PRESIDENCY UNIVERSITY

PROGRAMME REGULATIONS & CURRICULUM

2023-25

PRESIDENCY SCHOOL OF MANAGEMENT

MBA - [BUSINESS ANALYTICS]

School of Management

Master of Business Administration (MBA)

CURRICULUM STRUCTURE
based on Choice Based Credit System (CBCS) and Outcome Based Education (OBE)

Master of Business Administration (MBA)
[Business Analytics]

2023-2025

Regulation No: PU/AC-21.17/SOM14/MBA/2023-25

Resolution No. 17 of the 21st Meeting of the Academic Council held on 6th September 2023, and ratified by the Board of Management in its 22nd Meeting held on 2nd November 2023

September-2023

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PART A – PROGRAMME REGULATIONS AND CURRICULUM

1. **Vision & Mission of the University and the School / Department:**

   1.1 Vision of the University:

   To be a Value-driven Global University, excelling beyond peers and creating professionals of integrity and character, having concern and care for society.

   1.2 Mission of the University:

   - Commit to be an innovative and inclusive institution by seeking excellence in teaching, research and knowledge-transfer.
   - Pursue Research and Development and its dissemination to the community, at large.
   - Create, sustain and apply learning in an interdisciplinary environment with consideration for ethical, ecological and economic aspects of nation building.
   - Provide knowledge-based technological support and services to the industry in its growth and development.
   - To impart globally-applicable skill-sets to students through flexible course offerings and support industry's requirement and inculcate a spirit of new-venture creation.

   1.3 Vision of the School:

   To inspire and develop responsible leaders who generate meaningful and lasting impact on businesses, communities, and society

   1.4 Mission of the School:

   Our mission is to provide students with the knowledge, skills, and ethical foundation needed to lead with integrity and drive sustainable change in business and society

2. **Preamble to the Program Regulations and Curriculum**

   This is the subset of Academic Regulations and it is to be followed as a requirement for the award of Master of Business Administration (MBA-Business Analytics) Degree.

   The Curriculum is designed to take into the factors listed in the Choice Based Credit System (CBCS) with focus on Social Project Based Learning, Industrial Training, and Internship to enable the students to become eligible and fully equipped for employment in industries, choose higher studies or entrepreneurship.

   In exercise of the powers conferred by and in discharge of duties assigned under the relevant provision(s) of the Act, Statutes and Academic Regulations of the University, the Academic Council hereby makes the following Regulations.

3. **Short Title and Commencement:**

   a. These Regulations shall be called the Master of Business Administration (MBA-Business Analytics) Program Regulations and Curriculum 2023-2025.
   b. These Regulations are subject to, and pursuant to the Academic Regulations.

c. These Regulations shall be applicable to the ongoing Master of Business Administration (MBA-Business Analytics) Programs of the 2023-2025 batch, and to all other Master of Business Administration (MBA-Business Analytics) Programs which may be introduced in future.

d. These Regulations shall supersede all the earlier Master of Business Administration (MBA-Business Analytics) Program Regulations and Curriculum, along with all the amendments thereto.

e. These Regulations shall come into force from the Academic Year 2023-2024.

4. Definitions

In these Regulations, unless the context otherwise requires:

a. *"Academic Calendar" means the schedule of academic and miscellaneous events as approved by the Vice Chancellor;*

b. *"Academic Council" means the Academic Council of the University;*

c. *"Academic Regulations" means the Academic Regulations, of the University;*

d. *"Academic Term" means a Semester or Summer Term;*

e. *"Act" means the Presidency University Act, 2013;*

f. *"AICTE" means All India Council for Technical Education;*

g. *"Basket" means a group of courses bundled together based on the nature/type of the course;*

h. *"BOE" means the Board of Examinations of the University;*

i. *"BOG" means the Board of Governors of the University;*

j. *"BOM" means the Board of Management of the University;*

k. *"BOS" means the Board of Studies of a particular Department/Program of Study of the University;*

l. *"CGPA" means Cumulative Grade Point Average as defined in the Academic Regulations;*

m. *"Clause" means the duly numbered Clause, with Sub-Clauses included, if any, of these Regulations;*

n. *"COE" means the Controller of Examinations of the University;*

o. *"Course In Charge" means the teacher/faculty member responsible for developing and organizing the delivery of the Course;*

p. *"Course Instructor" means the teacher/faculty member responsible for teaching and evaluation of a Course;*

q. *"Course" means a specific subject usually identified by its Course-code and Course-title, with specified credits and syllabus/course-description, a set of references, taught by some teacher(s)/course-instructor(s) to a specific class (group of students) during a specific Academic Term;*

r. *"Curriculum Structure" means the Curriculum governing a specific Degree Program offered by the University, and, includes the set of Baskets of Courses along with minimum credit requirements to be earned under each basket for a degree/degree with specialization/minor/honors in addition to the relevant details of the Courses and Course catalogues (which describes the Course content and other important information about the Course). Any specific requirements for a particular program may be brought into the Curriculum structure of the specific program and relevant approvals should be taken from the BOS and Academic Council at that time.*

s. *"DAC" means the Departmental Academic Committee of a concerned Department/Program of Study of the University;*

t. *"Dean" means the Dean / Director of the concerned School;*

u. *"Degree Program" includes all Degree Programs;*

v. *"Department" means the Department offering the degree Program(s) / Course(s) / School offering the concerned Degree Programs / other Administrative Offices;*

w. *"Discipline" means specialization or branch of MBA Degree Program;*

x. *"HOD" means the Head of the concerned Department;*

y. *"L-T-P-C" means Lecture-Tutorial-Practical-Credit – refers to the teaching – learning periods and the credit associated;*

z. *"MOOC" means Massive Open Online Courses;*

aa. *"MOU" means the Memorandum of Understanding;*

bb. *"NPTEL" means National Program on Technology Enhanced Learning;*

cc. *"Parent Department" means the department that offers the Degree Program that a student undergoes;*

dd. *"Program Head" means the administrative head of a particular Degree Program/s;*

ee. *"Program Regulations" means the Master of Business Administration Degree Program Regulations and Curriculum 2023-2025;*

ff. *"Program" means the Master of Business Administration (MBA) Degree Program;*

gg. *"PSOM" means the Presidency School of Management;*

hh. *"Registrar" means the Registrar of the University;*

ii. *"School" means a constituent institution of the University established for monitoring, supervising and guiding, teaching, training and research activities in broadly related fields of studies;*

jj. *"Section" means the duly numbered Section, with Clauses included in that Section, of these Regulations;*

kk. *"SGPA" means the Semester Grade Point Average as defined in the Academic Regulations;*

ll. *"Statutes" means the Statutes of Presidency University;*

mm. *"Sub-Clause" means the duly numbered Sub-Clause of these Program Regulations;*

nn. *"Summer Term" means an additional Academic Term conducted during the summer break (typically in June-July) for a duration of about eight (08) calendar weeks, with a minimum of thirty (30) University teaching days;*

oo. *"SWAYAM" means Study Webs of Active Learning for Young Aspiring Minds.*

pp. *"UGC" means University Grants Commission;*

qq. *"University" means Presidency University, Bengaluru; and*

rr. *"Vice Chancellor" means the Vice Chancellor of the University.*

5. Program Description:

The Master of Business Administration (MBA-Business Analytics) Program Regulations and Curriculum 2023-2025 are subject to, and, pursuant to the Academic Regulations. These Program Regulations shall be applicable to the following ongoing Master of Business

Administration (MBA-Business Analytics) Programs of 2023-2025 offered by the Presidency School of Management (PSOM):

1. MBA
2. MBA (Business Analytics)
3. MBA (Digital Marketing)
4. MBA (Marketing & Finance)
5. MBA (Banking & Finance Management)

5.1 These Program Regulations shall be applicable to other similar programs, which may be introduced in future.

5.2 These Regulations may evolve and get amended or modified or changed through appropriate approvals from the Academic Council, from time to time, and shall be binding on all concerned.

5.3 The effect of periodic amendments or changes in the Program Regulations, on the students admitted in earlier years, shall be dealt with appropriately and carefully, so as to ensure that those students are not subjected to any unfair situation whatsoever, although they are required to conform to these revised Program Regulations, without any undue favor or considerations:

6. Minimum and Maximum Duration:

6.1 Master of Business Administration (MBA Business Analytics) Degree Program is a Two-Year, Full-Time Semester based program. The minimum duration of the MBA-Business Analytics Program is two (02) years and each year comprises of two academic Semesters (Odd and Even Semesters) and hence the duration of the MBA-Business Analytics program is four (04) Semesters.

6.2 A student who for whatever reason is not able to complete the Program within the normal period or the minimum duration (number of years) prescribed for the Program, may be allowed a period of two years beyond the normal period to complete the mandatory minimum credits requirement as prescribed by the concerned Program Regulations and Curriculum. In general, the permissible maximum duration (number of years) for completion of Program is 'N' + 2 years, where 'N' stands for the normal or minimum duration (number of years) for completion of the concerned Program as prescribed by the concerned Program Regulations and Curriculum.

6.3 The time taken by the student to improve Grades/CGPA, and in case of temporary withdrawal/re-joining (Refer to Clause **Error! Reference source not found.** of Academic Regulations), shall be counted in the permissible maximum duration for completion of a Program.

6.4   In exceptional circumstances, such as temporary withdrawal for medical exigencies where there is a prolonged hospitalization and/or treatment, as certified through hospital/medical records, women students requiring extended maternity break (certified by registered medical practitioner), and, outstanding sportspersons representing the University/State/India requiring extended time to participate in National/International sports events, a further extension of one (01) year may be granted on the approval of the Academic Council.

6.5   The enrolment of the student who fails to complete the mandatory requirements for the award of the concerned Degree (refer Section 19.**Error! Reference source not found.** of Academic Regulations) in the prescribed maximum duration (Sub-Clauses 18.1 and 18.2 of Academic Regulations), shall stand terminated and no Degree shall be awarded.

7. Program Educational Objectives (PEO)

After two years of successful completion of the program, the graduates shall be:

PEO1: Industry ready graduates having high integrity, social responsibility & leadership capabilities.

PEO2: Enhanced with analytical skills and design thinking approach to solve business problems.

PEO3: Able to foster entrepreneurial mind set through creativity and innovation.

PEO4: Enabled graduates to engage in and benefit from lifelong learning.

8. Program Outcomes (PO) and Program Specific Outcomes (PSO)

8.1 Program Outcomes (PO)

On successful completion of the Program, the students shall be able to:

PO1: An ability to lead themselves and others to achieve organizational goals contributing effectively to a team environment.

PO2: An ability to integrate functional knowledge and apply managerial skills in changing business environment.

PO3: An ability to identify real life problems in different management functions and solve them through strategic planning, critical thinking and innovation.

PO4: An ability to identify and evaluate business ideas and opportunities.

PO5: An ability to make data driven decisions and effectively communicate to different stakeholders.

PO6: An ability to evaluate and integrate ethical and societal considerations when making business decisions.

PO7: An ability to demonstrate commitment to continuous learning.

8.2 Program Specific Outcomes [PSOs]:

On successful completion of the Program, the students shall be able to:

On successful completion of the Master of Business Administration (MBA-Business Analytics) program from Presidency University, the student shall possess:

PSO1 Analyze and interpret complex data sets to inform strategic business decisions.

PSO2 Apply quantitative techniques to analyze business problems, predict trends, and derive actionable insights.

PSO3 Utilize predictive and prescriptive analytics to forecast future business outcomes and recommend actions that optimize business processes and outcomes.

PSO4 Integrate analytics into business strategies to drive innovation, improve customer experiences, and optimize operational performance.

PSO5 Apply ethical principles in the collection, analysis, and use of data, ensuring compliance with legal and regulatory standards.

9. Admission Criteria (as per the concerned Statutory Body)

The University admissions shall be open to all persons irrespective of caste, class, creed, gender or nation. All admissions shall be made on the basis of merit in the qualifying examinations; provided that forty percent of the admissions in all Programs of the University shall be reserved for the students of Karnataka State and admissions shall be made through a Common Entrance Examination conducted by the State Government or its agency and seats shall be allotted as per the merit and reservation policy of the State Government from time to time. The admission criteria to the MBA-Business Analytics Program is listed in the following Sub-Clauses:

9.1 An applicant must have a graduation degree in any field from a recognized university with a minimum of 50% marks in the qualifying examination for the general category or 45% marks for SC/ST and other reserved categories and must have appeared in any national or state-level entrance examination such as CAT, XAT, MAT, CMAT, ATMA, or KMAT.

9.2 Reservation for the SC / ST and other backward classes shall be made in accordance with the directives issued by the Government of Karnataka from time to time.

9.3 Admissions are offered to Foreign Nationals and Indians living abroad in accordance with the rules applicable for such admission, issued from time to time, by the Government of India.

9.4 Candidates must fulfil the medical standards required for admission as prescribed by the University.

9.5 If, at any time after admission, it is found that a candidate had not in fact fulfilled all the requirements stipulated in the offer of admission, in any form whatsoever, including possible misinformation and any other falsification, the Registrar shall report the matter to the Board of Management (BOM), recommending revoking the admission of the candidate.

9.6 The decision of the BOM regarding the admissions is final and binding.

10. Transfer of student(s) from another recognized University to the 2nd year (3rd Semester) of the MBA-Business Analytics Program of the University

A student who has completed the 1st Year (i.e., passed in all the Courses / Subjects prescribed for the 1st Year) of the MBA-Business Analytics Two-Year Degree Program from another recognized University, may be permitted to transfer to the 2nd Year (3rd Semester) of the MBA-Business Analytics Program of the University as per the rules and guidelines prescribed in the following Sub-Clauses:

10.1.1 The student shall submit the Application for Transfer along with a non-refundable Application Fee (as prescribed by the University from time to time) to the University no later than July of the concerned year for admission to the 2nd Year (3rd Semester) MBA-Business Analytics Program commencing on August on the year concerned.

10.1.2 The student shall submit copies of the respective Marks Cards / Grade Sheets / Certificates along with the Application for Transfer.

10.1.3 The transfer may be provided on the condition that the Courses and Credits completed by the concerned student in the 1st Year of the MBA Two Degree Program from the concerned University, are declared equivalent and acceptable by the Equivalence Committee constituted by the Vice Chancellor for this purpose. Further, the Equivalence Committee may also prescribe the Courses and Credits the concerned students shall have to mandatorily complete, if admitted to the 2nd Year of the MBA-Business Analytics Program of the University.

10.1.4 The Program / Discipline allotted to the student concerned shall be the decision of the University and binding on the student.

11. Change of Program

A student admitted to a particular Program of the MBA-Business Analytics Program will normally continue studying in that Program till the completion of the program. However, the University reserves the right to provide the option for a change of Program, or not to provide the option for a change of Program, at the end of 1st Year of the MBA-Business Analytics Program to eligible students in accordance with the following rules and guidelines: framed by the University from time to time.

11.1 Normally, only those students, who have passed all the Courses prescribed for the 1st Year of the MBA-Business Analytics Program and obtained a CGPA of not less than 6.00 at the end of the 2nd Semester, shall be eligible for consideration for a change of Program.

11.2 Change of Program, if provided, shall be made effective from the commencement of the 3rd Semester of the MBA-Business Analytics Program. There shall be no provision for change of Program thereafter under any circumstances whatsoever.

11.3 The student provided with the change of Program shall fully adhere to and comply with the Program Regulations of the concerned Program of the MBA Program, the Fee Policy pertaining to that Program of the MBA-Business Analytics Program, and, all other rules pertaining to the changed Program existing at the time.

11.4 Change of Program once made shall be final and binding on the student. No student shall be permitted, under any circumstances, to refuse the change of Program offered.

11.5 The eligible student may be allowed a change in Program, strictly in order of *inter se* merit, subject to the conditions given below:

11.5.1 The actual number of students in the 3rd Semester in any particular Program to which the transfer is to be made, should not exceed the intake fixed by the University for the concerned Program;

11.5.2 The actual number of students in any Program from which transfer is being sought does not fall below 75% of the total intake fixed by the University for the concerned Program.

11.5.3 The process of change of Program shall be completed within the first five days of Registration for the 3rd Semester of the MBA-Business Analytics Program.

12. **Specific Regulations regarding Assessment and Evaluation – including the Assessment Details of NTCC Courses, Weightages of Continuous Assessment and End Term Examination for various Course Categories**

   12.1 The academic performance evaluation of a student in a Course shall be according to the University Letter Grading System based on the class performance distribution in the Course.

   12.2 Academic performance evaluation of every registered student in every Course registered by the student is carried out through various components of Assessments spread across the Semester. The nature of components of Continuous Assessments and the weightage given to each component of Continuous Assessments (refer Clause 0) shall be clearly defined in the Course Plan for every Course, and approved by the DAC.

12.3 Format of the End-Term examination shall be specified in the Course Plan.

12.4 Grading is the process of rewarding the students for their overall performance in each Course. The University follows the system of Relative Grading with statistical approach to classify the students based on the relative performance of the students registered in the concerned Course except in the following cases:

- Non-Teaching Credit Courses (NTCC)
- Courses with a class strength less than 30

Absolute grading method may be adopted, where necessary with prior approval of concerned DAC.

Grading shall be done at the end of the Academic Term by considering the aggregate performance of the student in all components of Assessments prescribed for the Course. Letter Grades (Clause **Error! Reference source not found.**) shall be awarded to a student based on her/his overall performance relative to the class performance distribution in the concerned Course. These Letter Grades not only indicate a qualitative assessment of the student's performance but also carry a quantitative (numeric) equivalent called the Grade Point.

12.5 Assessment Components and Weightage
Table 12.5.1: Assessment Components and Weightage for different category of Courses

Theory Courses - Weightage - 60: 40						
Continuous Assessment* - 25%						
				Midterm	End term	Total
Assessment 1	Assessment 2	Assessment 3	Assessment 4	25%	50%	100%

Lab/CA Courses - Weightage - 75: 25				
Continuous Assessment* - 100%				
Practice Assessment 1	Practice Assessment 2	Practice Assessment 3	Practice Assessment 4	**Total** 100%

*Minimum 03 assessments.

Skill based Courses like Industry Internship, Capstone project, Research Dissertation, Integrative Studio, Interdisciplinary Project, Summer / Short Internship, Social Engagement / Field Projects, Portfolio, and such similar Non-Teaching Credit Courses, where the pedagogy does not lend itself to a typical L-T-P structure.

Guidelines for the assessment components for the various types of Courses, with recommended weightages, shall be specified in the concerned Program Regulations and Curriculum / Course Plans, as applicable.

The exact weightages of Evaluation Components shall be clearly specified in the concerned PRC and respective Course Plan.

Normally, for Practice/Skill based Courses, without a defined credit structure (L–T–P) [NTCC], but with assigned Credits (as defined in Clause **Error! Reference source not found.** of the Academic Regulations), the method of evaluation shall be based only on Continuous Assessments. The various components of Continuous Assessments, the distribution of weightage among such components, and the method of evaluation/assessment, shall be as decided and indicated in the Course Plan/PRC. The same shall be approved by the respective DAC.

12.6 Minimum Performance Criteria:

12.6.1 Theory only Course and Lab/Practice Embedded Theory Course

A student shall satisfy the following minimum performance criteria to be eligible to earn the credits towards the concerned Course:

a. A student must obtain a minimum of 30% of the total marks/weightage assigned to the End Term Examinations in the concerned Course.

b. The student must obtain a minimum of 40% of the AGGREGATE of the marks/weightage of the components of Continuous Assessments, Mid Term Examinations and End Term Examinations in the concerned Course.

12.6.2 Lab/Practice only Course and Project Based Courses

The student must obtain a minimum of 40% of the AGGREGATE of the marks/weightage of all assessment components in the concerned Course.

12.6.2.1 A student who fails to meet the minimum performance criteria listed above in a Course shall be declared as "Fail" and given "F" Grade in the concerned Course. For theory Courses, the student shall have to re-appear in the "Make-Up Examinations" as scheduled by the University in any subsequent semester, or, re-appear in the End Term Examinations of the same Course when it is scheduled at the end of the following Semester or Summer Term, if offered. The marks obtained in the Continuous Assessments (other than the End Term Examination) shall be carried forward and be included in computing the final grade, if the student secures the minimum requirements (as per Clause 12.6.1, 12.6.2) in the "Make-Up Examinations" of the concerned Course. Further, the student has an option to re-register

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for the Course and clear the same in the summer term/ subsequent semester if he/she wishes to do so, provided the Course is offered.

13 Additional clarifications - Rules and Guidelines for Transfer of Credits from MOOC, etc. – Note: These are covered in Academic Regulations.

The University allows students to acquire credits from other Indian or foreign institutions and/or Massive Open Online Course (MOOC) platforms, subject to prior approval. These credits may be transferred and counted toward fulfilling the minimum credit requirements for the award of a degree. The process of transfer of credits is governed by the following rules and guidelines:

13.1   The transfer of credits shall be examined and recommended by the Equivalence Committee (Refer **Error! Reference source not found.**) and approved by the Dean - Academics.

13.2   Students may earn credits from other Indian or foreign Universities/Institutions with which the University has an MOU, and that MOU shall have specific provisions, rules and guidelines for transfer of credits. These transferred credits shall be counted towards the minimum credit requirements for the award of the degree.

13.3   Students may earn credits by registering for Online Courses offered by *Study Web of Active Learning by Young and Aspiring Minds* (SWAYAM) and *National Program on Technology Enhanced Learning* (NPTEL), or other such recognized Bodies/ Universities/Institutions as approved by the concerned BOS and Academic Council from time to time. The concerned School/Parent Department shall publish/include the approved list of Courses and the rules and guidelines governing such transfer of credits of the concerned Program from time to time. The Rules and Guidelines for the transfer of credits specifically from the Online Courses conducted by SWAYAM/ NPTEL/ other approved MOOCs are as stated in the following Sub-Clauses:

13.3.1 A student may complete SWAYAM/NPTEL/other approved MOOCs as mentioned in Clause and transfer equivalent credits to partially or fully complete the mandatory credit requirements of Discipline Elective Courses and/or the mandatory credit requirements of Open Elective Courses as prescribed in the concerned Curriculum Structure. However, it is the sole responsibility of the student to complete the mandatory credit requirements of the Discipline Elective Courses and the Open Elective Courses as prescribed by the Curriculum Structure of the concerned Program.

13.3.2 SWAYAM/NPTEL/ other approved MOOCs as mentioned in Clause shall be approved by the concerned Board of Studies and placed (as Annexures) in the concerned PRC.

13.3.3 Parent Departments may release a list of SWAYAM/NPTEL/other approved MOOCs for Pre-Registration as per schedule in the Academic Calendar or through University Notification to this effect.

13.3.4 Students may Pre-Register for the SWAYAM/NPTEL/other approved MOOCs in the respective Departments and register for the same Courses as per the schedule announced by respective Online Course Offering body/institute/ university.

13.3.5 A student shall request for transfer of credits only from such approved Courses as mentioned in Sub-Clause, above.

13.3.6 SWAYAM/NPTEL/other approved MOOCs Courses are considered for transfer of credits only if the concerned student has successfully completed the SWAYAM/NPTEL/other approved MOOCs and obtained a certificate of successful/satisfactory completion.

13.3.7 A student who has successfully completed the approved SWAYAM/NPTEL/ other approved MOOCs and wants to avail the provision of transfer of equivalent credits, must submit the original Certificate of Completion, or such similar authorized documents to the HOD concerned, with a written request for the transfer of the equivalent credits. On verification of the Certificates/Documents and approval by the HOD concerned, the Course(s) and equivalent Credits shall have forwarded to the COE for processing of results of the concerned Academic Term.

13.3.8 The credit equivalence of the SWAYAM/NPTEL/other approved MOOCs are based on Course durations and/or as recommended by the Course offering body/institute/university. The Credit Equivalence mapped to SWAYAM/ NPTEL approved Courses based on Course durations for transfer of credits is summarized in Table shown below. The Grade will be calculated from the marks received by the Absolute Grading Table.

Table 13.3.2: Durations and Credit Equivalence for Transfer of Credits from SWAYAM-NPTEL/ other approved MOOC Courses		
Sl. No.	Course Duration	Credit Equivalence
1	4 Weeks	1 Credit
2	8 Weeks	2 Credits
3	12 Weeks	3 Credits

13.3.9 The maximum permissible number of credits that a student may request for credit transfer from MOOCs shall not exceed 20% of the mandatory minimum

credit requirements specified by the concerned Program Regulations and Curriculum for the award of the concerned Degree.

13.3.10 The University shall not reimburse any fees/expense; a student may incur for the SWAYAM/NPTEL/other approved MOOCs.

13.4   The maximum number of credits that can be transferred by a student shall be limited to forty percent (40%) of the mandatory minimum credit requirements specified by the concerned Program Regulations and Curriculum for the award of the concerned Degree. However, the grades obtained in the Courses transferred from other Institutions/MOOCs, as mentioned in this Section, shall not be included in the calculation of the CGPA.

PART B- PROGRAM STRUCTURE

14 Structure/Component with Credit Requirements Course Baskets and Minimum Basket Wise Credit Requirements:

The Master of Business Administration (MBA-Business Analytics) Program Structure (2023-2025) totaling 102 credits. Table 14.1.3 summarizes the type of baskets, number of courses under each basket and the associated credits that are mandatorily required for the completion of the Degree.

**Table 14.1.3: Master of Business Administration (MBA-Business Analytics) Program Structure 2023-2025: Summary of Mandatory Courses and Minimum Credit Contribution from various Baskets**
Sl. No.	**Baskets**	**Credit Contribution**
1	SCHOOL CORE	29
2	PROGRAM CORE	33
3	DISCIPLINE ELECTIVE	34
4	OPEN ELECTIVE	6
	Total Credits	**102 (Minimum)**

In the entire Program, the practical and skill based course component contribute to an extent of approximately 57% out of the total credits of 102 for Master of Business Administration (MBA-Business Analytics) program of two years' duration.

15 Minimum Total Credit Requirements of Award of Degree:

As per the AICTE guidelines, a minimum of 102 credits is required for the award of a Master of Business Administration (MBA-Business Analytics) degree.

16 Other Specific Requirements for Award of Degree, if any, as prescribed by the Statutory Bodies.

16.1   The award of the Degree shall be recommended by the Board of Examinations and approved by the Academic Council and Board of Management of the University.

16.2   A student shall be declared to be eligible for the award of the concerned Degree if she/he:
   a. Fulfilled the Minimum Credit Requirements and the Minimum Credits requirements under various baskets;

   b. Secure a minimum CGPA of 5.00 in the concerned Program at the end of the Semester/Academic Term in which she/he completes all the requirements for the award of the Degree as specified in Sub-Clause a of Academic Regulations;

c. No dues to the University, Departments, Hostels, Library, and any other such Centers/ Departments of the University; and

d. No disciplinary action is pending against her/him.

PART C- CURRICULUM STRUCTURE/LIST

17 Curriculum Structure – Basket Wise Course List of Courses Tabled – aligned to the Program Structure
(Course Code, Course Name, Credit Structure (LTPC), Contact Hours, Course Basket, Type of Skills etc., as applicable).

