	BMEL210	C
6	44	classification of condensers, Design calculations for surface condensers,	06/09/2017	BMEL210	C
5	13	Numerical 13	07/09/2017	BMEL210	C
6	45	Dalton's law of pressures sources of air leakages and air removal,	08/09/2017	BMEL210	C
6	46	Air ejectors cooling towers, Wet cooling, dry cooling towers cooling ponds.	08/09/2017	BMEL210	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Energy Conversion I

Faculty : Vednath P Kalbande

Unit	Topic Code	Topic Covered	Date	Course	Section
6	47	Advanced topic- Supercritical power generation	12/09/2017	BMEL210	C
6	14	Numerical 14	14/09/2017	BMEL210	C
6	48	Explanation on trigeneration technology	15/09/2017	BMEL210	C
6	49	Demonstration on UG and PG projects.	15/09/2017	BMEL210	C
6	50	Study of critical and supercritical thermal power plants.	19/09/2017	BMEL210	C
6	51	Revision	20/09/2017	BMEL210	C
6	15	Numerical 15	21/09/2017	BMEL210	C
6	52	Revision	22/09/2017	BMEL210	C
6	53	Revision	22/09/2017	BMEL210	C
6	54	Revision	26/09/2017	BMEL210	C
6	55	Revision	27/09/2017	BMEL210	C
6	16	Numerical 16	28/09/2017	BMEL210	C
6	56	Revision	29/09/2017	BMEL210	C
6	57	Revision	29/09/2017	BMEL210	C
6	58	Revision	03/10/2017	BMEL210	C
6	59	Revision	04/10/2017	BMEL210	C
6	17	Numerical 17	05/10/2017	BMEL210	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : S.K.Bhagat

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Vision, Mission of College and Department, Program Educational Objectives, Program Objective, Course objective and Outcomes	12/06/2017	BMEL305	C
	2	Introduction to subjects & PO CO	13/06/2017	BMEL305	C
	3	Significance of measurement	14/06/2017	BMEL305	C
	4	Application of measuring instruments, Types of measuring instruments	16/06/2017	BMEL305	C
	5	General configuration and functional elements of measuring instruments	19/06/2017	BMEL305	C
	6	Flip lecture / Video on basic concept of Generalised Measurement system & its configuration.	20/06/2017	BMEL305	C
	7	Types of inputs, Various methods of correction	21/06/2017	BMEL305	C
	8	Interfering and modifying inputs	23/06/2017	BMEL305	C
	62	revision	26/06/2017	BMEL305	C
2	9	Static characteristics	27/06/2017	BMEL305	C
2	10	Different types of errors	28/06/2017	BMEL305	C
2	11	Combination of component errors in overall systems	30/06/2017	BMEL305	C
2	12	Dynamic characteristics	03/07/2017	BMEL305	C
2	13	General mathematical model of zero order, first order and second order instruments	04/07/2017	BMEL305	C
2	14	Response of first order instruments	05/07/2017	BMEL305	C
2	15	Response of second order instruments	07/07/2017	BMEL305	C
2	16	Inputs step, ramp, impulse and frequency	10/07/2017	BMEL305	C
3	17	Types of strain gauges, strain gauge circuits	11/07/2017	BMEL305	C
3	18	Calibration, Temperature compensation	12/07/2017	BMEL305	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : S.K.Bhagat

Unit	Topic Code	Topic Covered	Date	Course	Section
3	19	Use of strain gauges on rotating shafts	14/07/2017	BMEL305	C
3	22	Basic methods of pressure measurement,dead weight gauges and manometers	19/07/2017	BMEL305	C
3	23	Elastic transducers and force balance transducers	21/07/2017	BMEL305	C
3	24	Strain gauge pressure cell,High pressure measurement Bridgeman type	24/07/2017	BMEL305	C
3	25	Low pressure Measurement - Mcleod, Krudsen,	25/07/2017	BMEL305	C
3	26	Low pressure Measurement -ionization, Thermal conductivity gauges	26/07/2017	BMEL305	C
3	27	Flip lecture / Video on working of various digital pressure gauges.	28/07/2017	BMEL305	C
4	28	Force measurement using transducer (pneumatic and hydraulic load cells)	31/07/2017	BMEL305	C
4	29	Force measurement using transducer (strain gauge load cells, piezoelectric load cells)	01/08/2017	BMEL305	C
4	30	Torque measurement on rotating shaft, electrical type dynamometer	02/08/2017	BMEL305	C
4	31	Measurements of displacement, velocity strain gauges, Measurements of accelerate strain gauges	04/08/2017	BMEL305	C
4	32	Hands on practice on force measurement.	08/08/2017	BMEL305	C
4	33	LVDT, capacitive transducer	09/08/2017	BMEL305	C
4	34	photoelectric & Inductive transducers, encoder	11/08/2017	BMEL305	C
4	35	Animated Video on working of digital motion measurement instruments.	14/08/2017	BMEL305	C
4	36	Construction- Venturi, orifice	16/08/2017	BMEL305	C
4	37	Dall tube, rotameter, Positive displacement flow meters, Turbine meter, electro-magnetic flow meter	18/08/2017	BMEL305	C
4	38	Pressure probes- Pitot static tube,Pressure probes-yaw tube anemometer	21/08/2017	BMEL305	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : S.K.Bhagat

