Timetable (School-wise)
Winter Semester 2023

Sr. No.	School	Course	Credits	Prerequisites	Section	Instructor	Time and Day
1	AMSOM	COM100 Elements of Academic Reading and Writing	3		1	Urvashi Gopwani	08:00 am - 09:30 am Mon, Wed
2	AMSOM	COM100 Elements of Academic Reading and Writing	3		2	Urvashi Gopwani	08:00 am - 09:30 am Tue, Thu
3	AMSOM	COM100 Elements of Academic Reading and Writing	3		3	Ilisha Mehta	08:00 am - 09:30 am Mon, Fri
4	AMSOM	COM101 Effective Reading and Comprehension Skills	3	OR COM 100 Elements of Academic Reading and Writing	1	Preeti Maneck	08:00 am - 09:30 am Mon, Wed
5	AMSOM	COM101 Effective Reading and Comprehension Skills	3	OR COM 100 Elements of Academic Reading and Writing	2	Preeti Maneck	08:00 am - 09:30 am Tue, Thu
6	AMSOM	COM101 Effective Reading and Comprehension Skills	3	OR COM 100 Elements of Academic Reading and Writing	3	Sakshi Soni	08:00 am - 09:30 am Mon, Wed
7	AMSOM	COM101 Effective Reading and Comprehension Skills	3	OR COM 100 Elements of Academic Reading and Writing	4	Sakshi Soni	08:00 am - 09:30 am Tue, Thu
8	AMSOM	COM101 Effective Reading and Comprehension Skills	3	OR COM 100 Elements of Academic Reading and Writing	5	Gatha Joshipura	04:00 pm - 05:30 pm Mon, Fri
9	AMSOM	COM101 Effective Reading and Comprehension Skills	3	OR COM 100 Elements of Academic Reading and Writing	6	Sakshi Soni	04:00 pm - 05:30 pm Tue, Thu
10	AMSOM	COM101 Effective Reading and Comprehension Skills	3	OR COM 100 Elements of Academic Reading and Writing	7	Chirag Trivedi	04:00 pm - 05:30 pm Mon, Fri
11	AMSOM	COM102 Advanced Writing	3		1	Purabi Bhattacharya	08:00 am - 09:30 am Mon, Wed
12	AMSOM	COM102 Advanced Writing	3		2	Jalaj Singh	08:00 am - 09:30 am Tue, Thu
13	AMSOM	COM102 Advanced Writing	3		3	Jalaj Singh	08:00 am - 09:30 am Mon, Wed

14	AMSOM	COM102 Advanced Writing	3		4	Ilisha Mehta	08:00 am - 09:30 am Tue, Thu
15	AMSOM	COM102 Advanced Writing	3		5	Gatha Joshipura	08:00 am - 09:30 am Mon, Fri
16	AMSOM	COM102 Advanced Writing	3		6	Ananya Desai	04:00 pm - 05:30 pm Mon, Fri
17	AMSOM	COM102 Advanced Writing	3		7	Ananya Desai	04:00 pm - 05:30 pm Tue, Thu
18	AMSOM	COM102 Advanced Writing	3		8	Purabi Bhattacharya	04:00 pm - 05:30 pm Mon, Fri
19	AMSOM	COM102 Advanced Writing	3		9	Purabi Bhattacharya	04:00 pm - 05:30 pm Tue, Thu
20	AMSOM	COM114 Understanding Culture	3	None	1	Chirag Trivedi	05:30 pm - 07:00 pm Mon, Fri
21	AMSOM	COM212 Digital Humanities	3		1	Pritha Roy	04:00 pm - 05:30 pm Tue, Thu
22	AMSOM	COM502 Analytical Writing for Management Students	1.5	None	1	Sudhir Pandey	01:00 pm - 02:30 pm Tue
23	AMSOM	COM701 Research Writing	3	None	1	A. P. Ashwin Kumar	09:30 am - 11:00 am Tue, Thu
24	AMSOM	DES101 Fundamentals of Design	3	None	1	Umang Shah	07:00 pm - 08:30 pm Mon, Fri
25	AMSOM	DES101 Fundamentals of Design	3	None	2	Hemant Wala	05:30 pm - 07:00 pm Mon, Fri
26	AMSOM	DES102 Visual Communication and Graphic Design	3		1	Jalp Lakhia	08:00 am - 09:30 am Wed, Fri
27	AMSOM	DES102 Visual Communication and Graphic Design	3		2	Mona Prabhu	05:30 pm - 07:00 pm Tue, Thu
28	AMSOM	DES103 Biomimicry With Playfulness	3	None OR None	1	Lalon L	04:00 pm - 05:30 pm Fri, 05:30 pm - 07:00 pm Fri
29	AMSOM	DES201 Strategic Branding and Packaging Design	3	None OR None	1	Neha Singh	05:30 pm - 07:00 pm Tue, Thu, 07:00 pm - 08:30 pm Thu

30	AMSOM	DES202 Interaction Design and User Experience	3	OR None	1	Fenil Shah	04:00 pm - 05:30 pm Tue, Thu
31	AMSOM	DES203 Design Thinking and Problem Solving	3	OR None	1	Fenil Shah	02:30 pm - 04:00 pm Tue, Thu
32	AMSOM	DES232 Digital Experience Design	3	OR None	1	Bhumi Shah	04:00 pm - 05:30 pm Tue, Thu
33	AMSOM	ECO110 Macroeconomics	3		1	Sonal Yadav	08:00 am - 09:30 am Tue, Thu
34	AMSOM	ECO110 Macroeconomics	3		2	Amol Agrawal	09:30 am - 11:00 am Mon, Wed
35	AMSOM	ECO110 Macroeconomics	3		3	Amol Agrawal	11:00 am - 12:30 pm Tue, Thu
36	AMSOM	ECO110 Macroeconomics	3		4	Atman Shah	01:00 pm - 02:30 pm Mon, Wed
37	AMSOM	ECO110 Macroeconomics	3		5	Atman Shah	04:00 pm - 05:30 pm Tue, Thu
38	AMSOM	ECO204 Industrial Organisation	3	EPP212 Intermediate Macroeconomics OR EPP100 Microeconomics	1	Samarth Gupta	11:00 am - 12:30 pm Mon, Fri
39	AMSOM	ECO213 Macroeconomics and Monetary Policy	3	OR EPP110 Macroeconomics	1	Mita Suthar	09:30 am - 11:00 am Mon, Wed
40	AMSOM	ECO320 Time Series Econometrics	3		1	Gaurav Bhattacharya	09:30 am - 11:00 am Tue, Thu
41	AMSOM	ECO330 International Economics	3	EPP100 Microeconomics,	1	Mita Suthar	01:00 pm - 02:30 pm Mon, Wed
42	AMSOM	ECO340 Economics of Education, Health and Labour	3	EPP100 Microeconomics,	1	Sonal Yadav	02:30 pm - 04:00 pm Mon, Fri
43	AMSOM	ECO501 Intermediate Microeconomics	3		1	Abhinandan Sinha	02:30 pm - 04:00 pm Mon, Fri
44	AMSOM	ECO502 Game Theory and its Applications	3	EPP100 Microeconomics,EPP500 Microeconomics,EPP501 Intermediate Microeconomics	1	Pallavi Vyas	02:30 pm - 04:00 pm Tue, Thu

45	AMSOM	ECO504 Industrial Organisation	3	EPP501 Intermediate Microeconomics OR TOD533 Introduction to Business Analytics	1	Samarth Gupta	11:00 am - 12:30 pm Mon, Fri
46	AMSOM	ECO520 Econometrics	3		1	Gaurav Bhattacharya	01:00 pm - 02:30 pm Tue, Thu
47	AMSOM	ECO521 Time Series Econometrics	3	,TOD501 Introductory Statistics OR EPP520 Econometrics OR STA101 Statistics OR TOD501 Introductory Statistics	1	Gaurav Bhattacharya	09:30 am - 11:00 am Tue, Thu
48	AMSOM	ECO543 Development Economics	3	None	1	Jeemol Unni	04:00 pm - 05:30 pm Tue, Thu
49	AMSOM	ECO620 Empirical Research Methods in Economics	3	OR None	1	Ishita Tripathi	09:30 am - 11:00 am Mon, Wed
50	AMSOM	EFB101 Introduction to Entrepreneurship	1.5		1	Darshna Padia	04:00 pm - 05:30 pm Tue, 09:30 am - 11:00 am Sat, 11:00 am - 12:30 pm Sat
51	AMSOM	EFB101 Introduction to Entrepreneurship	1.5		2	Darshna Padia	04:00 pm - 05:30 pm Thu, 01:00 pm - 02:30 pm Sat, 02:30 pm - 04:00 pm Sat
52	AMSOM	EFB202 Establishing and Growing Ventures	3	EFB101 Introduction to Entrepreneurship	1	Adarsh Kalia	09:30 am - 11:00 am Wed, Fri
53	AMSOM	EFB203 Business Designing and Planning	3	EFB101 Introduction to Entrepreneurship	1	Mikita Puri	01:00 pm - 02:30 pm Mon, Wed
54	AMSOM	EFB502 Design Thinking [First Quarter]	1.5	None	1	Fenil Shah	08:00 am - 09:30 am Tue, Thu
55	AMSOM	EFB508 Intellectual Property Rights [First Quarter]	1.5		1	Krishna Mehta	01:00 pm - 02:30 pm Mon, Wed, 11:00 am - 12:30 pm Sat
56	AMSOM	EFB509 Idea to Business Plan	3	None	1	Kavita Saxena	11:00 am - 12:30 pm Tue, Thu

57	AMSOM	EFB602 New Venture Creation	1.5	EFB509 Idea to Business Plan OR EFB203 Business Plan	1	Adarsh Kalia	08:00 am - 09:30 am Wed, Fri
58	AMSOM	EFB608 Intellectual Property Management [Second Quarter]	1.5		1	Krishna Mehta	01:00 pm - 02:30 pm Mon, Wed
59	AMSOM	ENV333 CityLab	3	None OR None	1	Bhargav Adhvaryu Darshini Mahadevia	02:30 pm - 04:00 pm Mon, Fri
60	AMSOM	ENV555 Cities and Transport	3	None OR None	1	Bhargav Adhvaryu	02:30 pm - 04:00 pm Tue, Thu
61	AMSOM	ENV801 Energy-Environment Assessment Models and Applications	3	ENV601 Environment Sustainability & Climate Change	1	Minal Pathak	09:30 am - 11:00 am Mon, Wed
62	AMSOM	FAC104 Tally ERP 9.0	2	FAC114 Financial Accounting OR None	1	Rakesh Sharma	08:00 am - 09:30 am Mon, Fri
63	AMSOM	FAC114 Financial Accounting	3		1	Vaibhav Kadia	04:00 pm - 05:30 pm Mon, Fri
64	AMSOM	FAC121 Direct Taxes	3		1	Heli Shah	07:00 pm - 08:30 pm Tue, Thu
65	AMSOM	FAC121 Direct Taxes	3		2	Heli Shah	09:30 am - 11:00 am Tue, Thu
66	AMSOM	FAC121 Direct Taxes	3		3	Heli Shah	11:00 am - 12:30 pm Mon, Fri
67	AMSOM	FAC124 Fundamentals of GST [First Quarter]	1.5		1	Nimit Thaker	11:00 am - 12:30 pm Mon, Wed
68	AMSOM	FAC124 Fundamentals of GST [Second Quarter]	1.5		2	Nimit Thaker	08:00 am - 09:30 am Tue, Thu
69	AMSOM	FAC125 Business Taxation [Second Quarter]	1.5		1	Heli Shah	09:30 am - 11:00 am Mon, Fri
70	AMSOM	FAC133 Financial Management	3		1	Binny Rawat	01:00 pm - 02:30 pm Mon, Wed
71	AMSOM	FAC133 Financial Management	3		2	Binny Rawat	01:00 pm - 02:30 pm Tue, Thu
72	AMSOM	FAC213 Advanced Corporate Accounting	3		1	Mona Vora	09:30 am - 11:00 am Mon, Fri

73	AMSOM	FAC215 Cost & Management Accounting	3		1	Narendra Kushwaha	11:00 am - 12:30 pm Mon, Fri
74	AMSOM	FAC215 Cost & Management Accounting	3		2	Narendra Kushwaha	02:30 pm - 04:00 pm Tue, Thu
75	AMSOM	FAC216 Financial Statements and Analysis	3		1	Vibha Tripathi	11:00 am - 12:30 pm Mon, Wed
76	AMSOM	FAC216 Financial Statements and Analysis	3		2	Vibha Tripathi	09:30 am - 11:00 am Tue, Thu
77	AMSOM	FAC217 Performance Management	3		1	Poonam Dugar	11:00 am - 12:30 pm Tue, Thu
78	AMSOM	FAC223 Tax Procedure	3		1	Nimit Thaker	01:00 pm - 02:30 pm Wed, Fri
79	AMSOM	FAC241 Banking	3	OR FAC133 Financial Management	1	Hetal Jhaveri	01:00 pm - 02:30 pm Tue, Thu
80	AMSOM	FAC244 Financial Markets	3	OR FAC131 Financial Management - I	1	Saumil Shah	02:30 pm - 04:00 pm Tue, Thu
81	AMSOM	FAC244 Financial Markets	3	OR FAC131 Financial Management - I	2	Saumil Shah	01:00 pm - 02:30 pm Mon, Fri
82	AMSOM	FAC245 Financial Services	3		1	Saumil Shah	01:00 pm - 02:30 pm Tue, Thu
83	AMSOM	FAC331 Corporate Finance	3	OR FAC133 Financial Management	1	Hetal Jhaveri	09:30 am - 11:00 am Mon, Wed
84	AMSOM	FAC331 Corporate Finance	3	OR FAC133 Financial Management	2	Mona Vora	09:30 am - 11:00 am Tue, Thu
85	AMSOM	FAC332 Security Analysis and Portfolio Management	3		1	Ramizur Rahman	02:30 pm - 04:00 pm Mon, Fri
86	AMSOM	FAC332 Security Analysis and Portfolio Management	3		2	Ramizur Rahman	01:00 pm - 02:30 pm Mon, Fri
87	AMSOM	FAC335 Global Securities Market	3	FAC133 Financial Management	1	Sankarshan Basu	09:30 am - 11:00 am Mon, Wed
88	AMSOM	FAC533 Corporate Investments and Value Creation	3		1	Vinodh Madhavan	11:00 am - 12:30 pm Mon, Fri

89	AMSOM	FAC631 Derivatives and Risk Management	3	FAC131 Financial Management - I,FAC132 Financial Management - II,FAC133 Financial Management,	1	Vinodh Madhavan	09:30 am - 11:00 am Mon, Fri
90	AMSOM	FAC632 Corporate Restructuring Mergers and Acquisitions	3	OR FAC132 Financial Management - II	1	Kamal Ghosh Ray	11:00 am - 12:30 pm Tue, Thu
91	AMSOM	FAC635 Financial Modelling	3	FAC132 Financial Management - II,	1	Mayank Patel	08:00 am - 09:30 am Wed, Fri
92	AMSOM	FAC637 Business Valuation	3	,FAC532 Financial Management - I,FAC533 Financial Management - II	1	Kamal Ghosh Ray	02:30 pm - 04:00 pm Tue, Thu
93	AMSOM	FAC641 Financing for Startups	3	,FAC133 Financial Management OR FAC132 Financial Management - II OR FAC133 Financial Management	1	Hetal Jhaveri	11:00 am - 12:30 pm Mon, Wed
94	AMSOM	HRT212 Heritage: Concepts and Practices	3	None	1	Neel Chapagain	04:00 pm - 05:30 pm Tue, Thu
95	AMSOM	HRT512 Living Heritage Approach and Sustainable Development	1.5	None	1	Ioannis Poulios	02:30 pm - 04:00 pm Tue, Thu
96	AMSOM	HRT542 Heritage Laws and Governance	1.5	None	1	Darshini Mahadevia	11:00 am - 12:30 pm Mon, Wed
97	AMSOM	HRT561 Museums and Archives Management	3	None	1	Aditya Prakash Kanth	04:00 pm - 05:30 pm Tue, Thu, Fri
98	AMSOM	HRT571 Indigenous Knowledge Systems Management	1.5	HRTG511 Heritage and Conservation Discourses	1	Neel Chapagain	08:00 am - 09:30 am Sat
99	AMSOM	HRT612 Ethics and Professional Practices for Heritage Management	1.5	HRTG511 Heritage and Conservation Discourses	1	Neel Chapagain	09:30 am - 11:00 am Mon, Wed, Fri, 11:00 am - 12:30 pm Mon, Wed, Fri

100	AMSOM	HRT622 Urban Heritage Management	1.5	None	1	To Be Announced	01:00 pm - 02:30 pm Mon, Fri, 02:30 pm - 04:00 pm Mon, Fri
101	AMSOM	HRT623 Nature & Environment Conservation and Management	1.5	HRTG511 Heritage and Conservation Discourses	1	To Be Announced	01:00 pm - 02:30 pm Tue, Thu, 02:30 pm - 04:00 pm Tue, Thu
102	AMSOM	HRT632 Strategy for Management of Cultural Organisations in a Changing World	1.5	None	1	Ioannis Poulios	01:00 pm - 02:30 pm Mon, Fri
103	AMSOM	INS515 Perspectives on Retail Sector	1	None	1	To Be Announced	07:00 pm - 08:30 pm Sat
104	AMSOM	INS521 Perspective on Energy Sector	1	None OR None	1	To Be Announced	07:00 pm - 08:30 pm Sun
105	AMSOM	INT574 Venture Studio Fellowship	12	None	1	Tanvi Rangwala	04:00 pm - 05:30 pm Tue, Thu, 05:30 pm - 07:00 pm Tue, Thu
106	AMSOM	MAT142 Introductory Calculus	3	OR None	2	Dinesh Barot	04:00 pm - 05:30 pm Mon, Fri
107	AMSOM	MAT142 Introductory Calculus	3	OR None	3	Eshita Mazumdar	04:00 pm - 05:30 pm Tue, Thu
108	AMSOM	MGT112 Organisation Processes	3	MGT111 Identity and Behaviour	1	Kritika Manshani	02:30 pm - 04:00 pm Mon, Fri
109	AMSOM	MGT112 Organisation Processes	3	MGT111 Identity and Behaviour	2	Amrita Bihani	01:00 pm - 02:30 pm Tue, Thu
110	AMSOM	MGT121 Human Capital Management	3		1	Siddhartha Saxena	02:30 pm - 04:00 pm Mon, Fri
111	AMSOM	MGT136 Indian Legal System [First Quarter]	1.5		1	Krishna Mehta	11:00 am - 12:30 pm Mon, Wed, 08:00 am - 09:30 am Sat
112	AMSOM	MGT136 Indian Legal System [First Quarter]	1.5		2	Krishna Mehta	11:00 am - 12:30 pm Tue, Thu, 01:00 pm - 02:30 pm Sat, 02:30 pm - 04:00 pm Sat
113	AMSOM	MGT136 Indian Legal System [Second Quarter]	1.5		3	Krishna Mehta	08:00 am - 09:30 am Tue, Thu

114	AMSOM	MGT236 Corporate Social Responsibility	3		1	Nimit Thaker	05:30 pm - 07:00 pm Tue, Thu
115	AMSOM	MGT238 Constitution of India	3		1	Krishna Mehta	01:00 pm - 02:30 pm Tue, Thu
116	AMSOM	MGT311 The Six C's of Leadership	1.5		1	Rakesh Godhwani	09:30 am - 11:00 am Sat, Sun
117	AMSOM	MGT341 Competitive Strategy [First Quarter]	1.5		1	Kunal Mankodi	09:30 am - 11:00 am Mon, Wed, Fri
118	AMSOM	MGT341 Competitive Strategy [First Quarter]	1.5		2	Mayank Aggarwal	09:30 am - 11:00 am Tue, Thu
119	AMSOM	MGT341 Competitive Strategy [First Quarter]	1.5		3	Mayank Aggarwal	01:00 pm - 02:30 pm Tue, Thu
120	AMSOM	MGT508 Sustainability, Business and Society	3		1	Samir Shah	09:30 am - 11:00 am Tue, Thu
121	AMSOM	MGT533 Legal Aspects of Business [First Quarter]	1.5		1	Nimit Thaker	02:30 pm - 04:00 pm Tue, Thu
122	AMSOM	MGT536 Ethics and Epics	3	MGT161 Business Ethics,MGT165 Business and Organizational Ethics,MGT166 Ethics,MGT562 Business Ethics	1	Nimit Thaker Chirag Trivedi	02:30 pm - 04:00 pm Mon, Fri
123	AMSOM	MGT542 Strategic Management	1.5		1	Kunal Mankodi	02:30 pm - 04:00 pm Mon
124	AMSOM	MGT543 Corporate Strategy : Formulation & Implementation [Second Quarter]	1.5	MGT541 Competitive Strategy OR MGT333 Competitive Strategy	1	Kunal Mankodi	04:00 pm - 05:30 pm Mon, Fri
125	AMSOM	MGT545 Cooperative Strategy and Ecosystems	3	OR None	1	Mayank Aggarwal	05:30 pm - 07:00 pm Tue, Thu
126	AMSOM	MGT562 Business Ethics [Second Quarter]	1.5		1	Nimit Thaker	02:30 pm - 04:00 pm Tue, Thu
127	AMSOM	MGT622 Compensation Management	3	MGT521 Human Resource Management OR MGT 121 Human Capital Management	1	Ekta Sharma	09:30 am - 11:00 am Mon, Wed

128	AMSOM	MGT624 Learning and Development	3	MGT521 Human Resource Management,MGT511 Organisational Behaviour OR MGT121 Human Resource Management,MGT112 Organisation Processes	1	Jatin Christie	02:30 pm - 04:00 pm Tue, Thu
129	AMSOM	MGT625 Talent Management	3	MGT521 Human Resource Management OR MGT 121 Human Capital Management	1	Ekta Sharma	11:00 am - 12:30 pm Mon, Wed
130	AMSOM	MGT627 Future of Work	3	MGT112 Organisation Processes,MGT212 Organisational Behaviour	1	Siddhartha Saxena	01:00 pm - 02:30 pm Mon, Fri
131	AMSOM	MGT642 Strategies for Firms in Emerging Markets [First Quarter]	1.5	,MGT541 Competitive Strategy OR MGT541 Business Strategy OR MGT541 Competitive Strategy	1	Kunal Mankodi	04:00 pm - 05:30 pm Mon, Fri, 08:00 am - 09:30 am Sat
132	AMSOM	MKT103 Marketing Management	3	OR None	1	Bijal Mehta	11:00 am - 12:30 pm Mon, Fri
133	AMSOM	MKT103 Marketing Management	3	OR None	2	Prithwiraj Mukherjee	01:00 pm - 02:30 pm Tue, Thu
134	AMSOM	MKT312 Essentials of Marketing Research	3	OR MKT101 Marketing Management - I,MKT102 Marketing Management - II	1	Sujo Thomas	04:00 pm - 05:30 pm Tue, Thu

135	AMSOM	MKT321 Marketing of Services	3	MKT101 Marketing Management - I, OR MKT103 Marketing Management	1	Darshna Padia	02:30 pm - 04:00 pm Tue, Thu
136	AMSOM	MKT341 Marketing Strategy for Consumer Behaviour	3		1	Zalak Shah	04:00 pm - 05:30 pm Mon, Fri
137	AMSOM	MKT611 Marketing Research	3		1	Jinal Parikh	01:00 pm - 02:30 pm Tue, Thu
138	AMSOM	MKT631 Sales and Distribution Management	3	MKT501 Marketing Management,EPP501 Intermediate Microeconomics OR MKT101 Marketing Management - I	1	Aravind Panicker	04:00 pm - 05:30 pm Mon, Fri
139	AMSOM	MKT641 Consumer Insights and Marketing	3		1	Zalak Shah	01:00 pm - 02:30 pm Mon, Fri
140	AMSOM	MKT642 Interdisciplinary Approach To Consumer Understanding	3	None	1	Ravi Miglani	08:00 am - 09:30 am Mon, Wed
141	AMSOM	MKT642 Interdisciplinary Approach To Consumer Understanding	3	None	2	Ravi Miglani	05:30 pm - 07:00 pm Tue, Thu, 08:00 am - 09:30 am Sat
142	AMSOM	MKT652 Brand Management	3	,MKT103 Marketing Management OR MKT101 Marketing Management - I,MKT102 Marketing Management - II OR MKT103 Marketing Management	1	Jinal Parikh	02:30 pm - 04:00 pm Mon, Fri
143	AMSOM	MKT653 Digital Marketing	3	,MKT501 Marketing Management OR MKT103 Marketing Management OR MKT501 Marketing Management	1	Bijal Mehta	11:00 am - 12:30 pm Tue, Thu

144	AMSOM	MKT671 Marketing Analytics	3	TOD501 Introductory Statistics OR STA100 Probability,STA101 Statistics	1	Jinal Parikh	02:30 pm - 04:00 pm Tue, Thu
145	AMSOM	STA100 Probability	3	OR MAT100 Calculus and Differential Equations	1	Loyimee Gogoi	01:00 pm - 02:30 pm Tue, Thu
146	AMSOM	STA100 Probability	3	OR MAT100 Calculus and Differential Equations	2	Dinesh Barot	09:30 am - 11:00 am Mon, Wed
147	AMSOM	STA100 Probability	3	OR MAT100 Calculus and Differential Equations	3	Loyimee Gogoi	02:30 pm - 04:00 pm Mon, Fri
148	AMSOM	STA100 Probability	3	OR MAT100 Calculus and Differential Equations	4	Angshuman Roy	09:30 am - 11:00 am Tue, Thu
149	AMSOM	STA101 Introductory Statistics	3		1	Vivek Bhatt	02:30 pm - 04:00 pm Tue, Thu
150	AMSOM	STA101 Introductory Statistics	3		2	Dinesh Barot	01:00 pm - 02:30 pm Mon, Wed
151	AMSOM	STA101 Introductory Statistics	3		3	Vinay Vachharajani	11:00 am - 12:30 pm Mon, Fri
152	AMSOM	STA101 Introductory Statistics	3		4	Vinay Vachharajani	01:00 pm - 02:30 pm Tue, Thu
153	AMSOM	TOD205 Database Management for Managers	3		1	Vivek Bhatt	08:00 am - 09:30 am Tue, Thu
154	AMSOM	TOD210 Business Analytics [First Quarter]	1.5	MAT142 Introductory Calculus,STA101 Statistics	1	Amit Saraswat	08:00 am - 09:30 am Tue, Thu
155	AMSOM	TOD210 Business Analytics [First Quarter]	1.5	MAT142 Introductory Calculus,STA101 Statistics	2	Amit Saraswat	09:30 am - 11:00 am Tue, Thu
156	AMSOM	TOD212 Decision Sciences	3	STA100 Probability, OR STA101 Statistics	1	Bhaktida Trivedi	11:00 am - 12:30 pm Tue, Thu

157	AMSOM	TOD212 Decision Sciences	3	STA100 Probability, OR STA101 Statistics	2	Bhaktida Trivedi	11:00 am - 12:30 pm Wed, Fri
158	AMSOM	TOD212 Decision Sciences	3	STA100 Probability, OR STA101 Statistics	3	Bhaktida Trivedi	04:00 pm - 05:30 pm Tue, Thu
159	AMSOM	TOD221 Operations Management	3		1	Suyog Nigudkar	08:00 am - 09:30 am Mon, Fri
160	AMSOM	TOD221 Operations Management	3		2	Aravind Panicker	11:00 am - 12:30 pm Tue, Thu
161	AMSOM	TOD221 Operations Management	3		3	Aravind Panicker	01:00 pm - 02:30 pm Mon, Wed
162	AMSOM	TOD310 Predictive Analytics for Business	3	,STA100 Probability,	1	Vivek Bhatt	04:00 pm - 05:30 pm Tue, Thu
163	AMSOM	TOD322 Supply Chain Management	3		1	Ab Raju	08:00 am - 09:30 am Mon, Fri
164	AMSOM	TOD323 Operations Strategy	3		1	Aravind Panicker	02:30 pm - 04:00 pm Mon, Fri
165	AMSOM	TOD326 Project Management	3		1	Padmin Buch	09:30 am - 11:00 am Tue, Thu
166	AMSOM	TOD331 Supply Chain Analytics	3		1	Aasheesh Dixit	05:30 pm - 07:00 pm Mon, Fri
167	AMSOM	TOD503 Simulation Modeling	3		1	Vivek Bhatt	05:30 pm - 07:00 pm Tue, Thu
168	AMSOM	TOD511 Decision Science	3	,STA101 Statistics OR TODS201 Statistics for Decision Making	1	Jinal Parikh	04:00 pm - 05:30 pm Mon, Fri
169	AMSOM	TOD522 Supply Chain Management [Second Quarter]	1.5	TODS211 Quantitative Methods for Business,,TODS208 Calculus for Business	1	Aasheesh Dixit	11:00 am - 12:30 pm Tue, Thu
170	AMSOM	TOD524 Operations Management	2	None	1	Suyog Nigudkar	09:30 am - 11:00 am Mon, Fri
171	AMSOM	TOD526 Project Management	2		1	Padmin Buch	08:00 am - 09:30 am Tue, Thu