Table 17.1.4: Master of Business Administration (MBA-Business Analytics) Program Structure 2023-2025: Program Core Course (PCC)

S. No.	Course Type	COURSECODE	COURSE NAME	L	T	P	C
1	Program Core	MBA2034	Accounting for Managers	4	0	0	4
2	Program Core	MBA2036	Organizational Behaviour	4	0	0	4
3	Program Core	MBA2035	Sales and Marketing Management	4	0	0	4
4	Program Core	MBA2024	Financial Management	4	0	0	4
5	Program Core	MBA2027	Human Resource Management	3	0	0	3
6	Program Core	MBA2020	Fundamentals of Business Analytics	2	0	0	2
7	Program Core	MBA2038	Digital and Strategic Marketing	3	0	0	3
8	Program Core	MBA2033	Business Research Methods	3	0	0	3
9	Program Core	MBA2040	Production and Logistics Management	3	0	0	3
10	Program Core	MBA3052	Corporate Strategy	3	0	0	3

Table 17.1.4: Master of Business Administration (MBA-Business Analytics) Program Structure 2023-2025: Program Core Course (PCC)

S. No.	Course Type	COURSECODE	COURSE NAME	L	T	P	C
1	School Core	MBA3051	Entrepreneurship and Business Ethics	3	0	0	3
2	School Core	MBA1007	Business Statistics	4	0	0	4
3	School Core	ENG2006	Business Communication	2	0	0	2
4	School Core	MBA1012	Data Analysis using Spread Sheets	0	0	4	2
5	School Core	PPS1003	Personality Development - Basics	0	0	2	1
6	School Core	MBA1015	Economics for Managers	4	0	0	4
7	School Core	PPS4001	Aptitude Training	0	0	2	1
8	School Core	PPS2010	Personality Development - Intermediate	0	0	2	1
9	School Core	MBA1018	Technology Foundations for Business	2	0	0	2
10	School Core	MBA3001	Business Law	3	0	0	3
11	School Core	PPS3008	Personality Development - Advanced	0	0	2	1
12	School Core	PPS4003	Aptitude Training - Advanced	0	0	2	1
13	School Core	MBA3050	Current Affairs	1	0	0	1
14	School Core	MBA3065	Summer Internship Project	-	-	-	3

18 Practical/Skill based Courses – Internships/Thesis/Dissertation/Capstone Project Work/Portfolio/Mini project:

Practical / Skill based Courses like internship, project work, capstone project, research project / dissertation, and such similar courses, where the pedagogy does not lend itself to

a typical L-T-P-C Structure as defined in Clause 5.1 of the Academic Regulations, are simply assigned the number of Credits based on the quantum of work / effort required to fulfill the learning objectives and outcomes prescribed for the concerned Courses. Such courses are referred to as Non-Teaching Credit Courses (NTCC). These Courses are designed to provide students with hands-on experience and skills essential for their professional development. These courses aim to equip students with abilities in problem identification, root cause analysis, problem-solving, innovation, and design thinking through industry exposure and project-based learning. The expected outcomes are first level proficiency in problem solving and design thinking skills to better equip MBA graduates for their professional careers. The method of evaluation and grading for the Practical / Skill based Courses shall be prescribed and approved by the concerned Departmental Academic Committee (refer Annexure A of the Academic Regulations). The same shall be prescribed in the Course Handout.

18.1   Internship

A student may undergo an internship for a period of 4-6 weeks in an industry / company or academic / research institution during the Semester Break between 2nd and 3rd   Semesters, subject to the following conditions:

18.1.1 The Internship shall be in conducted in accordance with the Internship Policy prescribed by the University from time to time.

18.1.2 The number of Internships available for the concerned Academic Term. Further, the available number of internships shall be awarded to the students by the University on the basis of merit using the CGPA secured by the student. Provided further, the student fulfils the criteria, as applicable, specified by the Industry / Company or academic / research institution providing the Internship, as stated in Sub-Clause 2.6.1.2 above.

18.1.3 A student may opt for Internship in an Industry / Company or academic / research institution of her / his choice, subject to the condition that the concerned student takes the responsibility to arrange the Internship on her / his own. Provided further, that the Industry / Company or academic / research institution offering such Internship confirms to the University that the Internship shall be conducted in accordance with the Program Regulations and Internship Policy of the University.

18.1.4 A student selected for an Internship in an industry / company or academic / research institution shall adhere to all the rules and guidelines prescribed in the Internship Policy of the University.

18.2   Dissertation

A student may opt to do a Research Project / Dissertation for a period of 6-8 weeks in an Industry / Company or academic / research institution or the University Department(s) as an equivalence of Capstone Project, subject to the following conditions:

18.2.1 The Research Project / Dissertation shall be approved by the concerned HOD and be carried out under the guidance of a faculty member.

The student may do the Research Project / Dissertation in an Industry / Company or academic / research institution of her / his choice subject to the above mentioned condition (Sub-Clause 2.6.4.1). Provided further, that the Industry / Company or academic / research institution offering such Research Project / Dissertation confirms to the University that the Research Project / Dissertation work will be conducted in accordance with the Program Regulations and requirements of the University.

19 List of Elective Courses under various Specializations / Stream Basket

Sl. No.	Course Code	Course Name	L	T	P	C	Type of Skill/ Focus	Course Caters to	Pre/Co-Requisites	Anti requisites	Future Courses in that need this Course as Prerequisite
		DISCIPLINE ELECATIVE – Minimum Credits to be earned from this basket				36					
Business Analytics - Discipline Elective											
1	MBA3016	Applied Business Analytics	3	0	0	3	DS EC	Employability			
2	MBA3017	Business Forecasting	3	0	0	3	DS EC	Employability			
3	MBA3053	Applied Artificial Intelligence and Machine Learning	3	0	0	3	DS EC	Employability			
4	MBA3054	Database Management	3	0	0	3	DS EC	Employability			
	MBA3055	Storytelling and Business Intelligence	3	0	0	3	DS EC	Employability			
5	MBA4035	Supply Chain Analytics	3		0	0	3	DS EC	Employability			
6	MBA4036	Text Mining	3	0	0	3	DS EC	Employability			
7	MBA3083	Programming for Analytics	3	0	0	3	DS EC	Employability			
8	MBA4088	Retail Analytics	2	0	0	2	DS EC	Employability			
9	MBA3141	Website Data Analytics	2	0	0	2	DS EC	Employability			
10	MBA3120	Deep Learning	2	0	0	2	DS EC	Employability			

11	MBA3129	Healthcare Pharma IT and Analytics	2	0	0	2	DS EC	Employability			
12	MBA3123	MarkTech and AdTech	2	0	0	2	DS EC	Employability			
13	MBA3122	Digital Transformation	2	0	0	2	DS EC	Employability			
14	MBA3090	Marketing Analytics	3	0	0	3	DS EC	Employability			
15	MBA3087	Financial Analytics	3	0	0	3	DS EC	Employability			
16	MBA3093	Design Thinking for Business Innovation	3	0	0	3	DS EC	Employability			
17	MBA3064	HR Analytics	3	0	0	3	DS EC	Employability			
18	MBA3082	FinTech	3	0	0	3	DS EC	Employability			
19	MBA2030	Consumer Behaviour	3	0	0	3	DS EC	Employability			
20	MBA3117	Supply Chain Analytics	3	0	0	3	DS EC	Employability			
Dissertation/Field Immersion/ ELECTIVE - Minimum Credits to be earned from this basket Management - Industry Collaborative Courses											
21	MBA3064	Summer Internship Project	0	0	0	4	ICC	EM			
22	MBA4046	Dissertation	0	0	0	4	ICC	EM			

20 List of Open Electives to be offered by the School / Department (Separately for ODD and EVEN Semesters).

Management - Open Electives Courses										
23	MBA3042	Innovation and Business Incubation	3	0	0	3	ASEC	EM		
24	MBA3037	Personal Wealth Management	3	0	0	3	ASEC	EM		
25	MBA3038	Team Dynamics	3	0	0	3	ASEC	EM		
26	MBA3039	Market Research	3	0	0	3	ASEC	EM		
27	MBA2023	Design Thinking for Business Innovation	3	0	0	3	ASEC	EM		
28	MBA3046	Game Theory in Business	3	0	0	3	ASEC	EM		
29	MBA3047	Data Story Telling	3	0	0	3	ASEC	EM		
30	MBA3048	Environmental Sustainability and Value Creation	3	0	0	3	ASEC	EM		
31	MBA3049	Industry 4.0	3	0	0	3	ASEC	EM		

| 32 | MBA3170 | Introduction to Artificial Intelligence with Python | 3 | 0 | 0 | 3 | ASEC | EM | | | |

21 List of MOOC (NPTEL) Courses:

Sl No.	Finance Area	Duration
1	Advanced Trading Algorithms	12-15 Weeks
2	New Venture Finance: Start-up Funding for Entrepreneurs	12-15 Weeks
3	Interest Rate Models	12-15 Weeks
4	Sustainability: The Role of Non-Financial Reporting	12-15 Weeks
	Marketing:	
1	AI in Marketing by Prof. Rahman, IIT Roorkee	12-15 Weeks
2	Innovation in Marketing & Marketing of Innovation by Prof. V Sharma, IIT Roorkee	12-15 Weeks
3	Marketing Analytics by Prof. Swagato Chatterjee, IIT Kharagpur	12-15 Weeks
	HR:	
1	Gender Justice and Workplace Security by Prof. D Dube IIT Kharagpur	12-15 Weeks
2	Human Factors Engineering by Prof. Pradip Kumar Ray, Prof. V. K. Tewari, IIT Kharagpur	12-15 Weeks
3	Labour Economics-Theory, Practice by Pattanaik IIT Roorkee	12-15 Weeks
	Business Analytics:	
1	Business Intelligence & Analytics By Prof. Mathew, IIT Madras"	12-15 Weeks
2	Business Analytics For Management Decision By Prof. Pradhan , IIT Kharagpur	12-15 Weeks
3	Prescriptive Analytics By Prof. Murthy , IIMB	12-15 Weeks
	Operations:	
1	Design Thinking - A Primer by Prof. Ashwin Mahalingam, Prof. B Ramadurai, IIT Madras	12-15 Weeks
2	Fundamentals of Artificial intelligence. Prof. SM. Hazarika, IIT Guwahati	12-15 Weeks
3	Product Design & Development by Prof. I Singh, IIT Roorkee	12-15 Weeks
4	E-Business by Prof. Mamata Jenamani IIT Kharagpur	12-15 Weeks

SUGGESTED SEMESTER WISE COURSE LIST

22 Recommended Semester Wise Course Structure / Flow including the Programme / Discipline Elective Paths / Options.

			MBA				
			Sample Course Grid				
		I SEMESTER		**CREDIT STRUCTURE**			
S. No.	**Course Type**	**COURSE CODE**	**COURSE NAME**	**L**	**T**	**P**	**C**
1	School Core	MBA3051	Entrepreneurship and Business Ethics	3	0	0	3
2	School Core	MBA1007	Business Statistics	4	0	0	4
3	School Core	ENG2006	Business Communication	2	0	0	2
4	School Core	MBA1012	Data Analysis using Spread Sheets	0	0	4	2
5	School Core	PPS1003	Personality Development - Basics	0	0	2	1
6	Program Core	MBA2034	Accounting for Managers	4	0	0	4
7	Program Core	MBA2036	Organizational Behaviour	4	0	0	4
8	Program Core	MBA2035	Sales and Marketing Management	4	0	0	4
TOTAL							**24**
		II SEMESTER		**CREDIT STRUCTURE**			
S. No.	**Course Type**	**COURSE CODE**	**COURSE NAME**	**L**	**T**	**P**	**C**
1	School Core	MBA1015	Economics for Managers	4	0	0	4
2	School Core	PPS4001	Aptitude Training	0	0	2	1
3	School Core	PPS2010	Personality Development - Intermediate	0	0	2	1
4	School Core	MBA1018	Technology Foundations for Business	2	0	0	2
5	Program Core	MBA2024	Financial Management	4	0	0	4
6	Program Core	MBA2027	Human Resource Management	3	0	0	3
7	Program Core	MBA2020	Fundamentals of Business Analytics	2	0	0	2
8	Program Core	MBA2038	Digital and Strategic Marketing	3	0	0	3
9	Program Core	MBA2033	Business Research Methods	3	0	0	3
10	Program Core	MBA2040	Production and Logistics Management	3	0	0	3
11	Open Elective		Open Elective - 1	3	0	0	3
TOTAL							**29**
		III SEMESTER		**CREDIT STRUCTURE**			
S. No.	**Course Type**	**COURSE CODE**	**COURSE NAME**	**L**	**T**	**P**	**C**
1	School Core	MBA3001	Business Law	3	0	0	3
2	School Core	PPS3008	Personality Development - Advanced	0	0	2	1
	School Core	PPS4003	Aptitude Training - Advanced	0	0	2	1
3	School Core	MBA3050	Current Affairs	1	0	0	1
4	School Core	MBA3065	Summer Internship Project	-	-	-	**3**
5	Program Core	MBA3052	Corporate Strategy	3	0	0	3
6	Discipline Elective	MBAXXXX	Specialization Basket 1 Elective Course -1	3	0	0	3

S. No.	Course Type	COURSE CODE	COURSE NAME	L	T	P	C
7	Discipline Elective	MBAXXXX	Specialization Basket 1 Elective Course -2	3	0	0	3
8	Discipline Elective	MBAXXXX	Specialization Basket 1 Elective Course -3	3	0	0	3
9	Discipline Elective	MBAXXXX	Specialization Basket 2 Elective Course -1	3	0	0	3
10	Discipline Elective	MBAXXXX	Specialization Basket 2 Elective Course -2	3	0	0	3
11	Discipline Elective	MBAXXXX	Specialization Basket 2 Elective Course -3	3	0	0	3
TOTAL							**30**
IV SEMESTER				**CREDIT STRUCTURE**			
S. No.	**Course Type**	**COURSE CODE**	**COURSE NAME**	**L**	**T**	**P**	**C**
1	Discipline Elective	MBAXXXX	Specialization Basket 3 Elective Course - 1	3	0	0	3
2	Discipline Elective	MBAXXXX	Specialization Basket 3 Elective Course -2	3	0	0	3
3	Discipline Elective	MBAXXXX	Specialization Basket 4 Elective Course -1	3	0	0	3
4	Discipline Elective	MBAXXXX	Specialization Basket 4 Elective Course -2	3	0	0	3
5	Discipline Elective	MBA4046	Dissertation	0	0	0	4
6	Open Elective	MBAXXXX	Open Elective - 2	3	0	0	3
							19
Grand Total			**102 Credits**				

23 Course Catalogue

Course Catalogue of all Courses Listed including the Courses Offered by other School / Department and Discipline / Program Electives – Course Code, Course Name, Prerequisite, Anti-requisite, Course Description, Course Outcome, Course Content (with Blooms Level, CO, No. of Contact Hours), Reference Resources.

Course Catalogues of MBA Business Analytics Programs

I SEMESTER

Course Code: MBA3051	Course Title: Entrepreneurship and Business Ethics Type of Course: General paper	L- T-P- C	3	0	0	3
Version No.	1.1					
Course Pre-requisites	Completion of General subject in Entrepreneurship and Business Ethics and basics of General Management					
Anti-requisites	NIL					
Course Description	The purpose of this course is to explore business creation and growth as a multidimensional phenomenon in both independent and corporate (Entrepreneurship) settings. By linking theory and practice the course aims to provide students an *entrepreneurial perspective* and a hands-on experience in the development of new business ventures. The students are given the right exposure to Business ethics, corporate governance & social responsibility, which help them understand new concerns and expectations from various stakeholders in the context of large scale industrial change due to globalization. Opportunities for career progression can happen when there is application of ethical values in everything that one does, which means maintaining transparency and being socially responsible.					
Course Outcomes	On successful completion of the course the students shall be able to: CO 1. Identify the entrepreneurial journey. [Knowledge] CO 2. Develop business plan using business model canvas. [Application] CO 3. Examine the role of technology in business. [Comprehension] CO 4. Understand the social responsibility of corporate towards society. [Comprehension]					
Course Objective:	The course is designed to enhance the skill of entrepreneurship and develop the self-sustainability of students with respect to country s economy,					

Module 1	Entrepreneurial Journey	Assignment (Participative Learning)	Data Collection and Analysis	12 Hours
Introduction, The Social and economic perspectives of entrepreneurship, Different types of Entrepreneurs, origin, GOI Initiatives, start-up Journey, Key drivers, Entrepreneurial Trinity, Vision- Strategy- Execution Triad, leadership and government framework, steps in entrepreneurial journey, key entrepreneurial characteristics, understanding entrepreneurial risks and rewards, ideation, Prototyping, testing, validation and commercialization				
Module 2	Business Model Canvas	Assignment (Experiential Learning)	Application	12 Hours
Understanding and developing business model canvas developed by 'Alexander Osterwalder', Developing and connecting the nine blocks of the canvas, Testing three different companies on the canvas model. Differentiating the nine block conventional canvas with eleven blocks digital canvas.				
Module 3	Technology, Innovation and Entrepreneurship	Assignment (Experiential Learning)	Data Collection and Analysis	9 Hours
Topics: Innovation and economic growth, Disruptive technologies, Disruptive Vs sustainable technologies, Startup Idea Generation • The Process of Innovation and Idea Generation • Systems Thinking as a Method for				

Innovation • Team Formation • Problem Definition and Asset Mapping • Development of Startup Venture Idea • Customer Ethnography as a Method for Idea Validation

Module 4	Business Ethics and Social Responsibility	Assignment (Experiential Learning)	Data Analysis	12 Hours

Introduction to Business Ethics, Ethics vs Morals and relationship between morality, ethics and ethical theory,Globalization and ethics , Relevance of Globalization for Business Ethics ,, Theory and practice, social responsibility of corporate towards society and citizens as a framework of business ethics.

Targeted Application & Tools that can be used:
Exposure to prepare feasible report and techniques used to prepare business plan .

Project work/Assignment:

Project/ Assignment:

Assignment: 1] Refer to recent articles and do the desk research on entrepreneur surveys and analyse the critical factors responsible for feasible report preparation..   (Experiential Learning). (Kindly note: Student should visit PU library and access the online resources for the same and incorporate the assignment as well as attach the photo of log in and log out in person in the end of the assignment file.)
Assignment: 2] Identify a global organization and bring out the various strategies of new entrepreneurial development and GOI Initiative s to words development of entrepreneurship in India.and learning of various CSR activities by refering Books and articals . (PPT and do presentation.) (Experiential Learning)

Text Book
T1 Abhik Kumar Mukherjee and Shaunak Roy (Author) Publisher –Oxford Higher Education .

References
HBR The Questions Every Entrepreneur Must Answer
https://hbr.org/1996/11/the-questions-every-entrepreneur-must-answer
HBR Natural Born Entrepreneur- Natural-Born Entrepreneur - Harvard Business Review-https://hbr.org › 2001/09 › natural-born-entrepreneur.
HBR The Global Entrepreneur
HBR What Entrepreneurs Get Wrong? https://hbr.org/2013/05/what-entrepreneurs-get-wrong

Case   analysis
Case study ENRON Scandal ,World Com, Toshiba, Sat yam, CSR –W
ipro, Infosys, BEL and Karnataka Silk Emporium
Videos
V1 : https://www.youtube.com/watch?v=VO-Z5hxeofE - An Entrepreneur - Ethics
V2 : https://youtu.be/yQGaoj9Iwro - India un-Inc : Management lessons from streets of India

Prepared by	Dr. Lathangi
Date of Approval by the Academic Council	Academic Council Meeting No. :

Course Code: MBA2036	Course Title: Organizational Behaviour Type of Course: School Core Theory Only		L- T-P- C	4	0	0	4
Version No.	1.0						
Course Pre-requisites	The students should have fundamental knowledge of organization structure, Organizational functions, HRM, HRM evolution, HRM functions, Interpersonal skills, Motivation, Personality and Leadership.						
Anti-requisites	NIL						
Course Description	Organizational Behavior (OB) focuses on how people behave in organizations and how their behavior and a variety of organizational characteristics affect organizational performance and effectiveness. This course is designed to provide students with a foundational understanding of the history and development of Organizational Behavior (OB) theories and concepts. The students will learn the individual Behavior, Group Behavior and Organizational Behavior of working people. The body of knowledge focuses on how the attributes and behaviors of individuals and groups influence the culture, design, ethics, learning and structure of an organization. The applied focus of the course is to facilitate experiential learning of contemporary approaches to Perception, Personality, Learning, leadership, motivation, Group dynamics, Organization Development and Change, Conflict Resolution, Power and Politics in organizations.						
Course Outcomes	On completion of this course, the student will be able to: 1. Explain the importance and concepts of human behaviour in the organizations. **[Comprehension]** 2. Demonstrate how and why people behave under different conditions in the organisations. [**Application**] 3. Evaluate options for the logical and optimal solution to control human behaviour at Works. [**Application**] 4. Discover the components to maximize people's potential and performance in the organizations. [**Application**] 5. Construct creative and innovative ideas that could positively shape the organizations. [**Application**]						
Course Objective:	This course will enhance the organizational people management skills of the students through participative learning that will be helpful for managing organizations.						
Module 1	Introduction to Organizational Behavior (OB)	Assignment	Class Discussions, presentations (Participative learning)		12 Hours		
Topics: Organization Behavior and its Importance, Historical Development of OB, Management Roles, Management Skills, Discipline that contribute to OB. Challenges and Opportunities of OB: Globalization and Economic Pressures, Managing diverse workforce, Employee Engagement, Employees Wellbeing and Happiness, Employees Ethical Behavior, Challenges of Virtual Workforce etc. [Comprehension]							
Module 2	Attitudes and Emotions at Work	Assignment,	Participative learning		12 Hours		
Topics: Attitudes – Definition, Key elements of attitudes, Attitudes and related concepts (Values, opinion, belief and ideology), Characteristics of attitudes, Attitude formation, Attitude measurement, Changing attitudes. Job Attitudes: Job Satisfaction, Organizational Commitment, Perceived Organizational Support, Employee Engagement. Understanding of Emotions and Moods: Nature and Types of Emotions, Moods and its nature, Sources and Emotions and Moods, Emotional Intelligence, Emotional Labor. [Application]							
Module 3	Perception, Personality and Learning	Assignment, Case studies	Assignment (Participative Learning) Case studies (Problem solving Learning)		12 Hours		
Topics: Perception and factors influencing Perception, Common Perception Distortions: Stereotypes, Hallo Effect, Selective							

Perception, Contrast Effect. Attribution Theory. Personality, determinants of Personality, Personality Frameworks: Big Five Model and Myres-Briggs Type Indicator (MBTI).. Defining learning, classical and operant conditioning learning in organizations [Application]

Module 4	Motivation and its Application, Power, Leadership	Case Study	Participative Learning	12 Hours

Topics: Motivation: Concept, Early and Contemporary theories of Motivation. Application of Motivation: Job Design, Job Rotation, Job Enrichment, Alternative work Arrangement and Employees Involvement. Defining Power, Sources of Power, Organizational politics, Leadership: concept, contingency and contemporary theories of leadership. Leadership Prospective: Charismatic leadership, Transactional and Transformational leadership, Servant Leadership. [Application]

Module 5	Group and Organization Dynamics	Assignment/Group discussion	Participative learning	12 Hours

Topics: Group development and Models: Tuckman's Model of Group Development, Punctuated-Equilibrium Model, Overview of Group Properties of roles, norms, status, size, cohesiveness and diversity. Group think and Group Shift. Organization Development and Organization Change. Organization Conflict: Concept, its types, relation with performance and process of conflict. [Application]

Targeted Application & Tools that can be used:
Fundamental exposure to the qualitative and quantitative surveys techniques in organisational behaviour.
Professionally Used Software: Microsoft excel, SPSS, R software, and qualitative techniques.

Project work/Assignment:

Project/ Assignment:
(Participative learning)

Assignment: 1] Submit a report on the issues and challenges of Organisational behaviour before and after Covid 19. (Kindly note: Student should visit PU library and access the online resources for the same and incorporate the assignment as well as attach the photo of log in and log out in person in the end of the assignment file.)
Assignment: 2] Compare any two business personalities from industry with their personality traits using MBTI Scale with a detailed analysis. (This assignment has to be done in group. All the members of the group have to contribute and submit report and PPT presentation.)
Assignment: 3] Identify any one MNC and bring out the various activities and strategies followed in that organization with reference to Cultural Diversity and submit a report. (Kindly note: Student should visit PU library and access the online resources for the same and incorporate the assignment as well as attach the photo of log in and log out in person in the end of the assignment file.)

Text Book
T1- Stephen P. Robbins , Timothy A. Judge , Neharika Vohra (2016). Organizational Behavior, Sixteenth Edition, Pearson Publication.

References
R1 – John R. Scsermerhorn, Richard N. Osborn, Mary Uhl-Bien (2018). Organizational Behavior, Twelfth Edition, Wlley India Pvt. Ltd.
R2- Sanket Sunand Dash (2021). Organizational Behavior, Thirteenth Edition, Wlley India Pvt. Ltd.
R3- Udai Pareek, Sushma Khanna (2018), Understanding Organizational Behavior, Oxford University Press.
Research and Articles:
- **Impact of e-leadership and team dynamics on virtual team performance in a public organization** https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/IJPSM-08-2020-0218/full/html
- **Changing attitudes, as well as jobs**
  https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/eb002065/full/html
- **Customer response to employee emotional labor: the structural relationship between emotional labor, job satisfaction, and customer satisfaction**
  https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/JSM-07-2013-0161/full/html
- **The influence of organizational culture and job design on job commitment and human resource performance**
  https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/JOCM-07-2017-0286/full/html
- **Gender role, decision style and leadership style**

https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/09649429610148737/full/html
- **Let's change the subject and change our organization: an appreciative inquiry approach to organization change**
  https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/13620439810240746/full/html
- **Conflict management as an organizational capacity: survey of hospital managers in healthcare organizations**
  https://www-emerald-compresiuniv.knimbus.com/insight/content/doi/10.1108/MBE-01-2020-0008/full/html

Magazine Articles:
- **How Many Of The Top 10 Most Common Organizational Challenges Plague Your Company**
  https://www.forbes.com/sites/forbescoachescouncil/2017/02/24/how-many-of-the-top-10-most-common-organizational-challenges-plague-your-company/?sh=26e09e0c1e79
- **Managing Diversity In The Workplace: Age, Language And Culture**

  https://www.forbes.com/sites/forbesbusinesscouncil/2021/08/12/managing-diversity-in-the-workplace-age-language-and-culture/?sh=32d35341e954

Case Studies:

- JNET Technologies—Nurturing a Leadership Powered Culture
  https://journals.sagepub.com/doi/full/10.1177/2277977918757250

- Molding Conscious Leaders
  https://journals.sagepub.com/doi/full/10.1177/2277977919860282

(**Kindly note**: Student should visit PU library and access the online resources for the same and incorporate the assignment as well as attach the photo of log in and log out in person in the end of the assignment file)

Catalogue prepared by	Dr. Nandini Sinha
Recommended by the Board of Studies on	BOS NO:
Date of Approval by the Academic Council	Academic Council Meeting No. :

Course Code: MBA2035	Course Title: Sales and Marketing Management Type of Course: School Core Theory Only	L- T P- C	4	0	0	4
Version No.	1.0					
Course Pre-requisites	a) Basic communication skills b) MS Office c) Soft Skills - Creativity, Adaptability, Collaboration, Leadership d) Basic analytical ability e) Social Media exposure					
Anti-requisites	NIL					
Course Description	Marketing may be defined as the collection of activities undertaken by the firm to generate profits from the markets. Marketing in the modem context goes beyond its immediate role as a process through which exchange of goods and services takes place and is viewed as an integral part of the total socioeconomic system which provides the framework within which activities take place. This course addresses the management challenge of designing and implementing the best combination of marketing actions to carry out a firm's strategy in its target markets. This course examines the role and importance of marketing activities in the organization and explains the elements of 'Marketing Mix' in detail. This course also helps to					

		understand and appreciate the Sales processes in organizations. The course includes the familiarization of concepts, approaches for personal selling process which is an integral part of marketing functions in a business firm.		
Course Outcomes	On successful completion of this course the students shall be able to: CO 1) Explain the concepts of Marketing (Comprehension) CO 2) Analyze the role of Product & Price in marketing strategies (Analysis) CO 3) Analyze the role of Promotion & Place in marketing strategies (Analysis) CO 4) Demonstrate the personal selling process (Application)			
Course Objective:	The course aims at **SKILL DEVELOPMENT** with respect to Marketing Strategies with **PARTICIPATIVE** learning activities.			
Module 1	**Concepts of Marketing**	Assignment using E Library (Participative Learning)	Radio Mirchi: Case Study on Segmentation and Targeting	**12 Hours**

Topics:
Concept of Marketing, Needs, Wants and Demand, Nature & Importance of Marketing, Marketing Management Philosophies, Marketing Mix, 4Ps of Marketing, Marketing Environment – Macro and Micro Environment, Factors influencing Consumer Behaviour, Consumer Buying Decision Process, Market Segments, Basis of Segmentation, Targeting Strategies, Concept of Positioning.