Unit	Topic Code	Topic Covered	Date	Course	Section
4	39	Flip lecture / Video on actual working of digital flow measurement devices.	22/08/2017	BMEL305	C
5	40	Measurement of temperature using Liquid in glass thermometer	23/08/2017	BMEL305	C
5	41	Pressure thermometers, Bimetallic thermometers	25/08/2017	BMEL305	C
5	42	Thermocouples, resistance thermometers, thermistors	28/08/2017	BMEL305	C
5	43	Video on actual working of digital temperature measurement	30/08/2017	BMEL305	C
5	44	Video on actual working of digital temperature measurement in industry (high temp mmt).	01/09/2017	BMEL305	C
5	45	Radiation and optical pyrometer	04/09/2017	BMEL305	C
5	46	Various mechanical type tachometers, Electrical type tachometers, stroboscope	05/09/2017	BMEL305	C
6	47	Hands on practices on assembly & details speed measurement devices used in industry.	06/09/2017	BMEL305	C
6	48	liquid level Measurements, Vibration Measurement, Humidity Measurement	08/09/2017	BMEL305	C
6	49	Video on actual working of advanced vibration measurement.	11/09/2017	BMEL305	C
6	50	Video on actual working of advancement in humidity measurement	12/09/2017	BMEL305	C
6	51	Video on actual working of advanced device used for liquid level measurement (Case Study).	13/09/2017	BMEL305	C
6	52	Flip lecture on electronics devices used in measurement.	15/09/2017	BMEL305	C
6	53	Demonstration on UG and PG projects for measurement	18/09/2017	BMEL305	C
6	54	Case study on various measuring devices in real life.	20/09/2017	BMEL305	C
6	55	Calibration, Temperature compensation	22/09/2017	BMEL305	C
6	56	Revision	25/09/2017	BMEL305	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Mechanical Measurement

Faculty : S.K.Bhagat

Unit	Topic Code	Topic Covered	Date	Course	Section
6	57	Revision	26/09/2017	BMEL305	C
6	58	Revision	27/09/2017	BMEL305	C
6	59	thermistors, radiation and optical pyrometer	29/09/2017	BMEL305	C
6	60	revision	03/10/2017	BMEL305	C
6	61	test	04/10/2017	BMEL305	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Manufacturing Process II

Faculty : pooja pise

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Vision, Mission of College and Department, Program Educational Objectives, Program Objective, Course objective and Outcomes	14/06/2017	BMEL306	C
1	2	UNIT I Introduction to Casting Process, Pattern making process & its types	15/06/2017	BMEL306	C
1	3	Video on operation of Multi piece pattern.	16/06/2017	BMEL306	C
1	4	materials used for patterns , pattern making allowances	21/06/2017	BMEL306	C
1	5	colour codes used in Core making: - Types, core material and its properties	22/06/2017	BMEL306	C
1	6	molding sand and its composition, molding sand properties	23/06/2017	BMEL306	C
1	7	Actual showing of different types of sand used in molding.	28/06/2017	BMEL306	C
1	8	Types of sand mould	30/06/2017	BMEL306	C
2	10	UNIT II Gating design - elements of gating systems	05/07/2017	BMEL306	C
2	11	pouring time, riser design	06/07/2017	BMEL306	C
2	12	Melting furnaces - Types, Electric furnace, Induction furnace	07/07/2017	BMEL306	C
2	13	Video on operation of Cupola Furnace	12/07/2017	BMEL306	C
2	14	"Foundry mechanism : Special casting processes such as investment Casting Video on operation of Investment casting"	13/07/2017	BMEL306	C
2	15	Video on operation of blast Furnace	14/07/2017	BMEL306	C
2	16	Centrifugal Casting, Shell Molding , Video on operation of centrifugal casting.	19/07/2017	BMEL306	C
2	17	CO2 Molding, Slush Casting,	20/07/2017	BMEL306	C
2	18	Die Casting	21/07/2017	BMEL306	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Manufacturing Process II