172	AMSOM	TOD533 Advanced Business Analytics	3	TOD531 Introduction to Analytics	1	Amit Saraswat	08:00 am - 09:30 am Sat, 09:30 am - 11:00 am Sat
173	SAS	BIO 107 Concepts of biology	3		1	Pooja Shah	08:00 am - 09:30 am Mon, Wed
174	SAS	BIO 107 Concepts of biology	3		2	Pooja Shah	08:00 am - 09:30 am Tue, Thu
175	SAS	BIO 250 Brain and Behaviour	3	PSY101 Introduction to Psychology	1	Rama Ratnam	04:00 pm - 05:30 pm Tue, Thu
176	SAS	BIO103 Microbiology	3		1	Souvik Sen Gupta	02:30 pm - 04:00 pm Tue, Thu
177	SAS	BIO104 Environmental Science	3	None OR None	1	Shomen Mukherjee	04:00 pm - 05:30 pm Mon, Fri
178	SAS	BIO105 Fundamentals of Environmental Studies	3	None	1	Ratna Ghosal	04:00 pm - 05:30 pm Tue, Thu
179	SAS	BIO201 Immunology	3		1	Pooja Shah	08:00 am - 09:30 am Fri, 09:30 am - 11:00 am Mon
180	SAS	BIO204 Microbiology and Cell Biology	3	BIO205 Cell Biology,BIO103 Microbiology	1	Ashi Thobias	09:30 am - 11:00 am Mon, Fri, 11:00 am - 12:30 pm Mon, Fri
181	SAS	BIO204 Microbiology and Cell Biology	3	BIO205 Cell Biology,BIO103 Microbiology	2	Ashi Thobias	09:30 am - 11:00 am Tue, Thu, 11:00 am - 12:30 pm Tue, Thu
182	SAS	BIO210 Intermediate Biochemistry	3		1	Ashim Rai	02:30 pm - 04:00 pm Mon, Fri
183	SAS	BIO220 Cell Biology	3		1	Noopur Thakur	01:00 pm - 02:30 pm Fri, Wed
184	SAS	BIO260 Introduction to Plant Biology	3		1	Bhuvan Pathak	04:00 pm - 05:30 pm Mon, Fri
185	SAS	BIO502 Plant Biotechnology and Tissue Culture	3	BIO101 Basic Biology I	1	Bhuvan Pathak	11:00 am - 12:30 pm Mon, Fri

186	SAS	BIO506 Ecology: Fundamental Concepts and Applications	3	BIO101 Introductory Biology,CSD102 Advanced Level Data Science OR BIO101 Introductory Biology,RES501 Introduction to Research Methodology	1	Ratna Ghosal	05:30 pm - 07:00 pm Tue, Thu
187	SAS	BIO507 Plant Tissue Culture Techniques	1.5	BIO102 Introductory Biology practical,	1	Trivima Sharma	01:00 pm - 02:30 pm Mon, 02:30 pm - 04:00 pm Mon
188	SAS	BIO507 Plant Tissue Culture Techniques	1.5	BIO102 Introductory Biology practical,	2	Trivima Sharma	01:00 pm - 02:30 pm Fri, 02:30 pm - 04:00 pm Fri
189	SAS	BIO548 Cytogenetics	3	BIO205 Cell Biology,BIO206 Genetics	1	Ashutosh Kumar	02:30 pm - 04:00 pm Tue, Thu
190	SAS	BIO601 Epigenetics	3	BIO101 Introductory Biology	1	Noopur Thakur	09:30 am - 11:00 am Tue, Thu
191	SAS	BPS103 Microscopy and Imaging	3	BIO101 Introductory Biology,	1	Ritesh Shukla	01:00 pm - 02:30 pm Tue, Thu
192	SAS	CHY101 Chemistry Practicals	1.5	None	1	Ritesh Shukla	01:00 pm - 02:30 pm Mon, Fri, 02:30 pm - 04:00 pm Mon, Fri
193	SAS	CHY101 Chemistry Practicals	1.5	None	2	Ritesh Shukla	01:00 pm - 02:30 pm Tue, Thu, 02:30 pm - 04:00 pm Tue, Thu
194	SAS	FRE112 Conversational French - II	3	FRE111 Conversational French - I OR FRE102 Introduction to French	1	Tahereh Rahimdel	04:00 pm - 05:00 pm Tue, Thu, Mon
195	SAS	FRE212 Intermediate Conversational French - II	3		1	Tahereh Rahimdel	03:00 pm - 04:00 pm Tue, Thu, Mon
196	SAS	GER112 Conversational German - II	3		1	Dhara Shah	03:00 pm - 04:00 pm Tue, Thu, Mon

197	SAS	HST103 Legacies of Empire: From the Mauryas to the Mughals	3	None	1	Murari Jha	01:00 pm - 02:30 pm Tue, Thu
198	SAS	HST115 India 1/ The Birth of Civilizations in the Indian Subcontinent	3		1	Manomohini Dutta	04:00 pm - 05:30 pm Tue, Thu
199	SAS	HST205 Industrialisation: Perspectives from World History	3		1	Aparajith Ramnath	02:30 pm - 04:00 pm Mon, Fri
200	SAS	HST210 Research Methods II: What is History?	3	None OR None	1	Guillaume Wadia	09:30 am - 11:00 am Tue, Thu
201	SAS	IHS502 Key Concepts in History and Philosophy	3		1	Apaar Kumar Aparajith Ramnath Chandler Hatch Guillaume Wadia Joseph Van Weelden Manomohini Dutta Mousa Mohammadian Murari Jha Rahul Sarwate Shishir Saxena	04:00 pm - 05:30 pm Tue, 05:30 pm - 07:00 pm Tue
202	SAS	JAP112 Conversational Japanese - II	3	JAP-101 Japanese for beginners OR JAP102 Introduction to Japanese OR JAP111 Conversational Japanese - I OR PHL132 Introduction to Japanese	1	Akshay Chudasama	06:00 pm - 07:00 pm Tue, Thu, Fri

203	SAS	JAP212 Intermediate Conversational Japanese - II	3	OR PHL132 Introduction to Japanese,JAP102 Introduction to Japanese,JAP 221 Intermediate Conversational Japanese Part 1 OR PHL132 Introduction to Japanese,JAP112 JAP 112 Conversational Japanese - II,JAP 221 Intermediate Conversational Japanese Part 1 OR JAP111 Conversational Japanese - I,JAP112 JAP 112 Conversational Japanese - II,JAP 221 Intermediate Conversational Japanese Part 1	1	Akshay Chudasama	07:00 pm - 08:30 pm Tue, Thu, Fri
204	SAS	LIT205 Urdu Prose and Poetry II	3		1	Salmabanu Shaikh	04:00 pm - 05:30 pm Mon, Fri
205	SAS	LIT210 Literature for Life	3	None	1	Kunal Basu	02:00 pm - 03:30 pm Sat, 03:30 pm - 05:00 pm Sat
206	SAS	LIT230 Gira Gujarati	3		1	Chirag Trivedi	01:00 pm - 02:30 pm Wed, Fri
207	SAS	MAT 334 Introductory Real Analysis	3	MAT142 Introductory Calculus, OR MAT*** Calculus for CS	1	Ashwin Pande Alok Shukla	05:30 pm - 07:00 pm Tue, Thu
208	SAS	MUS101 Inside Indian Music	3		1	Prachi Vaidya	04:00 pm - 05:30 pm Mon, 05:30 pm - 07:00 pm Mon

209	SAS	MUS103 Culturing the Voice	3		1	Prachi Vaidya	04:00 pm - 05:30 pm Tue, 05:30 pm - 07:00 pm Tue
210	SAS	PER102 Introduction to Persian - II	3		1	Salmabanu Shaikh	04:00 pm - 05:30 pm Tue, Thu
211	SAS	PHI 260 Political Philosophy	3	None OR None	1	Chandler Hatch	07:00 pm - 08:30 pm Tue, Thu
212	SAS	PHI175 Is Philosophy Dead? Great Ideas Across Space and Time	3	None	1	Shishir Saxena	01:00 pm - 02:30 pm Mon, Fri
213	SAS	PHL 202 Why Be Good?: Plato's Republic	3	None	1	Chandler Hatch	11:00 am - 12:30 pm Tue, Thu
214	SAS	PHL150 Ideas of India: Gandhi, Savarkar and Ambedkar	3	OR None	1	Rahul Sarwate	02:30 pm - 04:00 pm Tue, Thu
215	SAS	PHL401 The Cartesian Self: Key Debates	3		1	Apaar Kumar	09:30 am - 11:00 am Wed, Fri
216	SAS	PHY122 Laboratory Physics - Electromagnetism	3	None	1	Raghwinder Singh	02:30 pm - 04:00 pm Mon, Fri, 04:00 pm - 05:30 pm Mon, Fri
217	SAS	PHY211 Intermediate Classical Mechanics	3	MAT100 Calculus and Differential Equations,PHY111 Classical Mechanics - I	1	Rajaraman Ganesh	05:30 pm - 07:00 pm Mon, 04:00 pm - 05:30 pm Thu
218	SAS	PHY212 Oscillations, Waves, and Optics	3	OR None	1	Soumen Ghosh	11:00 am - 12:30 pm Mon, Wed
219	SAS	PHY315 Atomic and Nuclear Physics	3	PHY310 Quantum Mechanics I OR None	1	Raghwinder Singh	11:00 am - 12:30 pm Mon, Fri
220	SAS	PHY316 Solid State Physics	3	PHY310 Quantum Mechanics I,	1	Navinder Singh	04:00 pm - 05:30 pm Mon, Fri
221	SAS	PHY321 Laboratory Physics - Electronics	1.5	None OR None	1	Soumen Ghosh	02:30 pm - 04:00 pm Mon, Fri
222	SAS	PHY715 Special Topics in Gravitation and Cosmology: Gravitational collapse, blackholes and spacetime singularities	3	PHY211 Classical Mechanics -II, OR None	1	Pankaj Joshi	07:00 pm - 08:30 pm Tue, Thu

223	SAS	PHY734 Nonlinear Optics	3		1	Raghwinder Singh	07:00 pm - 08:30 pm Mon, Fri
224	SAS	PSY205 Evolutionary Psychology	3	PSY101 Introduction to Psychology	1	Nagireddy Neelakanteswar Reddy	05:30 pm - 07:00 pm Tue, Thu
225	SAS	PSY215 Developmental Psychology	3	PSY 101 Introduction to Psychology	1	Shilpa Pandit	04:00 pm - 05:30 pm Mon, Fri
226	SAS	PSY272 Industrial and Organisational Psychology	3		1	Urmi Nanda Biswas	02:30 pm - 04:00 pm Tue, Thu
227	SAS	PSY321 Sensation and Perception	3		1	Nithin George	02:30 pm - 04:00 pm Mon, Fri
228	SAS	PSY340 Positive Psychology	3	PSY161 Personality and Individual Differences,PSY101 Introduction to Psychology OR PSY 215 Developmental Psychology,PSY 101 Introduction to Psychology	1	Rucha Sarwate	04:00 pm - 05:30 pm Mon, Fri
229	SAS	PSY351 The Heart of Counseling	3	PSY 101 Introduction to Psychology,	1	Rucha Sarwate	01:00 pm - 02:30 pm Mon, Fri
230	SAS	PSY412 Attention	3	BIO 250 Brain and Behaviour,	1	Nithin George	11:00 am - 12:30 pm Mon, Fri
231	SAS	PVA 151 Thought Experiments - Posthuman Prospects	3	None	1	Vyom Mehta	04:00 pm - 05:30 pm Thu, 05:30 pm - 07:00 pm Thu, 01:00 pm - 02:30 pm Sat, 02:30 pm - 04:00 pm Sat
232	SAS	PVA 171 Theatre and Society	3	None OR None	1	Kabir Thakore	04:00 pm - 05:30 pm Fri, 05:30 pm - 07:00 pm Fri
233	SAS	PVA 225 Bhakti and Music: Oral Tradition and Radical Change	3	None	1	Chitra Srikrishna	05:30 pm - 07:00 pm Tue, Thu

234	SAS	PVA101 Exploring Studio Art	3	OR None	1	Ranu Roychoudhuri Rajesh Naidu	01:00 pm - 02:30 pm Mon, Wed
235	SAS	PVA128 Performing Humour	3	OR None	1	Preeti Das	09:30 am - 11:00 am Wed, Fri
236	SAS	PVA128 Performing Humour	3	OR None	2	Preeti Das	01:00 pm - 02:30 pm Wed, Fri
237	SAS	PVA129 Another Mother India: Stories of Lesser-known Women from India	3	OR None	1	Preeti Das	11:00 am - 12:30 pm Wed, Fri
238	SAS	PVA203 Art, Culture and Heritage in a Globalized India.	3		1	Aditi Deo	04:00 pm - 05:30 pm Mon, Fri
239	SAS	PVA222 Seeing Photographs	3	OR COM101 Effective Reading and Comprehension Skills	1	Ranu Roychoudhuri	04:00 pm - 05:30 pm Tue, Thu
240	SAS	PVA224 Human Figure Study in Drawing and Painting	3	OR None OR None	1	Rajesh Naidu	11:00 am - 12:30 pm Tue, Thu
241	SAS	RES101 Introduction to Research Methodology	3		1	Maryann Chacko Kaushik Jana	04:00 pm - 05:30 pm Mon, Fri
242	SAS	RES101 Introduction to Research Methodology	3		2	Safwan Amir Keita Omi	04:00 pm - 05:30 pm Tue, Thu
243	SAS	RES501 Introduction to Research Methodology	3	None OR None	1	Subhash Rajpurohit	11:00 am - 12:30 pm Tue, Thu
244	SAS	SAN102 Learning Sanskrit Through Sanskrit Literature	3		1	Shishir Saxena	01:00 pm - 02:30 pm Tue, Thu
245	SAS	SAN202 Reading Sanskrit Scholastic Texts: Intermediate	3	SAN201 Reading Sanskrit Scholastic Texts: Elementary	1	Shishir Saxena	11:00 am - 12:30 pm Wed, 01:00 pm - 02:30 pm Wed
246	SAS	SAS699 Dissertation	30	None	1	Ritesh Shukla	07:00 pm - 08:30 pm Mon, Tue, Wed, Thu, Fri
247	SAS	SPA112 Conversational Spanish - II	3		1	Vinod Jetley	05:30 pm - 07:00 pm Mon, Tue, Thu
248	SAS	SPS 301 History of the 'Social	3	None	1	Suchismita Das	02:30 pm - 04:00 pm Mon, Fri

249	SAS	SPS203 State and Society	3	None	1	Mona Mehta	09:30 am - 11:00 am Tue, Thu
250	SAS	SPS205 Studying Culture	3	,SPS102 Identity, Inequality and Difference OR SPS102 Identity, Inequality and Difference,SPS202 Family, Community, Nation,SPS250 Introduction to International Relations,SPS251 Ecology and Society,SPS254 Nature, Nation, and Tribe,SPS255 Introduction to Comparative Politics OR PHL101 Introduction to Humanistic Inquiry,PHL110 Introduction to Philosophy: Knowledge, Reality, and the Self,PHL115 Philosophy as a Way of Life,PHL125 An Elementary Introduction to the Philosophical Traditions of India,PHL136 Learning Sanskrit Through Sanskrit Literature: Elementary,PHL310 Philosophy of Culture	1	Aditi Deo	04:00 pm - 05:30 pm Tue, Thu
251	SAS	SPS260 Within the World of Cities	3	None OR None	1	Darshini Mahadevia Mona Mehta	02:30 pm - 04:00 pm Tue, Thu

252	SAS	SPS263 Climate Change and Society	3	None	1	Suchismita Das	05:30 pm - 07:00 pm Mon, Fri
253	SAS	SPS500 The Dragon and the Elephant: India and China in Comparative Perspective	3		1	Tejaswini Niranjana	04:00 pm - 05:30 pm Thu, 05:30 pm - 07:00 pm Thu
254	SAS	SPS560 Within the World of Cities	3	None	1	Darshini Mahadevia Mona Mehta	02:30 pm - 04:00 pm Tue, Thu
255	SAS	STA 202 Mathematical Statistics	3	MAT 146 Intermediate Calculus,STA100 Probability OR MAT 246 Linear Algebra,STA100 Probability	1	Kaushik Jana	01:00 pm - 02:30 pm Tue, Thu
256	SEAS	CHE201 Fluid Mechanics	3	MAT102 Discrete Mathematics	1	Arijit Ganguli	08:00 am - 09:00 am Mon, Wed, Fri
257	SEAS	CHE204 Mass Transfer Operations - I	3		1	Harshad Shah Arijit Ganguli	11:00 am - 12:00 pm Mon, Wed, Fri
258	SEAS	CHE221 Thermodynamics - II	3	CHE220 Thermodynamics - I	1	Dharamashi Rabari	11:00 am - 12:30 pm Tue, 01:00 pm - 02:30 pm Thu, 02:30 pm - 04:00 pm Thu, 09:30 am - 11:00 am Mon
259	SEAS	CHE301 Heat Transfer	3	CHE201 Fluid Mechanics,MAT100 Calculus and Differential Equations	1	Snigdha Khuntia	09:30 am - 11:00 am Tue, Thu
260	SEAS	CHE306 Chemical and Petrochemical Industries	3	BCS104 Inorganic Chemistry	1	Snigdha Khuntia	10:00 am - 11:00 am Mon, Wed, Fri
261	SEAS	CHE313 Chemical Reaction Engineering-II	3	OR CHE310 Chemical Reaction Engineering	1	Deepak Kunzru	09:00 am - 10:00 am Mon, Wed, 01:00 pm - 02:00 pm Thu

262	SEAS	CHE314 Experiments in Mass Transfer, Chemical Reaction Engineering and Process Control	1.5	CHE204 Mass Transfer Operations - I,CHE300 Mass Transfer Operations - II,CHE311 Chemical Reaction Engineering-I,CHE313 Chemical Reaction Engineering-II,CHE330 Instrumentation and Process Control	1	Sridhar Dalai Dharamashi Rabari	01:00 pm - 02:00 pm Tue, 02:00 pm - 03:00 pm Tue, 03:00 pm - 04:00 pm Tue
263	SEAS	CHE400 Process Synthesis and Integration	3	CHE301 Heat Transfer,CHE203 Heat Transfer	1	Sridhar Dalai	09:30 am - 11:00 am Tue, Thu
264	SEAS	CSE108 Object Oriented Programming Lab	1		1	Kuntalkumar Patel	04:00 pm - 05:00 pm Thu, 05:00 pm - 06:00 pm Thu
265	SEAS	CSE108 Object Oriented Programming Lab	1		2	Kuntalkumar Patel	04:00 pm - 05:00 pm Tue, 05:00 pm - 06:00 pm Tue
266	SEAS	CSE200 Design and Analysis of Algorithms	3	CSC210 Data Structures and Algorithms,CSC211 Data Structures and Algorithms Lab	1	Srikrishnan Divakaran	11:00 am - 12:00 pm Mon, Wed, Fri
267	SEAS	CSE206 Computer Organization and Architecture	4		1	Mazad Zaveri	09:30 am - 11:00 am Tue, Thu, 01:00 pm - 02:00 pm Tue, 02:00 pm - 03:00 pm Tue
268	SEAS	CSE206 Computer Organization and Architecture	4		2	Mazad Zaveri	09:30 am - 11:00 am Tue, Thu, 01:00 pm - 02:00 pm Thu, 02:00 pm - 03:00 pm Thu
269	SEAS	CSE250 Database Management Systems	3		1	Shefali Naik	01:00 pm - 02:00 pm Thu, Mon, Fri, 02:00 pm - 03:00 pm Thu

270	SEAS	CSE250 Database Management Systems	3		2	Shefali Naik	01:00 pm - 02:00 pm Tue, 02:00 pm - 03:00 pm Tue, Mon, Fri
271	SEAS	CSE250 Database Management Systems	3		3	Shefali Naik	10:00 am - 11:00 am Mon, Fri, 03:00 pm - 04:00 pm Fri, 04:00 pm - 05:00 pm Fri
272	SEAS	CSE342 Computer Networks	4	CSC340 Operating Systems,	1	Shashi Prabh	02:30 pm - 04:00 pm Tue, Thu, 01:00 pm - 02:00 pm Mon, 02:00 pm - 03:00 pm Mon
273	SEAS	CSE342 Computer Networks	4	CSC340 Operating Systems,	2	Shashi Prabh	02:30 pm - 04:00 pm Tue, Thu, 01:00 pm - 02:00 pm Fri, 02:00 pm - 03:00 pm Fri
274	SEAS	CSE511 Algorithms and Optimisation for Big Data	3	MAT 2XX Probability and Stochastic Process,MAT101 Discrete Mathematics,MAT200 Linear Algebra	1		04:00 pm - 05:30 pm Tue, Thu
275	SEAS	CSE517 Python Programming	1.5		1	Kuntalkumar Patel	01:00 pm - 02:30 pm Fri
276	SEAS	CSE519 Human Computer Interaction	3	CSE100 Fundamentals of Computer Programming	1	Anurag Lakhlani	04:00 pm - 05:30 pm Tue, Thu
277	SEAS	CSE519 Human Computer Interaction	3	CSE100 Fundamentals of Computer Programming	2	Anurag Lakhlani Anurag Lakhlani	11:00 am - 12:30 pm Tue, Thu

278	SEAS	CSE520 Data Analytics and Visualisation	3	CSC100 Introduction to Computer Programming,CSC250 Database Management Systems	1		08:00 am - 09:30 am Mon, Thu
279	SEAS	CSE521 Big Data Analytics	3	EVD511 High Performance Computing,CSC520 Data Analytics and Visualisation OR None	1	Maitrik Shah	09:30 am - 11:00 am Sat, 11:00 am - 12:30 pm Sat
280	SEAS	CSE523 Machine Learning	3	MAT102 Discrete Mathematics,MAT202 Probability and Random Processes	1	Mehul Raval	10:00 am - 11:00 am Mon, Wed, Fri
281	SEAS	CSE533 Social Network Analysis	3	CSC210 Data Structures and Algorithms,CSC211 Data Structures and Algorithms Lab	1	Amit Nanavati	03:00 pm - 04:00 pm Mon, 04:00 pm - 05:00 pm Mon, 08:00 am - 09:30 am Tue, Thu
282	SEAS	CSE533 Social Network Analysis	3	CSC210 Data Structures and Algorithms,CSC211 Data Structures and Algorithms Lab	2	Amit Nanavati	08:00 am - 09:30 am Tue, Thu, 03:00 pm - 04:00 pm Mon, 04:00 pm - 05:00 pm Mon
283	SEAS	CSE537 High Speed Computer Architecture	3		1	Pratik Trivedi	09:30 am - 11:00 am Tue, Thu
284	SEAS	CSE541 Computer Vision	3	CSC106 Basic Programming Languages,MAT102 Discrete Mathematics,MAT202 Probability and Random Processes	1	Mehul Raval	01:00 pm - 02:30 pm Tue, Thu

285	SEAS	CSE542 Introduction to Blockchain: Technologies, Approaches and Applications	3	CSE205 Data Structures OR CSE342 Operating Systems OR CSE332 Computer Networks OR CSE100 Fundamentals of Computer Programming OR CSC250 Database Management Systems	1	Sanjay Chaudhary	11:00 am - 12:30 pm Tue, Thu
286	SEAS	ENR100 Visualisation	1.5	None	1	Deepa Yagnik	09:30 am - 11:00 am Sat, 11:00 am - 12:30 pm Sat
287	SEAS	ENR100 Visualisation	1.5	None	2	Deepa Yagnik	01:00 pm - 02:30 pm Sat, 02:30 pm - 04:00 pm Sat
288	SEAS	ENR101 Product Realisation	1.5	None	1	Anamika Maurya	09:30 am - 11:00 am Sat, 11:00 am - 12:30 pm Sat
289	SEAS	ENR101 Product Realisation	1.5	None	2	Adarsh Ganesan	01:00 pm - 02:30 pm Sat, 02:30 pm - 04:00 pm Sat
290	SEAS	ENR102 Electronics and Magnetic Circuits and Devices	4	None	1	Ashok Ranade	04:00 pm - 05:00 pm Tue, Fri, Mon, 05:00 pm - 06:00 pm Tue, Fri, Mon
291	SEAS	ENR102 Electronics and Magnetic Circuits and Devices	4	None	2	Sanket Patel	04:00 pm - 05:00 pm Thu, Mon, Fri, 05:00 pm - 06:00 pm Thu, Mon, Fri
292	SEAS	ENR102 Electronics and Magnetic Circuits and Devices	4	None	3	Vinod Mall	04:00 pm - 05:00 pm Tue, Thu, Fri, 05:00 pm - 06:00 pm Tue, Thu, Fri

293	SEAS	ENR103 Electronics Workshop	1	None	1	Sanket Patel	01:00 pm - 02:00 pm Sat, 02:00 pm - 03:00 pm Sat
294	SEAS	ENR200 Design, Innovation and Making	3	None	1	Sham Gurav	08:00 am - 09:00 am Mon, Wed, Fri, 03:00 pm - 04:00 pm Wed
295	SEAS	ENR200 Design, Innovation and Making	3	None	2	Adarsh Ganesan	08:00 am - 09:30 am Tue, Thu, 03:00 pm - 04:00 pm Wed
296	SEAS	ENR200 Design, Innovation and Making	3	None	3	Mayuribala Mangrulkar	11:00 am - 12:30 pm Tue, Thu, 03:00 pm - 04:00 pm Wed
297	SEAS	ENR306 Technical Communication	1	None,COM101 Effective Reading and Comprehension Skills,COM102 Advanced Writing	1	Mayuribala Mangrulkar	03:00 pm - 04:00 pm Mon, 04:00 pm - 05:00 pm Mon
298	SEAS	ENR306 Technical Communication	1	None,COM101 Effective Reading and Comprehension Skills,COM102 Advanced Writing	2	Mayuribala Mangrulkar	03:00 pm - 04:00 pm Fri, 04:00 pm - 05:00 pm Fri
299	SEAS	ENR500 Technical Communication	3		1	Mayuribala Mangrulkar	01:00 pm - 02:30 pm Mon, Fri
300	SEAS	ENR501 Renewable Energy Technology	3	None	1	Deepak Verma	08:00 am - 09:00 am Mon, Wed, Fri
301	SEAS	ENR506 Robotics	3		1	Keyur Joshi	09:00 am - 10:00 am Mon, Wed, Fri
302	SEAS	ENR508 Mobile Robots, Let’s Build One!	3		1	Maryam Kaveshgar	02:00 pm - 03:00 pm Mon, Wed, Fri
303	SEAS	ENR510 Nonlinear Dynamics	3		1	Mitaxi Mehta	08:00 am - 09:30 am Tue, Thu

304	SEAS	MAT201 Vector and Complex Analysis	4	MAT100 Calculus and Differential Equations,MAT200 Linear Algebra	1	Nitin Banker Akhand Rai	01:00 pm - 02:30 pm Mon, Wed, Fri
305	SEAS	MAT248 Applied Linear Algebra	3	MAT103 Calculus OR MAT142 Introductory Calculus OR MAT100 Calculus and Differential Equations OR MAT211 Mathematics for Management	1	Alok Shukla	11:00 am - 12:30 pm Tue, Thu
306	SEAS	MAT277 Probability and Stochastic Processes	3	None OR None	1	Dhaval Patel	10:00 am - 11:00 am Mon, Wed, Fri
307	SEAS	MAT396 Numerical Methods	3	MAT203 Differential Equations and Linear Algebra OR MAT 246 Linear Algebra,MAT 256 Differential Equations	1	Anamika Maurya	09:30 am - 11:00 am Tue, Thu
308	SEAS	MAT502 Advanced Statistics	3	MAT202 Probability and Random Processes	1	Shashi Prabh	08:00 am - 09:30 am Wed, Fri
309	SEAS	MAT596 Numerical Methods	3	None	1	Anamika Maurya	09:30 am - 11:00 am Tue, Thu
310	SEAS	MEC205 Materials and Process of Manufacture	3	ENR204 Mechanics of Rigid Bodies,CHE170 Introduction to Materials Science and Engineering,ENR100 Visualisation,ENR101 Product Realisation	1	Shuja Ahmed	11:00 am - 12:00 pm Mon, Wed, Fri