Module 2	**Product & Price**	Assignment (Participative Learning)	Make in India: Analyze the PLC strategies of a product	**12 Hours**

Topics:
Product – Meaning, New Product Development, Product Mix – Product Line, Length and Depth, Product Line Analysis & Decisions, Product Life Cycle (PLC) – PLC Strategies, Product Brand, Benefits of Branding, Brand Equity, Fifth 'P' - Packaging and Labelling.
Pricing – Importance of Pricing, Setting the Price, Pricing Objectives, Steps in Pricing, Types of Pricing, New Product Pricing – Skimming and Penetration pricing Strategies.

Module 3	**Place**	Project (Experiential Learning)	Design promotion strategies for a product	**12 Hours**

Topics:
Place - Marketing Channels and their roles, Functions of a channel partner, Types of channels, Levels, Channel Design decisions, Channel Conflict: Reasons and resolution.

Module 4	**Promotion**	Project (Experiential Learning)	Design promotion strategies for a product	**12 Hours**

Promotion Mix Elements and Integrated Marketing Communications (IMC), Pros and Cons of Promotional Mix elements, Steps in Promotional Planning, Role of Advertising, Sales Promotion, Events & Experiences, Direct Marketing and Public Relations & Publicity, Digital Marketing & Social Media Marketing.

Module 5	**Sales Management**	Assignment (Participative Learning)	Maruti Suzuki India Limited: Case study on Sales strategies	**12 Hours**

Topics:
Overview of Sales Management, Nature and Importance of Sales Management, Role & Skills of Modern Sales Managers, Sales Knowledge, and Sales Related Marketing Related Practices; Personal Selling Process: Prospecting and qualifying, Pre-approach, approach, presentation, and demonstration, overcoming objections, closing the Sale, Follow-up.

Targeted Application & Tools that can be used: NA

Project work/Assignment:

Project Work: Collect Advertisements (from Newspapers) pertaining to the various forms of Segmentation, classify them, and make a presentation, with appropriate justification.

Assignment 1: Identify 5 products / brands which are in the different Life Cycle Stages of PLC and suggest appropriate Marketing strategies for them.

Assignment 2: Identify the Digital and Social Media Marketing strategies adopted by any company of your choice.

Assignment 3: Interview a Sales Manager having a minimum experience of five years. Interview should focus on why he/she chose a sales career, what the challenges are in sales career, most memorable and depressing moment, what are the qualities a sales person should possess etc.
Demonstration / Role Play: Mock Sales of a given Product / Service

Text Book:
T1: Kotler, P., Keller, K.L., Koshy, A., & Jha, M. Marketing Management: A South Asian Perspective. Pearson Education, 2009, 13th ed.
T2: Krishna K Havaladar, Vasant M. Cavale, Sales & Distribution Management, Tata McGraw Hill, latest edition.

References
R1: Ramaswamy,V.S., & Namakumari. Marketing Management: Global Perspective Indian Context. Macmillan Publishers India.
R2: Digital Selling: Grant Leboff, How to Use Social Media and the Web to Generate Leads and Sell More, Paperback, Latest Edition
R3: Saxena,R. Marketing Management. TataMcGraw-Hill Education.
R4: Richard R. Still, Edward W. Cundiff, Norman A.P. Govoni, Sales Management: Decisions, Strategies & Cases, Pearson, latest edition

Online Resources:
https://presiuniv.knimbus.com/user#/home

Articles:
- Telej, E. and Gamble, J.R. (2019), "Yoga wellness tourism: a study of marketing strategies in India", Journal of Consumer Marketing, Vol. 36 No. 6, pp. 794-805.
  https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/JCM-07-2018-2788/full/html
- Lysonski, S., Durvasula, S. and Madhavi, A.D. (2012), "Evidence of a secular trend in attitudes towards the macro marketing environment in India: pre and post economic liberalization", Journal of Consumer Marketing, Vol. 29 No. 7, pp. 532-544.
  https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/07363761211275036/full/html
- Kumar, N. and Kapoor, S. (2014), "Study of consumers' behavior for non-vegetarian products in emerging market of India", Journal of Agribusiness in Developing and Emerging Economies, Vol. 4 No. 1, pp. 59-77.
  https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/JADEE-05-2013-0016/full/html

Multimedia (Videos):
- Understanding the Marketing Mix
  https://www.youtube.com/watch?v=d0NMSqeKpVs
- Product Life Cycle
  https://www.youtube.com/watch?v=GjQRON8LF9g

Case Studies:
- Radio Mirchi: Marketing Strategy for the Bangalore Market By: Anand Kumar Jaiswal, IIM-Ahmedabad, Link:
  https://hbsp.harvard.edu/download?url=%2Fcatalog%2Fsample%2FA00108-PDF-ENG%2Fcontent&metadata=e30%3D
- Maruti Suzuki India Limited: Marketing By: Dr. Sanjeev Prashar, Richard Ivey School of Business, Link:
  https://hbsp.harvard.edu/download?url=%2Fcatalog%2Fsample%2FW13012-PDF-ENG%2Fcontent&metadata=e30%3D
- Make in India: The operating and Marketing Challenge By: Ivey Publishing Link:
  https://hbsp.harvard.edu/download?url=%2Fcatalog%2Fsample%2FW15259-PDF-ENG%2Fcontent&metadata=e30%3D
- Nestle' Maggi: Pricing and positioning a recalled product By: Ivey Publishing Link:
  https://hbsp.harvard.edu/download?url=%2Fcatalog%2Fsample%2FW16344-PDF-ENG%2Fcontent&metadata=e30%3D

Catalogue prepared by	Dr. Chithambar Gupta V
Recommended by the Board of Studies on	BOS NO: held on

Date of Approval by the Academic Council	Academic Council Meeting No.

Course Code: MBA2034	Course Title: Accounting for Managers Type of Course: School Core Theory Only	L- T-P- C	4	0	0	4
Version No.	1.1					
Course Pre-requisites	Students are expected to have a minimum of numerical ability and understanding of basic accounting terms					
Anti-requisites	NIL					
Course Description	Accounting is the language of business, because owners/investors, employees, creditors, regulators and others use the result of the accounting process to help their planning, control and decision-making activities related to the achievement of organizational objectives. Financial accounting involves the recording of financial transactions in a systematic way, analysis, and reporting of the financial situation of the firm to the shareholders and other stakeholders, While Management accounting involves providing information to managers for their decision making.					
Course Objective	The objective of the course is to train future managers to understand and interpret the financial statements in a better way and thus they learn the functional importance of accounting. This course introduces students who are new to accounting and helps them to understand the basic concepts and the process of accounting. It equips the students with the concepts, principles and techniques to be applied in the Accounting Cycle. The preparation of the financial statements – Profit and Loss Account, the Balance Sheet which culminates in final accounts. Students understand to analyze and interpret financial statements by using different tools and techniques. Additionally, it equips the budding managers by providing tools and techniques of Management accounting for various decision makings.					
Course Out Comes	On successful completion of the course the students shall be able to: 1. Describe the Accounting process (Comprehension) 2. Summarize the Corporate Financial Statements (Comprehension) 3. Interpret Financial Statements for business decisions (Application) 4. Prepare cost sheet and budget for cost control (Application) 5. Apply marginal costing for Managerial decisions (Application)					
Course Content						
Module 1	Introduction to Accounting and Accounting process	Experiential Learning	Ability to explain the Accounting Concepts, Conventions and Accounting Cycle		12 Hours	
Module 1 - Introduction to Accounting and Accounting process: Meaning, objectives and branches of accounting, classification of Assets, Liabilities, Income and Expenses, Generally Accepted Accounting Principles, Accounting cycle, Accounting equation, Journal and Ledger, Preparation of Trial Balance, Depreciation – Causes – Methods of Calculating Depreciation – Straight Line Method, Diminishing Balance Method, Comparison of IFRS and IND-AS.						
Module 2	Corporate Financial Statements preparation	Experiential Learning	Preparation of Corporate Financial Statements with simple adjustments		12 Hours	

Corporate Financial Statements preparation: Financial Statements, its components, Preparation of Corporate Financial Statements (IND-AS-1) - Statement of Profit and Loss - Statement of changes in equity - Balance sheet and Statement of Cash Flow (IND-AS-7) with basic adjustments

Module 3	Analysis and interpretation of Financial Statements	Participative Learning	Ability to analyze of Ratios and Preparation of IFRS	12 Hours

Analysis and interpretation of Financial Statements: Ratio analysis- Liquidity, Profitability, Solvency, Turnover and Market test ratios, DU-PONT analysis, Horizontal and Vertical Analysis. Economic value added, Forensic accounting and Altman's Z-Score.

Module 4	Cost computation and budgetary control	Participative Learning	Ability to compute cost and prepare different types of budgets for cost control.	12 Hours

Cost computation and budgetary control: Cost and its classification (With special emphasis on Managerial decision costs and cost associated with the product) cost reduction, cost control, preparation of cost sheet including Tenders and Quotations, Budgetary control- preparation of Cash budget and Flexible budget.

Module 5	Marginal costing	Participative Learning	Ability to apply marginal costing in various decision making	12 Hours

Marginal costing: CVP Analysis – Marginal costing-uses and limitations, problems in calculation of Contributions, P/V Ratio, Break- Even Point, Margin of Safety, Uses of Marginal Costing in business Decisions- Determination of Sales Mix, Make or Buy Decisions, Key or Limiting factor.

Targeted Application & Tools that can be used:
This course enables the students to take various managerial decisions with the help of accounting equation, depreciation ratio analysis, budgetary control, and marginal costing

Project work/Assignment: Mention the Type of Project /Assignment proposed for this course

1. Student Group Activity – Analysis and interpretation of Financial Statement of a company – Participative Learning
2. Individual Project – Preparing cash budget for a social programme – Experiential Learning
3. Assignment – Computing Altman's Z score for a company
4. Presentation – Analyzing direction and growth of a company through Annual Report – Experiential Learning

Text Book
T1: Accounting Principles Jerry J. Weygandt, Paul D. Kimmel & Donald E. Kieso, Wiley, Twelfth   Edition

Reference Books
R1. Dhamija. S. Financial Accounting for Managers. Pearson, Third edition
R2. Peter Atrill, E. J. McLaney, Accounting and Finance for Non-specialists, Pearson, 11th Edition
R3. Maheswari S N, Maheswari,A Text Book of Accounting for Management, 4th Edition, Vikas Publishing House [P] Ltd

Web Links and Case Study Links
1. https://nptel.ac.in/courses/106105151/
2. https://nptel.ac.in/courses/106105151/12
3. https://nptel.ac.in/courses/106105151/15
4. https://swayam.gov.in/nd1_noc19_me38/preview
5. http://iimamritsar.ac.in/faculty/spanda.php

Catalogue prepared by	Dr Pramod Kumar Pandey
Recommended by the Board of Studies on	Mention the BOS Number and the Date of BOS
Date of Approval by the Academic Council	Mention the Academic Council Meeting No. & the date of the meeting:

Course Code: MBA1007	Course Title: Business Statistics						
	Type of Course: School Core and Theory Only			L-T-P-C	4	0	0	4
Version No.	1.0						
Course Pre-requisites	NIL						
Anti-requisites	NIL						
Course Description	Business statistics course helps students to analyze and interpret data which aids them in managerial decision making. The course is analytical in nature and enables the students to apply various statistical tools to solve business problems effectively.						
Course Objective	This course is designed to improve learner's **EMPLOYABILITY SKILLS** by using **Problem Solving** techniques.						
Course Out Comes	On successful completion of the course the students shall be able to: 1. Describe the data using descriptive statistics. [Blooms's Level: Comprehension] 2. Solve business related problems involving probabilities [Blooms's Level: Application] 3. Solve business related problems using probability distributions. [Blooms's Level: Application] 4. Test hypotheses using relevant testing procedures. [Blooms's Level: Analysis]						
Course Content:							
Module 1	Measures of Location and Variation	Assignment (Problem Solving)	Data analysis			15 Hours	

Topics: Measures of Location – mean, median and mode for grouped and ungrouped data, weighted mean and geometric mean for ungrouped data, quartiles and percentiles for grouped and ungrouped data, their relative merits and demerits. Measures of variation – range, interquartile range for grouped and ungrouped data Standard deviation, variance and coefficient of variation (grouped and ungrouped data).

Module 2	Correlation, Regression and Probability	Project work	Data analysis			15 Hours	

Topics Correlation – Scatter plot, Karl Pearson and Spearman's rank correlation. Simple linear regression. Random experiment, sample space, event, equally likely events, mutually exclusive events and complement of an event. Classical approach to probability, simple probability, joint probability and marginal probability Addition and multiplication rules of probability, independence of events. Conditional probability and Bayes theorem.

Module 3	Random Variable and Probability Distributions	Assignment (Problem Solving)	Data analysis			15 Hours	

Topics: Random variable – Discrete and Continuous random variable. Expected value and variance of discrete random variable. Covariance, Portfolio expected return and portfolio risk. Probability distributions – discrete and continuous. Probability mass function and probability density functions. Discrete distributions – Binomial distribution, Poisson distribution – mean, variance and computation of probabilities. Continuous distributions -normal distribution – properties and computation of probabilities. Introduction to uniform and exponential distributions.

Module 4	Introduction to Testing of Hypothesis	Quiz	Problem solving			15 Hours	

Topics: Concept of population, sample, parameter and statistic. Introduction to sampling distributions. Hypothesis - Null and alternative hypothesis. Type I and Type II errors, level of significance. Test for single mean – known and unknown variance. Test for single proportion.

Targeted Application & Tools that can be used:
Analyze data using Excel and SPSS software

Project work/Assignment: Mention the Type of Project /Assignment proposed for this course

1.   Students who apply to MBA programs must take the Graduate Management Admission Test (GMAT). University admissions committees use the GMAT score as one of the critical indicators of how well a student is likely to perform in the MBA program. However, the GMAT may not be a very strong indicator for all MBA programs. Suppose that an MBA program designed for middle managers who wish to upgrade their skills was launched 3 years ago. To judge how well the GMAT score predicts MBA performance, a sample of 12 graduates was taken. Their grade point averages in the MBA program (values from 0 to 12) and their GMAT score (values range from 200 to 800) are listed here. Compute the coefficient of correlation and Interpret your findings.

GMAT and GPA Scores for 12 MBA Students

GMAT 599 689 584 631 594 643 656 594 710 611 593 683

GPA   9.6 8.8 7.4 10.0 7.8 9.2 9.6 8.4 11.2 7.6 8.8 8.0

2   A hypermarket made a test to see if there was a correlation between the shelf space of a   special brand of raison bread and the daily sales. The following is the data that was collected over a 1-month period collected over a 1-month period

Shelf space (m2)	Daily sales units
0.25	12
0.50	18
0.75	21
0.75	23
1.00	18
1.00	23
1.25	25
1.25	28
2.00	30
2.00	34
2.25	32
2.25	40

Required

1. Illustrate the relationship between the sale of the bread and the allocated shelf space.

2. Develop a linear regression equation for the daily sales and the allocated shelf space. What   are   your conclusions?

3. If the allocated shelf space was 1.50m2, what is the estimated daily sale of this bread?

4. If the allocated shelf space was 5.00m2, what is the estimated daily sale of this bread?   What   are   your comments about this forecast ?

Text Book

Anderson D R, Sweeny D J, Williams T A, Camm J D, Cochran J J (2018), Statistics for Business and Economics,13th edition Cengage learning, New Delhi.

References

Levine D M, Stephan D F, Szabat K A (2016) Statistics for Managers, 7th edition, Pearson ,New   Delhi

Catalogue prepared by	Dr. JayakrishnaUdupa H
Recommended by the Board of Studies on	Mention the BOS Number and the Date of BOS
Date of Approval by the Academic Council	Mention the Academic Council Meeting No. & the date of the meeting:

Course Code: MBA1012	Course Title: Data Analysis Using Spreadsheets Type of Course: Theory only	L-T-P-C	0	0	4	2
Version No.	4.0					
Course Pre-requisites	Basic computer handling skills: Prior knowledge of using computers and internet will be helpful. Students who have familiarity of using computers and internet, will find it easier to learn when compared to those who have never used a computer. Students who have never used a computer, are expected to be few and the course will provide special support to such students during lab hours. Knowledge of statistics will help the students in appreciating data analysis.					
Anti-requisites	**NIL**					
Course Description	Spreadsheet is one of the most powerful data analysis tools that exist, and it's available to almost anyone. Spread sheets softwares are mostly used in workplace to understand and handle data. Spreadsheets are useful to create and build charts, pivot tables, use formulas, identify patterns and trends in data etc. There are numerous ways in which spreadsheets is useful for business operations like forecasting sales, maintain accounts, preparing budgets, keeping track of expenses, planning for a meeting, organizing client sales list etc. The advanced features and tools in Spreadsheets make it as a Decision Support System (DSS). This course also complements the learning in statistics course through lab practice.					
Course Outcomes	**On successful completion of this course the students shall be able to:** 1. Employ spreadsheet formatting techniques for business documents (Apply) 2. Use formulas and functions on data to perform error free operations (Apply) 3. Demonstrate advanced data visualization, management, and analysis techniques (Apply) 4. Apply data analysis skills to real business scenarios (Apply)					
Course objective	This course will enhance **SKILL DEVELOPMENT** through **EXPERIENTIAL LEARNING** methods.					
Course Content:						

Module 1	Introduction to Data Analysis and Spreadsheets	Assignment	Business document creation - Invoice	7 Hours
Topics: Introduction to Data analysis, Introduction to Spreadsheets and excel, Entering and Editing Worksheet Data, Performing Basic Worksheet Operations, Working with Excel Ranges and Tables, Formatting Worksheets				
Module 2	Formulas and Functions	Assignment	EDA and Descriptive statistics	8 Hours
Topics: Introducing Formulas and Functions, using formulas for mathematical and text operations, Using formulas for handling dates and time, Using formulas for matching and lookup, Using formulas for statistical analysis, Using formulas for financial analysis, Understanding and Using Array Formulas, Making Your Formulas Error-Free				
Module 3	Data Visualization, Management and Analysis	Assignment	Data reorganization, summarization and visual display	7 Hours
Topics: Getting Started with Excel Charts, Creating Sparkline Graphics, Using Advanced Charting Techniques, Dashboarding and Implementing Excel Dashboarding Best Practices, Introducing PivotTables and Pivot charts, Analyzing Data with PivotTables, Analyzing Data Using Goal Seeking and Solver, Analyzing Data with the Analysis ToolPak.				
Module 4	Applying analytics to achieve Business impact	Assignment	Customer Analytics	8 Hours
Topics: Introduction to powerpivot and powerquery, Business application of Power pivot and query, Automating excel using VBA, Business application of VBA, Business data management applications, Customer Analytics applications, Demand forecasting applications, Capstone project				

Text Book

Michael Alexander, Richard Kusleika, John Walkenbach.; *Microsoft Excel 2019 Bible: The Comprehensive Tutorial Resource*; John Wiley & Sons Inc.

References

1. Walkenbach J.; *Microsoft Excel 2016 Bible: The Comprehensive Tutorial Resource*; Wiley.
2. Fischer W.; *Excel: Quick Start Guide from Beginner to Expert (Excel, Microsoft Office)*; CreateSpace Independent Publishing Platform.
3. Harvey G., *Excel 2016 for Dummies (Excel for Dummies)*; John Wiley & Sons.
4. Kalmstrom P.; *Excel 2016 from Scratch: Excel course with demos and exercises*; CreateSpace Independent Publishing Platform.
5. Alexandar M.; *Excel Macros For Dummies*; Wiley.
6. Walkenbach J.; *Excel Charts*; John Wiley & Sons.

Web pages
1. https://sites.google.com/view/narayanasrikanthreddy/home/student-home-page/mba-1st-sem
2. Keyboard shortcuts in Excel - Microsoft Support
3. Customer Analytics at Bigbasket - Product Recommendations (hbr.org)
4. Demand Forecasting for Perishable Short Shelf Life Home Made Food at iD Fresh Food (hbr.org)

PU library E –resource

https://www-sciencedirect-com-presiuniv.knimbus.com/journal/journal-of-computational-mathematics-and-data-science

Catalogue prepared by Dr. N Srikanth Reddy

Recommended by the Board of Studies on	
Date of Approval by the Academic Council	

Course Code: ENG2006	Course Title: Business Communication Type of Course: School Core Theory Only		L- T-P- C	2	0	0	2
Version No.	3.0						
Course Pre-requisites	NIL						
Anti-requisites	**NIL**						
Course Description	This course is designed to help students develop skills to communicate effectively and develop sound communication strategies. The skills will enhance their communication with their colleagues, clients and stakeholders. The modules of the course will focus on business communication processes, cross-cultural communication, strategies for effective communication and business writing. The emphasis is placed on understanding and responding to a variety of communication situations with a strong purpose, clear organization, and professional style.						
Course Objective	This course is designed to improve the learners' EMPLOYABILITY SKILLS by using scenario-based and project-based assignments modeled on real life business communication challenges						
Course Outcomes	**On successful completion of this course the students shall be able to:** 1. Explain the business communication process and its challenges. 2. Demonstrate competence in oral business communication. 3. Practice formal written communication 4. Apply different communication strategies relevant to social media communication settings. 5. Identify accurately the main points in business reports and articles						
Module 1	Introduction to Business Communication	Project	Business Communication Process			08 Hours	
Topics: Introduction to Business Communication - the communication process, communication within organizations, context for							

the emerging significance of Business Communication, objectives of Business Communication

Contextual forces influencing Business Communication – Legal and ethical considerations, Diversity and impediments to cross-cultural Communication, Hofstede's theory of cultural dimensions, Strategies for smooth cross-cultural communication, Teamwork and effective communication in teams

Module 2	Planning Spoken and Written Messages	Presentation	Plan, organize and present	08 Hours

Topics:

2.1 Steps in formulating written and spoken messages

2.2 Organisational Context and other contextual forces

2.3 Characteristics of channels and how that impacts choice of channel

2.4 Planning an effective business presentation

Module 3	Business Writing and Communicating Electronically	Business Emails	Content Writing and Formatting	08 Hours

Topics:

3.1 Use of Technology in Communication; Electronic Mail Communication, Good news, bad news and persuasive emails

3.2 Web Page Communication

3.3 Voice and Wireless Communication

Module 4	Social Media in Business Communication	Business blog	Writing for social media	06 Hours

Topics:

4.1 Social Media in Business: How Businesses use social media for internal and external communication

4.2 Tactics for successful social media use, planning and writing social media content, building a social media strategy

4.3 Business blogging; Common business uses of blogging; Tips for successful blog writing

Module 5	Reading Business Reports and Articles	Comprehension passages	Reading skills	06 Hours

Topics:

5.1 Understanding business reports: Exposure to business related vocabulary, assimilating information and deriving inferences from reports.

5.2 Reading business articles: Ability to read newspaper and magazine articles that discuss developments in the business world.

Web Resources:

W1: https://presiuniv.knimbus.com/user#/searchresult?searchId=Managerial%20Communicatio n&_t=1655868710491

W2: https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/CCIJ-07-2021-0080/full/html

W3: https://geerthofstede.com/

Project work/Assignment:

1. Interviewing entrepreneurs for insights into strategies for effective cross-cultural communication
2. Group Presentations
3. Writing business emails
4. Creating a business blog on Word Press Platform
5. Suitable comprehension passage test

Text Books:

T1: Lehman, DuFrene, Walker, Business Communication (*B.COM) 10e*. Cengage Learning. New Delhi, 2020

T 2: Bovee, John V Thill. *Business Communication Today*. 15th edition, Pearson; New York, 2021.

References:

R1: Bovee, John V Thill, Abha Chatterjee. *Business Communication Today*. 10th edition, Pearson Education, 2011

R2: Geraldine E. Hynes, Managerial Communication: Strategies and applications. 6th edition, Sage Publication, California, 2016

Topics relevant to development of 'EMPLOYABILITY SKILLS': Business Writing Skills, Presentation Skills, Effective Speaking

Skills.

Topics relevant to development of 'HUMAN VALUES & PROFESSIONAL ETHICS': Legal and ethical constraints on communication, Communicating Electronically, Voice and Wireless Communication.

Catalogue prepared by		Dr. Sufiya Pathan
Recommended by the Board of Studies on		
Date of Approval by the Academic Council		

Course Code: PPS1003	Course Title: Personality Development - Basics		L- T-P- C	0	0	2	1

Version No.	1.1
Course Pre-requisites	• Students are expected to understand Basic English. • Students should have desire and enthusiasm to involve, participate and learn. • Students should possess fundamental communication and research skills
Anti-requisites	**NIL**
Course Description	This course is designed to enable students of Business management to prepare for corporate & business world. The modules are planned to improve confidence, communication, decision making and networking skills to give the students a competitive advantage and increase chances of success in getting placed. The course will benefit learners in presenting themselves effectively through role play, activities while also learning the importance of self-awareness and team work.
Course Objective	The objective of the course is skill development of student by using Participative Learning techniques
Course Outcome	**On successful completion of this course the students shall be able to:** 1. Demonstrate confidence and effective communication 2. Prepare professional LinkedIn account and build business networks 3. Recognize problem solving skills 4. Discuss emotional intelligence components
Course Content:	

Module 1	Self-awareness and EI	Personality training	Group Tasks	02 Hours

Topics: Johari Window, Emotional intelligence components – Self-awareness, Self-regulation, social skills, empathy and motivation
Activity: Classroom group activity

Module 2	PERSONAL BRANDING	Individual Task	Personal brand building	02 Hours

Topics: LinkedIn profile building, network building & its significance, Class room activities.
Activity: Building LinkedIn account and professional networking

Module 3	CAMPUS TO CORPORATE	Placement training	Mock Hours	06 Hours

Topics: Resume writing, Video resume, GD, PI, Industry expert talks videos.
Activity: Write, Practice in groups, Perform

Module 4	PRESENTATION SKILLS	PPT creation	Survey-based presentation	05 session

Topics: Presentation skills. Ability to organize PPTs effectively, ability to apply their presentation skills and public speaking skills to make their presentations more effective.

Activity: Survey a social scenario and present that in class.

Additional training:

Every session 30 min speaking activity for all students.

Topics: Current trends, Product pitching, Revision, New job roles and opportunities, Skills required in 2023- 2030 etc.