Faculty : pooja pise

Unit	Topic Code	Topic Covered	Date	Course	Section
3	19	UNIT III Introduction to Forming processes	26/07/2017	BMEL306	C
3	20	Advantages and drawbacks of Forming processes	27/07/2017	BMEL306	C
3	21	Forging	28/07/2017	BMEL306	C
3	22	Video on forging operations	02/08/2017	BMEL306	C
3	23	Rolling,	03/08/2017	BMEL306	C
3	24	Extrusion	04/08/2017	BMEL306	C
3	25	Video on operation of wire drawing	09/08/2017	BMEL306	C
4	26	UNIT IV Introduction to Powder Metallurgy	10/08/2017	BMEL306	C
4	27	Powder manufacture and Conditioning	11/08/2017	BMEL306	C
4	28	Production of Sintered Structural components	16/08/2017	BMEL306	C
4	29	Self lubricating bearing. Cemented Carbides, Ceramics, Sintered Carbide cutting tools	17/08/2017	BMEL306	C
4	30	Composite Materials : Classification	23/08/2017	BMEL306	C
4	31	Different types of composite materials and its applications. Video on operation of Sintering	24/08/2017	BMEL306	C
5	32	UNIT V Introduction to Joining processes	30/08/2017	BMEL306	C
5	33	Soldering, Brazing Processes.	31/08/2017	BMEL306	C
5	34	Video on operation of brazing	06/09/2017	BMEL306	C
5	35	Types of Welding. Arc Welding and Gas Welding Processes	07/09/2017	BMEL306	C
5	36	Defects and Inspection of Welding Joints , Showing of different welding defect welded part	08/09/2017	BMEL306	C
5	37	Video on operation of underwater welding	15/09/2017	BMEL306	C
5	38	Weldability of Metals , Welding equipments of Fixtures	20/09/2017	BMEL306	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Manufacturing Process II

Faculty : pooja pise

Unit	Topic Code	Topic Covered	Date	Course	Section
6	39	UNIT VI Introduction Processing of Plastics	21/09/2017	BMEL306	C
6	40	Thermoplastic, Thermosetting plastics	22/09/2017	BMEL306	C
6	41	General properties and applications of Thermosetting and Thermo Plastics	27/09/2017	BMEL306	C
6	42	General Plastic Processes: Extrusion	28/09/2017	BMEL306	C
6	43	Video on operation of Calendaring	29/09/2017	BMEL306	C
6	44	"Injection Moulding, compression Moulding, Video on operation of Injection molding"	04/10/2017	BMEL306	C
6	45	Transfer Moulding Blow Moulding, Embossing	05/10/2017	BMEL306	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Design-I

Faculty : VISHAL N. KSHIRSAGAR

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Introduction: Course objectives, course outcomes, program outcomes, outcome based education, mapping of CO's with PO's, planning of CAE and TAE	12/06/2017	BMEL304	C
1	2	Definition of Design, Types of Design, Design Process, Need, Defining the Problem.	12/06/2017	BMEL304	C
1	3	Feasibility, Preliminary, Design Alternatives, Final Design Selection, Preliminary And Final Plans & Drawings.	14/06/2017	BMEL304	C
1	3	Feasibility, Preliminary, Design Alternatives, Final Design Selection, Preliminary And Final Plans & Drawings.	14/06/2017	BMEL304	C
1	1	Tutorial-1	15/06/2017	BMEL304	C
1	4	Failure criterion and manufacturing considerations in design, basis of good design, failure of machine Parts.	19/06/2017	BMEL304	C
1	5	Power point presentation on various stages of Design	19/06/2017	BMEL304	C
2	2	Tutorial-2	20/06/2017	BMEL304	C
1	6	Deformations, Wear, Corrosion, Manufacturing Methods, Machining Tolerance, Surface Finish, Cost, Design consideration in Casting and Forging.	21/06/2017	BMEL304	C
1	43	Temperature effects on properties of materials such as cast iron, plain carbon steel, alloy steels, aluminum & copper alloys	26/06/2017	BMEL304	C
1	44	Temperature effects on properties of material cast steel, plastics, polymers & composites & their applications.	26/06/2017	BMEL304	C
2	3	Tutorial-3	27/06/2017	BMEL304	C
1	7	Mechanical properties, applications and designations as per ISI & their equivalence with other standards of engineering materials.	28/06/2017	BMEL304	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Design-I