311	SEAS	MEC206 Computer Aided Design and Manufacturing	4	CSC106 Basic Programming Languages,ENR203 Material Science and Engineering,MEC210 Strength of Materials,ENR100 Visualisation	1	Akhand Rai	01:00 pm - 02:00 pm Tue, 02:00 pm - 03:00 pm Tue, 11:00 am - 12:30 pm Tue, Thu
312	SEAS	MEC210 Strength of Materials	3		1	Deepak Verma	04:00 pm - 05:30 pm Tue, Thu
313	SEAS	MEC240 Manufacturing Processes	3	CHE170 Introduction to Materials Science and Engineering,MDT120 Engineering Graphics,MEC100 Workshop Practice	1	Shuja Ahmed	08:00 am - 09:30 am Tue, Thu
314	SEAS	MEC300 Control Engineering Theory and Applications	2	MAT100 Calculus and Differential Equations	1	Keyur Joshi	11:00 am - 12:30 pm Tue, Thu
315	SEAS	MEC303 Thermal Energy Systems	3	CHE220 Thermodynamics - I	1	Nitin Banker	10:00 am - 11:00 am Mon, Wed, Fri
316	SEAS	MEC304 Integrated Mechanical Laboratory - I	2	None	1	Sunil Kale	03:00 pm - 04:00 pm Thu, 04:00 pm - 05:00 pm Thu, 01:00 pm - 02:00 pm Thu, 02:00 pm - 03:00 pm Thu
317	SEAS	MEC405 Learning Factory Project	3		1	Sunil Kale Shuja Ahmed	01:00 pm - 02:00 pm Tue, 02:00 pm - 03:00 pm Tue, 03:00 pm - 04:00 pm Tue, 08:00 am - 09:30 am Sat, 04:00 pm - 05:30 pm Sat

318	SEAS	MEC451 Dynamics of Machines Lab	1.5	MEC210 Strength of Materials OR None	1	Akhand Rai	08:00 am - 09:30 am Mon, 09:30 am - 11:00 am Mon
319	SEAS	MEC503 Solar Thermal Energy	3	CHE301 Heat Transfer	1	Nitin Banker	11:00 am - 12:00 pm Mon, Wed, Fri
320	Undergraduate College	FDP101 Democracy and Justice	3	None OR None	1	Darshna Padia Gaurav Goswami Krishna Mehta Ritesh Shukla Nagireddy Neelakanteswar Reddy Alok Shukla	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
321	Undergraduate College	FDP101 Democracy and Justice	3	None OR None	2	Nimit Thaker Maryann Chacko Chandler Hatch Preeti Maneck Vedant Dev	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
322	Undergraduate College	FDP101 Democracy and Justice	3	None OR None	3	Darshna Padia Gaurav Goswami Krishna Mehta Ritesh Shukla Nagireddy Neelakanteswar Reddy Alok Shukla	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
323	Undergraduate College	FDP101 Democracy and Justice	3	None OR None	4	Nimit Thaker Maryann Chacko Chandler Hatch Preeti Maneck Vedant Dev	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu

324	Undergraduate College	FDP101 Democracy and Justice	3	None OR None	5	Darshna Padia Gaurav Goswami Krishna Mehta Ritesh Shukla Nagireddy Neelakanteswar Reddy Alok Shukla	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
325	Undergraduate College	FDP101 Democracy and Justice	3	None OR None	6	Nimit Thaker Maryann Chacko Chandler Hatch Preeti Maneck Vedant Dev	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
326	Undergraduate College	FDP101 Democracy and Justice	3	None OR None	7	Darshna Padia Gaurav Goswami Krishna Mehta Ritesh Shukla Nagireddy Neelakanteswar Reddy Alok Shukla	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
327	Undergraduate College	FDP101 Democracy and Justice	3	None OR None	8	Nimit Thaker Maryann Chacko Chandler Hatch Preeti Maneck Vedant Dev	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
328	Undergraduate College	FDP102 Environment and Climate Change	3	None OR None	1	Murari Jha Saumil Shah Krishna Bs Swamy Deepak Verma Kunal Mankodi	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu

329	Undergraduate College	FDP102 Environment and Climate Change	3	None OR None	2	Tana Trivedi Aditya Prakash Kanth Binny Rawat Sutapa Mukherji Ramizur Rahman	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
330	Undergraduate College	FDP102 Environment and Climate Change	3	None OR None	3	Murari Jha Saumil Shah Krishna Bs Swamy Deepak Verma Kunal Mankodi	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
331	Undergraduate College	FDP102 Environment and Climate Change	3	None OR None	4	Tana Trivedi Binny Rawat Sutapa Mukherji Ramizur Rahman	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
332	Undergraduate College	FDP102 Environment and Climate Change	3	None OR None	5	Murari Jha Saumil Shah Krishna Bs Swamy Deepak Verma Kunal Mankodi	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
333	Undergraduate College	FDP102 Environment and Climate Change	3	None OR None	6	Tana Trivedi Aditya Prakash Kanth Binny Rawat Sutapa Mukherji Ramizur Rahman	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
334	Undergraduate College	FDP102 Environment and Climate Change	3	None OR None	7	Murari Jha Saumil Shah Krishna Bs Swamy Deepak Verma Kunal Mankodi	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu

335	Undergraduate College	FDP102 Environment and Climate Change	3	None OR None	8	Tana Trivedi Binny Rawat Sutapa Mukherji Ramizur Rahman	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
336	Undergraduate College	FDP103 Neighbourhoods	3	None OR None	1	Sonal Yadav Maya Ratnam Souvik Sen Gupta Shilpa Pandit	09:45 am - 12:30 pm Mon, Thu, Fri, Tue, Wed, 01:30 pm - 04:00 pm Mon, Thu, Tue
337	Undergraduate College	FDP103 Neighbourhoods	3	None OR None	2	Amrita Bihani Bhargav Adhvaryu Sudhir Pandey Rahul Sarwate Manomohini Dutta	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
338	Undergraduate College	FDP103 Neighbourhoods	3	None OR None	3	Sonal Yadav Maya Ratnam Souvik Sen Gupta Shilpa Pandit	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
339	Undergraduate College	FDP103 Neighbourhoods	3	None OR None	4	Amrita Bihani Bhargav Adhvaryu Sudhir Pandey Manomohini Dutta	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
340	Undergraduate College	FDP103 Neighbourhoods	3	None OR None	5	Sonal Yadav Maya Ratnam Souvik Sen Gupta Shilpa Pandit	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu

341	Undergraduate College	FDP103 Neighbourhoods	3	None OR None	6	Amrita Bihani Bhargav Adhvaryu Sudhir Pandey Rahul Sarwate Manomohini Dutta	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
342	Undergraduate College	FDP103 Neighbourhoods	3	None OR None	7	Sonal Yadav Maya Ratnam Souvik Sen Gupta Shilpa Pandit	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
343	Undergraduate College	FDP103 Neighbourhoods	3	None OR None	8	Amrita Bihani Bhargav Adhvaryu Sudhir Pandey Manomohini Dutta	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
344	Undergraduate College	FDP104 Water	3		1	Ashutosh Kumar Ranu Roychoudhuri Chirag Trivedi Siddhartha Saxena Ravi Miglani	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
345	Undergraduate College	FDP104 Water	3		2	Maryam Kaveshgar Prithwiraj Mukherjee Safwan Amir Saptam Patel Vivek Bhatt Leya Mathew	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
346	Undergraduate College	FDP104 Water	3		3	Ashutosh Kumar Chirag Trivedi Siddhartha Saxena Ravi Miglani Aditi Singhal Guillaume Wadia	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu

347	Undergraduate College	FDP104 Water	3		4	Maryam Kaveshgar Prithwiraj Mukherjee Safwan Amir Saptam Patel Vivek Bhatt Leya Mathew	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
348	Undergraduate College	FDP104 Water	3		5	Ashutosh Kumar Ranu Roychoudhuri Chirag Trivedi Siddhartha Saxena	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
349	Undergraduate College	FDP104 Water	3		6	Maryam Kaveshgar Prithwiraj Mukherjee Safwan Amir Saptam Patel Vivek Bhatt Leya Mathew	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
350	Undergraduate College	FDP104 Water	3		7	Ashutosh Kumar Chirag Trivedi Siddhartha Saxena Aditi Singhal Guillaume Wadia	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu
351	Undergraduate College	FDP104 Water	3		8	Maryam Kaveshgar Prithwiraj Mukherjee Safwan Amir Saptam Patel Vivek Bhatt Leya Mathew	09:45 am - 12:30 pm Mon, Tue, Wed, Thu, Fri, 01:30 pm - 04:00 pm Mon, Tue, Thu

Course Descriptions

Winter Semester 2023

Amrut Mody School of Management

COM100 - Elements of Academic Reading and Writing
Credits: 3

This is an elementary reading and writing course in a series of core communication courses offered by the University to aid students' linguistic development. The course is designed to help students read critically and write effectively and to develop in them an awareness of grammar and writing style which will enable them to self-edit their writing. This course will also prepare students for the advanced communication courses offered by the University. In addition to the 26 sessions, there is a 'Conversation Lab' (10 Sessions) that is mandatory for the students enrolled in COM 100 to attend.

COM101 - Effective Reading and Comprehension Skills
Credits: 3

COM101 is the intermediate level of the university's communication courses designed to promote linguistic and academic development. This is a reading and comprehension course to train students to develop general competence and advanced analytical strategies in reading. This course prepares students to communicate in English at the level required for success in their core courses and beyond graduation.

COM102 - Advanced Writing
Credits: 3

This is an advanced writing course to train students in writing for academic and formal contexts. The modules of the course are designed to result in predefined writing outcomes with separate modules to address the writing requirements of the different Schools.

COM114 - Understanding Culture
Credits: 3

In academic institutions focusing upon management, commerce and technology, discussions of 'culture' are rare. Very occasionally when 'culture' does figure, it has a designated space, isolated from the everyday permeation of culture in just about everything we see or do. Through a series of illustrations from media, art, rituals on one hand and ordinary situations when the 'cultural' asserts itself both overtly and covertly, on the other hand, the course hopes to make students aware of every situation that has a cultural dimension even when we least expect it to be.

COM212 - Digital Humanities
Credits: 3

Digital Humanities (DH) is the intersection between humanities, technology, design and data analysis. It brings the power of computational analysis to problems and possibilities in humanities and related disciplines. This course aims to inform students of transdisciplinary research being undertaken within the purview of DH to equip them with the ability to hypothesise and 'critically-make' new media projects.The students are expected to incorporate a 50:50 ratio in their study of theory and implementing solutions hands-on. Students will be guided to prototype solutions that bridge their primary field of study with the Humanities. The course will result in the culmination of a final project answering a research question. Students will engage closely in a project that results in the culmination of a DH-platform as part of their evaluation.The tools that will primarily be used are Python, Google Collab, miscellaneous OpenAccess methods for text, network, spatial analyses will be encouraged. Students need not have any prior knowledge of these tools to register for this course. The coursework would broadly involve the creation of a data essay, a piece of alternative or multimodal writing and towards the development of an OpenAccess digital platform to highlight digital scholarship in Indian galleries, libraries, archives and museums (GLAM) for he general public.

COM502 - Analytical Writing for Management Students
Credits: 1.5

The Analytical Writing for Management Students (AMS) course helps students to

develop and hone the skills needed to analyse complex issues and make logical arguments. This course will prepare students to think, analyse and write about the types of problems managers confront on their jobs. In doing this, the course will enhance students ability to identify and gather, analyse and evaluate information, raise questions, formulate/identify problems and generate alternatives. The analytical writing elements stress on the importance of writing clear decision reports.

COM701 - Research Writing
Credits: 3

This is a course to train young and early career researchers in the art of research writing. It takes students through the different aspects of academic writing, beginning from abstracts, reviews, research proposals and writing for a popular audience. It also trains students in presentation and oral skills, to equip them to showcase, explain, and argue about their research to a diverse audience, both lay and specialist.

DES101 - Fundamentals of Design
Credits: 3

Fundamentals of design course provides an introduction in the field of design and its cross-disciplinary applications in industry and society. The intent is to give a foundation in design to students enrolled in any programme at the University by exposing them to the basic design fundamentals - principles, methods, processes and approaches. The course will expose the students to the user-centric approach that design adopts to address local and global challenges. They will learn to recognise that design is exploratory in nature and helps navigate ambiguity. It promotes new ways of looking at problems and coming up with solutions which are human-centered and inclusive.With practical exercises, the course will give an overview of the critical design thinking used for problem identification and opportunity mapping in any given context. Students will gain an understanding of design as a creative problem-solving tool to come up with holistic solutions for products, services, systems and experiences. The course is expected to rouse a student's interest in design. It will equip them with the necessary grounding to pursue design as a higher education or career pathway. Importantly, it will add a richer and diverse perspective to their understanding of their own field of Major education be it management, technology, sciences, humanities or social sciences.This course is open for students who are admitted to any programme at the University

DES102 - Visual Communication and Graphic Design
Credits: 3

Visual/Creative communication in the digital age requires familiarisation and literacy that goes way beyond – beyond traditional practices. Digital is no longer a grey area. It becomes inevitable that the brand language be effectively transformed from one media to another without changing the brand image. Throughout this course, the focus would be to expose students to ideas, applications, experiences and opportunities that are relevant to today's times. This course is primarily about creating visual artefacts that communicate effectively, but that does not mean you need to be an artist to succeed. Assessment will focus upon your efforts and your willingness to engage with your classmates to provide feedback and learn from one another. The more time you spend with the exercises in this course, the more skills you will develop as a visual communicator. Take the time to explore each exercise, take risks, and reiterate often. Don't allow your first attempt at any solution to be your only attempt. Fail early and fail often. Learning what doesn't work is an essential process in understanding what does work. This course is open for students who are admitted to any programme at the University.

DES103 - Biomimicry With Playfulness
Credits: 3

Nature is the best example of good design. Taking inspiration from nature has been an important part of human evolution. There are many examples of good designs which have been inspired by nature. Biomimicry is studying elements from nature: form, colour, function, movement, life cycle, growth, etc. and using it as an inspiration for designing products, spaces,

visuals for communication, systems, etc.Today in our modern world and our way of life, we are moving away from our natural connection with nature. It is all the more critical that we study its various inspects to learn and use it as an inspiration for good design. The whole area of Biomimicry, Bionics, etc, has developed a lot and there is a lot more awareness about this field in current times. Toys are also recognized today as playing an important role in learning, development, building cultural connect and socio-emotional bonds and as part of the entertainment sector. Toys are a part of unstructured play and a means to create playful experiences. In this course, we will study nature with a new perspective and explore possibilities of using it to ideate and design toys or playful elements.

DES201 - Strategic Branding and Packaging Design
Credits: 3

Brands exist in the consumers' minds and yet entice them to act as if it were a relationship of the heart.Brands often look for top-of-mind recall, but branding is an emotional connection that the audience forms with the brand and its message thereby creating a loyal following. It is not what you think and says but what they (the audience) perceive and believe. Therefore, branding is a function of strategy and psychology that embeds various facets of design in it.This course is designed to cover the fundamentals of branding and packaging to sensitize you to the decision-making process required to create a cohesive brand language. In a world dominated by brands, it is important to understand the key differentiating factor and then build an experience around it. Strategic Packaging design directly contributes to building a brand image by functional or aesthetic elements or by reinforcement of brand image by giving out an experience. This course will offer the tools and techniques required to formulate the right strategy for success.The pedagogy consists of interactive sessions with a healthy mix of fundamental theory, case studies, on the spot, and group assignments for hands-on learning.Your key takeaway from this course will be the ability to make smart decisions for building a successful brand image and a long-term plan for a lasting brand impression.

DES202 Interaction Design and User Experience
Credits: 3

Interaction design is the practice of designing interactive digital products, environments, systems, and services.Ideally, interacting with technology would be as easy and intuitive as interacting with other humans. So, why do so many products and services fail to achieve this ideal? All products, whether digital or otherwise, must deliver a high-quality user experience or risk losing users to competitors.The focus of interaction design is on user-centred design based on the understanding of real users including their experiences, goals, needs, wants and tasks. The goal of interaction design is also to collect and analyse data to make informed interface design decisions which are critical to creating and delivering successful products, services and systems that fulfil the user/customer, technological and business needs.

DES203 - Design Thinking and Problem Solving
Credits: 3

Design thinking is a methodology for creative problem-solving.Design Thinking provides a solution-based approach in tackling complex problems that occur around us by understanding human needs and re-framing the problems and solutions in human-centric ways keeping the business requirements in mind. It helps to adopt a hands-on approach to prototyping and testing.Companies globally are competing based on customer experience. Design thinking has gained momentum in the business world's leading companies as they have embraced it to improve their customer experiences. Design Thinking induces a deep human-centric understanding to deliver delightful client experiences through the quick iteration of ideas and solutions.

DES232 - Digital Experience Design
Credits: 3

Digital practices are altering the way we

archive, interpret and communicate knowledge resources to diverse audiences. This course blends digital practice, technical skills and narrative building techniques to train students in archiving, interpretation and designing digital experiences. Students will engage with technologies primarily used for digital preservation like Virtual Reality, Augmented Reality, Photogrammetry, LiDAR, and other tools for knowledge communication through digital medium.

DES301 - Design Project
Credits: 6

The Design Project is a culminating experience for an individual student/interdisciplinary group of students in their final year, where they apply the learnings gathered during the elective design courses to solve a real-world problem. The project aims to use creative and innovative techniques to create better products, services, systems, processes, strategies, and experiences that meet existing or previously unidentified needs. The students will understand human needs and re-frame the problem in human-centric ways. Apply critical design thinking for problem identification and opportunity mapping in any context. They will research from the user, task, environment and company perspective and create profiles and personas. The project will create a proof of concept, mock-up or prototype, which can be tested to verify the problem solution.

ECO110 - Macroeconomics
Credits: 3

Macroeconomics describes how the economy as a whole functions and policies are formulated. The purpose of the course is to acquaint students with the basic concepts and theories of macroeconomics and orient them towards linkages between various economic indicators.

ECO204 - Industrial Organisation
Credits: 3

Industrial organization is the study of market structures, the interaction between firms and factors external to firms which shape outcomes such as prices, quantities, number of firms and the market power yielded by each.IO also covers issues of how businesses/firms can respond to industrial features, and whether sometimes those responses become anti-competitive.

ECO213 - Macroeconomics and Monetary Policy
Credits: 3

This course provides students with the theoretical framework required for an understanding of monetary theory and issues pertaining to design and implementation of macroeconomic policies under varying scenarios. Being a core course for the students of BBA Finance and Economics major, a particular emphasis is laid on the theory and practice of monetary policy framework by various central banks of major emerging and advanced economies. The focus is on topics like integration of macroeconomic variables, objectives of macroeconomic policies, monetary transmission mechanisms, financial stability in open economy set-up, and challenges arising due to the digitisation and ever-changing economic environment.This course provides students with the theoretical framework required for an understanding of monetary theory, and introduces them to the issues of monetary policy implementation in an economy. Students will learn about money supply, neutrality of money, inflation expectations and how monetary policy can help the economy adjust from one equilibrium to another. Students will work closely with the real-time data of the central bank during this course.

ECO320 - Time Series Econometrics
Credits: 3

Why do business cycles occur? Does the COVID19 shock have a transitory or persistent effect on macroeconomic indicators like economic growth, unemployment, interest rates and inflation? How do institutions like the World Bank and the International Monetary Fund forecast growth rates of nations?Such behaviour of economic as well as financial variables is studied in detail in time series econometrics. The above questions are a few examples in this regard. This course goes

beyond the traditional use of time series analysis to forecast the time path of a variable. It is extremely relevant to decompose a series into deterministic and stochastic components for making forecasts, interpretation of economic data, drawing causal inferences and the direction of causality. The serial dependence structure demonstrates a difference equation with both deterministic and stochastic components, whose solution(s) yields a time path of a single series or a vector of many interdependent series.This advanced undergraduate course will familiarise students with modelling and forecasting of time series data. It will expose them to the basic techniques of time series econometric analyses and its applications in economics and nance. The course is designed to provide hands-on training in econometric software(s) such as R, which is an open source free software to critically analyse and investigate pertinent empirical questions in the real world.

ECO330 - International Economics
Credits: 3

In the contemporary age of increasing integration among the economies of the world, questions such as why and how countries trade with one another, how international capital flows are decided, how do indigenous firms compete against the mighty multinational corporations, the relevance of interest and inflation rate differentials, how the international value of currency gets decided, and many more, call for the attention of students of Economics. Answers to these questions are not simple, and there scarcely exists a unique solution for any one of them. Nevertheless, principles of Economics, both Micro and Macro, often provide an interesting and effective framework on which the logic of international economic issues can be constructed. International Economics provides an insight into some of these principles and equips undergraduate students in the field of management with the understanding of the functioning of the economies in a globalized world. The course covers essential theories of International Economics as well as empirical analysis of some of the most important global events that have altered the way in which economies have functioned over the last few decades.

ECO340 - Economics of Education, Health and Labour
Credits: 3

This course gives an analytical perspective of one of the most important sectors of the economy i.e. social sector. The course covers two important sectors of the economy e.g. education and health along with the understanding of the Indian Labour Market. Both, the education and health sectors play a significant role in enhancing the capabilities and productivity of the labour force of an economy. This, in turn, contributes to the growth and development of the economy. Through this course, students are introduced to basic concepts, theoretical frameworks, and practical issues faced by the education and health sector of the economy. Students are also introduced to the functioning and policy framework of these sectors. At the end of this course, students shall be able to give a critical analysis of various policies designed for the creation of a welfare society.

ECO501 - Intermediate Microeconomics
Credits: 3

The first part of the course will cover consumer theory. The second part will consist of producer theory and general equilibrium. View/Print Outline

ECO502 - Game Theory and its Applications
Credits: 3

This is an introductory course to Game Theory. Students will be exposed to various business, political, social interactions that can be understood using different game theoretic models.

ECO504 - Industrial Organisation
Credits: 3

Industrial organization is the study of market structures, the interaction between firms and factors external to firms which shape outcomes such as prices, quantities, number of firms and the market power yielded by each. IO also covers issues of how businesses/firms can

respond to industrial features, and whether sometimes those responses become anti-competitive.

ECO520 - Econometrics
Credits: 3

This course introduces students to the modern econometric techniques used to conduct empirical analysis in Economics. The course is designed to provide the students with the basic quantitative techniques needed to undertake applied research projects. Students will be introduced to both theoretical and applied econometrics so that by the end of this course, they can apply the formal theories they learn to analyse complex real-world problems. Students will also need to use an econometric software package, STATA, and different datasets in this course. This will enable them to learn and explore multiple estimation and forecasting techniques. Finally, the course also provides the base for more advanced optional courses in econometrics.

ECO521 - Time Series Econometrics
Credits: 3

Why do business cycles occur? Does the COVID19 shock have a transitory or persistent effect on macroeconomic indicators like economic growth, unemployment, interest rates and inflation? How do institutions like the World Bank and the International Monetary Fund forecast growth rates of nations? Such behaviour of economic as well as financial variables is studied in detail in time series econometrics. The above questions are a few examples in this regard. This course goes beyond the traditional use of time series analysis to forecast the time path of a variable. It is extremely relevant to decompose a series into deterministic and stochastic components for making forecasts, interpretation of economic data, drawing causal inferences and the direction of causality. The serial dependence structure demonstrates a difference equation with both deterministic and stochastic components, whose solution(s) yields a time path of a single series or a vector of many interdependent series. This advanced graduate course will familiarise students with modelling and forecasting of time series data. It will expose them to the basic techniques of time series econometric analyses and its applications in economics and finance. The course is designed to provide hands-on training in econometric software(s) such as R, which is an open source free software to critically analyse and investigate pertinent empirical questions in the real world.

ECO543 - Development Economics
Credits: 3

The course aims at developing an in depth understanding of the development and growth debates that have emerged in the latter part of the 20th century and early 21st Century. It exposes students to new empirical research and methods in the field of Development Economics. It helps to develop micro and macroeconomic perspectives on the problems plaguing developing countries. Bringing together various components and perspectives to development the course weaves in the contemporary policy discourse.

ECO620 - Empirical Research Methods in Economics
Credits: 3

Does university policy on minimum class attendance improve student performance? Does education increase the marriage age and reduce fertility of women? Do new bank branches in villages increase women entrepreneurship? Does a hike in the prices of petrol reduce private transportation usage? "Does x cause y, or is x just correlated with y?" are very relevant and come up in discussions in our day-to-day life. The appropriate answer to such questions however is very policy-relevant, and therefore requires a good understanding of the difference between correlation and causality, and the methods that help differentiate between the two ideas. This course is essentially about learning how to find appropriate answers to the above questions. In this course, students will receive an intuitive and theoretical understanding of the applied (microeconometric) research methods, followed by discussion on their applications through research papers. A major part of the course will require students to apply the appropriate research methods to the datasets

provided to them and estimate the coefficients of interest in STATA. At the end of this course, students should be able to apply these methods to their research ideas and the corresponding data from any particular field of interest (education, health, labor, environment, finance, management, international trade, etc.).

EFB101 - Introduction to Entrepreneurship
Credits: 1.5

This is an undergraduate level course intended to create awareness about basic entrepreneurial skills. It is for an audience that plans to be involved in new-venture creation or take the existing venture further, be it a small business, family business or a turnaround. The focus will be on the formulation and implementation issues that relate to conceptualizing and developing ventures. It is meant to expose the audience to the world of entrepreneurship and trigger entrepreneurial interest. In this way the course will try to achieve twin purposes: generating entrepreneurial interest and to motivate participants to become informed entrepreneurs.

EFB202 - Establishing and Growing Ventures
Credits: 3

EFB203 - Business Designing and Planning
Credits: 3

This course is about the early stage entrepreneurial journey, from idea to launch.While many students can think of business ideas, they need to assess if the idea isfor them and understand how to take action on their ideas. Students go through thebusiness design process of idea generation, elevator pitch, market research,business model, prototyping, market testing, financial analysis and preparation ofbusiness plan. Both, technical and methodological aspects of entrepreneurship arecovered in this course.Most importantly, with the experience of the process, students will develop key skillsof taking initiative, thinking creatively, overcoming fear, handling uncertainty, makingdecisions, solving problems and working in teams.

EFB502 - Design Thinking
Credits: 1.5

Design and design thinking are aimed at one primary goal above everything else – improvement of the quality of life. Design is a set of activities and processes to bring about this improvement and beneficial change on their own. Design Thinking is a set of activities and processes to let design happen on its own. It is aimed at making designerly behaviour a very core mindset and bodyset.Design Thinking in the modern context is recognised as a core business activity which is capable of enhancing all activities around it, making them better and more human and consequently profitable as well. Over the years, it has developed as a very robust and ever-evolving combination of design, science, human behaviour and business principles. At the centre of this is the target user for whom systems are built to understand them, empathise with them define their problems and help them solve these problems through strategically targeted design interventions. Ultimately, all business is about the people who invest in it through one or the other level of consumer behaviour. Design Thinking is aimed at giving business thinkers, a very deeply strategic advantage in the market.The proposed course is an introduction to Design Thinking which is delivered through a set of 14 sessions, discussions, and structured assignments that help internalise these basic concepts. Several minor assignments and a major project serve as a vehicle for participative action that is central to the understanding of Design Thinking as applied to imaginative business models while understanding four key aspects – context, intent, recipients of the design and the system involved.

EFB508 - Intellectual Property Rights
Credits: 1.5

Intellectual Property Right is an important part of organization strategy for organizations ranging from commercial companies to non-profits like education and research institutions. It is also important for individuals who create any original work, be it in scientific, literary or cultural domain. The course will familiarize students on all types of intellectual properties and the legal provisions related to them

including registration, protection and legal remedies against infringement. The course will also provide insight on the competitive and strategic advantages of enterprises by using Intellectual Property Rights

EFB509 - Idea to Business Plan
Credits: 3

This is an ENABLE course, designed to enable students to bring their new business idea or a renovated old idea from a design stage to a business Plan stage. It will help students design, test and deliver what customer wants by understanding patterns of value creation, leveraging skills of the team and understanding environment in context, integrating their learning from previous courses in marketing, operations, organization, human resources and finance to prepare a detailed integrated Business Plan encompassing all functional areas with matching number projections The course provides insights into multiple dimensions of design, strategy, and processes through tools such as value proposition canvas, business model canvas, developing multiple business models from the strategic point of view and preparing a final business model with financial projections

EFB602 - New Venture Creation
Credits: 1.5

The idea of creating a new venture is far more complicated than just having a good idea, feasibility report and a business plan of that idea. Most of the teams with business plans lacks knowledge related to acquiring funds, managing stake holders, choosing the right co-founders, acquiring first 100 customer and many more such issues. This course covers theoretical as well as practical aspects of valuation of start-ups vs. businesses, creating a pitch deck for funding, reading term-sheets and legal documents, stakeholder management, choosing the right co-founder and other such important aspects related to new venture creation.