Workshop/Boot camp

Assignments proposed for this course

1.   LinkedIn
2.   Presentation

Text Book

1. **Me 2.0: Build a Powerful Brand to Achieve Career Success by Dan Schawbel**
2. Jack Canfield, "The Success Principles", 8th Edition, HarperCollins Publishers India, 2015
3. Shiv Khera, "You Can Win", 3d Edition, Bloomsbury India, 2014
4. Stephen R Covey, "7 Habits of Highly Effective People", Simon & Schuster, (2018)
5. Resume Writing: Craft a Resume That Will Knock Their Socks Off! By Alexander Burton
6. **HBR's 10 Must Reads on Emotional Intelligence (with featured article "What Makes a Leader?" by Daniel Goleman)**
7. The presentation secrets of Steve Jobs by Carmine Gallo
8. Talk like Ted by Carmine Gallo
9. Business etiquette made easy- The essential guide to professional success- Myka Meier
10. Leaders eat last- Simon Sinek
11. Ted talk links

    - https://www.ted.com/talks/larry_smith_why_you_will_fail_to_have_a_great_career?language=en
    - https://www.ted.com/talks/simon_sinek_how_great_leaders_inspire_action?referrer=playlist-the_10_most_popular_tedx_talks&autoplay=true
    - https://www.ted.com/talks/aimee_mullins_my_12_pairs_of_legs?language=en

Movie References

1.   The intern
2.   The Pursuit of Happiness

E-Resources:

  The remote access link to e-resources at Presidency university:

  https://presiuniv.knimbus.com/user#/home

Catalogue prepared by	Ms Rajati Mukherjee
Recommended by the Board of Studies on	BOS No.: BOS Date:
Date of Approval by the Academic Council	Academic Council Meeting No.: Date of the meeting:
The DAC meeting number & Date	DAC Dated

Course Code: MBA1015	Course Title: Economics for Managers Type of Course: School Core Theory		L- T-P- C	4	0	0	4
Version No.	1.0						
Course Pre-requisites	NIL. However, students are expected to have a minimum of numerical ability, familiarity with graphs and charts and basic descriptive statistics.						
Anti-requisites	Nil						
Course Description	Managerial Economics course provides a framework for understanding the principles of micro and macroeconomics with its different applications bridging the gaps between theory, policy and practice. The intent of this descriptive course is to introduce economic analysis concepts in such a way that students can apply them in the context of business decisions. Objective of this course is to enhance employability.						
Course Objective	This course is designed to improve the learner's EMLOYABILITY SKILLS by using Class Presentation and Case Study Techniques						
Course Out Comes	On successful completion of the course the students shall be able to: 1) Explain equations and graphs and illustrate economic behavior at the individual, firm and policy levels, characteristics of market structures and their sustainability. 2) Apply concepts of consumption, investment and savings, Aggregate supply, and Aggregate demand in business. 3) Interpret the effect of fiscal instruments and monetary instruments with respect to fiscal policies in India economy on business. 4) Employ the 'economic way of thinking' for managerial decision making.						
Course Content:							
Module 1	Introduction to Microeconomics and Consumption Decision	Assignment	Data collection and application of concept				**12 Hours**
Topics: Introduction to Economics and definitions - Factors of production - The circular flow of economic activity Choice as an economic problem-Opportunity cost, PPF. Law of demand, price quantity relationship, determinants, exceptions - Demand schedule, equations and diagrams, shift and movement along the demand curve.							
Module 2	Supply and Demand	Assignment	Data collection and application of concept				**1 Hours**
Law of supply, determinants, shift and movement, Equilibrium, Elasticity of Demand and supply – Calculating Price Elasticity of Demand, percentage, point, ARC methods. Categories of Price Elasticity of demand, determinants of price elasticity of demand, cross price elasticity, income elasticity.							
Module 3	Theory of Production and Costs	Assignment	Data collection and application of concept				**12 Hours**
Topics: Defining production- The production function: short vs long run – Average, marginal and total product, equation, schedule and diagrams – Three stages of production- concept of isoquant. Defining costs and various cost concepts – Fixed and variable costs - Average, marginal and total costs, equation, schedule and diagram – Cost curves and their shapes in short and long runs, numerical problems, Economies and diseconomies of scale at firm level.							
Module 4	Market Structure	Case Study (Participatory Learning)	Identification of key concept and data analysis				**12 Hours**
Topics: Perfect competition -Features - profit maximization - Monopoly, why and how they arise – characteristics Monopolistic competition – Characteristics. Oligopoly –Features.							
Module 5	Key Concepts of Macroeconomics and Theory of Output and	Assignment	Diagrammatic illustration of concepts				**12 Hours**

| | Employment , Fiscal policy and Monetary policy | | | | |

Topics: Importance, issues of Macroeconomics -Circular flow models of economy-Measurement of National Income. Say's law, Keynesian theory of income determination (MPC, MPS, Investment functions) Aggregate Supply-Aggregate demand-The multiplier. Fiscal policy-Fiscal Instruments. Monetary Policy-instruments of monetary policy, Inflation.

Targeted Application & Tools that can be used:
Students may use data from RBI and Ministry of Finance and develop some models in the corporate sector / FMCG, analyze and interpret using SPSS, etc. This helps in developing and applying the tools of micro and macroeconomic analysis to critically question, analyze, and discuss economic problems and issues;
Develop and strengthen the ability to discuss concepts and thoughts in writing.

Project work/Assignment: Mention the Type of Project /Assignment proposed for this course

1. Assignment (Construction of a demand curve of a consumer who demands particular good at different prices with the help of data)
2. Quiz (30 minutes)
3. Case study: "Booming Business: Indian Hotel Industry". Read it thoroughly and give the answer to the case questions
   a. Do you think the hotel industry is competitive? What all features of the industry are suggestive of the same?
   b. Comment on differentiation offered by hotels in India.

Text Book
   T1 Mc. Eachern, W. A & kaur, S. (2016): Micro ECON A South- Asian Perspective, Cengage.
   T2: Kaur, S. & Mc. Eachern, W. A: (2018). *Macro ECON A South- Asian Perspective*, Cengage.

References
   R1: Salvatore, D., & Rastogi, K. R. (2016). *Managerial Economics: Principles and Worldwide Applications*. Oxford Higher Education.

   R2: Mankiw, N. G. & Taylor, M.P. (2017). *Macro Economics,* Cengage.

Web links of E-Library resources in PU
https://www-proquest-com-presiuniv.knimbus.com/abiglobal
https://www-emerald-com-presiuniv.knimbus.com/insight/
https://prowessiq-cmie-com-presiuniv.knimbus.com/
https://www-indiastat-com-presiuniv.knimbus.com/

Catalogue prepared by	Prof. Bipasha Maity
Recommended by the Board of Studies on	Mention the BOS Number and the Date of BOS
Date of Approval by the Academic Council	Mention the Academic Council Meeting No. & the date of the meeting:

Course Code: MBA2027	Course Title: Human Resource Management Type of Course: Program Core Theory Only	L- T- P-C	3	0	0	3
Version No.	1.0					
Course Pre-requisites	The students should have basic understanding of management and organizational functions.					
Anti-requisites	NIL					

Course Description	The aim of this course is to enable students to appreciate and apply principles of effective Human Resource Management (HRM). People are the life-blood of any organization and being able to attract, recruit and retain talented staff is at the core of all HRM activity. This course will explore the tools and techniques used in HRM to maximize the employee contribution and how to use HR methods to gain competitive advantage. Students will also consider the growing importance of becoming a flexible organization and flexible manpower and become familiar with latest techniques of job design and concept of modern HRM.
Course Outcomes	On completion of this course, the student will be able to: CO1-Describe the scope, functions and recent trends in Human Resource Management. (Knowledge) CO2-Explain the methods of training and development as well as appraisal systems in the organizational context. (Comprehension) CO3-Illustrate the concepts of compensation, employee retention, welfare and social security in managing human resources. (Application) CO4-Discuss the practices of industrial relations and discipline at workplace. (Comprehension)
Course Objectives	Objective of this course is to enhance employability skills using experiential learning methods.
Course Content:	This course will enhance the organizational people management skills of the students through problem solving, participative learning that will be helpful for managing organizations.

Module 1	Introduction to HRM and Procuring Human Capital	Assignment		Class Discussions	12 Hours

Introduction to HRM- Definition, Scope and Importance and Functions of Human Resource Management (HRM); Evolution and Trends in HRM –Evolution of HRM, HRM Trends - Workforce Diversity, Hybrid Working, David Ulrich Model of Modern HRM, The role of Social media, Artificial Intelligence, Machine Learning, Metaverse & Robotic Process Automation in HRM.
Procuring Human Capital: Job Analysis, Importance and Process, Job description, Job Specification; Human Resource Planning, Importance and Process; Recruitment (Attraction)- Sources; Selection- Method, Types of Interviews, Types of Tests and Validity; Orientation & Socialization of employees **Bloom level: Knowledge**

Module 2	Training & Development, Performance Appraisal	Assignment		Class Activity	09 Hours

Training & Development- Types of Training, Training Need Assessment, On-the-job and Off-the -Job training Methods, Executive Development Methods, Job-Crafting.
Performance and Potential Appraisal- Objectives, Methods of Performance Appraisal, Post Appraisal Feedback, Problems with Performance Appraisal. **Bloom level: Application**

Module 3	Compensation, Employees' Retention and Welfare	Case Study		Experiential learning	12 Hours

Compensation Administration and Job Evaluation- Objectives of Compensation Planning, Job Evaluation, Wage and Salary Surveys, Components of Pay Structure in India, Factors Influencing Compensation, Incentives and Fringe Benefits, Payment of Bonus.
Employees' Retention: Calculation of Attrition rate, Retention Strategies.
Employees' Welfare and Social Security- Intramural and Extramural Welfare Activities, Statutory Welfare Provisions of Factory Act 1948, Social Security provisions in India. **Blooms Level: Comprehensive**

Module 4	Industrial Relations and Discipline	Case Study		Experiential learning	12 Hours

Industrial Relations: Objectives of Industrial Relations (IR), Types of Industrial Disputes, Causes of Industrial Disputes, Industrial Disputes Settlement Machinery, Collective Bargaining and its process.
Discipline-Negative and Positive Discipline, Code of Discipline, Disciplinary Action, Types of Punishments **Blooms Level: Comprehensive**

Targeted Application & Tools that can be used:
Human Resources Information System, employee self-service portal, payroll, workforce management, recruitment and hiring, benefits administration and talent management.

Professionally Used Software: MS Excel, SPSS, Oracle Taleo, Zoho, Peoplesoft, SAP HR

Project work/Assignment: Experiential Learning

Project Assignments:
Assignment: 1] Students should choose any two research articles from the references and write a review report and submit. (PU Online Resources) Assignment 2] Individual: Students to select any 10 Job profiles of different organizations in one sector and do a detailed analysis on job description as well as skill set and submit. Assignment 3] Group: Students to submit the case study analysis by selecting any one case out of 5 cases and answer the questions specific to that case and do a poster presentation. (Experiential learning)

Text Book
T1: Dessler, Gary & Varkkey, Biju (2020). Human Resource Management, 16th Edition, Pearson Education, New Delhi.

References
R1: VSP Rao(2016). Human Resource Management, 3rd Edition, Excel Books. R2: Durai, Pravin (2020). 'Human Resource Management', 3rd Edition, Pearson Education. R3: Rao, P Subba (2022). Personnel and Human Resource Management, 5th Edition, Himalaya Publishing House.

Catalogue prepared by	Dr. Anni Arnav
Recommended by the Board of Studies on	BOS NO:
Date of Approval by the Academic Council	Academic Council Meeting No. :

Course Code: MBA2038	Course Title: Digital and Strategic Marketing Type of Course: School Core Theory Only Course	L-T-P-C	3	0	0	3
Version No.	1.0					
Course Pre-requisites	Marketing Management MS Office Social Media exposure					
Anti-requisites	NIL					
Course Description	Digital media is hip and happening. This course is for students who wish to learn digital marketing in a short time frame. The course will enable digital marketers to prepare digital marketing strategy. It will also provide an opportunity to understand the tools and techniques and hence the 'how' of digital marketing. This course will give a panoramic view of various digital and social media marketing mediums that businesses can use for escalating growth. It will give deep insights into the art and science of search engine optimization, search engine marketing, social media marketing, Email marketing & Mobile marketing. It will enable deep understanding of key social media such as Facebook, Instagram, LinkedIn, YouTube, Google+, Blogs and Twitter. This course will give insights into how to increase engagement, leads and conversions. The highlight of the course is that participants get to run live campaigns in groups and hence learn by doing. The course provides a good blend of strategy as well as execution.					
Course Outcomes	On successful completion of this course the students shall be able to: **CO 1)** Explain the functioning of a Search Engine and the importance of Search Engine Optimization (Comprehension) **CO 2)** Apply the concept of Search Engine Marketing in creating a digital Ad Campaign (Application) **CO 3)** Illustrate the use of social media in effective digital marketing campaign (Application) **CO 4)** Identify the opportunities of email and Mobile Marketing to leverage the power of mobile					

	devices (Application)				
Course Objective:	The course aims at **SKILL DEVELOPMENT** with respect to Marketing Strategies with **PARTICIPATIVE** learning activities.				
Module 1	**Search Engine Optimization (SEO)**	Assignment using E Library (Participative Learning)		Article: Global Marketing for the Digital Age	**12 Hours**

Topics:
Introduction to Digital Marketing, Importance of Search Engine, How Search Engine works, Web Crawler / Spider, Search Engine Algorithm (Page Rank Algorithm), Understanding the SERP, Organic Search Results and SEO, Keywords - Keyword Theory and Research, Choosing the Right Keywords, Keyword Research Tools, SEO Process, On-Page and Off-Page Optimization.

Module 2	**SEM and DDA**	Assignment (Participative Learning)		Case Study - Pepperfry.com: Marketing to Manage Customer Experience	**12 Hours**

Topics:
Introduction to Search Engine Marketing (SEM), Pay per Click (PPC) – Key Concepts, Benefits, Goals, and Google Ad Words ranking formula, SEO vs. SEM, Google Ad Words Account & Campaign, Keyword match types. Digital Display Advertising (DDA): Platforms, DDA Terminologies, DDA Key Stakeholders and Digital Ad Creation Process, Types of Display Ads, Remarketing.

Module 3	**Social Media Marketing**	Project (Experiential Learning)		Promote a Business Page in Social Media	**12 Hours**

Topics:
Social Media Marketing – Introduction, Classification of Social Media Tools, Importance, Media Types and three key players, Social Media Channels (Facebook, LinkedIn, Twitter, YouTube, Google+), Blogs, Social Media goals. Approaches to Social Media Marketing – Implementation – Listening, Pages, Publishing, Events, Groups, Jobs, Advertising.

Module 4	**Email & Mobile Marketing**	Assignment (Participative Learning)		Case Study - The Vanca: Reworking Digital Marketing Strategy	**9 Hours**

Topics:
Email Marketing – Definition, four stage process, Database & Subscriber Management, Design and Delivery of email, Tools. Mobile Marketing: Opportunities, Challenges, Desktop Websites vs. Mobile Website, Characteristics of effective mobile sites, Advantages of Mobile Sites and Mobile Apps, Advantages of Mobile Apps, SMS Marketing, and SMS Campaign Development Process. Introduction to Affiliate and Content Marketing.

Targeted Application & Tools that can be used: NA

Project work/Assignment:

Project Work: Create a dummy company of any product / service of your choice and use the various social media marketing platforms to promote it.

Assignment 1: Marketing Innovation Strategies: Interactive Learning along with a live group project.
Assignment 2: Identify the Digital and Social Media Marketing strategies adopted by any company of your choice.

Text Book:
T1: The Art of Digital Marketing by Ian Dodson of Digital Marketing Institute.
T2: Puneet Singh Bhatia; Fundamentals of Digital Marketing, Pearson

References
R1: The Google Story by David A. Vise, Pan
R2: Social Media Marketing by Tracy Tuten and Michael Solomon, Sage, 2015

Online Resources:
https://presiuniv.knimbus.com/user#/home

Articles:

- Tse, A. (2000), "Strategic Marketing for the Digital Age", Journal of Consumer Marketing, Vol. 17 No. 4, pp. 358-372. Link: https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/jcm.2000.17.4.358.1/full/html
- Fortin, D.R. (2000), "Global Marketing for the Digital Age", Journal of Consumer Marketing, Vol. 17 No. 4, pp. 358-372. Link: https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/jcm.2000.17.4.358.2/full/html
- Alsukaini, A.K.M., Sumra, K., Khan, R. and Awan, T.M. (2022), "New trends in digital marketing emergence during pandemic times", International Journal of Innovation Science, Vol. ahead-of-print No. ahead-of-print. Link: https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/IJIS-08-2021-0139/full/html

Multimedia (Videos):
- Digital Marketing and You – TED Talk by Ankit Srivastava
  https://www.youtube.com/embed/cBA-itmpR84
- Social Media Marketing for Small Business
  https://www.youtube.com/embed/wtZWt4YzQPU

Case Studies:
- The Vanca: Reworking Digital Marketing Strategy By: Jones Mathew; Banasree Dey, Indisn School of Business (ISB), Link: https://hbsp.harvard.edu/download?url=%2Fcatalog%2Fsample%2FW17158-PDF-ENG%2Fcontent&metadata=e30%3D
- GiveIndia: On the Net for a Cause By: Sanjeev Tripathi, Shashank Bhasker, Indian School of Business (ISB), Link: https://hbsp.harvard.edu/download?url=%2Fcatalog%2Fsample%2FW16048-PDF-ENG%2Fcontent&metadata=e30%3D
- Pepperfry.com: Marketing to Manage Customer Experience By: Gaganpreet Singh; Sandeep Puri; Sanjit Kumar Roy, Ivey Publishing, Link: https://hbsp.harvard.edu/download?url=%2Fcatalog%2Fsample%2FW17332-PDF-ENG%2Fcontent&metadata=e30%3D
- Radio Mirchi: Marketing Strategy for the Bangalore Market By: Anand Kumar Jaiswal, IIM-Ahmedabad, Link:https://hbsp.harvard.edu/download?url=%2Fcatalog%2Fsample%2FA00108-PDF-ENG%2Fcontent&metadata=e30%3D
- Maruti Suzuki India Limited: Marketing By: Dr. Sanjeev Prashar, Richard Ivey School of Business, Link: https://hbsp.harvard.edu/download?url=%2Fcatalog%2Fsample%2FW13012-PDF-ENG%2Fcontent&metadata=e30%3D

Catalogue prepared by	Dr. Chithambar Gupta V
Recommended by the Board of Studies on	BOS NO: held on
Date of Approval by the Academic Council	Academic Council Meeting No.

Course Code: MBA1018	Course Title: Technology Foundations for Business Type of Course: Professional Core Course	L	T	P	C
		2	0	0	2
Version No.	1.0				
Course Pre-requisites	NIL				
Anti-requisites	NIL				
Course Description	This course introduces students, to modern Information Technology as applicable in organizations today. Starting with basics of Information Technology, definitions, Management Information Systems, Emerging Technology and how managers can use IT to enable success in modern disruptive markets. The course gives an overview of key organizational systems like Customer Relationship Management, Enterprise Resource Planning, Supply Chain Management systems, Digital Marketing, Analytics and eCommerce systems. And it ends with basics of Digital Transformation ie. how to manage changes in organizations using Information				

	Technology,			

	On completion of this course, the student will be able to:
Course Outcomes	1. Understand Information Technology concepts **[Knowledge]** 2. Discuss key IT systems and their role in Organizations **[Comprehension]** 3. Describe how IT Systems can be used for competitive advantage **[Comprehension]**
Course Objective	This is aimed to familiarize students to IT systems and how to integrate IT into any function or role they will perform as managers. This course will enable students to make or influence decisions related to the selection, design and support of Management of Information Technology. To focus on the Information Technology concepts that a modern manager must understand to ensure a sustained competitive advantage for the Organization.

Module 1	**Basics of Information Technology in business**	QUIZ (E-review from library)	**Classroom Discussion and Online Resources**	**8 Hours**

Topics:
Introduction, why IT, business IT interface, SDLC, Agile, business process management, role of IT & CTO

Module 2	**Key IT systems applications in business**	**Case Analysis & demos**	**Demonstration of key systems using videos & demos.**	**8 Hours**

Topics:
Management Information System, Overview of ERP, HRM, CRM, SCM, E-Business systems. How these systems help build and grow organizations.

Module 3	**Emerging Tech and IT for Competitive Advantage**	**Case Analysis & demos**	**Demonstration of key systems using online videos & demos.**	**7 Hours**

Topics:
Covers emerging technologies like database management, blockchain, IoT, AI&ML, ARVR, cloud, cyber security, quantum computing, space & biotechnology.

Module 4	**Managing technological disruptions in key industries**	**Case Analysis & demos**	**Classroom Discussion and Online Resources**	**7 Hours**

How IT enables business value. How to manage disruption caused by these. Basics of Digital Transformation.

Targeted Application & Tools that can be used:
Students would be encouraged to take up projects and through experiential learning activities in the class they will imbibe the cognitive approaches to understand and apply factors effective to understand Marktech and Adtech.

Professionally Used Software: KNimbus library access, Online AI&ML tools, YouTube videos

Project work/Assignment:
1. Lectures (30 Hours), review and bridging (6 Hours)
2. 3 Quizes
3. Hands-on demo on live tools and assignment with project presentations.
4. Assignment & project presentation

Text Books:
- Management Information Systems – Managing the Digital Firm, 14e, Kenneth C. Laudon and Jane P. Laudon, Pearson, 2017 (Reprint)

Management Information Systems, 10e, James A O'Brien, George M Marakas and Ramesh Behl, McGraw Hill, 2013 (Reprint)

R2: IT strategy for Business, Parag Kulkarni, Pradeep Chandle, Oxford University Press, 2008

Weblinks :
- A Guide to the Project Management Body of Knowledge
  https://www.project-management-prepcast.com/pmbok-knowledge-areas-and-pmi-process-groups
- Changing Role of the CIO.
  https://www.researchgate.net/publication/220500523_The_Emerging_CIO_Role_of_Business_Technology_Strategist

- Business Transformation and the CIO Role:
  https://hbr.org/resources/pdfs/comm/red%20hat/hbr_red_hat_report_march14.pdf
- Salesforce Lightning CRM demo: https://ap24.lightning.force.com/lightning/page/home
- Oracle ERP introduction: https://www.youtube.com/watch?v=c9HfNg4a_Og
- Tally ERP Retail: https://www.youtube.com/watch?v=VUp1nOli3V4
- 3D Printing: https://www.youtube.com/watch?v=EHvO-MlzAIM&t=26s

Journal
- Information Technology & Management, ISBN 1385-951X
- International Journal of Information Management

Library E-resources:
- **Introduction to Management Information Systems (MIS): A Survival Guide:**
  https://www.edx.org/course/introduction-to-management-information-systems-mis
- **Industry 4.0 :**
  https://presiuniv.knimbus.com/user#/searchresult?searchId=Industry%204.0&_t=1680442800030
- **Information Technology and Sustainability:**

Catalogue prepared by	Prof. Krishna Durbha
Recommended by the Board of Studies on	BOS NO: BOS held on:
Date of Approval by the Academic Council	Academic Council Meeting No. , Dated:

Course Code: MBA2033	Course Title: Business Research Methods Type of Course: School Core & Theory only	L-T-P-C	3	0	0	3
Version No.	1.0					
Course Pre-requisites	Business Statistics (MBA 1007)					
Anti-requisites	NIL					
Course Description	Business Research Methods provides the theoretical and practical framework to conduct research in Business. It consists of modules, which cover the fundamentals of the Business Research Process. The course enables discussion on different research designs that would be appropriate in different business scenarios. The data analysis sections deals with the relevant statistical tools required to analyze the data which would help in effective decision making.					
Course Outcomes	On successful completion of the course, the students shall be able to: 1. Apply the relevant business research methods for solving business research problems. [Application Level] 2. Use appropriate data collection methods to carry out business research. [Application Level] 3. Employ suitable measurement techniques and sampling designs to elicit data. [Application Level] 4. Analyze the data using appropriate statistical tools. [Analysis Level]					
Course Objectives	Objective of this course is to enhance **Skill Development** using **Experiential Learning** methods.					
Course Content:						

Module 1	Introduction to Business Research Methods	Assignment	Review Literature	9 Hours

Topics:
Role of business research – applied and basic business research – managerial value of business research. Theory building – research concepts, constructs, propositions, variables and hypotheses – the scientific method of conducting research. The business research process – types of business research – exploratory, descriptive and causal. Stages in the research process. Review of literature. Problem definition process, research objectives, questions and hypotheses. The research proposal.

Module 2	Data Collection Methods and Qualitative Research	Mini-Project	Data Collection and Data Analysis	12 Hours

Topics:
Primary data – survey research – errors in survey research – survey research methods. Personal interviews – telephone interviews – self-administered questionnaires. Observation methods. Secondary data – advantages, disadvantages and sources. Qualitative research – uses, orientations to qualitative research. Techniques in qualitative research – Focus group interview, depth interviews. Conversations, semi-structured interviews

Module 3	Measurement Concepts, Questionnaire design and Sampling	Assignment	Conceptual Knowledge	12 Hours

Topics:
Introduction – variables – constructs - measurement scales – nominal, ordinal, interval and ratio. Criteria for good measurement – reliability and validity. Attitude measurement – attitude rating scales – Likert scale, semantic differential. Measuring behavioral intention – ranking, sorting. Questionnaire design – Basic considerations – wording questions – guidelines for constructing questions – questionnaire layout – pretesting and revision. Sampling – population, sample, sampling frame, sampling units, sampling and non – sampling errors. Non – probability sampling – convenience, judgment, quota and snowball sampling. Probability sampling – simple random sampling, systematic sampling, stratified sampling.

Module 4	Data Analysis and report writing	Mini-project	Data Analysis	12 Hours

Topics:
Testing of hypothesis – test for two means – known variances and unknown but equal variances, paired t test, test for two proportions. Chi square test for independence of attributes. Introduction to multivariate data analysis. Report writing – report format – parts of the report.

Targeted Application & Tools that can be used:
Business research methods is applied to different areas of the management. The broad areas of applications are marketing research, financial markets, behavioural economics, human resources, etc. &Professionally Used Software: MS-Excel/SPSS/Minitab/R

Project work/Assignment:

Project/Assignment: Mini-Project on the primary or secondary data collection techniques for the application of suitable statistical models.

Assignment 1: Students are required to write a Literature Review Assignment based on any two to three related literature on their research topic of interest.

Assignment 2: Students are required to construct the Questionnaire in align with the Problem identification/Research questions and Hypothesis formulation on their research topic of interest.

Assignment 3: Written Assignment/Quiz on Research Process or Sampling techniques.

Text Books	
1. Zikmund, W. G., Babin, B, J., Carr, J.C. & Griffin, M., Business Research Methods: A South Asian Perspective. Delhi: Cengage Learning, Edition 9, 2012.	

References	
1. Kothari, C. R. & Garg, G. Research Methodology, Methods and Techniques. New Age International Publishers, Multi-Colour Edition, 2019. 2. Anderson, Sweeney, Williams, Camm and Cochran. Statistics for Business and Economics. Delhi: Cengage Learning., 2016.	