Faculty : VISHAL N. KSHIRSAGAR

Unit	Topic Code	Topic Covered	Date	Course	Section
1	8	Power point presentation on Mechanical Properties of Materials	03/07/2017	BMEL304	C
1	9	Selection of Materials, Temperature effects on properties of materials such as cast iron, plain carbon steel, alloy steels, aluminum & copper alloys, cast steel, plastics, polymers & composites & their applications.	03/07/2017	BMEL304	C
2	4	Tutorial-4	04/07/2017	BMEL304	C
1	10	Power point presentation on Selection of Materials	05/07/2017	BMEL304	C
2	11	Design of cotter and knuckle joint, shrink and press fit joints, Problem on Cotter and Knuckle joint	10/07/2017	BMEL304	C
2	12	Riveted joint for structural works (Uniform strength joint) & eccentric loaded riveted joint, Riveted Joint: Riveted joint for boiler	10/07/2017	BMEL304	C
2	5	Tutorial-5	11/07/2017	BMEL304	C
2	13	NPTEL lectures on design of Riveted Joints	12/07/2017	BMEL304	C
2	14	Welded Joint: Design of single transverse, double transverse	19/07/2017	BMEL304	C
2	15	parallel fillet, combination fillet butt joint, eccentrically loaded welded joint.	24/07/2017	BMEL304	C
2	15	parallel fillet, combination fillet butt joint, eccentrically loaded welded joint.	24/07/2017	BMEL304	C
2	16	Welded Joint: Parallel fillet, combination fillet butt joint, eccentrically loaded welded joint.	24/07/2017	BMEL304	C
2	17	NPTEL lectures on design of Welded joints.	26/07/2017	BMEL304	C
3	7	Tutorial-7	27/07/2017	BMEL304	C
2	18	Bolted Joint: Design of bolted fasteners, bolts of uniform strength, bolted joints under eccentric loading.	31/07/2017	BMEL304	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Design-I

Faculty : VISHAL N. KSHIRSAGAR

Unit	Topic Code	Topic Covered	Date	Course	Section
2	19	Bolts of uniform strength, bolted joints under eccentric loading, Problem on Bolted joint	31/07/2017	BMEL304	C
2	20	Design of lever: hand lever, foot lever and bell crank lever.	02/08/2017	BMEL304	C
3	8	Tutorial-8	03/08/2017	BMEL304	C
3	21	Design of Power Screw.	09/08/2017	BMEL304	C
4	9	Tutorial-9	10/08/2017	BMEL304	C
3	22	NPTEL Lecture on design procedure of screw jack.	14/08/2017	BMEL304	C
3	23	Derivation of expression for deflection and shear stress in helical spring, Design of helical spring.	14/08/2017	BMEL304	C
3	24	NPTEL Lecture on design of helical compression spring.	16/08/2017	BMEL304	C
4	10	Tutorial-10	17/08/2017	BMEL304	C
3	25	Design of Leaf Spring.	21/08/2017	BMEL304	C
3	26	Demonstration of Suspension System in YAMAHA and Automobile Lab.	21/08/2017	BMEL304	C
4	27	Kinematics of friction drives such as brakes.	23/08/2017	BMEL304	C
4	11	Tutorial-11	24/08/2017	BMEL304	C
4	28	Design of friction clutch: single plate, multiple plates.	28/08/2017	BMEL304	C
4	29	Design of cone clutch	28/08/2017	BMEL304	C
4	30	Design of centrifugal clutch.	30/08/2017	BMEL304	C
5	12	Tutorial-12	31/08/2017	BMEL304	C
4	31	Demonstration of Clutches in YAMAHA and Automobile Lab.	04/09/2017	BMEL304	C
4	32	Design of band brake, Design of internal expanding brake.	04/09/2017	BMEL304	C
4	33	Video/Animation on Principle of operation of air brake system.	06/09/2017	BMEL304	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Machine Design-I