EFB608 - Intellectual Property Management
Credits: 1.5

This is an advanced course where learners will apply the principles of Intellectual Property Rights and know how to manage various Intellectual Property Rights. The course aims to look at both – creator/innovator/inventor's perspective and the organizational perspective as to how and why to manage the Intellectual Property Rights Portfolio. This course always aims to inform learners about the transmission of the IPR to third parties by way of License or Assignment. Enforcement of IP is also important for any organization which is also part of this course. Thus, this course deals with the IP Management and IP Enforcement Mechanisms

EFB609 - Business Expansion and Growth
Credits: 1.5

This is a hybrid course on business expansion and growth, having 3 live sessions by experts from the industry as arranged by the Ahmedabad University and 10 self-study sessions as offered by Santa Clara University (SCU), California. There will be a doubt solving session jointly administered by Ahmedabad University faculty and SCU faculty at the end of the course. Business Expansion is a phase of business cycle where the owner needs to have appropriate expansion strategies in place so that he/she can grab better opportunities by leveraging the existing products, knowhow, infrastructure and goodwill. Different forms of business expansion include growing by duplication, buying another business or franchise, inviting public funds, integrating vertically, expanding globally, or even by selling the existing business. However, the challenge lies in knowing the best suited option. This course deals with all of the above options, their pros-cons and risks associated with each of them. Upon successful completion of the course, students will receive a joint certificate from Santa Clara University and Ahmedabad University.

ENV333 - CityLab
Credits: 3

This ENABLE course is a hands-on elective course. The course would be delivered in the format of a lab/studio that encourages the students to come up with evidence-based

solutions. Thus, collection of evidence, understanding the socio-political context within which the solutions must be sought, and developing solutions would be undertaken through the lab format of the course. Cities are where future challenges lie, making them sites for various interdisciplinary interventions for human wellbeing, and socioeconomic and environmental sustainability. The global agendas of climate change and environmental sustainability, inclusivity and sustainable development goals must find solutions at the local level. Taking specific areas within Ahmedabad City (roughly equivalent to a city ward), the course will allow students to deal with the challenges under six key themes: public transport, public open spaces, public health, solid waste management, informal economic activities, and climate change (eg, floods, water shortage, and heat waves, etc). Three types of areas, historic core, suburban, and new urban areas will be selected. However, the geographic extent of the total study area would depend on the total enrolments. For each of the challenges, national and international cases would be presented to the students using which the students would come up with local solutions.

ENV555 - Cities and Transport
Credits: 3

Urban development and transport systems are strongly interconnected. Changes in one influence the other. The aim of this course is to look at these two sub-systems in unison. The course is therefore divided into two modules. The objectives of Module-1: Urban planning is to develop an understanding of the various theories of urban planning and design, introduce basic concepts of how cities develop, and the various approaches to planning and managing cities. Theories and models in urban planning and design would be covered followed by a discussion on alternative urban development approaches and formulation of urban and transport infrastructure policy, and a liberal planning framework. The objective of Module-2: Urban transport is to introduce urban transport infrastructure planning, design, and management. Public transport, which is instrumental in a city's socioeconomic development, will be a key focus. Various debates and topical issues surrounding urban planning and transport will be covered by critical review assignments.

ENV801 - Energy-Environment Assessment Models and Applications
Credits: 3

Understanding dynamic energy systems has become a need of an hour for all the developing and developed nations across the world. The dynamic changes in global and national economic systems and structures with increasing consensus to keep global temperature rise below 1.5 degree has pushed several nations to further rethink about their current and future energy systems. To understand and predict future energy systems, energy models are developed at global and national levels. They are generally developed keeping top down and bottom up perspective to provide sound indications on future energy scenarios its linkages with economic development and total GHG emissions under different conditions. The end results of various models are than further used for formulation of key global and national policies. In recent times, energy and environment policy nexus has been among the most researched field internationally. This is evident from the numerous theoretical contributions by individuals and multi-disciplinary groups, addition of new journals, starting of new departments and centres at universities and research institutions. Integrated policy modelling has emerged as a key area of research. In recent times, scenario and modelling based assessments –integrating future emissions, impacts and adaptation strategies leading to new energy transitions and sustainable development have been the core areas of research. The course materials include is research papers, case studies and discussions in conceptual, methodological and policy domains spanning short to long time horizons and local to global geographical scales.

FAC104 - Tally ERP 9.0
Credits: 2

Tally ERP 9.0 is an elementary level hands on practical training course which equips the

students with necessary skills to operate a computerized accounting package. This course covers important features of financial accounting such as voucher entries of various accounting transactions to finalization of accounts, preparing Profit & Loss Account and Balance-sheet as per Schedule – VI, introduce to them basics of inventory management, Budgets and some of the widely used basic Taxation features such as TDS and recently introduced Goods and Service Tax.

FAC114 - Financial Accounting
Credits: 3

This course is an introduction to the basic concepts and standards underlying the financial accounting systems. It aims to build upon the important accounting concepts and principles including revenue recognition, inventory, depreciation, and understanding the accounting equation. The course focuses initially on how to record economic events in the accounting records (i.e., bookkeeping and accrual accounting) and how to prepare and interpret the primary financial statements that summarize a firm's economic transactions (i.e., the balance sheet, the income statement, and the statement of cash flows). The course adopts a decision-maker perspective of accounting by emphasizing the relation between accounting data and the underlying economic events that generated them thereby enabling the students to read, understand and analyse financial statements through ratio analysis. The course also explores the areas of financial shenanigans wherein the students will be able to learn how companies use financial statements to disguise economic reality.

FAC121 - Direct Taxes
Credits: 3

Direct taxes have gained significant importance in the Indian economy as it constitutes a major source of revenue to the Government. The course aims to provide an understanding on the Taxation System in India in general and Direct Taxes in specific. The course is designed to help the students acquaint themselves with the basic knowledge and practical application of the principles and provisions Income-tax Act, 1961. It introduces fundamental concepts under the Act like Previous Year, Assessment Year, Income, Person, Assessee and Residential Status. It includes understanding the Basis of Charge under various Heads of Income- Salary, House property, Capital Gains and Income From Other Sources under the Act and Computation of Total Income of an individual under the provisions of the Act. The course is largely designed to develop a foundation for the students about the importance of studying Income Tax by developing their awareness about the personal income tax aspects of an individual.

FAC124 - Fundamentals of GST
Credits: 1.5

GST is one of the biggest policy reforms in post-independent India. It is set to change the method of doing business in India. The GST is set to redefine the political, economic, and commercial policies of India. The course aims to give the insight of GST to the students. The course provides an eliminatory understanding of the law and how it is going to affect the lives of the common man. It also discusses how GST leads to the formalization of Business in India. GST also has an important role in curbing parallel economy in our country. A special focus is made on the impact of GST on SME Sectors, who constitute the backbone of our economy. The impact of GST plays a very important role in decision making. The production, marketing, and financial decision-making process has changed considerably post GST. The Course attempts to brief students about the various aspects of GST which has to be considered during decision making. The course will also highlight how GST has played a role in reducing red-tapism and corruption in India. It highlights the benefit of GST for improving the ease of doing business in India.

FAC125 - Business Taxation
Credits: 1.5

This course is an extension of the course FAC121 Direct Taxes. Having studied the fundamental concepts under Direct Taxes, including the taxation of an individual earning incomes from employment, owning properties, sale of capital assets and other sources, this

course aims to focus on the income of an individual from Business or Profession. It specifically includes the understanding of tax laws relating to determination of business or professional income of an individual and the deductions and disallowances applicable in determining the taxable business income of an individual. The course also aims to create an awareness of the tax benefits provided under the Income Tax Act through the deductions available to an individual based on various investments and payments made through the incomes earned, as well as through the application of the principles and rules of set off and carry forward of losses occurred under various heads of income. Another interesting aspect of this course would be to explore the situations under which the income of other persons is included in the total income of an individual commonly known as the 'Clubbing Provisions' of the Act.Lastly, the course also aims at understanding the income structure of an individual involving various sources of income and computing his total income liable for tax under the Act.

FAC133 - Financial Management
Credits: 3

This is an introductory course in finance. It provides an overview of some of the basic principles and theoretical framework leading to sound financial management decisions. The course provides an introduction to the application of finance in one's life and also the financial manager's role in achieving the optimal financial position of the firm.The course aims to provide students with a basic understanding of some of the tools and techniques used in financial decision making. It introduces the students to the utility of finance, it's importance and relationships with other fields.It introduces the key concepts of Time Value Of Money and then goes on to illustrate the application of those concepts to various decisions of savings, investment, determining growth rates, determining present and future values, etc., which help to take more efficient savings and investment decisions.The course introduces students to the various techniques of Capital Budgeting for enabling sound decision-making for undertaking long-gestation capital projects.The course introduces the students to the various sources of long-term capital used for financing the firm and attempts to sensitize the students to the strategic and cost considerations to be considered while planning to raise funds from a particular source.The course also introduces the concepts of cost of capital, both for specific sources like bonds, preference shares, equity, retained earnings and the overall cost of capital.The course introduces the students to the concepts of working capital and how to estimate needs of working capital.

FAC213 - Advanced Corporate Accounting
Credits: 3

This is an advanced level course in Corporate Accounting, which deals with complex accounting transactions related to corporate restructuring. The focus of the course is on the accounting procedures used to prepare merged balance sheets after amalgamation (Acquisitions and Mergers) as per AS 14, reduced balance sheet after internal reconstruction and accounting process of liquidation as per companies Act 2013. The course encompasses the procedures of Insolvency and Bankruptcy Code 2016 and its implications on Liquidation process with a specific focus on order of disbursement. The course broadens students' horizons by examining the regulations, techniques and debates surrounding such complex topics.

FAC215 - Cost & Management Accounting
Credits: 3

The course aims to acquaint the students with the basic ideas about various cost accounting concepts & techniques and emphasize the need for management accounting in the decision-making process. The course will make the student familiar with the cost ascertainment and difficulties associated with the calculation of cost. This course consists of various cost terms and concepts; elements of cost, and the preparation of a cost sheet. The course also focuses on the concepts and implications of cost-volume-profit and break-even analysis & types of variances with their implications in standard costing. It also aims at equipping the student to apply accounting and costing techniques in preparing various types of

budgets like production budgets, cash budgets, flexible budgets, and making short term decisions.

FAC216 - Financial Statements and Analysis
Credits: 3

This is an advanced level course, which deals with understanding the framework of the Financial Statements of the Companies and its Analysis. The course focuses on the integration of accounting framework and business analysis in the forecasts of financial statements, which means applying accounting framework in analyzing business activities and the predictions of full sets of financial statements. The focus of the course will be on Preparation of mandate Financial Statements like cash flow statement as per AS 3 under Companies Act 2013. The course will enhance students' knowledge from recording entries to actual reporting. It also encompasses the recent trends in Financial Reporting like the Economic Value Added Statements and concept of Enterprise value. The course focuses on the fact that how key business transactions are accounted for, and how these transactions appear in the financial statements. The course will help the students to better understand the meaning of financial statement information and how to use financial statement data for analysis. The course forges a unique path in financial statement analysis through Commonsize statement Analysis and ratio analysis technique.

FAC217 - Performance Management
Credits: 3

Performance Management Systems facilitate management and control of business. This course seeks to examine the understanding of the performance of a business. It also prepares students for more specialised capabilities in Management Accounting. Risk and uncertainty are a factor of real-life decisions and students need to understand risk and be able to apply some basic methods to help resolve the risks inherent in decision-making. This course also considers decision-making and need to appreciate the problems surrounding scarce resource, pricing and make-or-buy decisions. Standard Costing and Variance Analysis should be known for making budgets and taking pricing decisions. The course would focus on exploring mix, yield, planning and operational variances. Students will also study the importance of both financial and non-financial performance measures in management, the difficulties in assessing performance in divisionalised businesses and the problems caused by failing to consider external influences on performance.

FAC223 - Tax Procedure
Credits: 3

The course provide to impart procedural aspects of Income Tax Act, 1961. It discusses various types of returns to be filed. It also discusses provisions of TDS and Advance tax. It discusses various appeal mechanisms to resolve tax disputes.

FAC241 - Banking
Credits: 3

Banking is considered as the lifeline of any modern economy. It is the core financial service, and plays a vital role in the success / failure of an economy. A large number of changes have happened globally as well as in Indian economy that have forced banks to change the ways they do their business. Since the course participants do not have any formal background of financial services and especially banking, the course aims to provide them with a learning opportunity to build foundation level understanding of the financial system and specifically the banking sector.

FAC244 - Financial Markets
Credits: 3

This is a specialisation course which builds upon the financial knowledge that students obtained in earlier courses on Financial Management. It aims to provide the students an introduction to various financial markets like: capital, money and foreign exchange, which the student may be required to access as an individual or as part of an organisation. It introduces the students to the utility of these markets, the products available in these markets for investing and the role of the various market participants.

FAC245 - Financial Services
Credits: 3

This is a specialization course which builds upon the financial knowledge that students obtained in earlier courses on (FAC131)Financial Management. It provides the students an introduction to some of the basic principles and theoretical framework behind of various Financial Services like, Insurance, Mutual Fund / Alternate Credit Delivery Mechanisms, which they may be required to subscribe as an individual or an organization. It introduces the students to the utility of these financial services and the products available to them, and explains their importance for having a relatively more secure and prosperous existence. It utilizes the various concepts of Time Value of Money, taught in (FAC131) Financial Management.

FAC331 - Corporate Finance
Credits: 3

This course introduces students to the basic concepts and methods that financial managers use to make effective investing and financing decisions, and explore the ways in which value is created and measured. The course lays emphasis on specific finance concepts vis-e-vie the risk and return relation, capital budgeting decision-analysis tools, dividend policy, and an overview of Leasing.

FAC332 - Security Analysis and Portfolio Management
Credits: 3

This course gives Practical knowledge and real life experience of Security Analysis & Portfolio management. It is the mixture of Conceptual Theory & Practical Problems.The idea of the course is to question the Rational thinking man model and look at business from a multidisciplinary way.

FAC335 - Global Securities Market
Credits: 3

The course, as the name suggests, gives students an overview of the securities markets and the various products that are available in the markets. It is a course that will cover almost all aspects related to the financial markets but will not go too much in to the details of each of the functions. This will therefore work out to be an informative course for those who want to have an idea about financial markets and products but may not want to pursue a career in core Finance.

FAC533 - Corporate Investments and Value Creation
Credits: 3

The central purpose behind this course is to acclimatize students to basics of corporate investments and value creation. To be specific, as part of this course, students would work towards garnering competency in applying time value of money techniques to arrive at valuation in different contexts, such as personal investments, valuation of financial instruments, and assessing viability of firm-level investments. Further, students would be introduced to different drivers of firm value. In doing so, students would be exposed to aspects such as capital budgeting, capital structure and working capital management. While the course per se would help the student navigate the different strands of financial management both at an individual level as well as at the firm level, such navigations are not only meant to build competency in individual strands, but also to help students attain an integrated perspective - one that is anchored on value creation.

FAC631 - Derivatives and Risk Management
Credits: 3

The central intent behind this course is to sensitize students to the different kinds of risks faced by market participants and how derivative instruments could be used to mitigate (if not completely eliminate) such risks. In doing so, students are introduced to the different types of derivatives instruments that are available in the market place, their utility, and the attendant market structures and price mechanisms pertaining to such derivative instruments. Further, students are exposed to pertinent risk management strategies that can be undertaken by market participants at different levels of the value chain so as to mitigate different risks. The 1991 big bang reforms in general and the financial sector reforms in particular, among

many things, led to the establishment of cutting-edge state-of-the-art institutions such as National Stock Exchange (NSE) and National Securities Clearing Corporation Limited (NSCCL; now renamed as NSE Clearing Limited.), which in turn have played an instrumental role in development of vibrant derivatives market in India. This has catapulted India in global league when it comes to derivatives trading activity. Consequently, this course is also geared to making students appreciate the opportunities and challenges with respect to Indian derivative markets, without losing sight of the regulatory actions that have enabled the prevalence of derivatives market in the first place.

FAC632 - Corporate Restructuring Mergers and Acquisitions
Credits: 3

Mergers and acquisitions (M&A) are more than a century old phenomena. Over the years, it is becoming progressively complex due to innovations in financial markets, shareholder activism and influences from politicians and other stakeholders including financial press. Every day M&As are happening in the business world but only a few large ones are making media headlines. The Competition Commission's intervention or NCLT's ruling make further additions to the M&A news. M&As are the causes and results of corporate restructuring necessitated by both ups and downs of the national economy. The managements of the merging companies defend their M&A decisions. The employees become uneasy and skeptical about their future. The stock market reacts positively or negatively. While the overt motives behind many mergers are 'growth' through organic or inorganic combinations, the covert purposes can be driven by 'managerial hubris'. But the fact remains; most M&As are failing sooner or later as the mysterious M&A chemistry is less understood. The failure rates are more in developing economies, even though successful CEOs strike the deals. Experts are unanimous in expressing that majority of failed mergers are the results of unscientific M&A decisions but it remains an exotic bets; win some lose some.

FAC635 - Financial Modelling
Credits: 3

Financial modelling forms a part of the essential skill-set required by modern finance and business professionals to succeed in their careers. Most financial decisions, ranging from simple DCF calculations to financial analysis for mergers and acquisitions, require managers to quickly and accurately process large financial data for decision making. Today's financial models have gone far beyond the single-sheet spreadsheets and involve the use of advanced decision making and analysis tools. Proficiency in building financial models would place a powerful skill in the hands of students to effectively compete and succeed in the financial world.

FAC637 - Business Valuation
Credits: 3

Of late, 'Business Valuation' has gained tremendous prominence due to various judicial pronouncements in India and abroad. In India, a new professional discipline on Valuation has been created through 2017-Valuation Rules and by setting up of Registered Valuers Organisations (RVO) for all purpose valuation. By its nature, valuation is not a precise science due to imperfections in the market and varying perceptions. A valuer may have perfect knowledge of the market but the market may not have perfect knowledge of the value. On every occasion there may not be a definitive value conclusion, but every valuation exercise is based on its circumstances and premise. There is nothing called correct valuation; valuation is an opinion and therefore, the principle of caveat applies. Valuation exercise needs methodical & logical approaches, careful application of the basic valuation principles and adherence to standards and practices. Therefore, a valuation professional needs to be better educated in order to make business valuation theories & practices better explained and better defined in the context. This course deals with various methods and techniques (comprising all the three internationally accepted approaches) of valuation to suit various purposes of valuation, following valuation standards, principles and regulations of the country. Emphasis is given on practical application of the concepts.

FAC641 - Financing for Startups
Credits: 3

Financing a startup is more risky proposition than that of an existing enterprise. For this, the entrepreneur needs to look beyond the traditional sources. Venture capital, private equity and angel financing have given a new idea of risk capital and risk sharing. They have notable contribution in both industrialized and developing countries. The course gives an overview of the various sources to finance a startup in India. Venture capital has become important in India specially in developing IT, biotechnology and alternative energy sectors. The course will follow Engagement And Application Based Learning and Education (ENABLE) as teaching-learning pedagogy. The course encourages students to engage in the classroom through participation based on pre-readings and group projects. It provides them with advise, space and resources to discuss and apply the concepts in entrepreneurial finance, financial modelling and valuation of a startup.

HRT212 - Heritage: Concepts and Practices
Credits: 3

This course will introduce heritage concepts and different fields of heritage practices. Through lectures, field trips, discussion, and multiple assignments, students will be exposed to various case scenarios and encouraged to explore the notion of heritage as well as to delve into the conceptual process of managing such heritage.

HRT512 - Living Heritage Approach and Sustainable Development
Credits: 1.5

Heritage is not only about the past; heritage management is not only about preserving, and 'freezing', the past in the present. Heritage is also living, continuing and evolving into the present and the future; and heritage management is also about sustaining continuity and managing evolution. Within this framework, 'living heritage approach' (LHA) is an approach to heritage management that: • sees heritage as part of the identity of the contemporary local communities; • empowers local communities in the heritage management process, recognizing their traditional knowledge, management systems and maintenance practices; and • links heritage management to sustainable development, by making heritage relevant to the socio-economic needs of the contemporary local communities. LHA could be considered an innovative approach in the sense that it is different from, and moves beyond, values-based approach – i.e. the current most preferred approach to heritage management, adopted, and advocated by major conservation authorities, both at national level (e.g., USA, Canada, Australia, and UK) and at international level (e.g., UNESCO World Heritage Centre), and by major research and educational institutions (e.g., the Getty). LHA is of international scope, yet of particular relevance to the Asian and Oceanic and the Indian context, and specifically to the World Heritage City of Ahmedabad, respecting the local religious and cultural traditions and bringing significant benefits to the local communities. The course: • presents the key characteristics and the planning process methodology for the application of the LHA; • examines the application of the LHA in a wide range of heritage sites such as religious sites and historical towns and villages; and • highlights the contribution of the LHA to reconciling development/energy infrastructure to heritage sites and local communities. A wide range of heritage sites, international and Asian-Oceanic and Indian ones, are used as case studies. The ultimate aim of the course is to help current and potential heritage managers understand the importance and develop methodologies of involving, and empowering, local community and civil society members in the heritage management process. Above all, the course encourages current and potential heritage managers to adopt a new 'paradigm' that would recognize the local communities as the long-term custodians of their heritage and themselves as the supporters and mediators – towards the continual creation of heritage in the present and the future. The course addresses undergraduate and postgraduate students interested in heritage sites (religious sites, historical towns and villages) and local communities, and in tourism.

HRT542 - Heritage Laws and Governance
Credits: 1.5

Heritage managers should be aware of the overall policy framework under which various heritage conservation and management projects/programmes can be executed, as well as the laws that regulates the ownership, rights and responsibilities of heritage conservation and protection. The knowledge of relevant policy and laws will also enable heritage activists and practitioners to initiate different movements that may trigger effective heritage management systems in the country. The course will provide an overview of governance and laws to understand where the laws and policies on heritage come from. Building upon basic understanding of governance, the course will then explore the laws and policy on heritage in India. The course will familiarise the students to the fundamentals of how the heritage laws are conceptualized and enacted. In addition to the regular lectures and discussion, the course will also feature a few cases that lead to heritage management initiatives following law-suits being filed within the existing policy and laws. The course will equip future heritage professionals with a good in-sight and strategic understanding of the heritage related laws and policy.

HRT561 - Museums and Archives Management
Credits: 3

This course will introduce the management processes and concerns in the museum and archive sector by discussing various functions of a museum and archive management and emerging approaches. This course aims to serve as an introduction to the approaches and concerns around the management of museums and archives. It will give students an overview of historical models and enable them to engage critically with - the management of such institutions in India today; accessibility of museums and archives to the public; and ethical issues around collections. The course aims to build knowledge about museums and archives as cultural institutions seen today as 'soft power' ambassadors.

HRT571 - Indigenous Knowledge Systems Management
Credits: 1.5

HRT612 - Ethics and Professional Practices for Heritage Management
Credits: 1.5

This is a seminar course to discuss scenarios of professional practice and ethical aspects in heritage management. This is designed specifically for the Heritage Management students, and is to be offered in the final semester of the programme. The idea behind this course is not to 'teach' a particular way of professional practice and or a set of ethics, but to make students aware of multiple fields of practice in different settings, and to sensitize them on potential roles, responsibilities, rights as well as ethical concerns that may come in such fields of practices – particularly keeping in mind their own scenarios or career plans as they graduate from the Masters degree in Heritage Management.Heritage is a broad concept connecting to various disciplines and almost all levels of society. Heritage Management is an evolving field of practice which aims to keep the heritage idea in focus while working in development, planning, economic activities, community development, research and institution building etc. Hence, there are multiple avenues of practice that the graduates of the Heritage management programme may pursue – from being an individual heritage professional to taking a leading position in a heritage related organization, from setting up their own entrepreneurial business to venturing into a large scale corporate type set up tapping into any sector of heritage, i.e. textile or metal work etc., from joining a government department to working in the NGO sector, from being an administrator in a local urban body to being an academician, and so on. Accordingly, it comes with its own complexities and potential conflicts of interests too. It is in such contexts that this course aims to highlight the potential overlaps, conflict of interests, individual and societal rights, organizational behavior and ethics etc. that may be relevant to heritage practitioners. This is not an exclusive course to cover all possible topics and areas – which perhaps is impossible, but this is a course to trigger such sensitivities in the minds of future heritage managers, and to enable them to explore such issues and be prepared to frame

their career plan and professional activities in a more just and responsible ways.

HRT622 - Urban Heritage Management
Credits: 1.5

The walled city of Ahmedabad has been declared as World Heritage City, which requires preparation of a Heritage Management Plan of the city. This course would orient the students to the complexity of preparing a Heritage Management Plan of a city. Heritage Management Plan of a city has to consist of all the elements of city planning and management. These are: built form (the buildings and open spaces), infrastructure (water supply and sanitation) management, solid waste management, transportation issues such as traffic management and parking, vendors' policy, urban planning legislation, municipal laws dealing with heritage management, financing mechanisms and civil society organisations engaged in management of some heritage precincts. This course will finally sensitize the students to the importance of dealing with all the elements of city planning and development and also to prioritize some aspects over the others while taking a final decision about the Heritage Management Plan.

HRT623 - Nature & Environment Conservation and Management
Credits: 1.5

This course will introduce students to the vast field of Natural Heritage Management, that includes ecological perspectives, environmental and biodiversity management.

HRT632 - Strategy for Management of Cultural Organisations in a Changing World
Credits: 1.5

The world is continually changing, often in dramatic ways, and the organisations that are responsible for safeguarding and exploiting heritage often find it difficult to adapt. This is a global phenomenon, yet of particular relevance to the Asian and the Indian context. What are the challenges as well as the perspectives of safeguarding and exploiting heritage at present and in the future? And, more importantly, how can cultural organisations identify, understand and respond to the ongoing change? The course aims at providing the theoretical models and practical tools that would enable cultural organisations to manage change, benefiting from some of the latest developments in the areas of business management, strategy and marketing. In this context, the key challenges for cultural organisations are to: • be agile in the changing and fluid environment; • achieve and sustain innovation over time; and • maintain and increase their visitors and networks, securing financial viability and also contributing to the development of the local and the broader community. A wide range of cultural organisations, international and Asian and Indian ones, from both the public and the private sector are used as case studies. The ultimate aim of the course is to contribute to the shaping of the heritage managers of tomorrow.
View/Print Outline

INS515 - Perspectives on Retail Sector
Credits: 1

INS521 - Perspective on Energy Sector
Credits: 1
Energy companies are among the fastest-growing companies, both in terms of revenue and prots. In India, ve of the top fifteen companies are in the business of energy exploration, production and/or distribution. Apart from the conventional energy businesses, new avenues have also opened up in fields of alternative energy supply, smart grids and energy services. Energy businesses are facing unprecedented challenges. While the demand for energy is on the rise, conventional fossil fuel stocks are uncertain and depleting, there is a global imperative to reduce the emissions of greenhouse gases. Since energy businesses often transcend national borders, they are exposed to global geopolitical, financial, and environmental market risks.

MAT142 - Introductory Calculus
Credits: 3

This course is one of the core requirements for the Bachelor's programmes in Economics and Business. Students of Bachelor's programmes of other disciplines may take it to fulfill the GER.Calculus is an important mathematical

discipline that deals with change and motion. It is extremely useful not only in physics, and engineering, but also in many other diverse areas including, biological sciences, business and economics. This course is a comprehensive introduction to the elementary concepts of calculus namely, Limits, Derivatives and Integrals with some of their applications, including related rates, linearization and differentials, optimization and numerical algorithms like newtons method. The applications are drawn from many fields and include related rates, linearization and differentials, optimization and numerical algorithms like newton's method.The course is aimed at first-year undergraduate students of any field. A familiarity with high-school mathematics upto 10th grade is assumed.

MGT112 - Organisation Processes
Credits: 3

This course is a spin-off to the Identity and Behaviour course taught in previous semesters. People working in organizations get affected not just by who they are, but also but who they are working with and aspects like their teams, leaders, organizational culture, change and communication. The course shifts away from the individual level to the group, and organizational levels of behavior drawing on concepts and practices from the field of Organizational Behavior (OB). This course provides a basic understanding of your own and others' behavior, particularly in teams. It enhances your ability to communicate and work effectively with others. Organization requires effective management of people and a clear understanding of human behavior and social processes. Managers need to have a good understanding both of themselves and of those whom they will lead. The prior knowledge of individuals' perceptions, attitudes, and behavior will enable you to choose appropriate leadership styles and managerial practices to increase organization effectiveness and positive human outcomes.