Catalogue prepared by		Dr. Jayakrishna Udupa H
Recommended by the Board of Studies on		BOS NO:
Date of Approval by the Academic Council		Academic Council Meeting

Course Code: **MBA2040**	Course Title: Production and Logistics Management Type of Course: Program Core, Theory only		L-T-P-C	3	0	0	3
Version No.	1.0						
Course Pre-requisites	Business Statistics [MBA1007] Topics : Central tendencies, Deviations and Regression						
Anti-requisites	NIL						
Course Description	This descriptive course introduces the students to the theory and practice of Production Management as a functional area in the management of business enterprise. This course discusses the principles, concepts and basic problems affecting the manufacturing and non-manufacturing firms. It also includes the methods, strategies and application of various quantitative tools in problem solving for production and operations. This course introduces students to problem solving and analysis associated to the design, planning, control, and improvement of manufacturing and service operations. This course also gives a brief introduction to Logistics management and its relevance in business.						
Course Out Comess	On successful completion of the course the students shall be able to: 1] Explain the relevance of Production and Operations Management. 2] Describe the role of production and operations on managerial decision making. 3] Explain how the production function associates with other firm functions. 4] Solve problems in forecasting related to production processes. 5] Explain the relevance and role of Logistics Management in Business						
Course Objectives	Objective of this course is to enhance **Employability Skills** using **Participative Learning** Methods.						
Course Content:							
Module 1	Introduction	Assignment	Data Collection and Classification			9 Hours	
Topics: Introduction – History of Production Operations Management POM, Factors affecting POM, Difference between Manufacturing and Service Operations, Concepts of productivity, Operations Strategies. Videos/ Case Study.							
Module 2	Facility Planning	Term paper/Assignment/Case Study	Data Collection, Classification & Report on Planning			11 Hours	
Topics: Facilities Planning Process for Manufacturing and Assembly facility- Product Design, Process Design and Service Design, Facility Location, Facility Management - 4 types of layouts based on Produce and Variety. Videos / Case Study.							
Module 3	Time Series	Case Study	Data Collection on Time Series & Analysis			11 Hours	
Topics: Concepts of Forecasting, Types of forecasting, Time series methods - Weighted Average, Weighted Moving							

Average., Qualitative v/s Qualitative methods of Forecasting. Videos / Case Study				
Module 4	Production Planning	Assignment &Case Study	Planning, Scheduling and Report writing	8 Hours
Topics: Types of Production Planning and Control Systems, Planning and Scheduling, Capacity Planning, Overview of Master Production Schedule (MPS), Materials Requirement Planning (MRP) I and relevance to Supply Chain Management/ Warehousing, Introduction to Inventory Management and Inventory Models Videos / Case study.				
Module 5	Introduction to Logistics Management	Assignment	Inventory Data Analysis and Interpretation	6 Hours
Topics: Introduction to Logistics Management, Transportation Management and Planning, Warehouse and Distribution Management, Current trends in Logistics management, 3PL and 4PL logistics				

Targeted Application & Tools that can be used:
Above concepts are helpful in understanding the entire system of production, planning, layouts, facility, forecasting and inventory appropriate to any manufacturing unit like Automobile assembly, confectionary factory, process designing for various manufacturing units and service centres. Useful Software or tools are Microsoft Excel.
Project work/Assignment: Mention the Type of Project /Assignment proposed for this course
Assignment type: Case study on listing out various production processes and designing facilities for given product and service requirements.
Text Book 　　　Operations Management, William J Stevenson, McGraw-Hill, 2009. NinthEdition. Available in library 　　　Logistics Management by D.K. Agrawal
References 　　i.　Operations Management, Collier/Evans/Ganguly, CENGAGE Learning, 2016, ISBN: 978-81- 315-2809-9. 　　ii.　Operations Management for Competitive Advantage, Richard B. Chase, F Robert Jacobs, Nicholas J Aquilano, Nitin K Agarwal, McGraw-Hill; 2009. Eleventh Edition.

Catalogue prepared by	Name/Names of the Faculty members prepared this catalogue: Dr Praveen Mustoor
Recommended by the Board of Studies on	Mention the BOS Number and the Date of BOS:
Date of Approval by the Academic Council	Mention the Academic Council Meeting No. & the date of the meeting:

Course Code: PPS4001	Course Title: Aptitude Training Type of Course: Program Core Theory Only	L-T- P- C	0	0	2	1
Version No.	1.0					
Course Pre-requisites	Basic mathematical operations. Basic English.					
Anti-requisites	NIL					
Course Description	The objective of this course is to prepare the trainees to tackle the questions on various topics and various difficulty levels based on Quantitative Ability, Logical Reasoning and Verbal Ability asked during the placement drives. There will be sufficient focus on building the fundamentals of all the topics, as well as on solving the higher order thinking questions. The focus of this course is to teach the students to not only get to the correct answers, but to get there faster than ever before, which will improve their employability factor.					
Course Outcomes	On successful completion of the course the students shall be able to: 1] IDENTIFY the basic concept needed in a question. 2] SOLVE the quantitative and logical ability questions with the appropriate concept. 3] EXAMINE the data given in complex problems. 4] EXAMINE given text sentences and paragraphs for errors and correct them.					

Course Content:				
Module 1	Logical Reasoning	Assignment	Problem solving	**5 Hours**
Topics: Coding & Decoding, Blood Relations, Linear Arrangement, Circular Arrangement, Directions, Syllogisms				
Module 2	Quantitative Ability	Assignment	Problem solving	**5 Hours**
Topics: Percentages, Ratios & Proportions, Averages, Mixtures & Alligation, Data Interpretation				
Module 3	Verbal Ability	Assignment	Comprehension	**5 Hours**
Topics: Articles, Subject Verb Agreement, Synonyms & Antonyms, Verbal Analogies, Ordering of Words, Parajumbles, Sentence Correction, Cloze Test				
Targeted Application & Tools that can be used: Application area: Placement activities and Competitive examinations.				
Project work/Assignment: Mention the Type of Project /Assignment proposed for this course				
Assignment: Complete all the questions and solutions covered in the class.				

Text Book
    1.   Aggarwal, R. S. (2018). A Modern Approach to Verbal & Non-Verbal Reasoning. S. Chand Limited.
    2.   Aggarwal, R. S. (2017). Quantitative Aptitude for Competitive Examinations. S. Chand Limited.
    3. Lewis, N. (1979). Word Power Made Easy. Simon and Schuster.				

References
   1.   www.indiabix.com
 	
   2. www.youtube.com/TheAptitudeGuy/videos				

Catalogue prepared by	Mr. Koustav Nandi			
Recommended by the Board of Studies on	BOS No.: BOS Date:			
Date of Approval by the Academic Council	Academic Council Meeting No.: Date of the meeting:			

Course Code: **PPS2010**	**Course Title: Personality Development - Intermediate** **Type of Course: School Core**	**L-T- P- C**	**0**	**0**	**2**	**1**
Version No.	1.1					
Course Pre-requisites	• Students are expected to understand Basic English. • Students should have desire and enthusiasm to involve, participate and learn. • Students should possess fundamental communication and research skills					
Anti-requisites	**NIL**					
Course Description	This course is designed to enable students of Business management to prepare for corporate & business world. The modules are planned to improve confidence, communication, decision making and networking skills to give the students a competitive advantage and increase chances of success in getting placed.					

	The course will benefit learners in presenting themselves effectively through role play, activities while also learning the importance of self-awareness and team work.

Course Objective	The objective of the course is skill development of student by using Participative Learning techniques

Course Outcome	**On successful completion of this course the students shall be able to:** • Demonstrate confidence and effective communication • Prepare professional LinkedIn account and build business networks • Recognize problem solving skills • Discuss emotional intelligence components

Course Content:

Module 1	Self-awareness and EI	Personality training	Group Tasks	**03 Hours**

Topics: Johari Window, Emotional intelligence components – Self-awareness, Self-regulation, social skills, empathy and motivation
Activity: Classroom group activity

Module 2	PERSONAL BRANDING	Individual Task	Personal brand building	**03 Hours**

Topics:
LinkedIn profile building, network building & its significance, Class room activities.
Activity: Building LinkedIn account and professional networking

Module 3	CAMPUS TO CORPORATE	Placement training	Mock Hours	**06 Hours**

Topics: Resume writing, Video resume, GD, PI, Industry expert talks videos.
Activity: Write, Practice in groups, Perform

Module 4	PRESENTATION SKILLS	PPT creation	Survey-based presentation	**03 Hours**

Topics: Presentation skills. Ability to organize PPTs effectively, ability to apply their presentation skills and public speaking skills to make their presentations more effective.
Activity: Survey a social scenario and present that in class.

Additional training:
Every session 30 min speaking activity for all students.
Topics: Current trends, Product pitching, Revision, New job roles and opportunities, Skills required in 2023- 2030 etc.
Workshop/Boot camp

Assignments proposed for this course

• LinkedIn
• Presentation

Text Book

• **Me 2.0: Build a Powerful Brand to Achieve Career Success by Dan Schawbel**
• Jack Canfield, "The Success Principles", 8th Edition, HarperCollins Publishers India, 2015
• Shiv Khera, "You Can Win", 3d Edition, Bloomsbury India, 2014
• Stephen R Covey, "7 Habits of Highly Effective People", Simon & Schuster, (2018)
• Resume Writing: Craft a Resume That Will Knock Their Socks Off! By Alexander Burton
• **HBR's 10 Must Reads on Emotional Intelligence (with featured article "What Makes a Leader?" by Daniel Goleman)**
• The presentation secrets of Steve Jobs by Carmine Gallo
• Talk like Ted by Carmine Gallo
• Business etiquette made easy- The essential guide to professional success- Myka Meier
• Leaders eat last- Simon Sinek

Catalogue prepared by	Mr. Dhiraj
Recommended by the Board of Studies on	BOS No.: BOS Date:
Date of Approval by the Academic Council	Academic Council Meeting No.: Date of the meeting:
The DAC meeting number & Date	DAC Dated

Course Code: MBA2024	Course Title: Financial Management Type of Course: Program Core & Theory	L-T-P-C	4	0	0	4
Version No.						
Course Pre-requisites	Decision making and problem solving abilities.					
Anti-requisites	-					
Course Description	The purpose of this course is to enable the students to analyze the cost of capital, return on investment and hence make informed decisions. The students get a fair idea about the concept of time value of money and its implications, to ensure effective use of capital and advice business about project costs, make capital investments, and structure deals to help company's growth.					
Course Objective	This course is designed for **SKILL DEVELOPMENT** by using **PARTICIPATIVE LEARING** Techniques.					
Course Outcomes	On successful completion of this course the students shall be able to: 1. Compute the Time Value of Money for financial decision making- **Application** 2. Analyse the Weighted Average Cost of Capital of a Business, Capital					

Structure and implication of Dividend Decisions- **Analysis**

3. Employ various Capital Budgeting Evaluation Techniques for project selection- **Application**

4. Calculate the Working Capital requirements of a company - **Analysis**

Course Content:

Module 1	ancial Management and Time Value of Money	Quiz	Understanding of Concepts	15 Hours

Topics: Definition and Scope of Finance, Financial Manager's role, Financial Goal: Profit Maximization Vs Wealth Maximization, Agency Problems: Managers' Vs Shareholders' Goal, Ethics in Finance

me Value of Money: Future Value of a single cash flow, Present value of a single cash flow, Present value of an annuity due, Present value of a perpetuity, Loan amortization schedule, Problems on each sub topics. Case study.

Module 2	st of Capital, Capital Structure and Dividend Decisions	Case Study	Application of Concept	15 Hours

Topics:

Long Term Sources of Funds and Cost of Capital: Long term sources of finance: Bonds/ Debentures, Preference shares and Equity shares. Cost of Capital – Meaning, Significance, Types, Capital Asset Pricing Model, Weighted Average Cost of Capital (WACC)

Capital Structure: Factors Determining Capital Structure, EBIT-EPS Analysis, Leverages - Operating Leverage, Financial Leverage, Combined Leverage.

Dividend Decisions: Concept and Significance of Dividend Decision, Forms of Dividends: Cash Dividend, Bonus Shares, Share Split, Reverse Split, Buyback of Shares

Module 3	pital Budgeting	ssignment –Problem Solving Technique	Decision making	15 Hours

Topics:

Meaning and nature, Process of capital budgeting, kinds of capital budgeting decisions, Cash flow for investment analysis, Evaluation Techniques - Pay Back Period, Accounting rate of return, Net Present Value, Internal Rate of Return, Profitability Index, NPV vs IRR, Reinvestment Assumption and Modified Internal Rate of Return (MIRR), NPV vs PI, Mutually Exclusive projects Case study.

Module 4	Working Capital Management	ssignments	Application of Concept	15 Hours

Topics: Working Capital Management – Concepts, Kinds of working capital, Sources of Financing Commercial paper, Letter of Credit, Bill Discounting, Factoring Factors determining working capital, Operating Cycle. Working capital policies – Conservative, Moderate, Aggressive. Working Capital Estimation

Targeted Application & Tools that can be used:

has wide application in Corporate Business, Banking, Financial Services Industry. It helps businesses to balance risk and profitability.

sic Excel function

Project work/Assignment:

Project Assignment: –Mini projects on Capital Budgeting&Capital Structure (Problem Solving Technique)

signment: 1] Collect the data from the 5 firms and compute the cost of capital.

signment 2: Prepare a compressive report on working capital technique issued by various Companies.

1. I M Pandey, Financial Management, Pearson

References

1. Richard A. Brealey, Stewart C. Myers, Franklin Allen, and Pitabas Mohanty, Principlesof Corporate Finance, McGraw-Hill Publishing.
2. Eugene F. Brigham and Louis C. Gapenski, Financial Management: Theory and Practice,Dryden Press.
3. Damodaran Aswath, Corporate Finance: Theory and Practice, John Wiley & Sons
4. Chandra P., "Financial Management: Theory and Practice" McGraw Hill Education.

Catalogue prepared by	Dr. Y. Venkata Rangaiah
Recommended by the Board of Studies on	
Date of Approval by the Academic Council	

Course Code: MBA2034	Course Title: Fundamentals of Business Analytics Type of Course: School Core and Lab based	L	T	P	C
		2	0	0	2
Version No.	2.0				
Course Pre-requisites	Nil				
Anti-requisites	Nil				
Course Description	This course is an application-driven introduction to Business analytics. Every field of study and area of business has been affected as people increasingly realize the value of the incredible quantities of data being generated. But to extract value from those data, one needs to be trained in the proper data analytics skills. The R programming language has become the de facto entry level programming language for beginners in data analytics. Its flexibility, powerful and				

	expressive, which have made it an invaluable tool for data analyst around the world. This course will introduce students to this rapidly growing field and equip them with some of its basic principles and tools as well as its general mindset. Students will learn concepts, techniques and tools they need to deal with various facets of data analytics practice, including data collection and integration, exploratory data analysis, predictive modeling, descriptive modeling, evaluation, and effective communication. The focus in the treatment of these topics will be on breadth, rather than depth, and emphasis will be placed on integration and synthesis of concepts and their application to solving problems.			
Course Objectives	This course is designed to improve the learners' **SKILL DEVELOPMENT** by using **PROBLEM SOLVING TECHNIQUES** like, Mini Projects and Case Study Presentations.			
Course Out Comes	On successful completion of the course the students shall be able to: 1) Define Business Analytics terms and skill sets [Knowledge] 2) Describe latest concepts, tools used in Business Analytics [Comprehension] 3) Apply analytical tools like R (& RStudio) to solve real business problems [Application]			
Module 1	**Introduction to Business Analytics**	Class instructions and demo of core concepts	Assignment and Quiz	**10 Hours**

Topics:
Objectives of Analytics, Types of Business Analytics, Steps of Analytics Process. Data Collection, Data Preparation, Detecting, treating outliers and missing values. Model Building, Interpretation, Measurement of Model Accuracy. Big Data basics.

Module 2	**Introduction to R programming and EDA**	R & R Studio fully lab-based tutorials	Refer lab manual. Use of built in and sample datasets in manual.	**10 Hours**

Topics:
Data: Data Collection, Data Management, Big Data Management, Organization/sources of data, Importance of data quality, Dealing with missing or incomplete data, Data Visualization, Data Classification

Module 3	**Business Analytics basic Tools and Techniques**	R & R Studio fully lab-based tutorials. Project.	Refer lab manual. Use of built in and sample datasets in manual.	**10 Hours**

Topics:
Overview and Industry Applications of Artificial Intelligence, Machine Learning, Deep Learning. Summarizing data using descriptive statistics, correlation. Simple Supervised Learning techniques: Linear (Simple and Multiple) Regression, Decision Trees. Unsupervised Learning: Clustering using KMeans. Time Series Forecasting, ARIMA.

Targeted Application & Tools that can be used:
Course has wide application across all business functions. Data Analysis Supportive tools like Excel/R Programming/Oracle

Project work/Assignment: Mention the Type of Project /Assignment proposed for this course
1.   Lectures (30 Hours), review and bridging (6 Hours)
2.   3 Quizes
3.   Assignment with Project Presentations

Datasets & code samples provided in the Lab Manual

Text Book
1.   Business Analytics: The Science of Data Driven Decision Making, U. Dinesh Kumar, Wiley, 2020

Introduction to Data Science – Practical approach with R & Python: B Uma Maheswari & R Sujatha, Wiley, 2021

Reference books & Links:
R1: Data Analytics using R by Seema Acharya, McGraw Hill, 2018
R2: R programming for beginners: Sandip Rakshit, Mc Graw Hill Education, Year,
R3: Stanford Andrew Ng: https://www.youtube.com/channel/UC5zx8Owijmv-bbhAK6Z9apg
R4: KrishNaik https://www.youtube.com/channel/UCNU_lfiiWBdtULKOw6X0Dig
R5: Introduction to R & RStudio: https://www.youtube.com/watch?v=lL0s1coNtRk
R6: R Basic Syntax: https://www.geeksforgeeks.org/introduction-to-r-studio/

Catalogue prepared by	

Recommended by the Board of Studies on	
Date of Approval by the Academic Council	Prof. Krishna Durbha

III SEMESTER

Course Code: MBA3052	Course Title: Corporate Strategy Type of Course: Program Core only	L- T-P- C	3	0	O	3
Version No.	1.0					
Course Pre-requisites	[1] **Management** Concepts and Practices (MBA1015) [2] **Microeconomics** for Managers (MBA1009)					
Anti-requisites	**NIL**					
Course Description	Corporate Strategy has become a significant point of the modern corporate world. The changing phases of the competition, the political and social changing faces, the invention of new techniques, and new ideas have compelled the corporate world to embrace the corporate strategy concept and come out with the success. This course (Corporate Strategy) is an integral part of the Strategic Management. Strategic Management is involved in many of the decisions that a leader makes. This course includes what is a strategy, corporate direction, environmental scanning, and sources of competitive advantage, BEVUCA, Neurostrategy, strategy formulation, competitive strategies in emerging industries, balanced scorecard, and International Business.					
Course Objective	This course is designed to improve the EMLOYABILITY SKILLS by using participative learning.					
Course Outcomes	**On successful completion of this course the students shall be able to:** 1) Define corporate strategy 2) Identify various factors of competitive advantage 3) Explain various generic competitive strategies 4) Prepare a Balanced Scorecard for an organization.					
Course Content:						
Module 1	Introduction to Strategic Management	**Case**: Strategic Analysis of Starbucks Corporation	**Data Analysis**: Analysis the different tools used in Neurostrategy based on University SCOPUS database (% analysis).		**12 Hours**	

Topics: **Module -I Introduction to Strategic Management** What is Strategic Management & Stages of Strategic Management, Integrating Intuition and Analysis, Adapting to Change, Key Terms in Strategic Management, External Opportunities and Threats & Internal Strengths and Weaknesses, Long-Term Objectives, Strategies and Annual Objectives & Policies, The Strategic-Management Model, Benefits of Strategic Management. Corporate Strategy, Directional Strategy, Portfolio Analysis Corporate Parenting. Nero strategy				
Module 2	Environmental Scanning and Industry Analysis	**Case Study**: Southwest Airline	**Data Analysis:** Identification of factors responsible for BEVUCA Environment through questionnaire or from literature.	**12 Hours**
Capabilities and Competencies, Sources of Competitive Advantage: Position and Capability, Value Chain analysis- primary and secondary activities, Internal and External environmental analysis, SWOT, PESTEL analysis, VUCA & BEVUCA, how strategy shapes structure- structuralist and reconstructionist approach- blue and red ocean strategy, Dubai strategy proposition. The Nature of an Internal Audit, Key Internal Forces, The Resource-Based View (RBV) Integrating Strategy and Culture Industry Analysis: The External Factor Evaluation (EFE) The Competitive Profile Matrix (CPM)				
Module 3	**Strategy Formulation**	**Case study:** Class- or Mass(HBR), Idalene F. Kesner and Rockney Walters(2005).	**Data Analysis:** Application of design thinking in industry, based on themes and sub theme analysis.(Application of spreadsheet with provided database).	**12 Hours**
Generic Competitive Strategies- Cost leadership, Differentiation and focus, risk of generic strategy, The Balanced Scorecard, Types of Strategies, Levels of Strategies, Integration Strategies, Forward Integration & Backward Integration, Horizontal Integration, Intensive Strategies, Market Penetration & Market Development, Product Development, Diversification Strategies, Defensive Strategies A framework for competitor analysis- Michael Porter's Five Generic Strategies				
Module 4	**Competitive Strategy and corporate advantage**	**Case study: IKEA** (http://aeunike.lecture.ub.ac.id/files/2012/03/Case-Kel.9.pdf)	**Simulation:** Development and simulation of BSC with the help of spreadsheet.	**9 Hours**
Topics: Competitive Strategy in emerging Industries- the structural environment, early mobility barriers, early mobility barriers, coping with the competitors, which emerging industries to enter. Evolution of global industries, strategic alternatives in global industries, How to Become a Sustainable Company, Balanced Score Card, Digital advantage – SMAC. International Business Strategy- mode of entry in international business, political and country risk in International Business. Implementing Strategies: Management and Operations Issues, Implementing Strategies: Marketing, Finance/Accounting, R&D, and MIS Issues.				

Targeted Application & Tools that can be used:

1. **Module no 1: Neurostrategy (Analysis of University SCOPUS database with the help of spreadsheet)**
2. **Module no 2: BECUVA (Identification of Factors through SPSS)**
3. **Module no 3: Design Thinking (Themes and sub themes analysis by VOSVIWER)**
4. **Module no 4: Balanced Score Card (Spreadsheet application)**

Project work/Assignment:

1.Quiz: Online quiz in University Edhitch platform (10 marks)
2. Article review
3. Identification of value creation process based on VRIO model of any organization of your choice(20 marks)

Text Book

Bhandari & Verma : *Strategic Management - A Conceptual Framework*, McGraw Hill
Higher Education, New Delhi, India.
https://highered.mheducation.com/sites/125902640x/information_center_view0/index.html

References

R1:Strategic Management CONCEPTS AND CASES, Fred R. David Francis Marion University Florence, South Carolina, 13th ed. Pearson Education, Inc., publishing as Prentice Hall

R2: Michael E. Porter: Competitive Strategy, The Free Press, New York.

http://www.mim.ac.mw/books/Michael%20E.%20Porter%20-%20Competitive%20Strategy.pdf.

R3:HBR'S 10 Must Reads on Strategy. Harvard University Press, Boston, Massachusetts.

R3:Paul Leinwand; Cesare Mainardi. *Strategy that works*, Harvard University Press, Boston, Massachusetts. https://www.scribd.com/document/533966997/Strategy-That-Works-How-Winning Companies-Close-the-Strategy-To-Execution-Gap-by-Paul-Leinwand-Cesare-R-Mainardi-Z-lib-org

Additional reading: Preparing your business in Post- Pandemic World(HBR) https://img1.wsimg.com/blobby/go/a53b688c-293a-4784-a01f-75c9461a886a/HBRs%2010%20Must%20Reads%20on%20Managing%20in%20a%20Downturn%2C%20.pdf

Presidency University Library link: https://puniversity.informaticsglobal.com:2293/insight/content/doi/10.1108/TQM-12-2016- 0109/full/html

Catalogue prepared by	Dr. S.FAKRUDDIN ALI AHMED
Recommended by the Board of Studies on	
Date of Approval by the Academic Council	

Course Code: MBA3001	Course Title: Business Law Type of Course: School Core Theory only	L-T-P-C	3	0	0	3
Version No.	1.0					
Course Pre-requisites	1. **Basic knowledge of functioning of a company** 2. **Communication skills**					
Anti-requisites	**NIL**					
Course Description	The purpose of the course is to impart knowledge with regard to business laws. The nature of the course is to give right exposure to concerns and expectations of various stakeholders in the context of large-scale industrial change due to globalization. Law is an integral part of business. Every major area of business has a legal dimension- sales and advertisement, price and distribution and operations, finance and investment, personnel and industrial relations, export and import, and setting up and winding up of a business. With the increasing complexities of business, knowledge of law is becoming crucial in business management. For the successful management of an organization, it is important that the managers have a fairly good knowledge of the legal provisions affecting upon the business. The course will equip the students to enable the application of various business laws to the real-world conflicts and management challenges. To develop the legal- management skills and competencies this includes business law knowledge, planning, problem-solving and communication. It provides an understanding of the legal framework of business and the legal implications of their business decisions. The course will further equip the students with ideas, resources and tools for protecting business assets, resolving legal conflicts, and complying with the law. It guides on the best practices and tools for implementing an effective legal management system.					
Course Objectives	This course is designed to improve the learner's EMLOYABILITY SKILLS by using participative learning through Class participation activities.					
Course Outcomes	On successful completion of this course the students shall be able to: CO 1. State the legal formation of contractual relationships in business. CO 2. Infer the concept of contract of sale and about conditions and warranties given by the companies. CO 3. Interpret the procedure for the formation of company, it's functioning, managing and winding up.					

	CO 4. Explain consumer rights and the procedure for settlement of a dispute in a consumer forum.		
Course Content:			
Module 1	**The Indian Contract Act, 1872**	Assignment (Experiential Learning)	12 Hours

Topics:
Introduction to the global business and legal environment, Business Law: Meaning, Purpose, sources and classification of Business Law, Essentials of Contract, Classification of Contracts, Offer, acceptance and agreement, Consideration, Capacity to Contract, Free Consent, Legality of Object, Void Agreements, Performance of Contract, Discharge of contract, Remedies for Breach of Contract. Contingent Contract, Special Contracts: Bailment, contract of Indemnity and Guarantee, termination of agency-revocation and partnership Act.
Formation of Contract of Sale, Conditions and Warranties, Transfer of property, Performance of Contract, Rights of an unpaid Seller, "Doctrine of Caveat Emptor". **[12-- Hours.] [Blooms 'level selected: Comprehension Level - 2 ----]**

Module 2	**Legal Aspects of E-Payments**	Case Law (Participative Learning)	8 Hours

Topics:
Meaning & Definition, Characteristics of E-payments, Types of e-commerce payment systems in use today, Credit card, Debit card, Smart card, Legal aspects of Net-banking in India, other e- payment gateways.
Sale of goods Act, IT Act provisions, Digital Signature, Electronic records, certifying authorities, Banking regulation Act 1949, FEMA Act 1999 and Fundamental of Income tax Act 1961.
[08 Hours.] [Blooms 'level selected: Application Level – 3]

Module 3	**The Companies Act, 2013**	Assignment	12 Hours

Topics:
Definition of Company, Characteristics of a Company, Kinds of Companies, Formation of Company, Memorandum of Association, Articles of Association, Prospectus, Share Capital, Shares, Company Management, Meetings and Proceedings, Borrowing Powers, debentures and Charges, Accounts and Auditors, Prevention of Oppression and Mismanagement, Winding up a company.
[12 Hours.] [Blooms 'level selected: Analysis Level 4]

Module 4: **The Consumer Protection Act,1986 and Intellectual Property Rights - (Assignment- Practical case laws) 7 Hours**	Assignment	13 Hours

Topics:
Objectives of the Act, Definitions, Consumer Protection Councils, Consumer Disputes Redressal Agencies, The filing of a complaint and the procedure of Hearing in a consumer forum.
Laws related to Intellectual Property Rights: Patents, Trademarks, copyrights, trade and factory design. Geographical Indication. **[07 Hours.] [Blooms 'level selected: Synthesis Level 5]**

Project Assignment: Case Law solving assignment- Class of 60 would be divided into 10 groups and each group has to come out with a solution to the case law given, within the time provided.
Assignment: 1] Writing a consumer complaint to consumer forum. – A hypothetical consumer dispute would be given to the student and they have to write a complaint to the respective court to resolve the issue.
Assignment 2: Companies Act.- The provisions relating to formation of a company should be drafted by every student in the class.