Faculty : VISHAL N. KSHIRSAGAR

Unit	Topic Code	Topic Covered	Date	Course	Section
5	13	Tutorial-13	07/09/2017	BMEL304	C
4	34	Video/Animation on Anti-lock Braking System, Video/Animation on Principle of operation of Hydraulic brake system	11/09/2017	BMEL304	C
4	35	Demonstration of Brakes in YAMAHA and Automobile Lab.	11/09/2017	BMEL304	C
5	36	Classification of thin and thick cylindrical pressure vessel, Stresses in thin and thick cylindrical pressure vessels, ASME code of pressure vessel	18/09/2017	BMEL304	C
5	37	NPTEL Lecture on Pressure Vessel	18/09/2017	BMEL304	C
5	38	Design of pressure vessel when it is subjected to internal pressure & ASME code of piping when it is subjected to internal pressure, Expression for circumferential and longitudinal stresses	20/09/2017	BMEL304	C
5	14	Tutorial-14	21/09/2017	BMEL304	C
5	39	Design of pressure vessel, heads and cover Plate, Problem on Design of Pressure Vessel	25/09/2017	BMEL304	C
6	40	Design of transmission shafts on the basis of strength, rigidity, and critical speed, Numerical on the Design of Shaft	25/09/2017	BMEL304	C
6	41	NPTEL Lecture on Design of Shaft	27/09/2017	BMEL304	C
6	15	Tutorial-15	28/09/2017	BMEL304	C
6	42	Advance Topic : Optimization in Design	04/10/2017	BMEL304	C
6	16	Tutorial-16	05/10/2017	BMEL304	C



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Course wise Teaching Plan for Session : Winter 2017

Course : Product Design

Faculty : ABHIJEET A. RAUT

Unit	Topic Code	Topic Covered	Date	Course	Section
	1	Introduction to Product Design Subject, CO and PO, Overview	22/06/2017	BMEL406	A
	2	Introduction to Product life cycle	23/06/2017	BMEL406	A
	3	product life cycle	30/06/2017	BMEL406	A
	4	Design fundamentals, importance of product design	06/07/2017	BMEL406	A
	5	Types of design, product definition product specification	07/07/2017	BMEL406	A
	6	Phases of production development: conceptual, concept generation and evaluation methods	13/07/2017	BMEL406	A
2	7	Material selection, importance and classification of material, selection criteria	14/07/2017	BMEL406	A
2	8	Process selection - importance types of manufacturing processes and their classification	20/07/2017	BMEL406	A
2	9	Sources of information selection criteria material and process selection methods	21/07/2017	BMEL406	A
3	10	Aesthetics: Elements of design, principles of design	27/07/2017	BMEL406	A
3	11	Ergonomics: An overview, ergonomic issues in designing electronic products, design of controls	28/07/2017	BMEL406	A
3	12	Design of display. Ergonomics & Aesthetics consideration for development of control panel	03/08/2017	BMEL406	A
3	13	Introduction to Mechatronics, Expert System	04/08/2017	BMEL406	A
3	14	Mechatronics, Expert System	10/08/2017	BMEL406	A
4	15	Introduction to Automation, concept and scope of Computer integrated manufacturing	11/08/2017	BMEL406	A
4	16	Benchmarking, Types	17/08/2017	BMEL406	A
4	17	Design for manufacturing	24/08/2017	BMEL406	A
5	18	Concurrent engineering	31/08/2017	BMEL406	A



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Course wise Teaching Plan for Session : Winter 2017

Course : Product Design

Faculty : ABHIJEET A. RAUT

Unit	Topic Code	Topic Covered	Date	Course	Section
5	19	Methods of cost estimates	01/09/2017	BMEL406	A
5	20	Introduction to Rapid prototyping, Importance, types of prototypes, Principles and Advantages	07/09/2017	BMEL406	A
5	21	Different types of RP , Interdisciplinary Applications	08/09/2017	BMEL406	A
5	24	Advance Topic	11/09/2017	BMEL406	A
5	25	Advance Topic	12/09/2017	BMEL406	A
5	22	Accuracy and economic consideration of RP	21/09/2017	BMEL406	A
5	23	Case Studies on RP & Case Studies on Product design & Development	22/09/2017	BMEL406	A