MGT121 - Human Capital Management
Credits: 3

Success in today's competitive business environment is increasingly the function of effective management of its resources, particularly, employee. The quality of the organization's employees, their enthusiasm and satisfaction with their jobs, and their sense of fair treatment all impact the firm's productivity, level of customer service, reputation, and survival. The students of human resources management must aware of basic aspects of human resource management to understand the functioning of human resource management in an organizational setting. The challenges that might be associated with and the objectives of Human capital which they have to deal with when going through the new nature of organizational structures.

MGT136 - Indian Legal System
Credits: 1.5

Day-to-day living and Business operations have to be carried out within the legal framework of a country. This premise requires a student to attain working knowledge about the legal systems and some laws which impact the everyday life. The course aims at meeting this requirement. The course begins with introduction to the Indian Legal System, proceeds to discuss the important Rights of every Indian and finally explains selected commercial laws. The topics discussed throughout the course aim to ensure personal and professional well being of the students from the legal context. Students should expect to deal with quite a few court cases over the semester and in some cases present them in writing.

MGT236 - Corporate Social Responsibility
Credits: 3

Its time we realize the importance of co-existence. We have been talking about economics, technology, culture, climate and other topics but its important that we discuss how they overlap, influence and impact each other. The world we exist in is going through a contradictory phase, there are developments in the fields of science and technology to make lives better and connected, at the same time there is a rising intolerance! CSR, combines these factors and makes businesses more conscious, inclusive and social !!

MGT238 - Constitution of India
Credits: 3

The Constitution of India is the Supreme Law of the land. It has been offered as an elective to introduce the students to this supreme law. The Course gives an overview of the various fundamental aspects of the Constitution and tries to throw light on its existing legal framework. The course also aims to bring out the critical aspects of the working of the Constitution for debates and discussions. The course provides an integrated orientation to the basic constitutional framework, its working, and important existing challenges. It also familiarises the student with the present challenges before our Constitution. The Course has two modules. •Module I - The Fundamentals of the Indian Constitution This module includes making our constitutions and their fundamentals. It discusses the fundamental rights duties and Directive Principles of State Policy. •Module II - The Pillars of the Indian Constitution This module discusses three pillars of our Constitutions viz Legislation, Executive, and Judiciary. It also discusses their inter-relations.

MGT311 - The Six C's of Leadership
Credits: 1.5

The art of communication is the language of leadership. Communication, Confidence, Creativity, Curiosity, Collaboration and Competence are the Six important skills a professional would need to persuade their customers or colleagues and begin their journey to be called leaders someday. An essential leadership quality is to communicate orally with confidence and to persuade, influence and inspire others. This course is designed to help undergraduate students enter the corporate world where they will be expected to get things done – starting from how to communicate orally, how to handle situations with customers and stakeholders and how to persuade others to get things done.

MGT341 - Competitive Strategy
Credits: 1.5

Organizations from inception are driven by organizational level objectives also known as strategic goals of the organization. Strategies are designed to achieve these strategic goals and this planning is a prerogative only of the top-level managers. They have the knowledge of the business environment, both internal and external and are able to connect the activities of the various functions of the business to achieve organizational goals. This course aims to create an understanding of how organizational level goals are decided and how competitive strategies are formulated after conducting situational analysis.

MGT508 - Sustainability, Business and Society
Credits: 3

This is an interdisciplinary course focusing broadly on the seventeen dimensions of the UN Sustainable Development Goals (SDGs). Each session will focus on a thematic area and discuss the drivers of change, solutions and enabling factors using global case studies. The course will give the student broad knowledge of core concepts and take a deeper dive into the goals and indicators related to global societal challenges; climate change and energy transition; land and water resources and biodiversity protection. Students will gain an understanding of the processes of sustainable development through interdisciplinary engagement with concrete problems. Solutions at the country level, by the private sector and community and individual action will be covered

MGT533 - Legal Aspects of Business
Credits: 1.5

Firms operate within a larger context and not in isolation. Failure to meet the society's expectations of appropriate behaviour or to treat stakeholders fairly can jeopardize a firm's ability to compete effectively. Being conversant with the regulatory requirements of the land helps an organization to survive and grow and provides greater clarity and quality to decision making. This course provides an overview of the laws that help in understanding the critical legal aspects in business and checkpoints of making and enforcing business contracts.

MGT536 - Ethics and Epics
Credits: 3

The course aims at providing to the course participants detailed understanding on major ethical dilemmas and ethical decision-making a manager requires to experience from time to time. The sessions will primarily inspire discussions among course participants who will try putting together responses to these questions: Are the ethical problems in this modern world outcomes only of modern socio-economic systems going astray? What role do the value-based ideologies of an individual in relation with the socio-cultural norms play in an ethically charged situation? How have the Indian values and socio-cultural perspectives been informed by the stories and anecdotes from the two great Sanskrit epics? What are some implicit moral and ethical lessons layered out in the two epics that can arguably guide right-mindedness in today's ethically-charged business situations and inspire to-be-managers to become fair in their judgment? Ethical dilemmas present in selected characters and episodes from The Ramayana and The Mahabharata vis-à-vis case studies from present-day business situations will provide fillings for the course content.

MGT542 - Strategic Management
Credits: 1.5

This course captures various pillars of strategic decision making in any business. Firms have choices to make if they are to survive and prosper. Those which are strategic include: how to conduct situation analysis and create value creating offering, the choice of products and services to offer; the design and configuration of policies determining how the firm positions itself to compete in product-markets (i.e., competitive strategy) by keeping customer centric approach; the different options in terms of directions and methods of growth. The course also covers the role and impact of technology on modern-day businesses, viz. how technology impacts organizations and how tech-based businesses strategize. The concluding section of the course includes an overview of the important facets of strategy implementation, viz. Control Systems, Leadership and Business Ethics.

MGT543 - Corporate Strategy : Formulation & Implementation
Credits: 1.5

This course focuses on one of the main questions in a business organization - how can you create and manage a corporate strategy for growth and achieve success? Top management of business organizations need to evaluate strategic choices of growth directions including product diversification and internationalization. Next, they also need to choose the appropriate method of pursuing the growth direction from amongst various methods of growth, viz. internal development, strategic alliances and mergers / acquisitions. This course encapsulates these strategic choices through several concepts and frameworks that are rooted in the theory of strategy and management, which have proved valuable in practice. The course ends with what managers often describe as their greatest challenge – implementing strategy and how a leader should attempt seamless corporate strategy implementation. The course will focus on the thinking, skills and actions required of manager for the development, communication and implementation of strategic organizational choices towards organizational success.

MGT545 - Cooperative Strategy and Ecosystems
Credits: 3

The course's overall aim is to improve participants' ability to identify, structure, and execute cooperative strategies. In the last 20 years, we have seen the rise of business and platform ecosystems that create value by connecting various actors. The largest transport company (Uber) does not own cabs. The largest hotel accommodation and hospitality provider (Airbnb) doesn't own hotels. Controversies regarding Cambridge Analytica and Facebook have shown the damage a mismanaged ecosystem can cause. Given the evolving landscape, it is likely that participants will either be part of or compete with a cooperative ecosystem in the future. Managers trying to understand these collaborative value creation activities face several issues ranging from

identifying various actors, source of value creation, how to structure an ecosystem, how to capture value, and at the same time manage competition and cooperation. This course introduces participants to frameworks and tools to structure and find answers to these problems. It is ideal for Post-Graduate Students and 3rd or 4th Year Undergraduate Students across Management, Economics or Entrepreneurship, and Family Business Disciplines. The course is divided into four modules: Module 1: Interdependence between organizations and actors Sessions 2-6 Module 2: Cooperation and its implications Sessions 7-12 Module 3: Coopetition Sessions 14-17 Module 4: Cooperative strategies in action Sessions 18-25

MGT562 - Business Ethics
Credits: 1.5

Success or failure of modern day businesses cannot be measured solely by the existence or adequacy of profits. The means of profit are as important as the profit itself. These businesses, which primarily operate for economic benefits of their owners, must also take into account the interests of other stakeholders. The course deals with ethical considerations and dilemmas that affect managerial decisions and equips the learners with methods to deal with such situations. The course is delivered in two parts; foundations of ethics and managerial dilemmas in operational areas. The first part introduces foundational concepts and theories of ethics that provide different perspectives to ethical concerns and dilemmas. The second half deals with specific ethical concerns arising in functional areas of management and ways to resolve these conflicts in managerial decision-making.

MGT622 - Compensation Management
Credits: 3

This course familiarizes students with the concepts of compensation management within the wider context of human resource management. It provides students with an understanding of the reward management process which includes pay survey, job evaluation, and the design of pay structure. This course aims at enhancing students' capability and decision making skills in handling compensation management functions.

MGT624 - Learning and Development
Credits: 3

The course will help students understand the overall training function in modern-day organisations. The modern-day organisations are continuously warming up to the idea of developing a better employee experience. As organisations vie to have a competitive advantage via their people, various employee functions like recruitment, selection, training, and engagement have become central and competency-based. In such a scenario, the training function has increasingly become vital in achieving the strategic goals of organisation through better hiring, skilling, and reskilling. This course will help the students understand the processes of training needs identification, training design and development, training implementation and training evaluation. The course primarily focuses on developing the knowledge base and skills about how to identify training needs and then design an apt training program for the same. This is a hands-on course that aims to prepare students for the role of a trainer. The course will help students understand and explore the world of inbound and outbound training in the area of soft skill building, leadership, communication, team building, and diversity.

MGT625 - Talent Management
Credits: 3

This course explores the principles of managing (recruiting and keeping) talent in an organization through coaching, performance management and integrating a complete compensation system. Developing an employee succession plan and a coaching system to manage and keep talent in an organization are introduced.

MGT627 - Future of Work
Credits: 3

Globalization has generated the continuing internationalization of the world's production system, with increasingly prevalent global supply chains frequently making it impossible

to identify a single national origin of finished products – they tend to be made “in the world”. This has resulted in considerable new openings for economic development and employment-led paths out of poverty for hundreds of millions of people, but also the danger of global competitive processes placing downward pressures on working conditions and respect for fundamental rights. The onward process of the internationalization of production coincides with the continuation of primarily nationally-based labour-market institutions, legislation and processes, with consequences for the future governance of work.Despite the extraordinary development of production through successive technological revolutions, this basic imperative to work is still with us in the contemporary world. Fundamental human needs still go unmet and the war on want is unfinished because poverty persists; a large part of the global workforce is still engaged in subsistence production.The individual will want to find meaning and purpose in work and material compensation for it that allows him or her to become an independent, full and valued actor in society. The workplace itself is also where socialization processes initiated in education are deepened and where many of the individual’s social relations are forged and maintained. These are all reasons why the future of work will dictate many facets of the future of our societies and organisations. The course focuses on the these isseus of work and organisations and tries to give a thought to tomorrow’s manager what they might expect ?

MGT642 - Strategies for Firms in Emerging Markets
Credits: 1.5

This elective course looks at Emerging Markets and firms therein. Often firms in Emerging markets have different environmental contexts, resources and capabilities and hence different strategy development as compared to developed market firms. The course “Strategy for Firms in Emerging Markets” is specifically designed to introduce students to these market contexts and to the relevant strategies of firms operating in emerging markets, from the lenses of small local firms, local giants, how the local firms can globalize and how firms from foreign markets can enter the emerging markets.

MKT103 - Marketing Management
Credits: 3

This course aims to introduce students to the basics of marketing. It is meant for students of all disciplines, including but not limited to arts, commerce, business, sciences, engineering who are interested in understanding marketing from academic as well as practical perspective. This course is specifically very important for those who intend to specialise in marketing.

MKT312 - Essentials of Marketing Research
Credits: 3

This course will provide a comprehensive introduction to marketing research, and discuss key concepts, processes, and techniques, as well as their applications in marketing. This course will allow students to gain an appreciation of the breadth and depth of the subject and its significance for a business enterprise, whether a start-up or an established company. This course would be sensitive to the needs of undergraduate students with plenty of self-help for students and provide an exceptionally solid foundation to understand marketing research with a managerial orientation.

MKT321 - Marketing of Services
Credits: 3

Services sector accounts for more than 50% of GDP in India. But the spectrum is diverse in marketing and/or selling a service due to its intangibility elements. An effective campaign that is well executed and which is linked around what it can do for its customers can help sell a product but marketing a service requires a different approach. Marketing a service requires marketing the "you" the provider and your team's ability to get the service done / delivered well. Marketing great customer service, tangibalising the intangibles offers a unique and exciting challenge which is different from giving product specifications on a brochure.This course is designed to be an intensive study of the concepts, practices, and development of strategies involved in the marketing of services. The material will focus on the unique aspects of services marketing,

such as the attraction, retention, and building of customer relationships, demand management and quality control. The course covers a wide variety of services, including professional and business services.The main objectives of this course are to develop an ability to evaluate, implement and lead effective marketing programs in service companies and organisations.

MKT341 - Marketing Strategy for Consumer Behaviour
Credits: 3

The modern day marketing has become consumer need centric. Marketing strategists across the globe use consumer insights for launching and modifying their product or services. This course takes into account the key factors such as consumer motivation, perception, learning and their personality. This course also provides the students with information on key marketing processes such as consumer decision making, culture's influence, consumer research and basis of market segmentation. This course and its content would help students to understand the logic behind marketing strategies which are based on the consumer/s behavior.

MKT611 - Marketing Research
Credits: 3

This course introduces the students to the field of marketing research and provides an understanding as to how it can help managers in making better marketing decisions. It aims to provide students with a background in research methods, to introduce them to the issues related to conducting marketing research, data analysis, and methods of evaluation related to marketing. Knowledge of these topics will enable students to both implement and evaluate marketing research during their professional careers.

MKT631 - Sales and Distribution Management
Credits: 3

The course is designed as a detailed investigation of the sales management process. It balances the practical and academic while providing a foundation for understanding the sales management function or building a marketing career. Issues covered include the sales process, recruiting, compensation, training and sales force design.

MKT641 - Consumer Insights and Marketing
Credits: 3

Consumer Insights and Marketing is the study of when, why, how, and where people do or do not buy products. It attempts to understand the buyer decision making process, both individually and in groups. The course also reflects on the role of Culture on Consumption decisions. The course then moves to methods of capturing data and using the inferences about consumption patterns and choices to shape behaviour, be it through effective communication, well designed customer retention programs for existing as well as new products and services. The latter part of the course focuses on new products get diffused in the market place and understand how products and brands become viral. Finally, the course throws some insights on contingent buying situations as well as contemporary modes of consumer research in the form of neuro marketing.

MKT642 - Interdisciplinary Approach To Consumer Understanding
Credits: 3

This course will help students understand consumers at a deeper level, using interdisciplinary concepts and methods. Understanding consumer behaviour needs an interdisciplinary approach – concepts and methods from several disciplines like neuromarketing, cognitive psychology, behavioural economics, anthropology, sociology, and more. Consumers often make irrational choices. Decisions are based on emotions and unconscious motivations – not only on rational logic. Consumer choices are implicit not explicit. Consumers cannot often express their motivations in response to traditional marketing research surveys. This is because consumers either won't say why they made some choices (as the answers might not sound logical and reasonable) or they can't say

(as choices were made at an unconscious level and they themselves do not know why they choose a brand). The course will draw on the works of several neuroscientists and behavioural economists like Daniel Kahneman, Richard Thaler, and Dan Ariely. We will use behavioural economics experiments ('Nudge' as Richard Thaler calls it) to see how subtle interventions influence brand choices. We will explore how ethnography – a method of immersing oneself in consumer lives (used in anthropology and sociology) – can help us get under the skin of the consumer and observe the role of products and brands in consumer life, as lived and not as claimed in surveys.

MKT652 - Brand Management
Credits: 3

In today's era of cut-throat competition when it is increasingly becoming difficult for organizations to differentiate, companies have started realizing that brand management is a versatile tool to stand apart from the competition. The course explores the field of brand management though the use of case studies of leading marketers and their strategies for effectively building and managing brands.

MKT653 - Digital Marketing
Credits: 3

The digital marketing course aims to cover the what, why, and how of major current digital marketing approaches including online listening and monitoring, search engine optimization, search ads, email marketing, and participating in social media. The course is woven around three key messages viz. How to establish habits for keeping up to date on emerging digital technologies relevant to business and to marketing, how to rise to the challenge of developing strategy to guide tactics and how to identify data sources to define and track performance indicators for a firm's digital marketing activities. The course aims to familiarise participants with key aspects of digital marketing. The participant is expected to gain a beginners and working knowledge in the digital marketing domain and develop an understanding of the framework on how online marketing operates.

MKT671 - Marketing Analytics
Credits: 3

Whether it is an Amazon customer or an Amazon seller, a small-time street hawker, a retail grocery vendor or a large retail chain, data has transformed dynamically the ways in which today's customers are buying and the ways in which the businesses are operating. While organizations today are overwhelmed with data, knowing how to interpret data for generating meaningful marketing insights as also to utilize it for taking better marketing decisions has not only become a challenge but also an imperative for marketers in today's business environment. Marketing analytics initiatives involve identifying and collecting relevant data, selecting key metrics, developing models that connect these metrics, and using quantitative tools to uncover customer insights and to monitor and maximize the effectiveness of marketing.This course introduces students to data visualization, statistical and pattern analysis techniques for gaining insights into customer preferences and trends, which can be further utilized for future marketing and business decisions in a variety of settings involving marketing decision-making viz. segmentation, targeting, positioning, demand forecasting, customer life time value analysis, customer choice modelling, product, price and promotions.This ENABLE course will expose the students to data sets, cases, and readings that will enable them to generate insights and develop marketing strategies for the companies that they are working with.

STA100 - Probability
Credits: 3

Probability Theory is the study of chance. It forms an important pillar of which statistics & data science have been built.This course is an introduction to probability for a diverse audience. The course covers the fundamental concepts & basic examples, assuming no prior knowledge of the subject.The major topics include: Discrete & Continuous sample spaces & probability; random variables, distribution, independence, expectation, conditional expectations & probabilities, generating functions & limit theorems.

STA101 - Introductory Statistics
Credits: 3

This course provides an introduction to the elementary concepts of probability and statistics with specific reference to their applications to business, economics and management. Topics covered include: probability distributions, Bayesian inference, hypothesis testing, confidence intervals, sampling methods, experimental designs and linear regression

TOD205 - Database Management for Managers
Credits: 3

The course covers three major stages of development of a database management system – DBMS, Relational DBMS and Object RDBMS, starting from the concept of data and database. Without making the course too jargon-heavy or technical, the aim is to guide students to design and optimize their own database designs for a specific system of their choice. The course proceeds with the progress of group projects.

TOD210 - Business Analytics
Credits: 1.5

In today's world effectively presenting data analytics in a compelling narrative to a particular audience is essential for managers. Data Analytics Lab teaches the fundamentals of data analytics, data visualisation, and communicating effectively with data. The course is about understanding data, data structures. The course focuses on tactics and strategies related to exploring, analysing, delivering, and communicating data. There will be several exercises using EXCEL and R, which will help students understand how to work with data in a real-world context. The course has a strong practical orientation, emphasizing critical thinking skills, the ability to ask the right kinds of questions for data analysis, and the creative aspects of designing a data analytics approach capable of delivering a convincing analysis that would support decision making.

TOD212 - Decision Sciences
Credits: 3

Everyone makes decisions but very few think of building a method to their decision making. The course is designed to help students understand how to make better decisions. The course brings in the concepts of management science with the intention of helping students achieve better clarity in their decision making by understanding available information and the choices therein. The course aims to help students understand data better and apply logical and solid methodologies to arrive at the best possible decision given the information available

TOD221 - Operations Management
Credits: 3

TOD310 - Predictive Analytics for Business
Credits: 3

This course is all about learning and applying knowledge of statistical model building. Students are introduced to some very basic techniques of machine learning and AI.

TOD322 - Supply Chain Management
Credits: 3

Today's firms need to create & manage a synchronized supply chain to ensure all value adding competencies of the suppliers are transferred to the customers. At the same time, it is important that the supply chain in linked to the overall strategy of the firm and closely linked with achievement of the strategic goals. This course provides the understanding of the fundamental concepts of Supply Chain Management. The topics covered include inventory management, coordination, demand and supply planning & strategic sourcing

TOD323 - Operations Strategy
Credits: 3

Operations Strategy is a major source of competitive advantage in for-profit business and a route to maximize social welfare in not-for-profit enterprises. It is about organizing resources (people, materials & technology) to delivery viable and valuable product to the customer. The course focuses on how firms can organise and acquire resources that allow them

to achieve this goal.

TOD326 - Project Management
Credits: 3

In today's world, the discipline of Project Management is a powerful tool that helps organizations navigate their way effectively through times of change and uncertainty. An organization with a project culture is one that knows where it is going, is focused on results and has a professional team who knows what is expected of them. Professionals & organizations working or desiring to start a new venture in diverse fields require an understanding and insight of Project Management concepts and methods. Projects are vital and often businesses and various functions start with this management operation. Initial activities within a function also start with projects, for e.g. Launching a new product in the market or implementing ERP within the organisation. The products are developed at lab scale, tried at pilot scale and produced at plant scale. To handle all these activities later in their careers, management students have to learn Project Management techniques and through planning and control techniques to execute projects.

TOD331 - Supply Chain Analytics
Credits: 3

TOD503 - Simulation Modeling
Credits: 3

Use of mathematical models helps in optimization and decision making for discrete or continuous stochastic processes. The course aims to enable students to identify real world problems appropriate for simulation, and to help them develop skills to conceptualize simulation models.

TOD511 - Decision Science
Credits: 3

The course aims to introduce the students to the concepts and applications of Decision Science and Operations Research. Further, the course presents the principles and techniques for solving decision-making problems in the industry using mathematical and Operations Research models using spreadsheet modeling based approach. The techniques include decision analysis, linear programming, waiting line models/queuing theory, simulation, project scheduling and network models.

TOD522 - Supply Chain Management
Credits: 1.5

Today's firms need to be more dynamic to remain competitive. It is important to not just focus on their own competencies but also create a synchronized supply chain to ensure all value adding competencies of the suppliers are transferred to the customers. At the same time, it is important that the supply chain in linked to the overall strategy of the firm and closely linked with achievement of the strategic goals. This course provides the understanding of the fundamental concepts of Supply Chain Management. The topics covered include inventory management, coordination, demand and supply planning & strategic sourcing

TOD524 - Operations Management
Credits: 2

To focus students' attention to the necessity of great operations to drive excellence (manufacturing & services). Operation deals with the firm's ability to successfully and competitively transform raw inputs (land, labour, materials, capital, information etc.) into viable goods & services. The firm focuses on remaining competitive & innovative through excellent operations. This course introduces students to problems and analysis related to the design, planning, control, and improvement of manufacturing and service operations. Class sessions involve explaining concepts, working examples, and discussing cases. A wide range of topics are covered, including: process analysis, quality management, project management & operations strategy.

TOD526 - Project Management
Credits: 2

In today's world, the discipline of Project Management is powerful tool that will help organizations navigate their way effectively through times of change and uncertainty. An organization with a project culture is one that

knows where it is going, is focused on results and has a professional team who knows what is expected of them. Professionals & organizations working or desiring to start a new venture in diverse fields require an understanding and insight of Project Management concepts and methods. Projects are vital and often businesses and various functions start with this management operation. Initial activities within a function also start with projects, for eg. Launching a new product in the market or implementing ERP within the organisation. The products are developed at lab scale, tried at pilot scale and produced at plant scale. To handle all these activities later in their careers, management students have to learn Project Management techniques and through planning and control techniques to execute projects.

TOD533 - Advanced Business Analytics
Credits: 3

Indeed, the most popular data science methodologies come from machine learning. What distinguishes machine learning from other computer guided decision processes is that it builds prediction algorithms using data. Some of the most popular products that use machine learning include the handwriting readers implemented by the postal service, speech recognition, movie recommendation systems, and spam detectors. One of the closest examples in our daily lives is filtering of email by google. There are numerous examples and case studies across different functional areas such as operations, marketing, finance and human resource are used to highlight the huge potential for the application of analytical methods for making effective decisions. As the whole world is moving towards AI, course on machine learning is a must.

School of Arts and Sciences

BIO 107 - Concepts of biology
Credits: 3

Concepts of Biology is an introduction to biology for non-biology majors and covers all the major concepts of biology in a single semester. This course aims to provide the necessary information and knowledge about biology that is conceptual, easy to understand, and meaningful in daily life. Knowledge gained in this course will allow the student to negotiate many of the topics and major advances in the biological and biomedical sciences that appear in the daily media, and which play an important role in our lives. Along the way, students will gain an understanding and appreciation for the diversity of life. The topics covered in this course include modern biology: cellular and molecular basis of life; cell division, genetics, and heredity; and biotechnology. At the level of the organism the topics include: evolution and diversity in plants and animals; animal tissue and physiology; and ecology. No prerequisites are required. This course satisfies the general educational requirement (GER) for the life sciences. Biology majors and minors cannot register for this course, but instead are required to register for BIO 101, Introductory biology.

BIO 250 - Brain and Behaviour
Credits: 3

BIO103 - Microbiology
Credits: 3

Microbiology is an introductory undergraduate course aimed at teaching the fundamentals of microbiology by introducing the students to concepts of microbial classification, different types of microbes, microbial growth and growth kinetics, microbial interactions and control of microbes. Students will also be introduced to the beneficial and harmful roles of microbes in the context of everyday life. This course is a core subject in the Biological and Life Science iMSc program. It is an introductory course aimed at preparing the students for critical understanding of not just advanced microbiology but also for cross disciplines like molecular biology and biochemistry. This cross-disciplinary approach will help students to lay the basic foundation in life sciences.

BIO104 - Environmental Science
Credits: 3

Today, human activities have been the dominant influence on the environment and ecosystem. It is for this reason that we must learn the environmental issues. Environment is

not yesterday's concern, it is today's worry on how to make it more sustainable without over-exploitation of natural resources and destructions of ecosystems. This course shall include topics on ecology, biodiversity, conservation, pollution, climate change, and environmental policies and laws. The best way to learn about the environment is to learn from events that are happening around us. Thus, the course is aimed at discussing each topic on environment by bringing in examples that are based in the Indian context.

BIO105 - Fundamentals of Environmental Studies
Credits: 3

Human activities severely impact the environment and the ecosystems. Environment is not yesterday's concern; it is today's worry on how society should develop sustainable strategies to coexist with the surrounding environment.The process of developing a sustainable environment is complex, and requires understanding of natural, constructed and cultural environments. The course on 'Fundamentals of Environmental studies' employs a multidisciplinary approach to understand the environment from various disciplines, biology, engineering, social sciences, and management. This course shall include topics on concepts of biosphere, natural heritage, climate change, community participation towards conservation efforts, conservation politics, criteria for developing effective environmental policies, and remedial measures to mitigate environmental problems. To provide real-world context, the course will include and discuss several case-studies on environmental issues and concerns that India is currently facing. The course will be offered to both graduate and undergraduate students. Besides the prescribed evaluation components, the graduate students will need to submit an additional term paper on an issue pertaining to the recent environmental problems.

BIO201 - Immunology
Credits: 3

Immunology is the study of the body's immune defense system. It is a dynamic field that impacts topical and emerging issues within both the biomedical and biological Science disciplines. Our course will help you learn about the components, principles, and mechanisms of the human immune system and how they co-ordinate to mount safe and appropriate protection against infection. The course will also address what underlies situations of inappropriate or insufficient immunity, such as allergy, autoimmunity, and immune deficiency.