1. Kapoor N D: Elements of Mercantile Law: 38th Edition 2020- Sultan Chand & Sons. Educational Publishers, New Delhi.

References:
  R1. Ravinder Kumar: Legal Aspects of Business 4e: Cengage Learning India Pvt Ltd. Delhi-110092.
  R2. Avatar Singh – Principles of Mercantile Law, Edition 9, 2011, Eastern Book Company, New Delhi   110001
  R3. Gulshan & G.K.Kapoor, Business Law, 2018 Edition New Age Publications**,** New Delhi.

E-RESOURCES FROM LIBRARY:
Science Direct: https://www-sciencedirect-com-presiuniv.knimbus.com/search?qs=%22Business%20Law%22
Emerald: https://www-emerald-com-presiuniv.knimbus.com/insight/search?q=%22Business+Law%22&showAll=false&p=1
ProQuest: https://www.proquest.com/abiglobal/results/6405E8F429B44F44PQ/1?accountid=177896
Jstor: https://www-jstor-org-presiuniv.knimbus.com/action/doBasicSearch?Query=%22Business+Law%22&so=rel

EBSCO eBooks: https://web.s.ebscohost.com/ehost/resultsadvanced?vid=2&sid=dbbf2cec-507f-4a8d-a139-be35f74c8182%40redis&bquery=%22Business+Law%22&bdata=JmRiPWUwMDB4d3cmdHlwZT0xJnNlYXJjaE1vZGU9U3RhbmRhcmQmc2l0ZT1laG9zdC1saXZl

WEBLINKS
Case Laws:

1. **Balfaur v/s Balfaur-** https://www.legalserviceindia.com/legal/article-4531-balfour-vs-balfour-case-analysis-1919-2kb-571.html

2. **Mohori Bibi vs Dharmodas Ghose-** https://www.legalserviceindia.com/legal/article-232-case-analysis-mohori-bibee-v-s-dharmodas-ghose.html#:~:text=Mohori%20Bibee%20V%2FS%20Dharmodas%20G

3. **Baldry v/s Marshall -** https://www.lawctopus.com/academike/sale-goods-domestic-international-domain/

4. **Hadley v/s Baxendale -** https://www.casebriefs.com/blog/law/contracts/contracts-keyed-to-farnsworth/remedies-for-breach/hadley-v-baxendale/

5. **Salomon v/s Salomon & Co. Ltd. -** https://www.jusdicere.in/salomon-v-salomon-co-jusdicere/#:~:text=Salomon%20v%20Salomon%20is%20the,the%20insolvency%20of%20the%20company.

6. **Om Prakash v/s Reliance General Insurance 2017-** https://indiankanoon.org/doc/122441541

Catalogue prepared by	Dr. Vijay Vardhan
Recommended by the Board of Studies on	BOS NO:
Date of Approval by the Academic Council	Academic Council Meeting No.

Course Code: PPS3008	Course Title: Personality Development - Advanced Type of Course: School Core	L-T- P- C	0	0	2	1
Version No.	1.1					
Course Pre-requisites	• Students are expected to understand Basic English. • Students should have desire and enthusiasm to involve, participate and learn. • Students should possess fundamental communication and research skills					
Anti-requisites	**NIL**					
Course Description	This course is designed to enable students of Business management to prepare for corporate & business world. The modules are planned to improve confidence, communication, decision making and networking skills to give the students a competitive advantage and increase chances of success in getting placed. The course will benefit learners in presenting themselves effectively through role play, activities while also learning the importance of self-awareness and team work.					
Course Objective	The objective of the course is skill development of student by using Participative Learning techniques					

Course Outcome	On successful completion of this course the students shall be able to: • Demonstrate confidence and effective communication • Prepare professional LinkedIn account and build business networks • Recognize problem solving skills • Discuss emotional intelligence components			
Course Content:				
Module 1	Self-awareness and EI	Personality training	Group Tasks	**03 Hours**
Topics: Johari Window, Emotional intelligence components – Self-awareness, Self-regulation, social skills, empathy and motivation **Activity:** Classroom group activity				
Module 2	PERSONAL BRANDING	Individual Task	Personal brand building	**03 Hours**
Topics: LinkedIn profile building, network building & its significance, Class room activities. **Activity:** Building LinkedIn account and professional networking				
Module 3	CAMPUS TO CORPORATE	Placement training	Mock Hours	**06 Hours**
Topics: Resume writing, Video resume, GD, PI, Industry expert talks videos. **Activity:** Write, Practice in groups, Perform				
Module 4	PRESENTATION SKILLS	PPT creation	Survey-based presentation	**03 Hours**
Topics: Presentation skills. Ability to organize PPTs effectively, ability to apply their presentation skills and public speaking skills to make their presentations more effective. Activity: Survey a social scenario and present that in class.				
Additional training: **Every session 30 min speaking activity for all students.** Topics: Current trends, Product pitching, Revision, New job roles and opportunities, Skills required in 2023- 2030 etc. **Workshop/Boot camp**				
Assignments proposed for this course				
• LinkedIn • Presentation				
Text Book				
• **Me 2.0: Build a Powerful Brand to Achieve Career Success by Dan Schawbel** • Jack Canfield, "The Success Principles", 8th Edition, HarperCollins Publishers India, 2015 • Shiv Khera, "You Can Win", 3d Edition, Bloomsbury India, 2014 • Stephen R Covey, "7 Habits of Highly Effective People", Simon & Schuster, (2018) • Resume Writing: Craft a Resume That Will Knock Their Socks Off! By Alexander Burton • **HBR's 10 Must Reads on Emotional Intelligence (with featured article "What Makes a Leader?" by Daniel Goleman)** • The presentation secrets of Steve Jobs by Carmine Gallo • Talk like Ted by Carmine Gallo • Business etiquette made easy- The essential guide to professional success- Myka Meier • Leaders eat last- Simon Sinek • Ted talk links • https://www.ted.com/talks/larry_smith_why_you_will_fail_to_have_a_great_career?language=en • https://www.ted.com/talks/simon_sinek_how_great_leaders_inspire_action?referrer=playlist-the_10_most_popular_tedx_talks&autoplay=true • https://www.ted.com/talks/aimee_mullins_my_12_pairs_of_legs?language=en				

Movie References
- The intern
- The Pursuit of Happiness

E-Resources:
The remote access link to e-resources at Presidency university:
https://presiuniv.knimbus.com/user#/home

Catalogue prepared by	Mr. Dhiraj
Recommended by the Board of Studies on	BOS No.: BOS Date:
Date of Approval by the Academic Council	Academic Council Meeting No.: Date of the meeting:
The DAC meeting number & Date	DAC Dated

Course Code: MBA3050	Course Title: Current Affairs Type of Course: School Core	L-T- P- C	1	0	1
Version No.					
Course Pre-requisites	The students should have a flair & interest for reading & keeping track of news items that are of significance at local, regional, national & global levels.				
Anti-requisites	.				
Course Description	Current Affairs are global or national events that have a substantial influence on business, finance, politics, society, & culture. They may also impact the disciplines of technology, sports, and entertainment. Maintaining awareness of current events is important in order to have a broader understanding of the world and thereby make prudent & well informed decisions. Current Affairs helps students to understand and navigate the complexities of the modern world. It also helps them in striking meaningful conversations, debates & engagement with a large number of stakeholders.				
Course Objective	Current Affairs course is designed to be a Skill Development course that shall prepare the students to remain abreast & informed on topics & matters of contemporary relevance & interest. This will also help the students to prepare in advance for Group Discussion & Personal Interview topics.				
Course Outcomes	**On successful completion of this course the students shall be able to:** 1. Beware of the opportunities and challenges for MBA students in the contemporary situation 2. Discuss the impact of various events at local, regional, national & global levels (Comprehension) **3.** Demonstrate critical points of views on matters of current affairs (Application)				

Course Content:	A total of 10 Hours are planned for the course. Each Session of 70 mnts duration shall be split into 2 Hours of 35 minutes each (20 sub Hours in all). Three broad buckets shall be analyzed & discussed by the faculty. The buckets shall comprise: • Student life and career topics (8 Hours) • Media and Industry (8 Hours) • Governance and Macro Economics (8 Hours) In all, a total of 20 different topics shall be discussed in the class. Given below are the samples of potential topics comprising the above three buckets.		
Introduction to Student life and career Topics.		Introduction to current affairs, its importance to student's personality & career development, challenges from new technology (students' vulnerability to fintech scams, social media scams and recruitment scams). Knowledge about Job consultancies. Global capability centers. Jobs in GCC. AI and its impact on BPO industry. Government job opportunities to MBA students**.** Indian Infrastructure development and job opportunities**.**	**5 Hours**
Sample Topics: case studies from news paper can be taken for discussion			
Detailed Topic discussions on media and industry		Discussion on News Papers and sources of news. news reading and understanding. Truth and false news in the media. Can India become a global semiconductor hub, Tech Industry and Big Tech Regulation etc, Cybersecurity and Digital Diplomacy, Effect of ChatGPT in the education sector, EV Adoption in India, etc.	**5 Hours**
Sample Topics: students may be asked to read newspaper and prepare for presentation on the above topics along with discussion in the classroom			
Basic General Awareness on society governance and macro economics		uation Discussion (example): Indian 4-layer democratic system and electoral methods. Voting responsibility. voting rights to graduates. Inflation and Monetary Policy and its impact on economy, RBI currency printing methodology. "Make in India" and "Atmanirbhar Bharat initiatives, Indian recent economic policies and its impact on job creation.	**5 Hours**
Sample Topics: students may be asked to read newspaper and prepare for presentation on the above topics along with discussion in the classroom			
dagogy / Project work /Assignment:			
• PPT based delivery of topics • Classroom discussions • Student presentations(both individual & group)			

- JAM & GDs.
- **No internal / MT evaluation.**
- **Only End Term MCQs.**

aching aid

1. Subscriptions to BSmart app of Business Standard.
2. YouTube Videos, news clips etc.
3. Other reference material.

ferences

Catalogue prepared by	Dr Virupaksha Goud
Recommended by the Board of Studies on	
Date of Approval by the Academic Council	

IV SEMESTER

DISCPLINE ELECTIVE COURSE – Business Analytics

Course Code: MBA3053	Course Title: Applied Artificial Intelligence and Machine Learning Type of Course: Discipline Elective		L	T	P	C
			3	0	0	3
Version No.	2.0					
Course Pre-requisites	• Should have basic mathematics and statistics knowledge • Should have completed Fundamentals of Business Analytics (FBA) Sem2 • Basic familiarity of R Programming – as done in FBA Sem2					
Anti-requisites	**Nil**					
Course Description	The objective of this course is to prepare the students with basic concepts and industry use cases of Artificial Intelligence and Machine Learning, providing underlying principles and with industry use case demonstration, hands on exercises. Students should understand how these technologies are disrupting business and the huge opportunities and challenges with such technologies. Also an appreciation of the social, ethical impact of AI & ML. There will be an exposure to Python language to demonstrate concepts of AI & ML on real world datasets.					
Course Out Comes	On successful completion of the course the students shall be able to: CO1) Identify right tools ie. Algorithms, Python libraries, resources to solve right business problems **[Knowledge]** CO2) Elaborate AI & ML tools to solve business problems. **[Comprehension]** CO3) Apply various tools to specific business situations **[Analysis]** CO4) Analyse how AI & ML impact business value. **[Analysis]**					

Course Content:				
Module 1	**Introduction to Artificial Intelligence and Machine Learning**	Lab, Theory & Assignment	Understanding of Artificial Intelligence and Machine Learning core concepts.	**10 Hours**

Topics:
Introduction to Artificial Intelligence and Machine Learning: Introduction –Patterns, definitions, history, how are AI, ML & DL related? How do Machines Learn? Agent & Environment, Memory, Reasoning, Logic, Search. Machine Learning pipeline. Introduction to Python programming language and top online resources.

Module 2	**Top ML Algorithms concepts and applications**	Lab, Theory & Assignment	Key concepts of Supervised, Unsupervised Learning.	**12 Hours**

Topics:
EDA: Exploratory Data Analysis using Python
Association Rules: Market Basket Analysis and industry application
Supervised Learning: Regression and Classification. Concepts, Linear Regression, Decision Trees, Random Forest, Support Vector Machines, KNN. Industry Applications.
Unsupervised Learning: Clustering for segmentation and other industry use cases.

Module 3	**NLP, Cognitive Analytics and Reinforcement Learning**	Lab & Theory	Discussion of Case Study of Regression, Classification & Clustering	**12 Hours**

Topics:
Cognitive Analytics: Text, Audio analytics, Computer Vision. Industry applications like sentiment analysis, self-driving cars etc. (sample datasets and demonstration).
Reinforcement Learning: High level overview of concepts & business applications like optimization, robotics etc. (sample datasets and demonstration).
Introduction to Deep Learning: Neural Networks & business application (sample datasets and demonstration) including very high overview of latest concepts eg. how ChatGPT works.

Module 4	Applying AI & ML for a new project or start-up idea.	Project	Students study firms and propose detailed AI & ML solutions and disruptive ideas. This will be in the format of Shark Tank.	**12 Hours**

Topics:
Application of AI & ML in industry. Presentation by students.

Targeted Application & Tools that can be used: Students do NOT have to gain coding expertise. All demo codes & datasets will be shared for students to understand the logic. Python programming.

Project work/Assignment: Mention the Type of Project /Assignment proposed for this course

- Analyzing data for Retail store bundling using Market Basket Analysis
- Presentation on new product or start-up idea using AI & ML technology.

WEB RESOURCES:
- www.kaggle.com for datasets and Python based solutions to industry use cases.
- www.github.com
- Andrew Ng, Stanford free online course: https://www.coursera.org/specializations/machine-learning-introduction
- Krish Naik videos: https://www.youtube.com/channel/UCNU_lfiiWBdtULKOw6X0Dig

Text Book
1. *Artificial Intelligence – A Modern Approach,* 4th e, Stuart Russell, Peter Norvig, Pearson, 2022
2. *Real-World Machine Learning,* 1st e, Henrik Brink, Joseph Richards, M Fetherolf, Manning 2016

References	
Catalogue prepared by	Professor Krishna Durbha
Recommended by the Board of Studies on	
Date of Approval by the Academic Council	

Course Code: MBA3016	Course Title: Applied Business Analytics Type of Course: Discipline Elective			L	T	P	C
				3	0	0	3

Version No.	2.0
Course Pre-requisites	• Students should have the basic mathematics and statistics knowledge • Students should have completed Fundamentals of Business Analytics in Sem 2
Anti-requisites	**Nil**
Course Description	Business analytics (BA) is the practice of iterative, methodical exploration of an organization's data, with an emphasis on statistical analysis. Business analytics is used by companies committed to data-driven decision-making. The curriculum is designed to tap into and enhance the problem-solving and critical thinking skills for those students specializing in Business Analytics. Graduates of this applied business analytics degree program are prepared to extract, analyze and interpret data to help and support for effective decision-making within data-driven business environments. Data analysts describe, predict, and inform business decisions in the specific areas of marketing, human resources, finance, and operations, which will develop basic data literacy and an analytic mind-set that will help the students to take strategic decisions based on data.
Course Out Comes	On successful completion of the course the students shall be able to: CO1) Recall various data analysis tools and techniques for business problems **[Knowledge]** CO2) Understand processes to implement Business Analytics tools & techniques. **[Comprehension]** CO3) Demonstrate how various tools like Excel, R & Python are used in the industry. **[Application]** CO4) Analyse business performance using data for strategic decisions making. **[Analysis]**
Course Objective:	This course will enhance **SKILL DEVELOPMENT** through **EXPERIENTIAL LEARNING** methods.
Course Content:	

Module 1	**Introduction to Applied Business Analytics**	Assignment	Students are asked to collect the literature related to Business Analytics and its applications	**9 Hours**

Introduction to Business Analytics: Introduction – Overview: Methods- Software, Modelling and Models: Graphical Models – Algebraic Models, others. Types of Business Analytics. Application of Analytics across industry-cases. Spreadsheet Models, Seven-Step Modelling Process.

Module 2	Exploratory Data Analytics	Lab & Theory	Data Collection/any other such associated activity	**12 Hours**

Topics:

Exploratory Data Analytics: Introduction-Concepts: Data Sets & types of data. Descriptive Statistics, Correlation & Covariance, Visualization tools (Excel & R to demonstrate, scatter plots, bar charts, box plots, heat maps, advanced plotting tools), Data Cleansing – handling outliers and missing values. Exercises: VLookup- HLookup, Visualizations. (datasets, demonstration).

Dimensionality reduction: Principal component analysis (PCA) need, concepts & industry applications with practical datasets & business applications.

Module 3	**Top Analytics algorithms, tools & techniques**	Lab Experiments	Discussion of Case Study related to Regression, Classification &	**12 Hours**

			Clustering	

Topics:
Regression: Relationships among variable – Correlation, Covariance. Predictive analytics with Simple Linear Regression, Multiple Regression. Industry applications (datasets, demonstration).
Classification: Top algorithms like Logistic Regression and (KNN) K Nearest Neighbours with practical datasets & business applications (datasets, demonstration).
Clustering: Using K Means algorithm to demonstrate clustering with practical dataset & business application (datasets, demonstration).

Module 4	Application of analytics tools	Mini-Project	Students are assigned a Business Problem and datasets to solve using a analytics tools & techniques.	12 Hours

Topics:
Application of tools and techniques learnt in above modules using datasets from Kaggle.

Targeted Application & Tools that can be used:
Data Analysis using Supportive tools like Excel Data Analysis Tool Pack, R.

Project work/Assignment: Mention the Type of Project /Assignment proposed for this course
- Collecting data for Retail Store information System
- Simple algorithm in machine learning for preparing students information system.

Web Resources:
- https://excel-practice-online.com/tools/advanced-filter/
- https://trumpexcel.com/excel-vlookup-function/
- https://spreadsheeto.com/hlookup/
- https://www.google.com/search?q=regression+analysis+practice+problems&sxsrf=ALiCzsZBzWj8z52l
  RUT4Fj_IEpJKSo2fEA%3A1653969643739&ei=65KVYonXLOSw4-
  EP1cG68AE&oq=regression+anlaysis&gs_lcp=Cgdnd3Mtd2l6EAEYAjIKCAAQsQMQgwEQCjIHCAAQsQM
  QCjIECAAQQzIKCAAQsQMQgwEQCjIECAAQCjIKCAAQsQMQgwEQCjIECAAQCjIECAAQCjIECAAQCjIECAA
  QCjoHCAAQRxCwAzoKCC4QxwEQrwEQJzoHCCMQJxCLAzoFCAAQkQI6CwgAEIAEELEDEIMBOg4ILhCAB
  BCxAxDHARCjAjoUCC4QgAQQsQMQgwEQxwEQ0QMQ1AI6CAguEIAEELEDOgUILhCABDoLCAAQsQMQ
  gwEQkQI6BQgAEIAEOgoIABCxAxCDARBDOggIABCABBCxAzoHCAAQsQMQQ0oECEEYAEoECEYYAFDXCF
  ifI2CTQmgEcAB4AIABkgGIAYgRkgEEMi4xN5gBAKABAcgBCLgBAsABAQ&sclient=gws-wiz
- https://www.sciencedirect.com/topics/earth-and-planetary-sciences/autoregressive-moving-average
- www.kaggle.com for datasets and Python based solutions to industry use cases.

Text Book
1. Dinesh U Kumar, "*Business Analytics: The Science of Data - Driven Decision Making*", 2nd ed, 2021

References
Fader, P. and Hardie B., "*Probability Models for Customer-Base Analysis*", Journal of Interactive Marketing 23 (2009) 61–69.

Catalogue prepared by	Dr. Senthilkumar Ranganathan
Recommended by the Board of Studies on	

Date of Approval by the Academic Council	

Course Code: MBA3055	Course Title: Story Telling and Business Intelligence			L	T	P	C
	Type of Course: Discipline Elective (with Tableau and PowerBI in lab)			3	0	0	3
Version No.	1.1						
Course Pre-requisites	• Should have basic mathematics and statistics knowledge • Should have completed Fundamentals of Business Analytics (FBA) Sem2						
Anti-requisites	NIL						
Course Description	One of the key skills of Managers is to be able to collate, analyse and present data to accurately reflect the state of the business, take decisions based on data and finally present highly impactful visualizations of the state of business and its future. The course will aim to provide necessary skills to students of Analytics to be able to collate, clean data, derive insights and present compelling visualizations, dashboards using industry top software like Tableau and PowerBI. These are very valuable skills for any Business Analytics professional today. All participants who successfully complete this course will get a certificate of participation by KPMG.						
Course Out Comes	On successful completion of the course the students shall be able to: CO1) Identify right business issues & data required to solve these **[Knowledge]** CO2) Describe relevant aspects of business for management action. **[Comprehension]** CO3) Prepare impactful management reports and dashboards using Tableau and PowerBI. **[Apply]** CO4) Evaluate various business solutions using data and recommend action. **[Analyze]**						
Course Content:							

Module 1	Introduction to Data Visualization	Report – E review	Review of Literature for Visualisation	9 Hours
Topic: Data Visualization – Definition Types of data visualizations, Types of Charts, Data Visualization softwares: Tableau software- products and versions, Tableau user interface: start page, data source page, workspace, cards and shelves, PowerBI-Products and versions, PowerBI User Interface, PBI Key components.				
Module 2	Building basic charts	Assignment	Basic chart on Titanic	12 Hours
Topic: Visualizing data using real world datasets: Minimum steps for a quick chart using tableau and power bi, Creating basic chart: Recommended charts, Starting with blank chart, chart elements, sizing, moving charts, column, bar, line, pie, combo, Stacked bar chart, Stacked column chart, Clustered bar chart, Clustered column chart, 100% stacked bar chart, 100% stacked column chart				
Module 3	Advanced Charts	Case study	Netflix Case study	12 Hours
Topic: Line and stacked column chart, Line and clustered column chart, Area chart, Stacked area chart, Doughnut chart, Treemap, Heat map, Sunburst, Histogram, pareto, Box and Whiskers, Scatter plot, bubble chart, Text tables, Highlight tables, Symbol maps, Ribbon chart, Waterfall chart, Funnel chart, Scatter chart, Map, Filled Map, Gauge, Card, Multirow card, KPI, Dashboard				
Module 4	Project with sample dataset and must present effective reports, dashboards.	Assignment	Students demonstrate understanding and application of skills in Tableau & PowerBI.	12 Hours
Topics:				

Topic: Students are provided sample datasets & need to make a individual presentation demonstrating skills in Tableau & PowerBI.

List of Laboratory Tasks:

Experiment No 1: Connect to data and edit the connection properties

Level 1: with connections to a flat file using live connection and rename the canvas connection

Level 2: with connection to a flat file using extract and rename through edit connection

Experiment No 2: For the given business data related to sales of cycles across the world

Level 1: Create a calculated field on single sheet-based data from within data source

Level2: Create a calculated field based on a multiple data source

Targeted Application & Tools that can be used: Tableau Desktop, Tableau Public, Tableau online, Tableau and PowerBI. *Please note – only free trial versions will be installed in lab computers and not paid versions. IT support and help must be provided to ensure effective delivery of the course using authorized software.*

Project work/Assignment: Mention the Type of Project /Assignment proposed for this course

1. Assignment1: Collect data from open source data sites for a typical business event and apply visualization and analytics techniques
2. Assignment2: Prepare Dashboard report on stock profitability for a given stock exchange
3. Analyzing data for Customer Analytics, Pricing Analytics, Churn etc.
4. Presentation on effective dashboards using Tableau and PowerBI.

Text Book

T1. Information Dashboard Design, 2ⁿᵈ e, Stephen Few, Analytics Press, 2013

T2. Mastering Tableau – David Baldwin, November 2016, Packt Publishing, ISBN: 978-1-78439-769-2

References

1. *Practical Tableau* - Ryan Sleeper, 2018, O'Reilly Media Inc, ISBN 978-1-491-97731-6
2. *Tableau Your Data* - Danieal G Murray, 2013, John Wiley & Sons, ISBN 978-1-18-61204-0
3. *Introducing Microsoft PowerBI* -Alberto Ferrari and Marco Russo 2016, Microsoft Press, ISBN: 978-1-5093-0228-4

Online Resources:

Articles

University E Resources

Jensen, R.W., Limbu, Y.B. and Spong, Y. (2015), "Visual Analytics of Twitter Conversations about Corporate Sponsors of FC Barcelona and Juventus at the 2015 UEFA Final", International Journal of Sports Marketing and Sponsorship, Vol. 16 No. 4, pp. 3-9.

https://presiuniv.knimbus.com/openFullText.html?DP=https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/IJSMS-16-04-2015-B002/pdfplus/html.

Carrizosa, E., Guerrero, V. & Romero Morales, D. On mathematical optimization for clustering categories in contingency tables. Adv Data Anal Classif (2022)

https://link.springer.com/article/10.1007/s11634-022-00508-4

Hoang, T.B.N., Mothe, J. Prediction of brand stories spreading on social networks. Adv Data Anal Classif (2021)

https://link.springer.com/article/10.1007/s11634-021-00450-x

Case study link

https://www.datasciencecentral.com/how-a-good-data-visualization-could-save-lives/

Datasets and Codes for Experiential learning

https://www.kaggle.com/datasets/heptapod/titanic

https://www.kaggle.com/datasets/pavansubhasht/ibm-hr-analytics-attrition-dataset

https://www.kaggle.com/code/mysarahmadbhat/eda-on-netflix/notebook

https://www.kaggle.com/code/aayushmishra1512/netflix-data-analysis-and-visualization/notebook

https://fraud-detection-handbook.github.io/fraud-detection-handbook/Chapter_3_GettingStarted/SimulatedDataset.html

Excellent visualization & reports. *https://www.gapminder.org/*

Videos and Podcast

https://www.youtube.com/watch?v=loYuxWSsLNc

https://podcasts.google.com/feed/aHR0cHM6Ly9kYXRhdml6dG9kYXkubGic3luLmNvbS9yc3M

Catalogue prepared by	Professor Krishna Durbha
Recommended by the Board of Studies on	Mention the BOS Number and the Date of BOS
Date of Approval by the Academic Council	Mention the Academic Council Meeting No. & the date of the meeting:

Course Code: MBA3017	Course Title: Business Forecasting Type of Course: Discipline Elective	L-T-P- C	3	0	0	3
Version No.	2.0					
Course Pre-requisites	[1] Basic Statistics 2] Read Graphs and Charts 3] Basic R programming and R codes on data structures and statistical and mathematical operation. Pre-reads: What can be forecasted, Forecasting, planning, and goals Determining what to forecast, Forecasting data and methods, Basic steps in forecasting task: Problem definition, Gathering information, Preliminary (exploratory) analysis, Choosing and fitting, Using and evaluating a forecasting model (materials will be provided to students) (103) Business Forecasting - YouTube					
Anti-requisites	NIL					
Course Description	The purpose of this course is to train future managers to make informed decisions making with the help of various analytical methods. The business Forecasting course will provide a solid framework for understanding different tools of forecasting and their applications. This course aims to provide a conceptual and analytical understanding of various advanced forecasting models. The course allows the students to analyze time-series data to effectively forecast results with the aid of R software. The course help students make informed decisions as forecasting is a decision-making tool used by many businesses to help in budgeting, planning, and estimating future growth.					
Course Outcomes	On successful completion of this course the students shall be able to: CO1) Identify R codes to carry out basic statistical modeling and analysis for forecasting results [Comprehension] CO2) Discuss time series data decomposition and analysis by applying forecasting tools [Comprehension] CO3) Illustrate real-time business situations using advanced forecasting methods [Application] CO4) Apply forecasting results with the domain expertise to make sound managerial decisions [Application]					
Course Content:						

Module 1	Introduction to Business Forecasting using R Objects	QUIZ	Programming	10 Hours

Topics:
Introduction to business forecasting, Statistical forecasting perspectives: ts objects in R, Time Plots, Time series pattern-Trend, Seasonal, Cyclic, Random; Seasonal plot, seasonal subseries plot & Scatter Plot, Correlation & Autocorrelation, Lag plots, Trend and seasonality in ACF plots, White noise- no autocorrelation. Forecaster's toolbox –methods, transformations, and residual diagnosis, Moving average smoothing, Classical decomposition, STL decomposition

Module 2	Time-series Regression and Exponential smoothing Methods	Datasets and case studies (from Library Portal	Programming	12 Hours

Topic: Time-series Regression: The linear model, Least squares estimation, Evaluating the regression model, Forecasting with regression. The taxonomy of exponential smoothing methods: Simple exponential smoothing- no clear trend or seasonal pattern, Holt's linear trend method for data with a trend, and Holt-Winters' seasonal method to capture seasonality.

Module 3	ARIMA models & Combining Results	Video Assignment	Programming	12 Hours

Topics: ARIMA models- Stationary and differencing, Radom walk model, Unit root tests, Auto regression models, Non-seasonal ARIMA models –ACF & PACF Plots, maximum likelihood estimates Modeling procedure, Seasonal ARIMA models, Practical forecasting issues & Combing Results

Module 4	Advanced Forecasting methods	Experiential Learning Project-Presentation	Programming	12 Hours

Topics: Complex Seasonality: STL with multiple seasonal periods, STL with multiple seasonal periods, Prophet model, neural network model: Neural network architecture, Neural network autoregression, Prediction intervals and bootstrapping and bagging: Bootstrapping time series, Bagged forecasts.

Project work/Assignment:

1. Lectures (32 Hours), review and bridging (4 Hours)
2. Quiz- Ts objects
3. Assignment 1: Holt-Winters' seasonal method
4. Self-Learning Topics: Introduction to forecasting and steps in forecasting.
5. Experiential Learning: Cricket IPL/ Covid 19 Data set
6. Participative Learning: Project work on any database of interest
7. Technology Enabled Learning: Video Assignment / Wiki blog on forecasting techniques

Text Book
1)Forecasting: Principles and Practice by Rob J Hyndman and George Athanasopoulous
 Forecasting: Principles and Practice (3rd ed) (otexts.com)

References
1. Business forecasting, J.E. Hanke & D.W. Wichern, Pearson international
2. R in Action by Robert I. Kabacoff

Weblinks:
(103) 11.1: Time Series Regression in RStudio - YouTube
(103) R Tutorial. Exponential Smoothing Methods - YouTube
(103) Forecasting in R with Exponential Smoothing - YouTube
(103) Holts Exponential Smoothing Hands On using R - YouTube
(103) Holt Winters Forecasting Model in R - YouTube
(103) Time Series Analysis-ARIMA Model using R software : A step by step approach - YouTube
(103) 8.23: Seasonal ARIMA (SARIMA) models in R - YouTube

Journal
 1.International Journal of Forecasting: ISSN:0169-2070, Elsevier
 2.Journal of Forecasting: E-ISSN:1099-131X, Wiley-Blackwell
 3.Advances in Business and Management Forecasting, ISSN:1477-4070, Emerald

Dataset
- Kaggle
- www.analyticvidhya.com,
- MOSPI
- Central Data Catalog (microdata.gov.in)

Library E-resources:
Policy Analysis in Business Cycle Models (knimbus.com)

Cricket Match Outcome Prediction Using Tweets and Prediction of the Man of the Match using Social Network Analysis: Case Study Using IPL Data | IEEE Conference Publication | IEEE Xplore

India stat

Catalogue prepared by	Prof. Krishna Durbha
Recommended by the Board of Studies on	BOS NO:
Date of Approval by the Academic Council	Academic Council Meeting No.

Course Code: MBA3054	Course Title: Database Management Type of Course: Discipline Elective		L	T	P	C
			3	0	0	3
Version No.	2.0					
Course Pre-requisites	Technology Foundations for Business MBA 1018 (Semester 2) Basic understanding of Data and DBMS					
Anti-requisites	NIL					
Course Description	The Database Management Course is an industry oriented course focused on providing Data Management and Data world insights. The learner is equipped with Data Management practices and trends in the Industry. Database Management is about monitoring, administration, of databases and data left. Database management involves Data Architecture, Design, Implementation and Support of data. The course involves theory and practical perspective of data management aspects. Open Source tools will be provided for Data Management activities. The lab activities will be performed in the Open Source tool.					
Course Objectives	The Course promotes learners' employability skills through the understanding and application of Relational Database Management Systems (RDBMS), Industry applications in managing data in all business functions across Industry sectors. Laboratory Assignments/ real time Use Cases will be simulated and resolved during the Hours. This will involve hands-on experiential learning in the complex datasets in determining probable outcome.					
Course Out Comes	On successful completion of the course the learners are able to: CO1) Describe complex data repositories in organizations **[Comprehension]** CO2) Apply SQL syntax for desired outcomes. **[Apply]** CO3) Illustrate usage of tools to create reporting dashboards and dataplots **[Apply]** CO4) Analyse Databases (including Big Data) as deployed in various industries **[Analysis]**					
Course Content:						
Module 1	**Introduction to Database Management Systems (DBMS)**	Case Study (participative learning)	Case study: DBMS in organizations		**9 Hours**	
Topics: Introduction to Database Management Systems – Types and Definitions, Data Normalization, Database architecture, Data mirroring, Role of a DBA,						
Module 2	**Overview of Structured Query**	Assignment and Case Study	Case Study: Creation of Tables, Managing data and interrelation		**12 Hours**	

	Language (SQL), Normalization	(participative learning)	Students who complete the course will be equipped to write SQL queries,	

Topics:
Overview of SQL. Installation of Work Packages, Module 2: Building the Database Schema; Creating tables and columns; Building tables with CREATE TABLE; Modifying table structure with ALTER TABLE; Adding columns to an existing table; Removing tables with DROP TABLE

Module 3	Models & Database Design (Logical and Conceptual), Database Objects, Big Data overview	Assignment and Case Study (Experiential learning)	A Case Study	12 Hours

Topics:
Relational Model, Entity Relationship Model, Database design and ER Model: overview, ER-Model, Constraints, ER-Diagrams, ERD Issues, weak entity sets, Codd's rules, Relational Schemas, Introduction to UML Relational database model: Logical view of data, keys, integrity rules. Relational Database design: features of good relational database design, atomic domain, Normalization (1NF, 2NF, 3NF, BCNF). Big Data – characteristics, tools to manage Big Data.

Module 4	Data Modeling Constraints & Data Manipulation; Big Data overview	Assignment and Case Study & Project	Students are assigned a project to work using DMBS tools and techniques.	12 Hours

Topics:
What are constraints, types of constrains, Integrity constraints, Views: Introduction to views, data independence, security, updates on views, comparison between tables and views, Big Data – characteristics, tools to manage Big Data.

List of Experiments (Embedded Lab - Student's self-study): Practical exercises are done using
1. Creation of Dataset, Tables.
2. Building Data Repositories, Roll Back and Data Updation.
3. Relation building between Dataset, Tables,
4. DBMS Projects Hospital, Library, School, Salary, Hotel, Pharmacy, Student, Payroll, Employee

Targeted Application & Tools that can be used:
Open Source DMBS & SQL Tools

Project work/Assignment: Mention the Type of Project /Assignment proposed for this course:
Building Databases, Data Structures for these sectors – Education, Banking, Airlines, Universities, Manufacturing and selling, Human resources

Text Book
T1: *Database Management System (DBMS)A Practical Approach*, Rajiv Chopra, S Chand, 5th Ed

References:
- **R1: R**elational model database management – E.F. CODD
- **R2:** Database Design & Relational Theory: Normal Forms & All That Jazz – C.J. Date

Web resources:
- DBMS basics: https://www.youtube.com/watch?v=3EJlovevfcA
- SQL Basics: https://www.w3schools.com/sql/default.asp
- Learn SQL: https://www.codecademy.com/learn/learn-sql
- Big Data Introduction : https://www.youtube.com/watch?v=bAyrObl7TYE

Catalogue prepared by	Prof Kiran Koppada

Recommended by the Board of Studies on	
Date of Approval by the Academic Council	

Course Code: **MBA3090**	Course Title: Marketing Analytics **Type of Course: Discipline Elective** **(Theory with Embedded Lab)**		L	T	P	C
			3	**0**	**0**	**3**
Version No.	2.0					
Course Pre-requisites	• Students should have the basic mathematics and statistics knowledge • Students should have a basic algorithm & programming knowledge					
Anti-requisites	**Nil**					
Course Description	As big data moves into the mainstream, marketers are seeing the opportunity to make the profession more scientific and numbers-driven than ever before. In addition, with measurement at the Centre of every marketing campaign, marketers have the opportunity to prove the return on investment of their programs with unprecedented accuracy. Yet, this wealth of data can be overwhelming. Every channel has its own metrics, every demographic group's behavior can be mined for targeting information. What are the numbers that matter? And what are they really telling us? How can we best leverage big data and marketing analytics to optimize results? This course explores the growing role of data in marketing. Taking a two-fold approach, the course looks in-depth at the two primary kinds of data available to marketers: internal, or what is called marketing analytics, and external, or big data. Using real-world examples and practical exercises, the course allows students to understand the interactions between both kinds of data, and how best to use both to improve marketing outcomes, demonstrate return on investment, and create increasingly effective marketing campaigns.					
Course Objective	The Marketing Analytics course promotes learners' Employability skills through the analytical abilities in various Marketing Analytics Concepts based on laboratory Experiments/Assignments/Exercises/Case Studies involving hands-on experiential learning for solving the related Marketing business problems.					
Course Out Comes	On successful completion of the course the students shall be able to: CO1) Identify appropriate tools, techniques for customer preference model **[Comprehension]** CO2) Apply Marketing Analytics tools for decision-making **[Application]** CO3) Apply multiple regression model for sales prediction **[Application]** CO4) Analyse customer segments with Cluster Analysis & Market Basket Analysis **[Analysis]**					
Course Content:						

Module 1	**Introduction**	Assignment (Experiential Learning)	Students are asked to collect the literature related to Business Analytics and its overview	**10 Hours**

Topics:
Introduction to Marketing Analytics, Importance, Definition and Types of Analytics, Benefits, framework. Marketing Analytics overview, OLAP, OLTP

Module 2	Customer Preference	Lab & Theory (Problem Solving)	Data Collection/any other such associated activity	**11 Hours**

Topics: • Customer Preference: Identifying Customer Preference using Conjoint Analysis – Products, Attributes, and Levels – Using Evolutionary Solver to Generate Product Profiles. • Discrete Choice Analysis Using CRM Data: Incorporating Price and Brand Equity into Discrete Choice Analysis -Importing files into Excel • Identifying Semi-Structured and Unstructured Data (Customer Preference model)				
Module 3	**Sales Prediction**	Lab Experiments	Discussion of Case Study related to Regression Analysis	**12 Hours**
Topics: **Sales Prediction:** Building Multiple Regression model to Forecast Sales, Validating Model Assumptions with Data Analysis Tool Pak – Sales Prediction with S Curve Model.				
Module 4	**Customer Segmentation**	Mini-Project	Students has been assigned a Business Problem, based on that they should develop a model	**12 Hours**
Topics: **Customer Segmentation:** Introduction – Identifying the Customer Segmentation – Clustering Method and Market Basket Analysis (MBA)				

Targeted Application & Tools that can be used:
Data Analysis using Supportive tools like Advanced Excel

Project work/Assignment: Mention the Type of Project /Assignment proposed for this course
- Collecting data for Retail Store information System
- Simple algorithm in machine learning for preparing students information system.

Web Resources:

- https://presiuniv.knimbus.com/user#/home
- https://www.marketingevolution.com/marketing-essentials/marketing-analytics
- https://journals.sagepub.com/doi/abs/10.1509/jm.15.0413
- https://www.sciencedirect.com/science/article/abs/pii/S0167811612000912

Sample Data Set:
https://www.mygreatlearning.com/blog/free-download-datasets/
https://www.kaggle.com/datasets?fileType=csv

Text Book
1. Marketing Analytics: A Practical Guide to Improving Consumer Insights Using Data Techniques 1st Edition, Wayne.L.Winston, Wiley

References
- Marketing Analytics: A practical guide to real marketing science Paperback – June 28, 2015 by Mike Grigsby (Author)

Catalogue prepared by	Dr.Senthilkumar Ranganathan
Recommended by the Board of Studies on	
Date of Approval by the Academic Council	

Course Code: MBA 3087	Course Title: Financial Analytics Type of Course: Discipline Elective		L	T	P	C
			3	0	0	3
Version No.	.					
Course Pre-requisites	Students are expected to have the numerical acumen and an understanding of Business Statistics, Business Forecasting, Investment Management, Introduction to Business Analytics and Python / R					
Anti-requisites	.					
Course Description	To cater to the technology-intensive finance industry's rising demand, this course equips the learners to be financial analysts thereby nurturing their financial, statistical and coding talents to fulfil the needs of banking, insurance and investments. Further, this course enables the aspirants to analyze finance using data-driven algorithms. This course applies Machine Learning techniques and upskills the aspirants in processing data, making inferences using tools of financial analytics to assist in making decisions					
Course Objective	The course promotes learners' Employability skills through the analytical abilities in various Financial Analytics Concepts based on laboratory Experiments/ Assignments/Exercises/ Case Studies involving hands-on experiential learning for solving the related Marketing business problems.					
Course Outcomes	On successful completion of the course, the students should be able to: CO1) Apply portfolio analysis for optimizing the returns [Application] CO2) Employ risk analytics to optimize portfolios. [Application] CO3) Demonstrate regression analysis to make decisions.[Application] CO4) Forecast financial metrics. [Application]					
Course Content						
Module 1	PORTFOLIO ANALYSIS			12 Hours		
Machine Learning in Finance – Installation – Financial Analysis in Python /R - Capital Asset Pricing Modelling – Analysis using Alpha, Beta and Sharpe Ratio – Case study with real time data.						
Module 2	RISK ANALYTICS			12 Hours		
Measuring Risk: Assessment of risk - Risk analysis under different scenarios – Case for risk reduction – Portfolio Diversification: Role of diversification – Case Study for portfolio diversification – Risk Mitigation: Strategies to mitigate risk and evaluation – Exercise with dataset using Python/R						
Module 3	REGRESSION ANALYSIS IN FINANCE			12 Hours		
Simple Regression Analysis: Case analysis – Analysis of parameters using financial dataset – Model evaluation - Multiple Regression Analysis in Finance: Case studies in multivariate and model evaluation.						
Module 4	FORECASTING IN FINANCE			9 Hours		
Time Series- Visualization and Preparation in *Pandas* – comparison of time-series – Exercise in pandas using financial data– Autocorrelation: Examination of ACF and inferences - Exercises using financial data for forecasting – Case studies						
Targeted Applications & Tools that can be used:						
Tools: R or Python						
Project work/Assignment:						
1.Assignment 1: Applying portfolio analysis in selected stocks 2.Assignment 2: Applying multi-linear regression on alpha, beta & Sharpe ratio. 3.Assignment 3: Forecasting profits by analyzing financial statements						
Text Book Machine Learning using Python, by Manaranjan Pradhan and U Dinesh Kumar, ISBN-978-81-265-7990-7,						

Wiley Publication, 2019	
Reference Books	
R1: Machine Learning Applications using Python - Cases Studies from Healthcare, Retail and Finance, by Puneet Mathur, ISBN-978-1-484-24714-3, Apress, 2019	
R2: Hands on Python for Finance, by Krish Naik, ISBN-978-1-789-346374 Packt Publishing Ltd, 2019	
R3: Python for Probability, Statistics and Machine Learning (2e), Dr Jose Unpingco, ISBN-978-3030185442, Springer, 2019	
Web Links and Case Study Links	
www.nseindia.com, www.moneycontrol.com, www.bseindia.com, www.analyticvidhya.com.	
Catalogue prepared by	Dr. Krishnan Hariharan, Prof. Krishna Durbha
Recommended by Board of Studies on	BOS Number
Date of Approval by the Academic Council	Academic Council Meeting No.

Course Code: **MBA3093**	Course Title: **DESIGN THINKING FOR BUSINESS INNOVATION** Type of Course: **Discipline Elective**		**L**	**T**	**P**	**C**
			3	0	0	3

Version No.	1.0
Course Pre-requisites	Decision making and problem-solving abilities.
Anti-requisites	NIL
Course Description	Innovation is the mantra of many fast moving and successful companies, especially in this world of high-speed interconnectivity. The question organizations face to stay relevant in today's environment is how to establish a culture of innovation and creative problem solving. Design thinking, an approach to both innovation and creative problem solving is becoming the go to approach for forward thinking organizations. What is design thinking? Design thinking is an iterative approach to solving problems with cross-functional teams led by facilitators. This course presents an introduction to the design thinking approach and mindset using highly interactive exercises that give the participants a flavor for some of the techniques and methods of design thinking that waken the innovative and problem-solving abilities. Throughout the course students will work on three different challenges; one focused on product design, one focused on service design and one focused on systems or business design. By starting with a very tangible challenge around product design, students will be able to hone their skills in the process before moving into more complex challenges around business and systems level design. All challenges will be addressed in partnership with a local business that poses a problem they are currently facing. In pilot programs for this class, businesses have implemented a number of ideas developed by students. The course will be teamwork-oriented, but students will also complete readings and independent activities that support the group work and ensure individual depth of knowledge.
Course Objective	To improve employability skills with experiential learning by immersing students into the world of innovation as a systematic process of tackling relevant business and/or social problems and provide a social and thinking space for the recognition of innovation challenges and the design of creative solutions through experiential and participative learning that develops employability and entrepreneurial skills.
Course Outcomes	On successful completion of the course the students shall be able to: C.O.1 Understand the concepts of design thinking approaches **[Knowledge Level]** C.O.2 Create physical prototypes / a visual representation of an idea **[Comprehension]** C.O.3 Apply critical thinking and design thinking in parallel to solve problems **[Application Level]** C.O.4 Apply some design thinking concepts to their daily work **[Analysis Level]**
Course Content:	

Module 1	**Design Thinking Overview and General Approaches to Design Thinking**	Quiz	Design Thinking Skills, Design Thinking Mindset, Principles and Steps of Design Thinking	12 Hours
Topics: Introduction to Design thinking, Introduction to Design Research Strategies, Design Thinking in the Workplace, Design Thinking Skills, Design Thinking Mindset, Principles of Design Thinking and case-based exercise				
Module 2	**Design Thinking Approaches and Stages**	Articles & Case Study Discussion	Application of Concept with (Article Link are mention below)	12 Hours
Topics: The Basis for Design Thinking, Design Thinking Frameworks, Building a Design Thinking Framework, Design Thinking Team, Design Thinking Workshops and Meetings, Characteristics, Types of Workshops. Introduction to Synthesis, empathize with the Customers and/or Users, Define the Problem, Ideate, Prototype Alternate Solutions, Test the Solutions, Ideation and Prototyping Strategies, User Testing, and case-based exercises				

Module 3	Design Thinking Techniques and Practices	Assignment	Report on Prototype, Test Techniques, Visualization, Diagrams, & Story Telling Techniques.	12 Hours

Topics: Listening and Empathizing Techniques, Define and Ideation Techniques, Prototype and Test Techniques, Visualization Techniques and Diagrams, Story Telling Techniques, Pitfalls and Cautions in Design Thinking Workgroups, case-based exercises

Module 4	Business & Systems Design	Participative Learning	Business Simulation games on Product and Service Design, finding the gaps and filling the gaps and concept mapping from ideation to implementation.	9 Hours

Topics: Product and Service Design, finding the gaps and filling the gaps, Design Research - tools for observation and immersion, Business Model Canvas and Design Research, Journey of mapping from ideation to implementation, Developing Final Presentations, case-based exercises

Targeted Application & Tools that can be used:
This course helps in understanding the decision-making mindset of an individual through the application of design thinking knowledge.

Project work/Assignment: Mention the Type of Project /Assignment proposed for this course

Assignment based on self-study topics (Articles & Case Analysis as shown in course handouts)

Text Book
Maurício Vianna and Ysmar Vianna, Design Thinking for Business Innovation, 1st Edition, 2013, MJV Press, ISBN-13: 978-9332511170

A practical guide to design thinking, by Moritz Gekeler, 2nd Edition, 2019 – ISBN-10: 0138018812

Research Articles & Case Study References:
Sources: Presiuniv.knimbus.com, Sage Publications, SCI Elsevier & HBR

Article 1 - B2B Design Thinking: Product Innovation when the User is a Network
https://thisisdesignthinking.net/2021/03/b2b-design-thinking-redesigning-product-innovation-when-the-user-is-a-network/

Article 2 - IBM: Design Thinking Adaptation and Adoption at Scale
https://thisisdesignthinking.net/2019/07/ibm-design-thinking-adaptation-adoption-at-scale/

Article 3 - Building Trust with Prototypes: An IoT solution at Piller
https://thisisdesignthinking.net/2019/07/ibm-design-thinking-adaptation-adoption-at-scale/

Article 4 - Design Thinking as an Entrepreneurs' Mindset.
https://thisisdesignthinking.net/2014/06/design-thinking-as-an-entrepreneurs-mindset/

Case 1 - Taking Risks, Earning Trust and Including Co-Workers: User-Centered Design at Deutsche Bahn Operations
https://thisisdesignthinking.net/2018/07/design-at-deutsche-bahn-operations/

Case 2 - How Design Thinking Turned One Hospital into a Bright and Comforting Place
https://thisisdesignthinking.net/2017/01/rotterdam-eye-hospital/

Case 3 - Reinventing Solar Energy Supply for Rural Africa: A Design Thinking Approach
https://thisisdesignthinking.net/2016/05/reinventing-solar-energy-supply-for-rural-africa/

Case 4 - How Design Thinking Enabled MLP to Speak the Customer's Language
https://thisisdesignthinking.net/2015/09/taking-off-the-tie-how-design-thinking-enabled-mlp-to-speak-the-customers-language/

Videos for Reference:
- Introduction to Design Thinking and Innovation https://www.youtube.com/watch?v=3RemkU4BH8U
- Design Thinking and Innovation At Apple – HBS Case Study https://www.youtube.com/watch?v=ir3E-TEUk48
- Speed up Innovation with Design Thinking, Guido Stompff | TEDxVenlo https://www.youtube.com/watch?v=ZBxZC9I6xyk

- The art of innovation | Guy Kawasaki | TEDxBerkeley https://www.youtube.com/watch?v=Mtjatz9r-Vc

Catalogue prepared by	Dr. S.Fakruddin Ali Ahmed
Recommended by the Board of Studies on	BOS Number:
Date of Approval by the Academic Council	Academic Council Meeting:

Course Code: MBA3064	Course Title: **HR Analytics** Type of Course: **Discipline Elective**		L	T	P	C
			3	0	0	3

Version No.	1.0
Course Pre-requisites	**HUMAN RESOURCE MANAGEMENT**
Anti-requisites	NIL
Course Description	The disruptive, dynamic and continuously evolving environment has changed the way Human Resources have to be managed. New age HR practices need to keep pace and evolve by providing value-adding practices that assist in building the right set of competencies in the organization. Organization requires efficient human resource (HR) data analytics to make more informed HR decisions. The program is unique as it lays equal emphasis on explaining the business rationalities in which the role of HRM practitioner is embedded. The HR analytics course is a practical oriented course which provides an insight towards having an analytical perspective towards HR data. With this course, the students will gain insights on the using HR analytics. This course aims to build competencies and skills of representing, analyzing and managing HR data through hands on exercises. The course enables the students to address both tactical and strategic level HR issues by offering insights into the use of analytical tools.
Course Out Comes	On successful completion of the course the students shall be able to: CO1) Describe concepts and theories of HR Analytics. **[Knowledge]** CO2) Explain various matrices with examples to improve HR processes. **[Comprehension]** CO3) Apply different matrices to improve HR processes. **[Application]** CO4) Analyse the data to develop and streamline HR policies of organization. **[Analysis]**
Course Objective:	This course aims to enhance the employability skill using experiential teaching methods that include representing, analysing and managing HR data through hands on exercises and experiential learning for employability skills.

Module 1	**Introduction to HR Analytics**	Practical Hours/ Experiential Learning	Assignment	12 Hours

Topics: Introduction, Importance and significance of HR Analytics, Benefits of HR Analytics, HR Analytics and changing role of HR managers, Reinforcement of HR strategy factors with HR Analytics, Steps to implement HR Analytics with business goals and strategies   [5 Hours][Blooms: Knowledge]

Module 2	**Laying Foundation for HR Analytics**	Practical Hours/ Experiential Learning	Assignment	11 Hours

Topics: Sources of Data, Defining HR Metrics-Descriptive, Diagnostic, Predictive, Prescriptive Data Collection and Analysis, HR Analytics framework and models, Understanding Variable and Construct, Measurement, Hypothesis Construction and Testing in HR Analytics   [8 Hours]
[Blooms: Comprehension]

Module 3	**Understanding the Usage of HR Analytics**	Practical Hours/ Experiential Learning	Assignment	11 Hours

Topics: Application of HR Analytics in Recruitment and Selection, Training and Development, Performance Appraisal (PA), Compensation Management. HR Bench Marking- Introduction, scope; Performance goal setting-KPA's and KPI's, Providing performance feedback. [Blooms: Application]

Module 4	**HR Data Visualization with MS-Excel**	Practical Hours/ Experiential Learning	Assignment	11 Hours

Topics: Key excel functions, creation of HR Dashboards through Tableau, HR data descriptive analysis, correlation, Regression, T-test and ANOVA, Factor Analysis and Introduction to ORANGE software. [Blooms: Analysis]
Targeted Application & Tools that can be used: MS Excel
Project work/Assignment: Mention the Type of Project /Assignment proposed for this course
1. Assignments– Practice Exercises 2. Case study – Interpretation of data

Self- Learning Topics: Browse Analytics and Exercises content selected by the Human Resource Today. Identify few companies' data to study the level of HR analytics adoption in organizations.

Participative Learning: Using primary and secondary data, study the benefits of HR analytics.