BIO204 - Microbiology and Cell Biology
Credits: 3

Microbiology •Isolation of microbes from soil. •Isolation of microbes from water. •Isolation of microbes from rotten fruits. •Identification and characterization of the microbes based on shape. •Identification and characterization of the microbes based on staining (Grams Staining). •Identification and characterization of the microbes using selective media and biochemical tests. Cell Biology •Microscopy •Cell Counting •Trypan blue assay •Micronucleus Assay •Leishman Staining •Animal Cell Culture Techniques

BIO210 - Intermediate Biochemistry
Credits: 3

This course will introduce students who have had a basic course in biochemistry to some of the modern and advanced concepts and methods in biochemistry that are at the center of cutting-edge research in modern biology. The course will cover concepts in enzymology, informational pathways in cells, integrative biochemistry , advanced methods in biochemistry and the role of biochemistry in relation to key societal problems of human health, environment and food with a focus on future of biochemistry. Enzymes are at the heart of biochemical reactions and also are a key component of industrial applications of biochemistry. Enzymology section of this course will cover basic principles of enzyme structure and function that will be highlighted through a few key examples. Themes in enzyme regulation will be described along with an overview of modern methods to investigate enzyme function. Informational pathways inside cells are based on the central dogma that

involves informational transfer from DNA to RNA. This section of the course will focus on metabolism of DNA and RNA inside cells. DNA metabolism would cover replication, repair and recombination whereas RNA metabolism would focus on transcription, RNA processing and RNA dependent synthesis of DNA and RNA. Integrative biochemistry section of the course will focus on a systems-level understanding of biochemical concepts at both a cellular as well as organismal level. This will cover how lipid molecules come together to form biomembranes, how proteins inside a cell integrate together to drive transport across membrane as well as transport inside cells. Integration of protein networks into biochemical signaling pathways will also be described with a highlight on a few signaling pathways that are of vital importance inside cells. Hormonal regulation and integration of metabolic pathways will be dealt with a key focus on dysregulation leading to obesity and diabetes. The fourth section of the course will be a thorough examination of some of the modern methods that drive cutting-edge research in biology laboratories across the world. This section will cover a diverse range of biochemical methods with a focus on basic principles and applications of the method. These include cell fractionation and centrifugation, protein detection and protein-protein interaction methods and the "omics" revolution in biology being driven by genomics, transcriptomics and proteomics tools. In the final section of the course, the students will learn how the modern concepts and methods in biochemistry are being applied to solve some of the pertinent societal problems with respect to human health, climate change and the food crisis. This section will cover concepts and case studies in medical biochemistry, environmental biochemistry and biochemistry as applied to food science and nutrition. Finally, the course with end with a reflection on the future of biochemistry and its role in solving some of the key human challenges in the future.

BIO220 - Cell Biology
Credits: 3

Cell Biology is a mid-level undergraduate course aimed at deciphering advance knowledge to the students about the cellular organelles. This course will introduce the different theories about the origin of life and gradually move deep towards developing holisc understanding of the biology of the cells. The students will learn about the cell membrane structure and the importance of different cellular organelles. The students will also gain current knowledge about the cell cycle and its regulaon and will be imparted the current knowledge about the signal transducon pathways. This is a core course in the DBLS's iMSc program which is aimed at preparing the students for crical understanding of the biology of the cell. This course will enable the students to gain advance understanding about the different cellular processes and will build upon the foundaon of the molecular biology course which they have studied in the earlier semester. Going forward, this course will also lay strong foundaon for the proper understanding of certain advance level courses like developmental biology and omic technologies in the future semesters.

BIO260 - Introduction to Plant Biology
Credits: 3

This is a general introduction to the plant's fascinating world. This course introduces students to the fundamentals of plant nomenclature, classification, reproduction, and anatomy with an emphasis on flowering plants (angiosperms).

BIO502 - Plant Biotechnology and Tissue Culture
Credits: 3

The course aims to provide deep understanding on the plant biotechnology and tissue culture techniques. Plant tissue culture is a technique through which the totipotent characteristics of plant cell can be used for in vitro regeneration of plant. The course focusses on role of plant biotechnology for multiple propagation of true copy plant species and use of propagated lines in medicinal and biochemical research. The students will learn plant tissue culture techniques such as preparation of stock and media, sterilization, callus culture, and plant transformation techniques.

BIO506 - Ecology: Fundamental Concepts and Applications
Credits: 3

The field of ecology focuses on understanding interactions of living organisms with each other and their environment. This course will include fundamental concepts in the field of ecology, including principles of autecology and synecology, population ecology, spatial ecology. The course will teach students on how to apply the principles of ecology to different fields of research in the area of conservation biology, ecophysiology, behavioral ecology, and new emerging fields including ecoinformatics and interdisciplinary fields, for example, socioecology. The course will provide students hands-on experience on using a few ecological tools, for example, GIS mapping and building simple ecological models on R platform. Overall, the course will build on scientific knowledge on understanding nested complexity of the natural world.

BIO507 - Plant Tissue Culture Techniques
Credits: 1.5

The content of this course is same from the previous course of Advanced Cell Biology (BIO504) offered in VIII semester of Integrated masters' program in Life Sciences during winter semester. However, the course has now been separated and renamed as Plant Tissue Culture Techniques with the change course code # BIO507 to be offered for semester VI in winter semester (according to new curriculum)

BIO548 - Cytogenetics
Credits: 3

The purpose of this course is to acquaint students with human chromosome structure, function, cytogenetic tools to visualize chromosomal aberrations and its clinical consequences. Chromosome aberrations (anomalies) will be discussed from the cytogenetic viewpoint. The course will also cover current topics in Cytogenetics, including new methodologies and their applications in biological research. This is an elective course across Ahmedabad University. It is an advanced course aimed at preparing the students for better understanding about chromosomal structure, aberrations and its effects on human population.

BIO601 - Epigenetics
Credits: 3

Most of the people have an understanding that our outward characteristics are determined by the genes encoded by the sequence in our genome. But it is not that straight forward as, if the DNA in all cells are the same then how a liver cell decides to make a liver and not the skin. There should be some factors determining the number of genes to turn on and off depending on whether it's a liver cell or the skin cell. Few sets of genes are turned on and off in making a liver cell a liver cell and a skin cell a skin cell and this is known as epigenome. Epigenetics is a set of hereditable changes in gene expression that takes place in the cells without changing the DNA sequence.This course deals with the epigenetics and the role of various epigenetic modifications in the development and diseases.

BPS103 - Microscopy and Imaging
Credits: 3

Microscopy & Imaging is an elective course designed at teaching the fundamentals of microscopy by introducing the students to concepts of optics, principle, instrumentation, Applications of different microscope, sample preparation, staining (if required) and image formation. Students will also be acquainted to the use of microscope in the laboratory through hands on sessions. It is an entry level course aimed at preparing the undergraduate and doctoral students for better understanding about microscopy & its application in biological sciences.

CHY101 - Chemistry Practicals
Credits: 1.5

Chemistry is a branch of science dealing with studies of chemical compounds and structures. This course will enable students to be aware about chemistry laboratory instruments, biosafety measures and their synthesis. The course also focuses on details regarding the chemical structures and how they can be prepared. This course further develops the

theoretical concepts of organic chemistry, and helps students to develop an ability to propose plausible synthetic pathways to organic molecules.

FRE112 - Conversational French - II
Credits: 3

This second course in French enables students to continue their study of the language after having completed FRE111. Language instruction here is still at an elementary level and the course builds further the capability of students to use French for ‘everyday’ purposes. Students are also exposed to aspects of French culture and history. As an introductory course it aims to engender an appreciation for the language and its culture(s). Students are expected to undertake daily practice by revising 3-4 hours a week outside of class.This language course will have three sessions every week of a duration of 1 hour each.This course is open to all students across the University.

FRE212 - Intermediate Conversational French - II
Credits: 3

This fourth course in French enables students to continue their study of the language after having completed FRE211. Language instruction here is at an intermediate level and the course builds further the capability of students to use French for everyday purposes. Students are also exposed to aspects of French culture and history.Students are expected to undertake daily practice by revising 3-4 hours a week outside of class. This language course will have three sessions every week of a duration of 1 hour each.

GER112 - Conversational German - II
Credits: 3

This second course in German enables students to continue their study of the language after having completed GER111. Language instruction here is still at an elementary level and the course builds further the capability of students to use German for everyday purposes. Students are also exposed to aspects of German culture and history. As an introductory course it aims to engender an appreciation for the language and its culture(s).Students are expected to undertake daily practice by revising 3-4 hours a week outside of class. This language course will have three sessions every week of a duration of 1 hour each.

HST102 - The Birth and Development of Civilisations in the Indian Subcontinent
Credits: 3

This course introduces ancient Indian history by focusing on early civilisations from the emergence of Harappa and Vedic to the cultural developments during the Gupta Empire period (600 CE). It discusses the economic, social and cultural developments for three millennia beginning from 2600 BCE. The course familiarises the students with some of key events and processes such as the emergence and decline of the Harappa Civilisation, debates surrounding the migration and settlements of the Indo-Aryan speakers, economic transformation of the central Ganga valley, cultural and religious churnings related to Buddhism and Jainism, the Sangam period developments in Peninsular India, and the so-called "Golden Age" during the Gupta Empire. These themes will be discussed by focusing on the textual, archaeological, and epigraphical sources.

HST103 - Legacies of Empire: From the Mauryas to the Mughals
Credits: 3

This undergraduate course is a survey of empire in Indian history. It focuses on the historical experiences of empire, the self-image and ideologies of the political elites, and their dealings with the diverse groups of people and the local-level power holding communities. How did the entanglements between ruling elites and subject population help Indians to imagine themselves and their position in the world? The course further discusses the territory, trade routes, taxation or resource extraction, and redistribution. Furthermore, what role did the natural environment, political culture and institutions, and different communities play in the emergence and the functioning of empire? Finally, it asks how Indian society has been shaped by the collective

memories and legacies of empire. Introducing the substrata of India's political and economic past, it discusses key themes around the state formation and empire building processes. The term empire acquired a negative connotation thanks to the British colonial high-handedness and the bitter experiences of decolonisation movements. However, the empire that Indians knew, lived in and experienced was not necessarily bad. For a long span of time, over the last two millennia, Indians lived and worked within one or the other empire. Compared with the long history of empire, the modern nation state is new. It is an adapted concept from nineteenth-century Europe. In several respects, the nation state appears to be lacking in meeting the demands of a "civilisation-state" i.e. India with its enormous diversity. Discussion of empire and institutions can help form a more nuanced understanding the contemporary Indian society.

HST205 - Industrialisation: Perspectives from World History
Credits: 3

Conventional wisdom associates 'development' with industrialisation. We often talk of 'industrialised' and 'developed' countries in the same breath. But what exactly constitutes industrialisation? What effects does it have on the structure of society? How is it related to science, technology and business? Is industrialisation driven from above (by governments) or from below (by entrepreneurs)? These questions are particularly important today as we face climate change and other environmental challenges.Such questions will be explored in this course through the history of industrialisation in several locations including Britain, continental Europe (especially Germany), the USA, Japan and India. A broad time-period will be covered, starting with the Industrial Revolution in eighteenth-century Britain and coming down to the present day. This is in accordance with newer approaches to the study of industrialisation, which look at the phenomenon on a global scale, rather than focusing on a few (Western) countries (Stearns 2012).

HST210 - Research Methods II: What is History?
Credits: 3

This course introduces students to some of the most influential theories and philosophies that have informed the study and writing of history. Students will learn a variety of theoretical and historical perspectives for viewing the world and thinking about historical studies, in general. Students will explore the development of historical understanding and the various problems and approaches to the study of history. Student will read, discuss, and write about some of the most important works of theory and historiography. As E.H. Carr tells us, "interpretation enters into every fact of history." Yet, historians often disagree about those interpretations. Through this course, students will recognize the ways in which those disagreements are often rooted in conflicting perspectives about the nature of reality, forms of power, human nature, and truth. We discuss a different theme each week including post-colonialism, gender, memory, and 'universal' history; and engage with major thinkers such as Hegel and Marx. Normally, the class reads one essay per session in order to give it close attention, but longer essays may be spread across two class meetings. A typical class meeting consists of a lecture, reading together as a class, and discussion. Students should expect to read 30-40 pages per week.

IHS502 - Key Concepts in History and Philosophy
Credits: 3

JAP112 - Conversational Japanese - II
Credits: 3

This course will serve as one of the core/method/major-specific components for Bachelor of Art (BA) in Philosophy, History and Languages (PHL) and as a free elective and General Education Requirements (GER) for students across the schools at Ahmedabad University. In this course, students will master fundamentals of the elementary Japanese language equivalent to N4 and N5 levels of a standardized language exam, the Japanese-Language Proficiency Test (JLPT). Throughout this language training, students will be familiarized with the historical and cultural

contexts of Japan. Through a variety of assignments and exercises both inside and outside of the classroom, students will be able to enhance existing Japanese reading, writing, and speaking proficiency. The aim of the course will be to nurture the values of self-discipline, patience, diversity, and inclusiveness among students.

JAP212 - Intermediate Conversational Japanese - II
Credits: 3

This is the fourth and final course in the Japanese language. Language instruction is here at an intermediate level and at the end of this course, students will have attained linguistic skills equivalent to near completion of the N4 level of the standardized language exam, the Japanese-Language Proficiency Test (JLPT). Throughout this language training, students will be continue to be familiarized with the historical and cultural contexts of Japan. Through a variety of assignments and exercises both inside and outside of the classroom, students will be able to enhance existing Japanese reading, writing, and speaking proficiency. The aim of the course will be also to nurture the values of self-discipline, patience, diversity, and inclusiveness among students. This course will serve as one of the major elective language courses for students majoring in Philosophy, History, and Languages (PHL), and as a free elective for students across the schools at Ahmedabad University.

LIT205 - Urdu Prose and Poetry II
Credits: 3

This second course in Urdu literature enables students to continue with their study of the language, after having completed LIT105 (Urdu Prose and Poetry). Students have learnt the script in the first course and this course will focus on reading further selections from literary and poetic compositions in Urdu. Students will also be trained to recite poetic compositions as well as write short literary pieces in the language.

LIT210 - Literature for Life
Credits: 3

This course focuses on the transformative power of literature through a close and critical reading of a set of texts (novels, short stories and plays) drawn from Indian andinternational authors. Covering a range of genres - fable, romance, historical fiction, family saga, war and social conflict – it challenges students to read and analyzenarrative fiction to enrich their understanding of: A) self and significant relationships;B) role within organizations; and C) value system that guides ethical choices.Adopting the perspective of "Transformative Reading", the course encouragesstudents to study character, plot and context to draw parallels with their lived realities,perceptions, and social attitudes, helped by a range of social and organizationaltheories. Salient themes drawn from the texts, such as conflict, empathy, leadership,decision-making, responsibility, courage, and attitude towards the "other" areaddressed through rigorous analysis and debate.The course inculcates a passion for reading literature, both as a source of enjoyment aswell as an intellectual guide to fulfillment in life.

LIT230 - Gira Gujarati
Credits: 3

The course Gira Gujarati aims at introducing the literature written in Gujarati to the course participants. It consists of a variegated and fascinating collection of easy to read Gujarati stories and poems written by a host of celebrated Gujarati writers and poets – Narsinh Mehta, Narmad, Govardhanram Tripathi, Kanhaiyalal Munshi, M K Gandhi, Pannalal Patel, Zaverchand Meghani, Umashankar Joshi, Mareez, Dhumketu, Joseph Macwan, Ramesh Parekh, Kundanika Kapadia, Raghuveer Chaudhary, Suresh Joshi, Himanshi Shelat, Neerav Patel, Dalpat Chauhan and a few more. Almost all selected texts have been translated into English; a parallel reading of the translation in English could make the Gujarati literary pieces more accessible. The course proposes to inspire a passion for reading literature, particularly vernacular literary texts; reading literature in one's own first language is not only a source of happiness, but also ushers one into the understanding about the social, cultural,

historical and/or political contexts. Since the course is offered in Gujarat and the city of Ahmedabad, one of the special perks the course participants will be able to gain from, will be the presence of contemporary writers and poets of Gujarat. Up to two to three sessions will host an Expert Talk to be delivered by a renowned literary figure whereby the course participants will be able to discuss the literary texts with the very writer/poet of the same, or benefit from a dialogue with an acclaimed writer/poet. There are no specific courses as pre-requisites for this course, though it is expected that students have basic fluency in spoken and written Gujarati.

MAT 334 - Introductory Real Analysis
Credits: 3

Real Analysis is one of the foundational courses in Mathematics. It demonstrates the need for mathematical rigor in dealing with fundamental mathematical concepts, for example, the construction of real numbers, the concept of infinity, and the idea of a limit. Real Analysis is useful in many fields in mathematics, such as Complex Analysis, Functional Analysis, Harmonic Analysis (including Fourier Analysis), Approximation Theory, Numerical Analysis, Dynamical Systems, Wavelets, Nonlinear Optimization, Partial Differential Equations, etc. Real analysis (including Measure Theory) forms the foundation of modern Probability Theory and finds applications in Economics, Finance, Network Simulations, etc. For example, concepts of Real Analysis are used in Economics in Classical Demand Theory (for example, in studying the n-dimensional commodity space R^n), in Marginal Analysis and in problems involving Constrained Optimization (for example, in the Utility Maximization Problem). This course will provide a rigorous foundation for the concepts discussed in courses on Introductory Calculus. The course will introduce rigorous Real Analysis at an elementary level and will cover the following main topics. •Well Ordering principle and the principle of Mathematical Induction •Countable and uncountable infinity •Formal construction of Real Numbers (R) •Properties of R •Sequences •Series •Limits •Continuity •Differentiation •Riemann Integral

MUS101 - Inside Indian Music
Credits: 3

This course is taught by Prachi Vaidya-Dublay under the category PVA-GER. “What is Indian? What is Music?” Such questions intrigue us often. MUS101 tries to address these questions by exploring and interrogating the existing genres of Indian Music like Tribal-Folk, Classical-Art, Popular, Devotional and Fusion Music. It focuses on the key principles of music that formulate these genres and connect them to each other, the connection which eventually weaves the complex and diverse fabric called ‘Indian Music’. The course also tries to understand the relationship of culture and music through the dynamics of above mentioned genres. This course combines Theory and Practice thus students are expected to perform some vocals and also do some writing during the course.

MUS103 - Culturing the Voice
Credits: 3

This course is taught by Prachi Vaidya-Dublay under the category PVA-GER. It specially is designed for aspiring Voice Professionals. It tires to explore the Idea of Voice on both physical and metaphorical levels. All those who wish to use their voice professionally in their respective fields and careers will find intensive practical sessions in Voice Culture Course useful, which will include Yoga-PraNayaam, Breathing Awareness Exercises and Special Training in Voice and Speech Building. Voice Acting and Story Telling are important segments of this course. Along with the Readings of English Play and Urdu Poetry Recitation, Readings in Hindi, Sanskrit and in some other regional languages also will be encouraged during this course. It may please be noted that this is a Practical Course with some writing required.

PER102 - Introduction to Persian - II
Credits: 3

This second course in Persian enables students to continue their study of the language after having completed PER101. This course continues with the introduction to modern written and spoken Persian. Students acquire

the skills necessary to read, write and speak Persian at an elementary level. Students are also introduced briefly to Persian literature and will read closely two short but influential poems.Students learn further grammatical forms, build vocabulary, and become comfortable reading and writing longer texts in the Persian script. Students practice exercises inside and outside class that build on the lessons from the textbook.

PHI 260 - Political Philosophy
Credits: 3

The purpose of this course is to learn to think critically about how people should be governed. In the first part of the course, we will familiarize ourselves with many of the most compelling and widely-held answers to this question from Plato to today, each based on a conception of the fundamental purpose or purposes of political communities. We'll consider some of the strengths and weaknesses of these theories. In the second part of the course, we will apply these theories to particular issues relevant to India by reading selections from Parts III and IV of the Constitution of India, on Fundamental Rights and the Directive Principles, in conjunction with some related philosophical works. We will ask whether different theories must give different verdicts about some of these issues and whether we should agree with them. Among the issues we will consider are discrimination, equality of opportunity, minority rights, and the distribution of resources. The faculty, who will be teaching this course, is Professor Chandler Hatch.

PHI175 - Is Philosophy Dead? Great Ideas Across Space and Time
Credits: 3

Stephen Hawking famously declared in his 2010 work The Grand Design that 'philosophy is dead'. This course takes as its starting point this very claim, and seeks to introduce students to great philosophical ideas – from across space and time. In order to do this, this course first introduces the meaning and practice of philosophy across various traditions – Western, Islamic, Indian, Chinese, Japanese and African – and then proceeds to consider a few pivotal philosophical problems and the varying responses found across these traditions. In doing so, the course not only presents students with some timeless philosophical concerns and their illustrious responses through history but demonstrates also how distinct traditions have valued different solutions, and indeed different questions. The course thus considers Hawking's claim of philosophy's death by probing the question if philosophy can die. A caveat: it is of course impossible for any course to adequately cover all traditions or indeed all concerns and approaches of any specific tradition. This course too, aware of its own subjective confines, aims however at introducing philosophy as well as the different philosophical traditions, with the intention of encouraging students to take up further study of philosophical questions through other courses at the University focussing on individual traditions.

PHL 202 - Why Be Good?: Plato's Republic
Credits: 3

Is being just good for the person who is just? If you had a magic ring that allowed you to steal and kill without being caught, would stealing and killing still be bad for you? According to Plato's Republic, the answer is yes! Injustice is bad for the unjust person. But to see why, we have to follow Plato through an exploration of the nature of the human soul, political community, knowledge, and reality itself. For example, we will investigate what knowledge is, what the purpose of political community is, and whether the soul is immortal. In this course we will read one of the greatest and most influential philosophical works of all time and address some of the fundamental questions of how to live, of knowledge, and of reality.

PHL150 - Ideas of India: Gandhi, Savarkar and Ambedkar
Credits: 3

This course is woven around three key texts written by three of the most influential political philosophers of modern India: M K Gandhi's Hind Swaraj or Indian Home Rule (1909), V D Savarkar's Essentials of Hindutva (1923), and Dr. B R Ambedkar's Annihilation of Caste (1936). We will read these primary sources in

the original (and in the case of Hind Swaraj in translation) to explore the divergent ideas of India that emerged through the writings of the three barristers, wherein categories like caste, nation and people became contested. We will locate these texts – and the writers – in the wider context of the British colonialism and the conversations around the emergent nationhood. Along with the primary texts, we will also read a few contemporary scholarship on these texts – and their authors – such as Ajay Skaria (2016), Anupama Rao (2009), Aishwary Kumar (2015), Kapila and Devji (2010), Joseph Alter (2000), etc.

PHL401 - The Cartesian Self: Key Debates
Credits: 3

PHY122 - Laboratory Physics - Electromagnetism
Credits: 3

This course is a core Course of the BS (Honours) major in Physics programme and is primarily for students majoring in Physics. The Laboratory Physics: Electromagnetism course complements the Electromagnetic Theory course, where students are introduced to concepts of electrostatics, magnetostatics, electromotive force, electromagnetic induction etc., by incorporating experiments which illustrate the concepts. In many instances students will be required to build the necessary equipment on a very limited budget to perform the experiment. Error analysis, and scientific documentation of each experiment and the findings with an oral presentation and viva is required.

PHY211 - Intermediate Classical Mechanics
Credits: 3

We shall introduce some of the advanced level concepts of classical mechanics such as rigid body motion, non-inertial systems and motion under central force. We shall also introduce the students to Hamiltonian and Lagrangian formulations of classical mechanics and demonstrate how these concepts are used to understand complex, mechanical systems.

PHY212 - Oscillations, Waves, and Optics
Credits: 3

This course is a core course of the BS (Honours) in Physics Programme and is primarily for students majoring in Physics but can be of interest to students from other majors, particularly those related to engineering. The course covers broad areas like the simple, damped and forced harmonic oscillator, coupled oscillators, Fourier analysis, sound and electromagnetic waves and their properties and propagation in different media, geometrical optics, diffraction, interference and polarisation of light, and Maxwell's equations.

PHY315 - Atomic and Nuclear Physics
Credits: 3

This course is a core course of the BS (Honours) major in Physics programme and primarily aimed at physics major students. It can also be of interest to the students from other majors.This course deals with the structure of the atoms, and their interactions with fields. The course covers hydrogenic and multi-electron atoms, electronic transitions, selection rules, atomic spectra, binding of atoms into molecules. In addition, concepts related to nuclear structure and transition will also be introduced.

PHY316 - Solid State Physics
Credits: 3

This course demonstrates how the basic principles of Physics introduced in various courses in the programme can be used to understand and deduce the behaviour of bulk matter especially for matter in solid state. This is of utmost importance in learning how fundamental laws of Physics determine the various details of the world around us. The course is designed to ensure that the students also appreciate how, even though bulk matter is primarily made of microscopic degrees of freedom, its properties are fundamentally different from the properties of its constituent particles. This is also a course which is closest to applications to practical problems of interest to other disciplines such as chemistry, material science, engineering as well as to problems arising in the industry.

PHY321 - Laboratory Physics - Electronics
Credits: 1.5

PHY715 - Special Topics in Gravitation and Cosmology: Gravitational collapse, blackholes and spacetime singularities
Credits: 3

This course explores different topics in Gravitation Physics, General Relativity, and Cosmology based on current frontier developments in the field that a student pursuing Phd degree in modern astrophysics and Cosmology must know, including the shadows of ultracompact objects at the center of the galaxies and the accretion discs around the same. Particularly, this course focuses on Causality Theory, Differentiable Manifolds, Topology in Cosmology, Tetrad Formalism in Black hole Physics, Gravitational Collapse and Gravitational Waves, Photon Spheres around compact objects, Spacetime Singularities and their genericity and stability and other relevant topics. In addition, numerical techniques and simulations to solve problems in gravitation physics will be introduced.

PHY734 - Nonlinear Optics
Credits: 3

PSY205 - Evolutionary Psychology
Credits: 3

Evolutionary Psychology is an elective course for BA Psychology major and is mainly (but not exclusively) aimed at BA Psychology students. Also, students from any undergraduate program who are interested in the evolutionary basis of human mind can opt for this course. Evolutionary Psychology is the theoretical (as well as the empirical) approach that views the human mind through the lens of biological evolution (by natural selection). This course discusses various psychological processes - particularly, those concerning survival, reproduction, kinship, and group living - that resulted as the products of evolutionary adaptation. Though the primary objective of this course is to introduce the evolved psychological processes, the course will also cover various theoretical assumptions as well as the empirical observations of the evolutionary approach to human behaviour. Throughout the course, the relevance and the practical applications of evolutionary psychology (in everyday life) will be discussed.

PSY215 - Developmental Psychology
Credits: 3

Developmental Psychology is the scientific and systematic study of patterns of continuous and sudden change during the course of the lifespan, with the objective of understanding how human beings evolve from a single cell to become mature individuals and advance towards old age and the end of life. In this process, context factors are of crucial importance on account of the social, historical, and ecological distinctiveness of human experiences. In light of this understanding, Developmental Psychology takes an integrative perspective on multi-domains such as physical and motor coordination, social relationships formations and social knowledge, emotions, and cognition such as language acquisition. Furthermore, the study of development is understood in specific contexts like family, schools, peer groups, neighborhoods and society, looking both at normative as well as idiographic patterns. Issues of developmental difference and disability will also be addressed with focus on individually and systematically appropriate interventions.

PSY272 - Industrial and Organisational Psychology
Credits: 3

In this course, students learn how to apply facts and principles of psychology to a work setting. Specifically, students learn the scientific bases of human behaviour at work and how they relate to the industrial and organizational processes of hiring, developing, managing and supporting employees. It provides a scientist-practitioner perspective on psychology as a discipline. The course describes different individual level processes and concepts that affect the work performance and employee satisfaction and engagement at the work place and includes components which give hands on experience to understand the different work place context as well as industrial set ups through field visits and field work projects for students. The delivery of the course carefully balances the basic

understanding, critical appreciation and minimal basic skills related to work place behavior and performance of employees.

PSY321 - Sensation and Perception
Credits: 3

Our senses continuously engage with the environment and enable us to behave adaptively. How does our brain organise and interpret this sensory information? The course will explore this question of how phenomenal experience emerges from the physical stimulation of senses by light, sound, pressure and chemicals in the environment. We have specialised systems to process diverse forms of sensory information. The stimulation by light activates the visual system, and sound engages the auditory system, and so on. The course will track the entire process of perception, from the stimulation of the sensory receptors to the emergence of conscious experience. Students will learn the fundamentals of sensory transduction, neural coding of sensory information, and higher-order processes responsible for assimilating and interpreting sensory information. The students will then use this knowledge to read and reflect on research in the field of perception as well as use the conceptual knowledge towards tangible outcomes. The course will draw ideas from psychophysics, neuroscience, artificial intelligence and philosophy on perceiving the world around us.

PSY340 - Positive Psychology
Credits: 3

Positive psychology is offered as a major elective course for students choosing to major in psychology. It can be chosen by all students, who are able to complete the prerequisites. Positive Psychology is the scientific enquiry of aspects of human experience which create and cultivate joy and well-being. This growing and much delayed field of psychology exerts a very strong influence on several applied fields of psychology, which traditionally have been focused on what is 'wrong' with human experience. The present course will introduce the theory and practice of positive psychology which includes philosophical foundations of positive psychology, understandings of positive strengths and virtues, well-being through life span and applications. Alongside learning the theoretical concepts, the students will also have the opportunity to work through one's own strengths through group projects. The course is designed with an applied orientation in intersections with health, clinical, counselling and sports psychology.

PSY351 - The Heart of Counseling
Credits: 3

'The heart of counseling' is offered as enable course for students who intend to major in Psychology. This experiential course will merge the continued development of basic skills with theoretically based conceptualization skills and techniques. The intensive focus of the course is on developing the core counseling skills (empathy, genuineness and unconditional positive regard) from person-centered approach of psychotherapy. These core conditions are integral part of any therapeutic relationship thus to embody these skills and learning to express them through role plays, practice sessions and classroom discussions is one of the primary objectives of this course. Students will learn how all skills arise from, and are directly related to, the counsellor's development and strong therapeutic relationships. Some of the key skills that will be emphasized and practiced throughout the course are: therapeutic listening; communicating empathy; client conceptualizations; structuring sessions; using feedback; problem-solving skills in the session; providing psychoeducation and wrap-around services.

PSY412 - Attention
Credits: 3

The sensory system is continuously receiving a large amount of information from the environment. To optimally process and interpret this information we must prioritize relevant inputs and suppress distracting inputs. Attention refers to the host of mechanisms that implements this selective tuning of sensory inputs. The course deals with various mechanisms that implement the function of selective attention with a focus on recent theoretical developments, empirical findings

and real-world applications. The course covers classical ideas about attention as well as new research developments. The course is structured around four themes, starting with the discussion on classical findings and their relevance to real-life situations such as driving, marketing and interface design. Then the course delves deeper into the perceptual and cognitive processes modulated by attention and its physiological underpinnings. The course also covers the psychological disorders linked to attention. Finally, the course discusses recent theoretical debates around how we define and study attention.

PVA 151 - Thought Experiments - Posthuman Prospects
Credits: 3

The course will be taught by Professor Vyom Mehta (vyom24@gmail.com), and the course coordinator will be Professor Rajesh NaiduToday climate change is mostly accepted as a reality among the educated, liberal populations of the world. Hopefully many of us also agree that going ahead, the lens through which we see our planet must not be human-centric. Instead of pollution and selfishness can we dream of forests, birds, sounds and colours? Can we rectify historical inequalities and accept that we humans are not at the centre of all "need" cycles? Can we dream of a world where nature has been returned to nature? This field of thought (that questions what happens when you remove the human from the centre of all design and enquiry) is often termed posthumanism. And today artists are at the forefront of this kind of imagining. In this course, we will look at how contemporary art delves into posthumanism through a series of 'thought experiments' that question our understanding of subjects such as the divide between nature and humanity, of what being human really means, and what it means to create art that transcends humanism and embraces technology (think A.I.) and nature. Practically, each 'experiment' will last for one module. In each we will question a received idea and think about ways of seeing it using a diverse range of techniques and materials (selected by students according to their preference). Making art is a component of each module but the emphasis is more on conceptual work. For each thought experiment, we will not only create art but watch films and go outside the classroom to visit local artists engaging the above themes in their studios. We will discuss, see, create and think, and maybe, as a result, learn to see the world around us very differently. This is a 100 level course with 3 credits, and open to all the students in the University.

PVA 171 - Theatre and Society
Credits: 3

Theatre has evolved through time as an important tool of expression and communication. It is not only a source of entertainment but can serve as a catalyst for social reform or development. Theatre also expands our connection to the larger world around us, and our empathy for lives lived differently from our own. A director or an actor thinks from the perspective of the diverse characters they portray, improving tolerance towards others in the society. The audience, in turn, becomes witness to worlds that they might otherwise not encounter or be familiar with. Studies have also shown that students who participate in theatre perform better in academics as it enhances their power to express themselves.This course aims to introduce students to the different forms and functions of theatre, inclusive of the wide range of roles theatre practitioners can take on, such as directing, acting and scriptwriting. We will also simultaneously discuss how theatre relates to societal concerns, using theatre games to help students to find present day issues that are relevant to them. Importantly, we will work together on producing skits and script writing in peer groups to encourage students to work cohesively in groups, overcome their inhibitions and find the confidence to engage in creative self-expression.This course is at beginner level & doesn't require prior theatre experience. It is open to all students at the University. It will run for one session a week (for 3 hours) as in a lab course. It is offered by Kabir Thakore, the Director of the Scrapyard Theatre in Ahmedabad.

PVA 225 - Bhakti and Music: Oral Tradition and Radical Change
Credits: 3

Course Instructor: Chitra SrikrishnaThis course is designed for students across the University who are interested in the history and musical impact of the Bhakti mystics of India. Students explore the roots of the Bhakti movement, the influence of historical context—political, religious and cultural in its historical development. Students learn to appreciate Bhakti poetry and its propagation through multiple musical genres. Students examine how the mystics across India strove to create social change through the ages and their relevance in modern times.

PVA101 - Exploring Studio Art
Credits: 3

This course will enquire into the mediums that are considered studio art. They include drawing, painting, sculpture, photography and printmaking. These mediums will be an entry point to think about spaces and sites beyond the studio per se and will foreground this complex interplay between practice and space, in conjunction with social realities. Students will do hands-on projects that will form an introduction to specific studio art practices, intermediality, and their histories.

PVA128 - Performing Humour
Credits: 3

This course will offer students an embodied and practice-based approach to the use of humour in performance. The methods of engaging with humour will include multiple modes of improvisation, sketch comedy, and stand-up comedy, with each strand building upon the skills gained in the previous unit by emphasising questions of performativity and how to write scripts for performance. Simultaneously, the course will introduce theoretical approaches that define, delineate, and distinguish what makes us laugh, and why. The course will also explore ways in which comedy shapes culture and social discourse and how public discourses are reframed through social constructions of race, gender, class, caste, sexuality, disability etc. as framed in comedy.

PVA129 - Another Mother India: Stories of Lesser-known Women from India
Credits: 3

Everybody has a story to tell. Stories captivate, entertain and motivate people. Storytelling is an age-old tradition that is also gaining popularity in the world of social media. Today the techniques are different, but the need to keep your audience, interviewer, reader, viewer, and the listener engaged till the end is of utmost importance. Being able to confidently tell your story at a gathering, a job interview, a business event, or on stage is a powerful and rewarding skill. However, stories are almost always about celebrating men. Women characters in most stories are there only to take the "male narrative" forward. To redress this imbalance, the course aims at identifying and performing stories of Indian women: queens, dancers, teachers, scientists, bankers, rock stars, actors, village heads, dacoits, sports persons, mothers, and grandmothers. The course will take the participants through the process of finding and choosing a story, shaping and distilling it into a tight script, and then applying stagecraft and presentation skills. In this course, the participants will be offered writing and performance tips and illustrated examples to assist them in developing their stories. Participants should walk away feeling they are ready to step onto any stage and tell their compelling story with confidence, knowing that it will be heard and remembered.

PVA203 - Art, Culture and Heritage in a Globalized India.
Credits: 3

This course is intended for students who want to understand the areas of art, culture and heritage in India conceptually as well as through the various forms in which we encounter them in the world around us. The course has dual purposes: One, it aims to acquaint students with selected forms and prac$ces in the Indian subcon$nent including those iden$fied as heritage (e.g. classical and folk per- forming arts, craTs, material culture, etc.) and as contemporary arts (e.g. paint- ing, installa$on art, etc.). Two, it encourages students to look cri$cally at the cat- egories of art, culture and heritage, and examine how they intersect with na$on- al/regional/global poli$cs, cultural

instuons, livelihoods, markets, legal regimes, etc.This is a core course for Minor in Heritage Studies and also serves as PVA GER.

PVA222 - Seeing Photographs
Credits: 3

Beginning with the supposed authenticity of photographs in objective visualization of events and the everyday, this course will explore the myriad ways in which meanings emerge from encounters between photographs and their beholders. These meanings are often contingent on the physical spaces and forms in which photographs meet their audiences. A single photographic image-object may acquire multiple meanings depending on its viewing location and its material form while also shaping the scope of those locations and materials. Closely analysing a wide range of photographs of events and the everyday from across cultures, this course targets to disentangle the analytical challenges posed by photographs' materiality and their fluidity of meaning.

PVA224 - Human Figure Study in Drawing and Painting
Credits: 3

The course is designed to study the construction of a human figure in visual arts, specifically in drawing and painting. Through focus on concepts of 'contour', 'gesture' and 'structure', students will learn how to draw a human figure both from direct observation and from memory, while also understanding the significance of a human figure in the global history of art through intellectual discourse. Students will learn to render a human figure through in-depth study of skeletal structure and muscles by using mediums including graphite, charcoal and paint (acrylic) and also paper and canvas as support. Beginning with simple gestural drawings, the course will help students understand how one or more human figures work in a composition, while also exploring descriptive poses, moving action, and group poses. The studio sessions will be spent making drawings of human figures from direct observation, and reference images including images captured by students and artworks by master artists. The reference artworks by master artists will include the ones who drew and painted in a classical style and the ones who explored human figure beyond the conventions of traditional style and ventured into abstraction. There will be ongoing guidance and critique of works-in-progress, and discussions of finished works, which will touch upon concepts crucial to the creative process, including emphasis on hand-eye coordination, critical thinking, and spontaneity. This will also be supplemented with museum and gallery visits in Ahmedabad. Sketchbooks will be an important component in this course; students will explore self-expression and alternative drawing methods as a part of their required initiative.

RES101 - Introduction to Research Methodology
Credits: 3

This course introduces students to one of the ways in which we acquire knowledge about the world—Doing Research. Research is an attempt to understand the world through systematic study—that is, through identification of a problem, question, or hypothesis; selection of methods to investigate the question, collecting data, interpreting data, and reporting findings. The process of designing and doing research is a mix of various elements including the world view and social location of the researcher (researcher positionality), the selection of what one wants to investigate (research problem/question), and how one goes about doing it (research methods). This introductory and project-based course will familiarize students with the philosophical underpinnings of research, and enable them to identify, compare and contrast different qualitative and quantitative research methods suitable for answering a question, apply their understanding to design a research project in small groups, collect and analyse data, and demonstrate basics of academic writing.

RES501 - Introduction to Research Methodology
Credits: 3

This is a graduate-level research methods course that introduces students to various aspects of research as a knowledge claim. The

course discusses the purpose, philosophical approaches, formulating research problems, ethical issues, design, methods, and tools for analysis. The course will familiarize graduate students across various disciplines with the philosophical underpinnings of research, and enable them to identify, compare and contrast different qualitative and quantitative research methods suitable for answering a question, apply their understanding to develop research designs and demonstrate the basics of scientific writing. The course will equip students to conduct disciplined research under supervision in an area of their choosing.

SAN102 - Learning Sanskrit Through Sanskrit Literature
Credits: 3

This course completes the introductory sequence to the grammar of classical Sanskrit. The goal of the course is for students to develop more advanced skills, though at an introductory level. Students continue their study of Sanskrit grammar and are introduced to more complicated aspects such as participles, rarer verbal forms, compounds, etc. Exercises are here too drawn from several well known Sanskrit sources, such as the Mahābhārata and Rāmāyaṇa.Students complete the textbook, Saṃskṛta-Subodhinī (chapters 16 onwards, same textbook as in SAN101) with occasional supplemental materials distributed by the instructor and a review in the first week of earlier chapters. Depending on the speed of the class, the end of the semester may include reading basic Sanskrit texts. Students are graded on reading preparedness, weekly assignments and a final exam.

SAN202 - Reading Sanskrit Scholastic Texts: Intermediate
Credits: 3

This course is the second of a set of two courses (other being SAN201) which initiates students into the discipline of reading original Sanskrit texts. Students have been introduced to the intricacies of Sanskrit morphology and syntax in SAN101 and SAN102, and students began to read original, albeit relatively simpler, texts in SAN201. This course SAN202 concludes two years of Sanskrit study at the University, and thereby aims to bring students to a level where they will be self-sufficient in being able to continue their journey in the vast world of classical Sanskrit poetry and prose. In this course, students will read some important sections from two distinguished literary works: Kālidāsa's Raghuvaṃśa and Bhartṛhari's Nītiśataka. The Raghuvaṃśa is traditionally identified as one of the five mahākāvyas of Sanskrit literature and narrates the stories of kings belonging to the Raghu dynasty. The Nītiśataka is one of the three śatakas (centuries of verses) composed by the scholar-king Bharṭrhari, dealing primarily with ethics and morality. In their previous study, students have been introduced to the importance of Sanskrit commentaries and they will refer to Mallinātha's Saṃjīvinī while studying the verses of the Raghuvaṃśa in this course. Students will also be introduced to the styles, meters and peculiar syntactical forms found in such Sanskrit literary texts. This course seeks also to reinforce another important aim – to contrast some English translations of these influential works with the original Sanskrit text, thereby demonstrating to students the inevitable gap in any work of translation (and the consequent intellectual joy in being able to read the original!).

SPA112 - Conversational Spanish - II
Credits: 3

This second course in Spanish enables students to continue their study of the language after having completed SPA111. Language instruction here is still at an elementary level and the course builds further the capability of students to use Spanish for 'everyday' purposes. Students are also exposed to aspects of Spanish culture and history. As an introductory course it aims to engender an appreciation for the language and its culture(s). Students are expected to undertake daily practice by revising 3-4 hours a week outside of class.This language course will have three sessions every week of a duration of 1 hour each.This course is open to all students across the University.

SPS 301 - History of the 'Social
Credits: 3

SPS301 History of the 'Social' is a core course for SPS Major, and can also be counted towards a minor in SPS. Although the course is located within SPS, it will also be of interest to students in PHL, and other majors, as it broadly deals with the making and applicability of concepts. The course invites students from different disciplines to engage with the project of turning the 'social' into an object of inquiry. Building on the sense that though freely used in everyday life the word 'social' is little understood, the course will enable students to ask what makes a phenomena, a process, an event or a form of knowledge 'social'. They will be able to ask and address questions such as, Do only human beings have society? How does one theorise something that is seemingly so near to us? And, why to theorise it in the first place? What is theory? Etc. The course will open up these possibilities by introducing students to the various ways in which the 'social' has been broached and understood, particularly in the domain of inquiry we refer to as social theory. Students will learn to evaluate and apply theoretical perspectives to the world around them, and to appreciate both the possibilities and limitations of theorising as a way of understanding. The course has been designed in a way that students get a sense of the 'social' as a problem and not just as an abstract concept. They will get to see how various forms of social explanation developed in response to specific problems, and hence, how to assess them accordingly. The tensions and possibilities residing in each approach to the 'social' will be laid bare, enabling students to understand the strengths and weaknesses of each. They will be able to critically assess which of these approaches suits their own research interests best, and to use it productively and with awareness. It is a reading intensive course and students will be expected to consistently work on challenging texts by major social theorists, anthropologists and historians. A typical class meeting will consist of lecturing, reading together as a class and discussion.

SPS203 - State and Society
Credits: 3

This course introduces students to the fundamental concepts of state and society as they are understood in the social sciences and explores their mutual relationships. How have classical theories conceptualised the state and society? How is the historical evolution of the state and society in the West different from the way they have evolved in the Global South, especially in India? The big transformations in information technology and capitalism in the 21st century have fundamentally impacted the state and social interactions. Through a focus on theory and empirical studies, the course explores five key themes or dimensions of the state-society interaction: 1. What is the state?; 2. What is society?; 3. Civil Society, social movements and citizenship; 4. Sociality and politics in the age of internet; 5. State, market society and neoliberalism. The course will explore the following questions pertaining to its five themes: 1.What are the important theoretical perspectives about the state (Weberian and Marxist)? How is the state experienced in the everyday lives of people in India? 2.What does social theory tell us about the fundamental elements of society and social life (Emile Durkheim)? What are the dominant features of pre and post-independent Indian society? 3.What is civil society and does it always strengthen democracy? How do social movements challenge the existing status quo of the state and society and when do they fail to do so? 4.How has digital media technology transformed classical notions of the public sphere and what are its implications for social relations and harmony? 5.What is market society and how has market thinking permeated social lives? What is the history and rise of neoliberalism and why is it best understood as a political project?

SPS205 - Studying Culture
Credits: 3

"North-Eastern culture is the jewel of Indian culture says Amit Shah, Union Home Minister." "Volkswagen tries to change workplace culture that fueled emissions scandal." "The world has seen a growth in cultural intolerance in the past few years." Culture, a word familiar to most people, is used in myriad ways in everyday language. But what is culture? Where do we find it? And what roles does it play in society?Culture—referring broadly to shared meanings and behaviours among groups of

people—has been a central concept in several disciplines in the Social Sciences and Humanities. 'Culture' and 'cultural' have functioned as objects of study as well as lenses for illuminating social, political and economic phenomena. This course will introduce students to selected approaches towards culture and frameworks for its analysis in Sociology, Anthropology and Cultural Studies.

SPS260 - Within the World of Cities
Credits: 3

This ENABLE course is a Major Elective for the SPS students. Cities are where future challenges lie, making them sites for various interdisciplinary investigations as well as solutions for human wellbeing and environmental sustainability. Today, more than half the world population lives in cities, creating the need for grounding of all social sciences, physical sciences, and professional works within the cities. Cities are spaces of opportunities as well as challenges given that there is no turning back the clock of history. Grounded within the Indian context, this course is divided into three broad segments that: one introduces students to important concepts and frameworks through which to understand various facets of a city; two introduces the challenges facing contemporary Indian cities and three unpack these challenges from the vantage of specific groups in the cities so as to move towards initial solutions. The challenges are presented through case studies and are related to the everyday living of urban residents with respect to employment and poverty, health, infrastructure, housing, ecology and pollution, climate change impacts, crime and violence and inequality. The course attempts to sensitise students to these challenges experienced by different populations in a city and solutions they bring on board. The sequel to this course would be towards systemic as well as decentralised solutions within the domains of urban planning and governance. This course and its sequel will be of interest to the students thinking of future careers in urban management, urban and/ or development policies, climate change solutions, public health, media and social work sector.

SPS263 - Climate Change and Society
Credits: 3

How is climate change making us rethink how we do politics, how we present science, how we practice ethics towards non-humans, and how we understand human history?This course is an elective in the Social and Political Sciences Major. It will be of interest to any student in the university who wishes to develop a qualitative, social and political perspective on climate change. It will broadly help students analyse how the phenomenon of climate change is impacted by and in turn impacts socio-cultural conditions.Thus, on one end, top-down, using political theory, we will analyse global governmental action on climate change. On the other end, bottom-up, we will use sociology/anthropology, to study how different communities use their traditional knowledge to adapt to climate change. From a climate justice perspective, we will ask why and how is it that marginalized groups across the world disproportionately bear both the impact of environmental degradation and the burden of remedial measures to avert the climate crisis. We will read case studies on a variety of climate related issues such as: on air-pollution in Delhi, on the inadequacies of our high school climate education, on how communities recover from climate disasters in Asia and in the US, and on how villagers co-exist with bears in Uttarakhand. Classes will combine texts with discussions, films, lectures and student projects both within and outside the classroom. At the end of the course, as students conceptualize for themselves what effective climate action should look like, the course will give them the tools to both critique the current economic and political measures being taken, and to appreciate the complexity of such interventions.

SPS500 - The Dragon and the Elephant: India and China in Comparative Perspective
Credits: 3

The regions today called China and India were noted for their prowess and prosperity in the remote past, but due to a number of factors including colonialism they went into a precipitous decline, becoming marginal to the international world order. However, early in the 21st century, China and India are nation-states that are once again being seen as two emerging

powers of the global economy. The rise of India and China has fundamentally altered the modern world, whether that be politically, economically, culturally, or sociologically. Both nations, with their gigantic populations and extensive resources, now command yet again a level of worldwide influence not seen since the mid-18th century. Although they share many similarities, there are also many differences in these two Asian countries' development paths. This course aims to compare and contrast the two nations along several different axes. Each is discussed from both Chinese and Indian perspectives to deepen students' understanding of various issues in the two societies

SPS560 - Within the World of Cities
Credits: 3

This ENABLE course is a Major Elective for the CHM students. Cities are where future challenges lie, making them sites for various interdisciplinary investigations as well as solutions for human wellbeing and environmental sustainability. Today, more than half the world population lives in cities, creating the need for grounding of all social sciences, physical sciences, and professional works within the cities. Cities are spaces of opportunities as well as challenges given that there is no turning back the clock of history. Grounded within the Indian context, this course is divided into three broad segments that: one introduces students to important concepts and frameworks through which to understand various facets of a city; two introduces the challenges facing contemporary Indian cities and three unpack these challenges from the vantage of specific groups in the cities so as to move towards initial solutions. The challenges are presented through case studies and are related to the everyday living of urban residents with respect to employment and poverty, health, infrastructure, housing, ecology and pollution, climate change impacts, crime and violence and inequality. The course attempts to sensitise students to these challenges experienced by different populations in a city and solutions they bring on board. The sequel to this course would be towards systemic as well as decentralised solutions within the domains of urban planning and governance. This course and its sequel will be of interest to the students thinking of future careers in urban management, urban and/ or development policies, climate change solutions, public health, media and social work sector.

STA 202 - Mathematical Statistics
Credits: 3

Mathematical Statistics concerns the study of statistical theory through various mathematical techniques and data analysis. This course is a major core for BA (Hon) in Economics, BS (Hon) in Computer Science and an elective course for BS-Physics (Hon). The mathematical statistics course centres around case studies taken from different areas. Each case study has five parts: introduction, data, background, investigation and theory. Finding the answer to the questions raised in the case study motivates the study of related statistical theory. The mathematical treatment offers in-depth learning of statistical methods and prepares students to independently use standard statistical models and methods in specific contexts. The course could provide the students with the skills to implement statistical models and methodologies while working with real data. This course would also be helpful for other quantitative sciences, engineering and management majors. The students will be working on group projects with data related to Economics, Physics, Biology, Engineering and Management.

School of Engineering and Applied Science

CHE201 - Fluid Mechanics
Credits: 3

Topics will cover revision of continuum concepts; kinematics; Reynolds transport theorem; Reynolds analogy; mass, linear momentum, angular momentum and energy flow rates in elemental and integral form; conservation equation in differential form; conservation equations in integral form; hydrostatics: pressure distribution, buoyancy; inviscid flows; potential flow: stream and potential functions; basic flow elements, viscous external flows: hydrodynamic and

thermal boundary layers, friction coefficient, heat transfer coefficient; viscous internal flows: pipe / duct flow, head calculations and heat transfer;natural convection external and internal flows, compressible flow, fluidization, pumps, flow meters, dimensional similarity, agitation and scaleup. A systematic breakup of concepts covered under these topics is given as follows:Unit iIntroduction and fundamental concepts: Fluid definitions, Fluid continuum, Fluid properties, Classification of fluids, Fluid pressure, Hydrostatic forces on plane and curved surfaces, manometersUnit IIFluid Kinematics: Acceleration field, Lagrangian and Eulerian descriptions, Flow patterns, Streamlines and Streamtubes, Pathlines, Streaklines, VorticityFluid Kinetics: Fluid Kinetics: Control volume concept, mass, linear momentum, angular momentum and energy flow rate equations in elemental and integral form; conservation equations in differential and integral forms, stream and potential functions; basic flow elements, Euler's equation of motion, Reynolds transport theorem; Reynolds analogy; Energy equations, Bernoulli equation and applications, inviscid flows, potential flowsDifferential analysis: Concept of differential analysis, Derivation of governing equations like continuity and momentum using differential analysis, Derivation of velocity distribution in a pipe using differential analysis, Derivation of Universal velocity profile for turbulent flow across pipesUnit III Laminar and turbulent flows: Types of flow, Reynolds experiment, Laminar flow between parallel plates, Viscous internal flows: Pipe / duct flow, head calculations and heat transfer; external and internal flows Boundary layer theory: Boundary layer theory: Hydrodynamic and thermal boundary layers, friction coefficient; flow separation, circulation, external and internal flowsUnit IVDimensional Similarity and Similitude: Dimensional analysis, Buckingham Pi Theorm, Application of Buckingham Pi theorm to obtain relation between dimensionless numbersAgitation and Scale-up Concept of agitation, Types of impellers used for agitation, Geometrical dimensions of agitated vessels, Power requirement in agitationPumps Types of pumps on basis of direct pressure to fluid and rotational power, Centrifugal pumps, NPSH, Characteristic curves, Power, head, efficiency relationship with capacity for different rpm; primingFlow meters: Principle and Working of Venturimeter, Orificemeter, rotameter and pitot tube.Unit VCompressible Flow: Concept of Mach number, acoustic velocity, Governing equations for compressible flow from Reynolds Transport Theorm, Asterisk condition, Stagnation temperature, Isentropic flow, Isothermal flowMultiphase Flow: External flow past sphere, terminal settling velocity, hindered settling velocity, Draf force, drag coefficient, Stokes and Newton’s regime, Fluidization concept, Types of fluidization, minimum fluidization velocity, Erguns equation for pressure drop in fixed beds, Pressure drop in fluidized beds

CHE204 - Mass Transfer Operations - I
Credits: 3

In this course, first the fundamentals of mass transfer will be discussed. This will include molecular and convective diffusion, estimation of mass transfer coefficients and different theories of mass transfer . Then , gas –liquid operations will be covered. This will include characteristics of different contacting devices and details of gas absorption and drying.

CHE221 - Thermodynamics - II
Credits: 3

To introduce the basic concepts of thermodynamics-2 to the students so that they can understand the fundamentals of the phase equilibrium and reaction equilibrium. To enable the students to apply the basic principles of ideality and non-ideality to solve real life problems.

CHE301 - Heat Transfer
Credits: 3

Unit 1: Steady and Unsteady state conduction and Extended surfaces Fourier’s law of heat conduction, Steady state conduction through a composite solid, Steady state heat conduction through variable area like cylinders and spheres, Lumped capacitance model for unsteady state conduction, Unsteady state conduction with internal temperature gradients across solids. Unit 2: Radiation heat transfer Black body

radiation, Planck's law, Wein's displacement law, Stefan-Boltzmann law, Kirchoff's law, concept of gray body, Emissive power, Radiative heat exchange between surfaces, Radiation shield Unit 3: Heat transfer without phase change Free convection basic concepts, heat transfer coefficient correlations for flat plate, cylinder, sphere, entry region, hydrodynamic and thermal boundary layer Forced convection over flat place, Dimensional analysis, laminar and turbulent flow inside and outside pipes, hydrodynamic and thermal boundary layers, corresponding correlations for heat transfer coefficients, heat transfer during flow over spheres, cylinders, packed and fluidized beds, Extended surfaces and enhancement of heat transfer Unit 4: Heat transfer with phase change Boiling phenomenon, Boiling curve, Nucleate boiling, pool boiling, Critical heat flux, Film boiling, Forced convection boiling, Film condensation inside and outside tubes, Dropwise condensation Unit 5: Heat Exchangers Concept of overall heat transfer coefficient, Design of Double-pipe heat exchangers, Shell and tube heat exchangers, Compact heat exchangers, design in agitated vessels Unit 6: Evaporation and Evaporators Natural circulation evaporators, forced circulation evaporators, Falling film evaporators, Single and Multieffect evaporators, effect of Boiling point elevation, Design of Multi-effect evaporatorsUnit 7: Mass Transfer and Simultaneous mass transferBasics of diffusion, mass transfer analogies, simultaneous heat and mass transfer

CHE306 - Chemical and Petrochemical Industries
Credits: 3

This course is an introduction to the various chemical process industries available in India. The course will discuss some very specific, but important, chemical, petrochemical, and pharmaceutical industries, and various processes involved in these. This will include chemical industries and the processes, the technologies and major equipment required, raw materials, production trends, and future scope associated with it.

CHE313 - Chemical Reaction Engineering-II
Credits: 3

This course will cover the principles involved in the selection and design of chemical reactors for heterogeneous reactions.

CHE314 - Experiments in Mass Transfer, Chemical Reaction Engineering and Process Control
Credits: 1.5

The experiments are designed to verify and apply the principles of three courses Mass Transfer operation, Chemical Reaction Engineering and Instrumentation and Process Control which can provide hands on practice on proto type equipment.

CHE400 - Process Synthesis and Integration
Credits: 3

This course will communicate a strategy for design of integrated production systems with focus on energy efficiency. Relatively new and systematic methods are lectured for analysis and design of thermally driven separation Systems, Heat exchanger networks and utility systems (consumption and production of thermal and mechanical energy). Based on new insight about the energy flow in such systems, simple rules are established for correct integration. The course presents the pinch method for analysis and design of process and energy systems where thermal energy is important. The course covers both design of new plants ("Grassroots") and retrofit of existing plants for improved energy efficiency.

CHE574 - Special Topic: Instrumental Methods of Analysis
Credits: 3

CHE700 - Advanced General Chemistry
Credits: 3

This advanced chemistry course designed for PhD student's covers important topics of inorganic, physical and organic chemistry. It focuses primarily on important inorganic concepts like transition elements and coordination chemistry. It also gives an insight to physical concepts like chemical kinetics, equilibrium and electrochemistry. Along with

this, the course gives an overview to important instrumental techniques used in chemistry. This course makes the basis for some of the specialized topics which will be beneficial for the PhD students.

CHE851 - Special Topics in Chemical Engineering - Understanding Nanoscience and Nanotechnology
Credits: 3

CSE108 - Object Oriented Programming Lab
Credits: 1

The course is aimed to provide exposure to object oriented programming paradigm and understand fundamental concepts of object oriented programming (OOP). The course will enable students to design and develop object oriented programs in high level programming languages like Java. Following topics will be covered in the course: Fundamental concepts of object oriented programming, object oriented problem solving and programming paradigm, designing object oriented programs using classes and objects; primitive v/s object data types, Arrays, Understanding Java Platform, Environment and API Library; Static and Runtime Polymorphism; Inheritance; Exception Handling; Abstract Class, Packages, File Handling; Event-driven Programming; Graphical User Interface development

CSE200 - Design and Analysis of Algorithms
Credits: 3

The course provides an introduction to the techniques of the designand analysis of algorithms. It contains the following main themes: 1. Basics, 2. Algorithms using graphs and trees, 3. Recursive algorithms, 4. Greedy algorithms, 5. Dynamic programming, 6. NP and Computational intractability, 7. Approximation algorithms.

CSE206 - Computer Organization and Architecture
Credits: 4

The course covers: •Architecture of micro-computer/Central Processing Unit (CPU); Concept of control bus, address bus and data bus. Concept of Instruction Set Architecture. Understanding the building blocks of micro-computer: Data memory, Instruction Memory, Register Set, Address decoding, Arithmetic-logic Unit (ALU), timing pulse generator, Program Counter (PC), Stack Memory and stack pointers, I/O registers, control unit, etc. oDesign of control unit: Hardwired Control (MUX based and FSM based), Microprogrammed Control (ROM based). oDesign a simple RISC/CISC processor using a digital logic simulation tool (Logisim) and Verilog HDL. •Instruction Set Architecture (ISA): Basics of RISC and CISC Architectures; Basics of Harvard and von-Neumann Architectures; Instruction format; Addressing Modes; Instruction Set for an example microprocessor (8085/AVR/MIPS/RISC/etc.) covering these category of instructions: Data Transfer; Arithmetic; Logical; Branching; Subroutine; Stack; Basic I/O and Interrupt; Assembly language programming. •I/O and Memory Organization: Memory hierarchies and organization; Cache; I/O interfaces; Memory and I/O addressing; •Introduction to Pipelining: Arithmetic Pipeline; Instruction Pipeline; Pipeline Hazards; Basic Flynn's taxanomy; Introduction of parallel processing and vector processing;

CSE250 - Database Management Systems
Credits: 3

This is a core course which covers concepts of relational database management such as entity relationship approach, database system architecture, logical and physical database designing, transaction management, concurrency control and query optimization. It also covers database programming.

CSE342 - Computer Networks
Credits: 4

This is a first course on computer networks. The course will introduce the fundamentals of computer networking and a number of protocols. The course introduces the layered protocol architecture concept and discusses physical, data link, network, transport and application layers. It describes the

functionalities of these layers as well as the main protocols pertaining to these layers. The course emphasizes the architecture and protocols used in the Internet.

CSE511 - Algorithms and Optimisation for Big Data
Credits: 3

In the digital era, the size and availability of data have ever been growing massively. Big Data comes with immense opportunity, but turning this seriously high volume, high velocity, structured or unstructured, heterogeneous, often noisy and high-dimensional data into something one can use is a huge challenge. This motivates increased interest in the design and analysis of algorithms for rigorous analysis of such data. In this course, we will consider algorithms for scenarios when the size of the data is too large to fit into the main memory of a single machine. Two main paradigms of computation that we will focus on are massively parallel computation and streaming algorithms. The course will focus mainly on four aspects: Module A. Streaming algorithms: Data streams represent a large dataset as an arriving online sequence of updates to its entries. The goal of algorithm design is to minimize the number of passes and space while achieving the bestt possible approximation guarantee. Module B. Convex optimization and compressed sensing: The key focus of this module would be to understand the basics of optimization through the notion of Gradient descent. Furthermore, the concept of compressed sensing involving the operations on a huge sparse matrix will be covered. Module C. Massively parallel algorithms: In massively parallel computational systems (clusters) the data is partitioned between a large number of identical machines connected via a high-speed network. The goal of algorithm design in such a case is to minimize the number of synchronous rounds while optimizing the time/space, communication, approximation, etc. Module D. Sublinear time algorithms: In this part, we will focus on algorithms, which have access to the entire dataset. However, the size of the data is prohibitively large so that we can only make a small number of carefully chosen queries to it. The goal of such algorithm design is to approximate interesting parameters of the dataset and study its properties while minimizing the number of queries and running time.

CSE517 - Python Programming
Credits: 1.5

The course is aimed to give the exposure to Python programming paradigms and to develop the problem solving ability. The course would introduce the concepts of Python programming. Following topics would be covered during the course: Problem solving using Algorithms; Foundations of Python programming; Operators; Control statements; Input/output operations; Decision making, branching and looping; Collections; File management; Data processing life cycle; Data processing using python libraries, Pandas Series and DataFrames; Data cleaning and handling missing data; Data Visualization

CSE519 - Human Computer Interaction
Credits: 3

This course will provide detailed understanding of the field of Human-Computer Interaction (HCI). The course will cover details of Human Factor in HCI including Cognitive, Emotional, and Social aspects. The course will cover Design Aspects of HCI. Various interfacing mechanism for HCI will be discussed. The criteria for the evaluation of the interface design will be studied.

CSE520 - Data Analytics and Visualisation
Credits: 3

Data Analytics is the science of analyzing data to convert information to useful knowledge. This knowledge could help us understand our world better, and in many contexts enable us to make better decisions. While this is the broad and grand objective, the last 20 years has seen steeply decreasing costs to gather, store, and process data, creating an even stronger motivation for the use of empirical approaches to problem solving. This course seeks to present you with a wide range of data analytic techniques and is structured around the broad contours of the different types of data analytics, namely, descriptive, inferential, predictive, and

prescriptive analytics.

CSE521 - Big Data Analytics
Credits: 3

The explosion of social media and the computerization of every aspect of social and economic activity resulted in creation of large volumes of mostly unstructured data: web logs, videos, speech recordings, photographs, e-mails, Tweets, and similar. In a parallel development, computers keep getting ever more powerful and storage ever cheaper. Today, we have the ability to reliably and cheaply store huge volumes of data, efficiently analyze them, and extract business and socially relevant information. The key objective of this course is to familiarize the students with most important information technologies used in manipulating, storing, and analyzing big data.

CSE523 - Machine Learning
Credits: 3

Machine learning is designing and developing algorithms for machines especially computers to showcase a human like behavior i.e., learning from the environment and be adaptive to environmental changes. In doing so they may use the experimental data set or human expertise. Learning is extremely helpful when human expert is missing. Machine learning uses statistics in building the mathematical models and optimize their parameters through learning. This course aims to build the fundamental building blocks of machine learning. The core focus would be on developing algorithms that learn complex patterns from the data and make intelligent decisions.

CSE533 - Social Network Analysis
Credits: 3

Social Network Analysis (SNA) is about analysing networks arising in various contexts, especially those arising in social contexts: as a result of peopleconnecting with each other on online social networks such as Twitter andFacebook, as well as “who-calls-whom” graph arising out of Telecom networks. However, the techniques for analysing social networks can be extended to other non-social networks as well.In this course, we will learn about techniques for analysing networks, bothsocial and others, and also learn about how (algorithms) to do this in ascalable manner. Also, we will learn how to visualise some of these largenetworks. And lastly, we will also explore the applications of SNA in variousdomains such as Telecom, Biology, Economics, etc.We will discuss the following topics:- Graph Theory and Social Networks- Visualizing Social Networks- Game Theory- Network Dynamics- Information Networks and the World Wide Web- Applications of SNA in various domains

CSE537 - High Speed Computer Architecture
Credits: 3

This course analyses high speed modern computer architecture designs, including branch prediction, cache optimizations, multi-level caches, memory and storage, cache coherence and consistency, and multi- and many-core processors.

CSE541 - Computer Vision
Credits: 3

Computer vision (CV) is about extracting semantics and descriptions from the images or videos. This helps to analyze and understand the world around us. It allows visual perception in the Artificial Intelligence agent. CV occupies a significant importance in the fields of healthcare, mobility, security, entertainment, and robotics. The major thrust of the course will be to develop models and to put them in practice through algorithms on images and videos. This will translate ideas from theory to practice.The course is meant to cover recent advances in the domain of computer vision. The course will gradually meander from low level computer vision to high level concepts. It will introduce tradition CV topics like filters, local image features and texture descriptors, then move to mid-level vision covering visual matching through Hough transform, optical flow. It ends up in high-level vision tasks like segmentation, tracking, classification, detecting objects and person recognition.

CSE542 - Introduction to Blockchain:

Technologies, Approaches and Applications
Credits: 3

Blockchain is considered disruptive and game-changer solution in areas that involve multiple stakeholders, each having complex business processes implemented in unique systems and infrastructure; operating in different administrative and geopolitical boundaries. With cross-organization workflows and complex compliance requirements, industry sectors like Healthcare, Finance, Manufacturing, International Trade, Insurance, Retail, Supply Chain, Recruitment, Media, Real-estate, and Education etc. can benefit significantly by improved operational efficiency, enhanced security, and transparency offered by blockchain implementation. However, Blockchain technology practices and research activities are currently in initial phase and evolving continuously with new tools, technologies, approaches and application strategies. In such scenario, it is difficult for students, researchers or practitioners to get right entry into the subject. This course will be instrumental in developing familiarity with theoretical concepts, underlying technology, tools, implementation strategies and current practices. The course will offer detailed overview of two major technology stacks, along with detailed technical discussion on application and research areas.

CSP511 - Special Topic: Cyber Physical System
Credits: 3

CSP514 - Special Topic: IOT application for 5G wireless networks
Credits: 3

ENR100 - Visualisation
Credits: 1.5

ENR101 - Product Realisation
Credits: 1.5

This course aims to impart students with the knowledge of different products and processes. The topics include assembly, carpentry, sheet metal, origami and machining. The students learn design and manufacturing aspects of products and their industrial relevance.

ENR102 - Electronics and Magnetic Circuits and Devices
Credits: 4

Analysis and design of passive circuits with Voltage and current sources. Steady state and transient analysis. Controlled sources and active devices. Circuit theorems. Transducers. Semiconductors, Diodes, transistors and applications. Operational Amplifiers.Oscillators Filters. IC applications.Magnetic circuits . Introduction to AC and DC machines

ENR103 - Electronics Workshop
Credits: 1

The course proposes the study of electronics devices that can be used singly (in design of discrete circuits) or as components of an integrated-circuit (IC) chip. We shall study the design and analysis of interconnections of these devices, which form discrete and integrated circuits of varying complexity and perform a wide variety of functions. We shall focus on the electronics system building blocks such as subsystems like; Amplifiers, Oscillators, Passive filters, Active filters, Rectifiers, Voltage regulators and some other IC applications. We shall also consider the study of Semiconductor physics, Magnetic circuits, and Electrical machines.

ENR200 - Design, Innovation and Making
Credits: 3

The course covers basic information about creativity, innovation and design thinking. This course is divided into two parts. First part involves laying theoretical foundation and second one is about applying these techniques in practice. Module on Creativity explains how systematically one can come up with several innovative and novel solutions to given problem under specified requirements. InJobs-to-be-done, students will learn to understand customer requirements and identify right kind of problem. Design thinking sets up a systematic approach from idea generation to prototype building.In the second part of practically applying concepts, student will learn to make things such as design,

CAD, drawings and prototype. This session involves more activities on student side with the guidance from faculty. This involves talking to the customers, understanding market requirements, understanding availability of the technology and infrastructure, actually coming up with feasible ideas andimplementing them by designing and making a working model.

ENR306 - Technical Communication
Credits: 1

Engineering graduates have to frequently prepare reports and make presentations. Ability at communication, in general, and technical communication, in particular, is an essential requirement in any organization. This course will be a first exposure to professional practices in technical writing which would include preparation of reports, proposals, poster presentations, oral presentations, and popular writing, amongst others. This skill will be put in practice during project and laboratory work.

ENR500 - Technical Communication
Credits: 3

This course is designed to help you develop skills that will enable you to produce clear and effective scientific and technical documents. We will focus on basic principles of good writing-which scientific and technical writing shares with other forms of writing-and on types of documents common in scientific and technical fields and organizations. While the emphasis will be on writing, oral communication of scientific and technical information will form an important component of the course, as well.

ENR501 - Renewable Energy Technology
Credits: 3

Course DescriptionEnergy scenarios (Unit I) Global & National energy review, Forms & characteristics of renewable energy sources, Energy classification, Sources and utilization, Principle of energy conversion, Indirect / direct energy conversion. Photovoltaics technology and applications (Unit II) Solar irradiation measurement, Basics of Solar cells, Different components of a Photovoltaic system, Photovoltaic System designing, Hybrid photovoltaic system, Electricity generation and water pumping, Micro/Mini hydropower systems, PvSyst software. Wind Technology (Unit III) Historical Background, Global and Indian wind power growth, wind resource assessment technologies, Wind power plant, wind energy conversion. Solar Thermal (Unit IV) Basic principles of design and operations of Flat plate collectors, Solar concentrators, Thermal Applications of solar energy, energy storage. Fuel Cell (Unit V) Basic principles of design and operations of Fuel Cell, designing of Hybrid System.

ENR506 - Robotics
Credits: 3

Robotics is an interdisciplinary branch of engineering where Computer Science, Electrical Engineering and Mechanical Engineering meet. In the present era of highly demanding outcomes from the manufacturers, robotics plays an important role in achieving high standards of productivity and efficiency while maintaining safety. A typical robotics engineer of today is required to have sound knowledge of mechanics, robot work environments and control systems that enable the robotic mechanisms to perform automatic tasks. Successfully finishing this course enables students for their professional careers in terms of analyzing, specifying and using a robot for various tasks. This elective course in Robotics equips students with the skills to analyze, specify and use the industrial robots. The course develops first principles based analysis and synthesis. It concludes with the coverage of the latest in the area. A topic wise details is given as under:Introduction: Types of robots, Frames of rotationHomogeneous Transformations: Rotational, translational, and composite transformations, Euler angle parameterizationKinematics of multi-link robots: Inverse and forward kinematics, singularitiesDynamics of multi-link robots: Inverse and forward dynamics, equations of motionControl of robots: Feedback control of robots, Task space, force, and torque control of robots.Path planning: Motion planning using

higher degree polynomials, and application-specific optimization. International Standards: The standards currently in practice that relate to robotics and technology.

ENR508 - Mobile Robots, Let's Build One!
Credits: 3

"Mobile Robots, Let's Build One!" is a hands-on (Enable) course. These robots are different from other classes of robots in many ways. This is a course to introduce the students to different aspects of control for mobile robots. How to control them and make them move around safely and effectively. They start from the basis and finally will end up with a physical moving robot. In this path they will be familiarized with Kinematic and Dynamic of mobile robots, different aspects of robot perception, after a review of control theory and systems they will be introduced to hybrid automata and its components. They go through the theory behind localization and navigation which will lead them to motion planning, after which the practical part of the course will begin. The robot building will bring up such topics as hardware and software used for making a mobile robot and running it.

ENR510 - Nonlinear Dynamics
Credits: 3

This course provides an introduction to nonlinear dymanical systems to science and engineering students as well as any other interested student. Dynamical systems form the backbone of all engineering and scientific phenomena and have a strong connection with the foundations of statistical mechanics. The course is perfectly suited for students wanting to work on interdisciplinary projects.

ENR852 - Special Topics in Engineering – Reinforcement Learning
Credits: 3

MAT201 - Vector and Complex Analysis
Credits: 4

The course intends to connect the knowledge of calculus and linear algebra gained in the previous courses to various phenomena which Mechanical and Chemical Engineers need to deal with (e.g. fluid dynamics, heat transfer, mass transfer etc). Moreover, the familiarity which this course provides with concepts in complex analysis (e.g. contour integrals) prepares the students to deal with more advanced concepts in applications of mathematics to engineering and sciences.

MAT248 - Applied Linear Algebra
Credits: 3

This is a core course on Linear Algebra for undergraduate students of Computer Science and Engineering. In addition to introducing the basic concepts of Linear Algebra, the course attempts to illustrate computer science specific applications.

MAT277 - Probability and Stochastic Processes
Credits: 3

The Probability and Stochastic Process (PSP) is an undergraduate math course aimed at teaching the fundamentals of probability and random processes to model the uncertainty in human's daily life and applied the knowledge gain into the field of engineering like Finance, Biology, Signal Processing and Communications, Biomedical, Data Analytics, Computer Science etc. This course is a core subject of CSE undergraduate programs at the School of Engineering and Applied Science. The course is designed to develop the student's various soft skills like problem-solving, teamwork, critical thinking, and Monte Carlo simulation framework to model uncertainty.

MAT396 - Numerical Methods
Credits: 3

This course is offered to all the UG/PG/PhD students who satisfy the prerequisites. Students should have a prior understanding of differential equations and Linear Algebra. The objective of this course is to find solutions for the system of linear equations, roots of non-linear equations, function approximation and interpolation, differentiation and integration, and solving Ordinary Differential Equations (ODEs) and Partial Differential Equations (PDEs). Besides learning the methods for algorithm development, MATLAB codes will

be developed to solve mathematical problems. Towards the end of the course, students will solve term projects. To solve the term project, one requires a thorough understanding of Numerical Methods.

MAT502 - Advanced Statistics
Credits: 3

This course is organized into three parts. The first part introduces descriptive statistics, probability, distributions and convergence of random variables. The second part introduces sampling, experiment design and resampling methods. The third part introduces inference and learning from data where it covers topics such as parametric inference, hypothesis testing, statistical learning, regression and classification. The course will have two projects where the first project gives the students a taste of real-world data collection and statistical analysis, and the second project gives experience with statistical learning using real-world datasets. Students will use software to implement and experiment with the concepts taught in the course.

MAT596 - Numerical Methods
Credits: 3

This course is offered to all the PG/PhD students who satisfy the prerequisites. Students should have a prior understanding of differential equations and Linear Algebra. The objective of this course is to find solutions for the system of linear equations, roots of non-linear equations, function approximation and interpolation, differentiation and integration, and solving Ordinary Differential Equations (ODEs) and Partial Differential Equations (PDEs). Besides learning the methods for algorithm development, MATLAB codes will be developed to solve mathematical problems. Towards the end of the course, students will solve term projects. To solve the term project, one requires a thorough understanding of Numerical Methods.

MEC205 - Materials and Process of Manufacture
Credits: 3

• General Introduction, Design for Manufacture, The Design Process, Selecting Materials and Manufacturing Process, Product quality, Manufacturing automation, Economics of Manufacture. • Casting processes, Solidification of Metals, Cast Structures, Casing Alloys, Ingot Casting and Continuous Casting, Casting Processes, Expendable Mold, Permanent Mold, Processing of Casting and Casting Design. • Bulk deformation processes, Forging, Rolling, Cold and hot Extrusion, Rod, Wire and Tube Drawing, Die Manufacturing Methods, Die Failures. • Sheet-metal forming processes, Sheet-Metal Characteristics, Shearing, Bending of Sheet and Plate, Stretch Forming, Bulging, Deep-Drawing, Formability of Sheet Metals • Material Removal Processes (Milling, Turning), Mechanics of Chip Formation, Tool Wear, Surface Finish and Integrity, Cutting-Tool Materials, Cutting Fluids, Cutting Processes and Machine Tools for Producing Round Shapes, Machining Centers. • Material joining processes (welding, soldering, brazing, etc.)

MEC206 - Computer Aided Design and Manufacturing
Credits: 4

Part A: Computer Aided DesignProduct Cycle for Discrete products manufacturing-Use of computersAutomation-Need, Types, Their applicationsIntroduction to CAD/CAM systems-Their advantagesIntroduction to CAD & Computer Graphics -Input and output devices, Raster Graphics -Scan Conversion and algorithms for plane and space curves -Two Dimensional Graphic Transformations - Three Dimensional Graphic Transformations Geometric Modeling Techniques, Surface Modeling, Solid Modeling, CAD standardsIntroduction to Finite Element Method and design optimizationComputer Aided Design and Analysis of Mechanism and Machine Elements.Part B: Computer Aided Manufacturing Introduction to CAM and CNC Technology Features of CNC m/c toolsN/C Part Programming, Computer Assisted Part ProgrammingIntroduction to Robotics-Robot elements and controls, programming and teaching robots, specification, application and safety aspects.CAD/CAM integration, Rapid prototyping& 3D printingFMS and Computer

Integrated Manufacturing CAD/CAM/CAE software.

MEC210 - Strength of Materials
Credits: 3

This curse forms the foundation of the vertical of Materials and Manufacturing within the discipline of Mechanical engineering. It belongs to the branch of statics. It is a theory course where analysis of stress and strain developed in physical structures due to external load is carried out. Topics include: shear force and bending moment; axial, shear, bearing and bending stresses; deflection of beams; and buckling of columns, torsion of shafts.

MEC240 - Manufacturing Processes
Credits: 3

Engineering Materials • Heat Treatment • Casting Processes • Fundamentals of metal forming Hot Working Processes • Cold Working of Metals • Surface Finishing • Fabrication Process Welding, Soldering and Brazing •Theory of Metal Cutting • Cutting Tool Materials • Machinability • Dynamometry • Cutting Fluids • Cemented Carbide Tools Fundamentals of Machine Tools • Lathe • Installation, Operation and Maintenance of Machine Tools • Shaper &Slotter• Planer • Milling Machines • Broaching and Sawing • Drilling and Boring Machines • Jig Boring • Grinding • Industrial Safety • • Jigs and Fixtures • Power Press • Threads & Thread Cutting • Gear Manufacturing • Turret & Capstan Lathes •

MEC300 - Control Engineering Theory and Applications
Credits: 2

The course on control engineering covers time domain and frequency domain techniques for analysis and synthesis of controllers that ensure stability and desired performance characteristics. The course provides quick overview of Linear Time Invariant (LTI) systems using ordinary differential equations. Techniques such as Laplace transform help in analyzing the open-loop systems. The idea of feedback is introduced and motivated by performance and stability requirements. Subsequently, tools such as root locus, frequency response are taught to equip students with skills which are generic in developing feedback controllers for systems. Practical using software are performed to level up practical skills in the students.

MEC303 - Thermal Energy Systems
Credits: 3

Thermal Energy Systems course deals with the study of heat/power producing/consuming machines. It covers steam cycle, steam turbine, gas turbine, compressors and steam generators. It also covers the relevant cycle and combined cycle based power plant study. These machines are critical parts of the current power generating units.

MEC304 - Integrated Mechanical Laboratory - I
Credits: 2

MEC405 - Learning Factory Project
Credits: 3

MEC451 - Dynamics of Machines Lab
Credits: 1.5

In this laboratory, students will learn to design various experiments related to dynamics of machines. Experiments on Universal vibration set-up, whirling of shaft, Gyroscopic law verification and static & dynamic balancing of shaft will be conducted.

MEC503 - Solar Thermal Energy
Credits: 3

Ever increasing demand of energy will reach to be doubled by 2050. But limited source of fossil fuels would not be capable to supply the demand in a sustainable way. Moreover, the implication of the use of these resources tends to have negative impacts on the environment. Hence, there is an urgent need to develop efficient renewable energy based technologies at an affordable cost. Solar energy is one of the promising resource among all the other renewable resources. Moreover, in recent years, to reduce energy generation from conventional

resources, India also made huge progress on solar energy based power generation and many solar based projects are under development. With an idea of increasing subject knowledge and exposure of the solar energy, Solar Thermal Energy subject will be offered as an elective course. The following is the syllabus of the subject:Unit-1 Earth & Sun Relationship: The Sun, Solar Radiation, Radiation Measurement, Sun-Earth Relationships, Empirical Equations for Predicting the Availability of Solar Radiation. Unit-2 Solar Collectors: Introduction, Flat plate collector, Performance analysis of a liquid flat plate collector (Transmissivity, Overall loss coefficient, Collector efficiency factor, Collector heat removal Factor), Concentrating collectors, Types of concentrating collectors, Performance analysis of concentrating collectors, Advantages and disadvantages of concentrating collectors over flat-plate type collectors. Unit-3 Term Project

Undergraduate College

FDP101 - Democracy and Justice
Credits: 3

It may be argued that democracy has emerged as the most desirable, if not the most successful, form of government in the contemporary world. Regardless of whether we like a particular democracy or not, arguments about what is the most legitimate and just form of rule point towards democracy. Why is democracy seen as the most just form of rule? How did such a situation come about historically? Is there evidence to show that, all things considered, democracies are indeed the most just form of government known to us? Are there specific civic virtues that help democracies flourish? Is there a particular way in which agreement, dissent, cooperation, and conversation between different groups and individuals in a democratic society is to be carried out? Would democracy be a necessary component of a just system of government? And would social justice be a necessary component of democratic government? These are some of the questions that this course will tackle. The entire course is built on two central ideas about democracy: a) how best to safeguard against arbitrary exercise of state power, and b) how best cultivate the virtue of democratic conversation. The course is divided into four taught modules and a fifth project module. Each of the four modules are built around a normative statement, which is supposed to provoke and organise the discussions within that module. The four normative statements are: Module 1: "Democracy is the most just form of government" Module 2: "Rights take precedence over popular will" Module 3: "Inequality is antithetical to democracy”

FDP102 - Environment and Climate Change
Credits: 3

Since time immemorial, human activities have significantly impacted the nature of our planet. Issues such as depleting resources, climate extremes, land degradation, food insecurity, unsustainable consumption and unequal access to resources, pollution, ecosystem degradation and extinction of species have posed challenges of sustainability that span spatial and temporal scales. However, in the recent past, efforts related to conservation and sustainability have also increased manifold, paving the way for a slightly hopeful future. On the crossroads of these vectors, multiple questions such as: what are the sustainability challenges facing humanity? How do we measure environmental footprints? How do we assess uncertainties and risks? Who bears the burden of costs and risks? Can we make our consumption behavior sustainable? How do we create, replicate and upscale innovative ideas? How do we evolve a just governance system to share costs and benefits equitably?, etc. need to be addressed and answered. The millennials must be equipped to comprehend and answer these questions in a meaningful and an engaging manner. This course, through an integration of diverse domains - materials, data science, biology and life, behaviour, communication, and constitution and civilization, will expose students to 1. appreciate and develop an integrated understanding of these issues and their interactions, 2.

FDP103 - Neighbourhoods
Credits: 3

This course will dwell upon the idea of the

neighborhood. The course will explore ways of understanding the neighborhood in geographic, historical, cultural, governance terms, as well as its biodiversity, lifestyle and health profile, economic and social characteristics, and physical attributes among other aspects. The course begins with defining and conceptualising neighbourhood. Students would visualize the neighborhood using different thematic maps, and the evolution of cultural and social characteristics of the neighborhoods would be investigated. Analysis of demographic features, livelihood profiles, governance structures, and flow of services would enable students to appreciate modern neighbourhoods. Biodiversity would be explored to evaluate the biological richness of the neighbourhood. Health status and lifestyle of the individual in the neighborhood would be surveyed. Students would also get an opportunity to explore the physical nature of the neighbourhood. The course will anchor hands-on learning activities in the contexts of a few local neighbourhoods. Students, working in groups, will observe and engage in surveying and document data on the above themes. Besides, students will get a broader perspective on demographic, economic and social characteristics from the population census data and health status from the CMIE economic outlook data. Students will then engage in analyzing the data to understand the neighbourhood. The learning from this course would facilitate students to build a vision around the interplay of the environment, behaviour, and development associated with the neighbourhoods.

FDP104 - Water
Credits: 3

The two extreme points from where we look at water could be "Water is life, and clean water means health" - Audrey Hepburn, or an extremely scary angle e.g., "World War III will be fought over water"– Special Broadcasting Service (Aug 17, 2017). Both highlight the urgency for us to act - as citizens and as scientists. However, how much do we think of water? How much do we know of this resource apart from what we have read in our school textbooks? Is the water crisis real? Are we taking the right decisions today to secure a better future for the coming generations? How can I, as an individual and as a community participate in the process? Also, as the driver for all forms of life on earth, water is an excellent solvent, however, this excellent solvent’s characteristic, when combined with its flow, makes it a potent carrier of pollutants and pathogenic microorganisms that are often harmful to health. So, what makes water safe to consume and use for many other purposes? Is the water in surface and groundwater bodies in the Ahmedabad area safe for all forms of life? Is it potable? This course will turn students into aware citizens of the country by enabling them to ask relevant questions around the subject of water.