Technology Enabled Learning: Assignments and Videos

REFERENCE MATERIALS:

Text Books and Reference Books:

- T1: Banerjee P., Pandey J., Gupta M. (2019). *Practical Application of HR analytics,* SAGE

Essential Reading/ Recommended Reading:

- Bhattacharyya D. (2017). *HR Analytics: Understanding Theories and Applications*, Sage
- Yadav R., Maheshwari S. (2021). *HR Analytics: Connecting Data and Theory*, Wiley
- Camm J., Cochran J., Fry M., Ohlmann J., Anderson D., Sweeney D., Williams T., (2015) Cengage Learning

WEBLINKS OF RESEARCH ARTICLES FOR FURTHER STUDY

1. DiClaudio, M. (2019), "People analytics and the rise of HR: how data, analytics and emerging technology can transform human resources (HR) into a profit center", *Strategic HR Review*, Vol. 18 No. 2, pp. 42-46. https://doi.org/10.1108/SHR-11-2018-0096

https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/SHR-11-2018-0096/full/html

2. (2017), "HR analytics: A study into the current state of HR analytics and predictions for its future", *Human Resource Management International Digest*, Vol. 25 No. 7, pp. 9-11. https://doi.org/10.1108/HRMID-08-2017-0137

https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/HRMID-08-2017-0137/full/html

3. Mayo, A. (2018), "Applying HR analytics to talent management", *Strategic HR Review*, Vol. 17 No. 5, pp. 247-254. https://doi.org/10.1108/SHR-08-2018-0072

https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/SHR-08-2018-0072/full/html

4. Shrivastava, S., Nagdev, K. and Rajesh, A. (2018), "Redefining HR using people analytics: the case of Google", *Human Resource Management International Digest*, Vol. 26 No. 2, pp. 3-6. https://doi.org/10.1108/HRMID-06-2017-0112

https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/HRMID-06-2017-0112/full/html

5. Durai D., S., Rudhramoorthy, K. and Sarkar, S. (2019), "HR metrics and workforce analytics: it is a journey, not a destination", *Human Resource Management International Digest*, Vol. 27 No. 1, pp. 4-6. https://doi.org/10.1108/HRMID-08-2018-0167

https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/HRMID-08-2018-0167/full/html

Harvard Business Case Study

Google's Project Oxygen: Do Managers Matter? **By David A. Garvin, Alison Berkley Wagonfeld, Liz Kind**

https://hbsp.harvard.edu/product/313110-PDF-ENG

E-journals for reference

1. Indian journal of Industrial Relations
2. South Asian Journal of Human Resource Management
3. Global Business Review

Catalogue prepared by	Dr. Farhat Ali Syed

Recommended by the Board of Studies on	
Date of Approval by the Academic Council	

Course Code: MBA3082	Course Title: **FinTech** Type of Course: **Discipline Elective**	L-T-P-C	L	T	P	C
			3	0	0	3
Version No.	2.0					
Course Pre-requisites	NIL					
Anti-requisites	NIL					
Course Description	This course is for students wishing to explore the ways in which new technologies are disrupting the financial services industry—driving material change in business models, products, applications and customer user interface. Amongst the significant technological trends affecting financial services into the 2020's, explore AI, deep learning, blockchain technology, open APIs.					
Course Outcomes	On completion of this course, the student will be able to: CO1) Describe concepts of Fintech and key technologies and interface **[Comprehension]** CO2) Illustrate basics of Blockchain and use cases like Cryptocurrency **[Application]** CO3) Analyse potential areas of disruption across payments value chain **[Analysis]**					
Course Objective:	The aim of this course is to develop employability skills of the students based on the shifting nature of the financial sector and gain a holistic understanding of the technologies set to shape the future of finance and business.					

Module 1	**Fintech Introduction**	Pre-reading and classroom discussion		12 Hours

Topics: BFSI Value chain- How FinTech changed BFSI- Modern Banking Landscape- Introduction to BankTech- Introduction to InsureTech. Introduction to the Fintech landscape- FinTech Architecture- FinTech Technologies- Latest Trends and future of FinTech- Applications of FinTech- Use cases of FinTech in banks- Fintech startups- Fintech unicorns and business models. Introduction to Machine Learning - Introduction to Cloud Computing.

Module 2	**Blockchain, Cryptocurrencies, Payment Gateways, Equity trading platforms**	Case studies and online demonstrations	Case Study	12 Hours

Topics: Blockchain Foundations- Blocks and Blockchain, the Chain, Nodes and Network- Types – Private, Public and Federated blockchain, Cryptocurrencies, Smart contracts. Non Fungible Tokens, Ethereum, Comparison of top platforms, Payment stacks, UPI.

Module 3	**Banktech, Insurtech, Regtech, Credit Scoring and Rating.**	Case study & secondary research to analyse disruptions.	Project report and presentations	9 Hours

Topics: BANKTECH- Regulatory Framework for Product Pricing, loan origination and servicing- Social media-based profiling, Credit rating, Risk management & underwriting- Utilizing data science tools and machine

learning for data mining. INSURTECH- How does InsurTechwork- Business model disruption- Aggregators- AI/ML in InsurTech- IoT and InsurTech - Risk Modeling- REGTECH- Evolution of RegTech- RegTech Ecosystem- Smart Regulation. Fraud Detection-Processing claims and Underwriting, Consumer and Corporate Credit Rating

Module 4	Strategies to manage disruptions in BFSI industry using Fintech	Case study & secondary research to analyse disruptions.	Project report and presentations	12 Hours

Secondary research on chosen BFSI organizations to study how the industry has been disrupted and specific strategies of each firm to manage the challenges. Detailed analysis must be conducted on specific firms allotted and report must be presented in class.

Targeted Application & Tools that can be used:
Exposure to the various business models.

Project work/Assignment:
1. Credit Risk Modelling/Credit Card Fraud Detection
2. Crypto currency Trading
3. Risk based pricing using ML

Text Book
T1. Disrupting Finance: FinTech and Strategy in the 21st Century, Edited by Theo Lynn · John G. Mooney, Pierangelo Rosati · Mark Cummins

References
1. Fintech Innovation by Paolo Sironi, Wiley Publications
2. FinTech: The impact and influence of Financial Technology and Banking and the Finance Industry. By Richard Hayen
3. FinTech and Blockchain by Jacob William
4. The FinTech Book: The financial technology handbook for investors, entrepreneurs and visionaries. B Susanne Chishti and JanosBarberis
5. Blockchain: The ultimate guide to understanding Blockchain, Fintech, Bitcoin and other cryptocurrencies by Anthony Tu. Published by Createspace Independent publishing platform.

Digital Articles:
- https://assets.kpmg.com/content/dam/kpmg/pdf/2016/06/FinTech-new.pdf
- https://www.linkedin.com/pulse/fintech-booms-india-factors-driving-growth-disruption-t-nihar-prasad/
- https://www.tradefinanceglobal.com/posts/5-factors-driving-rise-fintech-financial-services-industry/
- https://www.leewayhertz.com/blockchain-development-key-concepts/
- https://home.kpmg/xx/en/home/insights/2022/01/top-fintech-trends-in-h2-2021.html
- https://www.ey.com/en_in/consulting/seven-key-trends-shaping-the-future-of-fintech-industry
- https://www.pwc.in/assets/pdfs/consulting/financial-services/fintech/point-of-view/pov-downloads/evolving-business-models-in-the-payments-industry.pdf
- https://www.adb.org/sites/default/files/publication/885336/adb-brief-245-managing-fintech-risks.pdf
- https://www2.deloitte.com/us/en/pages/regulatory/articles/fintech-risk-management-regulation.html
- https://www2.deloitte.com/content/dam/Deloitte/us/Documents/regulatory/us-aers-the-evolving-fintech-regulatory-environment.pdf

Case Studies:

- https://paytm.com/blog/investor-relations/our-business-model-explained/
- https://lumosbusiness.com/business-model-canvas-payments/

Videos
- What is fintech? https://www.youtube.com/watch?v=-EoNrg_DR3s
- How FinTech is Shaping the Future of Banking : https://www.youtube.com/watch?v=pPkNtN8G7q8
- The future with FinTech, Crypto and AI https://www.youtube.com/watch?v=ft75f3Iaa-s

Podcast:
- https://indiafintechdiaries.com/2022/11/42-techfin-in-conversation-with-anup-nayar-ceo-domestic-in-solutions-global/
- https://indiafintechdiaries.com/2022/09/39-fintech-investments-in-conversation-with-sandeep-patil-partner-qed-investors/

Catalogue prepared by	Prof. Krishna Durbha
Recommended by the Board of Studies on	BOS NO:
Date of Approval by the Academic Council	Academic Council Meeting No. :

Course Code: MBA4088	Course Title: Retail Analytics Type of Course: Discipline Elective	L	T	P	C
		2	0	0	2

Version No.	2.0
Course Pre-requisites	Familiarity with fundamental business concepts, such as marketing, finance, and operations. Retail analytics involves solving business problems using data, which requires basic critical thinking and problem-solving Skills.
Anti-requisites	**NIL**
Course Description	This course is designed to equip students with the skills and knowledge necessary to leverage data for solving complex business challenges in the retail industry. Participants will learn to apply analytical techniques to make informed decisions, optimize operations, and enhance the overall performance of retail businesses
Course Outcomes	**On successful completion of this course the students shall be able to:** CO1) Describe functions of retail industry, consumer behaviour, and global trends. **[Comprehension]** CO2) Demonstrate ability to extract insights from e-Commerce data with help of analytics tools. **[Application]** CO3) Apply analytical tools to optimization challenges like store operations, inventory, and pricing for efficiency and profitability **[Application]**
Course objective	This course will enhance SKILL DEVELOPMENT through EXPERIENTIAL LEARNING methods using tools like R/excel/python/tableau/power bi etc.
Course Content:	

Module 1	Introduction to Retail Analytics	Assignment	Understanding Retail Business	10 Hours

The Evolution of Retailing, Retail Industry Structure and Formats, Understanding Consumer Behavior, Global Retailing and Emerging Markets.
Retail Marketing and Branding- Retail Marketing Strategy and Channel Management, Customer Relationship Management, RFM Analysis

Module 2	E-Commerce Analytics in Retail	Assignment	Analysis of retail e-commerce data	10 Hours

Web Analytics - Track trends related to your industry, compare your brand with competitors, Traffic analysis, Product Analytics - Product analytics framework, Product Analysis using A/B Testing, Customer Segmentation - Identify and group customers based on behaviour.

Module 3	Retail Analytics Use cases	Assignment	Application of retail data analytics to solve retail business issues	10 Hours

Sales Analytics -Demand Forecasting, Inventory Analytics – Supply Chain Management, Pricing Optimization, Recommendation system, SCANPRO and models to optimize Sales
Retail Operations and Logistics – Trade Area Analysis, Store Location and Design, Managing Store Operations and Customer Service, Purchasing, Inventory and Pricing.

Targeted Application & Tools that can be used:
Above concepts are helpful in understanding the analytical techniques that will help managers to interpret Retail bith physical & eCommerce business challenges and solutions, through activities related to decision making, optimization, visualization, interpretation, recommendation etc.. Students will understand the techniques that are required to solve practical problems.

Project work/Assignment: Multiple datasets from open sources like Kaggle will be used.

Assignment type : Case study on eCommerce and retail analytics, Trade Area Analysis, Location Analytics. Will require the use of large datasets and tools like Excel, Python & other visualization tools.

Textbook
Retail Analytics: The Secret Weapon Book by Emmett Cox;

References
1. Analytics for Retail: A Step-by-Step Guide to the Statistics Behind a Successful Retail Business by Rhoda Okunev
2. Retailing: Integrated Retail Management" by James R. Ogden, Mark E. Goh, and Denise T. Ogden
3. Web Analytics for Beginners by Stephan Schwarz
4. Data Science for Business and Decision Making" by Robert Nisbet, Gary Miner, and Ken Yale
5. Microsoft Excel 2019 Bible: The Comprehensive Tutorial Resource; John Wiley & Sons Inc.
6. The Art of R Programming – A Tour of Statistical Software Design Written By – Norman Matloff
7. Fischer W.; *Excel: Quick Start Guide from Beginner to Expert (Excel, Microsoft Office)*; CreateSpace Independent Publishing Platform.
8. Data Analytics using Python by Bharti Motwani (Author)

Web pages
1. https://www.udemy.com/course/retail-for-business-analysts-and-management-consultants/
2. https://www.udemy.com/course/marketing-analytics-marketing-strategy-models-in-excel/
3. https://www.udemy.com/course/product-analytics/
4. https://www.researchgate.net/publication/332795401_Big_Data_and_Analytics_in_Retailing

Library E –resource	
Catalogue prepared by	Prof. Visvesaran V and Prof. Krishna Durbha
Recommended by the Board of Studies on	
Date of Approval by the Academic Council	

Course Code: MBA3122	**Course Title: Digital Transformation Type of Course: Discipline Elective**		L	T	P	C
			2	0	0	2
Version No.	1.0					
Course Pre-requisites	Technology Foundations for Business					
Anti-requisites	NIL					
Course Description	This course introduces business strategy and fundamentals of Digital Transformation. This is focused on real world examples of digital disruption and a playbook with tools for Digital Transformation. It covers why and how digital technologies (mobile, social, cloud, big data, internet of things, 3D printing, etc.) are reshaping value creation, growth, and delivering products or services around the world and how to master Digital Disruption. This course links business strategy, business models and digital features to develop students' business strategy and execution skills and critical thinking embedding digital knowledge and equips them with simple tools to manage Digital Disruption. The spread and scale of the topic is so significant that digital acumen is nowadays a core component of business strategy.					
Course Outcomes	On completion of this course, the student will be able to: CO1) Describe impact of digital technologies on organizations **[Comprehension]** CO2) Apply frameworks and tools to effectively plan Digital Transformation **[Application]** CO3) Outline the steps to effectively manage Digital Transformation **[Analysis]**					
Course Objective	This course promotes learners' employability skills using experiential learning with an understanding on the power and impact of digital for strategy analysis, design and execution, and equips learner with tools to manage business disruption in an organization. Digital Transformation is taught through Assignments/ Exercises/ Case Studies/ Projects.					
Module 1	**Key trends in Emerging Tech**	**Quiz** (E-review from resources)	Assignment and online demos		10 Hours	
Topics: Introduce the latest advances in technology and implications, applications for business and SDLC. High level overview of disruptive technologies like mobile, social, AIML, cloud, big data, internet of things, AR&VR, 3D printing, Fintech, Blockchain, Marktech, Quantum Computing, Space, Biotech etc. Explain key reasons and drivers behind the rise of emerging technology. Discuss application and use cases of AI&ML in organization.						

Module 2	Business Value Disruption	Case Analysis (Experiential learning)	Practical tools for Managing Digital Disruption	10 Hours

Topics: Driving Digital Strategy. Harness Customer Networks, Build Platforms - Not Just Products, Turn Data Into Assets, Innovate by Rapid Experimentation, Adapt Your Value Proposition- Model of business value - VRIO framework, Mastering Disruptive Business Models.

Module 3	Managing Tech based Digital Transformation.	Case Analysis	Strategy and the Internet (hbr.org)	10 Hours

Topic: Framework for Reinventing Your Business - Reimagine your business, Re-evaluate your value chain, Reconnect with your customer & Rebuild your Organization.

Targeted Application & Tools that can be used:
Students would be encouraged to take up live projects and through experiential learning activities in the class they will imbibe the cognitive approaches to understand and apply factors effective to understand project management.

Professionally Used Software: KNimbus library access, Online AI&ML tools

Project work/Assignment:
1. Lectures (20 Hours), review and bridging (4 Hours)
2. Assignment 1 with Project Presentations
3. Assignment 2 with Project Presentations
4. Case studies & how to use tools for Managing Digital Transformation

Text Books:
T1: Rogers, David L. The digital transformation playbook: Rethink your business for the digital age. Columbia University Press, 2016.

References
Driving Digital Strategy:A Guide to Reimagining Your Business By Sunil Gupta Published by Harvard Business Review Press

Journal
- The right digital strategy for your business: an empirical analysis of the design and implementation of digital strategies in SMEs and LSEs | SpringerLink
- Journal of Business Research
- International Journal of Information Management

Library E-resources:
- https://presiuniv.knimbus.com/openFullText.html?DP=https://www.emerald.com/insight/content/doi/10.1108/S1745-886220180000013009/pdfplus/html
- IB and Strategy Research on "New" Information and Communication Technologies: Guidance for Future Research | Emerald Insight
- Amazon,Alibaba: Internet Governance, Business Models, and Internationalization Strategies | Emerald Insight

Weblinks :
- Understanding Digital Strategy (hbr.org)
- The Digital Matrix with Venkat Venkatraman - YouTube
- (226) David Rogers - Create Your Digital Transformation Playbook - YouTube

Online Resources: https://presiuniv.knimbus.com/user#/home

Research Articles:
- Joel Mero, Anssi Tarkiainen, Juliana Tobon, Effectual and causal reasoning in the adoption of

marketing automation, Industrial Marketing Management, Volume 86, 2020, Pages 212-222, ISSN 0019-8501. https://doi.org/10.1016/j.indmarman.2019.12.008
- Silva, S.C., Corbo, L., Vlačić, B. and Fernandes, M. (2023), "Marketing accountability and marketing automation: evidence from Portugal", EuroMed Journal of Business, Vol. 18 No. 1, pp. 145-164. https://doi.org/10.1108/EMJB-11-2020-0117
- Guercini, S. (2023), "Marketing automation and the scope of marketers' heuristics", Management Decision, Vol. 61 No. 13, pp. 295-320. https://doi.org/10.1108/MD-07-2022-0909

Multimedia (Videos):
- https://www.youtube.com/watch?v=G6c4-28FsAs
- https://www.youtube.com/watch?v=XXwaX0_rPp4
- https://www.youtube.com/watch?v=9qfKppGr2Uo
- https://www.youtube.com/watch?v=8m2StWkHwh0

Case Studies:
- https://www.mayple.com/blog/marketing-automation-case-studies
- https://www.linkedin.com/pulse/power-marketing-automation-real-world-case-studies-maryam-she-her-/
- https://www.markempa.com/marketing-automation-4-case-studies/

Catalogue prepared by	Prof. Krishna Durbha
Recommended by the Board of Studies on	BOS NO:
Date of Approval by the Academic Council	Academic Council Meeting No.

Course Code: MBA3120	Course Title: Deep Learning Type of Course: Discipline Elective		L	T	P	C
			2	0	0	2
Version No.	1.0					
Course Pre-requisites	• Students should have the completed Fundamentals of Business Analytics course in Semester 2 • Students should have completed Programming for Analytics course in Semester 3 and have python programming knowledge					
Anti-requisites	**Nil**					
Course Description	The objective of a deep learning course is to equip MBA students with the latest Artificial Intelligence tools and techniques that are taking the world by storm and disrupting industries. The students will get a foundational understanding of how neural networks work, the concepts, mathematics and algorithms that are applied in basic deep learning models. The will be able to apply the concepts and code to large datasets effectively using Deep Learning tools like TensorFlow, Keras, Pytorch etc. and learn concepts behind Computer Vision, Large Language Models, applications to various industries and use cases. Throughout the course, students explore various deep learning concepts, methods, including those related to natural language processing (NLP) and neural networks. They gain practical experience by working with publicly available libraries and datasets, which helps them develop the skills needed for independent research and study. **Understand the basics of Deep Learning:** MBA students would learn the fundamental					

	concepts of deep learning, including binary classification, logistic regression, gradient descent, derivatives, computation graphs, and vectorization. This foundational knowledge helps them grasp the underlying principles of deep learning techniques. **Implementing simple Deep Learning Models:** MBA students would gain practical experience by implementing various deep learning models to solve real-world problems. They would learn how to apply these models effectively, analyse optimization techniques, and understand generalization principles. **Practical Aspects and Applications:** MBA students would explore practical aspects of deep learning, such as handling train/dev/test sets, addressing bias/variance trade-offs, regularization, and dealing with vanishing/exploding gradients. Additionally, they would delve into specific applications like logistic regression, convolutional neural networks (CNNs), recurrent neural networks (RNNs), and backpropagation.
Course Objectives	This course promotes learners' employability skills using experiential learning using actual datasets, demonstrations of python code and online resources and hands-on practical examples done by students.
Course Out Comes	On successful completion of the course the students shall be able to: CO1) Describe core concepts of how Deep Learning works **[Comprehension]** CO2) Demonstrate how computer vision, NLP models work.**[Comprehension]** CO3) Apply DL algorithms on some real world use cases **[Application]**
Course Content:	

Module 1	Introduction	Demonstration of Computer Vision (Experiential Learning)	Students are taught how Deep Learning works and asked to summarize their understanding	10 Hours

Topics: Introduction to Deep Learning and Neural Networks: learn the history, definitions and basics of deep learning, including neural network mathematics, activation functions, and backpropagation. Topics covered include feedforward neural networks, gradient descent, and the role of deep learning in business applications

Module 2	Recurrent Neural Networks (RNN), and Natural Language Processing (NLP)	Lab & Theory (Problem Solving)	Using public datasets and python codes to build basic models for RNNs & NLP	10 Hours

Topics: RNNs are essential for sequence data, such as time series or text. In this module, students would delve into RNN architectures and their applications.
NLP techniques, including word embeddings, sentiment analysis, and chatbots, would also be covered. Overview of Transformers & Generative Pretrained Transformers.

Module 3	Computer Vision	Lab Experiments	Using public datasets and python codes to build basic models for CNNs	10 Hours

Topics: Convolutional Neural Networks (CNNs) for Image Analysis: This module focuses on CNNs, which are widely used for image classification, object detection, and other visual tasks.
Also Single Shot Detectors, GANs. YOLO and other real time computer vision techniques.

Targeted Application & Tools that can be used:
Python, TensorFlow, Keras (GoogleColab), PyTorch

Project work/Assignment: Mention the Type of Project /Assignment proposed for this course

- Taking up publicly available datasets like MNIST, image datasets etc. for Computer Vision
- Realtime traffic identification using YOLO etc.
- Demonstration of NLP Tools like sentiment analysis on YouTube comments etc.
- Using RNNs and LSTM on forecasting stock prices, crypto currencies etc.

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Text Book

- Deep Learning with Python, Second Edition, by Francis Chollet, Manning Publications

References

- Deep Learning From Scratch: Building with Python from First Principles by Seth Weidman published by O'Reilly

Catalogue prepared by	Prof. Krishna Durbha
Recommended by the Board of Studies on	
Date of Approval by the Academic Council	

Course Code: MBA3129	Course Title: Healthcare Pharma IT & Analytics Type of Course: Discipline Elective		L	T	P	C
			2	0	0	2
Version No.	1.0					
Course Pre-requisites	MBA2020 Fundamentals of Business Analytics					
Anti-requisites	NIL					
Course Description	Information technology (IT) plays a crucial role in pharmaceuticals and healthcare management, addressing challenges related to data quality, integrity, integration, confidentiality, and security. As India launches its nationwide Digital Health Platform and Highway through the National Digital Health Mission, students studying healthcare and pharma management, IT, and informatics will become acquainted with specialty-specific informatics within an integrated digital framework. Integrating technology into healthcare prevents medical errors, enhances decision-making, facilitates medical data collection and research, and safeguards patient privacy. Join this dynamic field and contribute to global healthcare. This knowledge will empower future management professionals in healthcare and pharma industries to serve in diverse capacities and contribute to reimagining digital healthcare.					
Course Outcomes	On completion of this course, the student will be able to: 1) Describe the pivotal role of modern technologies including analytics in Healthcare & Pharmaceutical industry. **[Comprehension]** 2) Apply tools to various functions and use cases in Healthcare & Pharmaceutical Industry. **[Application]** 3) Analyze real case studies where IT & Analytics have transformed small & large firms in Healthcare & Pharmaceuticals. **[Analysis]**					

Course Objective	This Healthcare and Pharma IT & Analytics elective, gives students a blend of knowledge, practical experiences and hands-on training in tools, frameworks and techniques in applying the latest IT platforms and tools to enhance business efficiency and success of Healthcare & Pharmaceutical organizations. This course is meant to skill professionals with conceptual, technical and managerial skill sets that give their future careers in Healthcare & Pharma industries, the growth it needs.			
Module 1	**Core functions of Healthcare and Pharma organizations**	**Quiz** (E-review from resources)	Assignment and online demos	10 Hours

Topics:
Core functions and processes in Healthcare & Pharma Industry and how latest technologies are being used to enhance patient outcomes, enhance efficiency, reduce cost and provide healthcare to the vulnerable population.

Module 2	**Digital Innovation in Healthcare and Pharma**	Case Analysis (experiential learning)	Practical tools for Managing Digital Disruption	10 Hours

Topics:
1. Pharmaceutical Analytics: Drug Discovery and Development: Data analytics accelerates drug discovery by identifying promising compounds from vast chemical collections. Machine learning and AI analyze biological data to pinpoint potential drugs that precisely target diseases. For example, Insilico Medicine used AI to advance the first AI-designed drug into clinical trials for Idiopathic Pulmonary Fibrosis (IPF) within 18 months1.
2. Clinical Trial Optimization: Predictive analytics tools analyse patient data (genetic information, clinical outcomes, biomarkers) to design more targeted and effective clinical trials, reducing time and costs.
3. Clinical Trials: Patient Recruitment and Trial Optimization: Data analysts use real-time monitoring through IoT devices (wearables) to optimize clinical trials. This streamlines drug development process.
4. Success Rate Prediction: Predictive analytics helps estimate clinical trial success rates, aiding in decision-making and resource allocation.
5. Disease Trend Prediction: Healthcare Data Analytics: By analysing patterns in healthcare data, pharma companies can predict disease trends. This enables better preparation for future health challenges and effective resource allocation2.

Module 3	**Practical frameworks & tools to implement IT & Analytics in Healthcare & Pharma.**	Demos, videos & datasets with code to demonstrate IT & analytics.	Kaggle and other online resources to demonstrate these concepts.	10 Hours

Use of Analytics for predictive healthcare use cases, study of various frameworks and platforms in healthcare, overview of AI&ML application in genomics & drug discovery, application of CRISPR and other cutting-edge technologies.

Targeted Application & Tools that can be used:
Students would be encouraged to take up projects and through experiential learning activities in the class they will imbibe the cognitive approaches to understand and apply factors effective to understand project management.

Professionally Used Software: KNimbus library access, Online AI&ML tools, YouTube videos

Project work/Assignment:
1. Lectures (22 Hours), review and bridging (4 Hours)
2. 2 Quizzes
3. Assignment with Project Presentations
4. Datasets & coding for disease prediction

Text Books:

Understanding Health Information Systems for the Health Professions, JA Balgrosky, Jones & Bartlett Learning, 2019

References
- Healthcare Data Analytics, Chandan K. Reddy, Charu C. Aggarwal, Chapman and Hall/CRC, June 2019

Journal
- The use of Big Data Analytics in healthcare | Journal of Big Data | Full Text (springeropen.com)
- Data Science and Advanced Analytics in Commercial Pharmaceutical Functions: Opportunities, Applications, and Challenges | SpringerLink
- Data Analytics in Healthcare: A Tertiary Study | SN Computer Science (springer.com)

Library E-resources:
- The use of Big Data Analytics in healthcare | Journal of Big Data | Full Text (springeropen.com)

Weblinks :
- https://ai-cases.com/health/
- Pharma Analytics: 7 Transformative Use Cases in the Industry (pixelplex.io)
- 8 Use Cases For Data Analytics In Pharmaceutical Industry (polestarllp.com)https://cen.acs.org/physical-chemistry/computational-chemistry/Insilico-reveals-soup-to-nuts-process-for-AI-generated-lung-fibrosis-drug/102/web/2024/03#:~:text=Insilico%20Medicine%2C%20a%20developer%20of,idiopathic%20pulmonary%20fibrosis%20(IPF).

Online Resources:
> https://presiuniv.knimbus.com/user#/home

Research Articles:

Multimedia (Videos):
- https://www.youtube.com/watch?v=OUE6CgXx_N0
- https://www.youtube.com/watch?v=PBq8QJYrvWc

Case Studies:
- https://swayamhealth.com/
- https://pharmeasy.in/

Catalogue prepared by	Prof. Krishna Durbha
Recommended by the Board of Studies on	BOS NO:
Date of Approval by the Academic Council	Academic Council Meeting No.

Course Code: MBA3123	Course Title: Marktech and Adtech Type of Course: Discipline Elective		L	T	P	C
			2	0	0	2

Version No.	1.0
Course Pre-requisites	Marketing Management
Anti-requisites	NIL
Course Description	MarkTech (Marketing Technology): MarkTech refers to specific software applications used to build, automate, track, and enhance marketing efforts. It empowers marketers to streamline their work across various channels and gain valuable insights into campaign success. AI&ML has brought in huge disruption especially with the latest GenerativeAI tools. With nearly 10,000 applications across 49 categories, MarTech continues to expand rapidly. Some common MarkTech tools are: • Machine Learning in Marketing, • AI for Content Creation and Management, • Customer segmentation, • Recommendation systems, • Store management • Price optimization, etc. AdTech (Advertising Technology): focuses on technology used in advertising and media. It includes tools for programmatic advertising, data-driven targeting, and ad campaign optimization, media planning, audience measurement, ad operations, new age advertising including Outdoor, events and experiential marketing. AdTech professionals analyze data to create effective ad strategies. Key areas include: • Programmatic Advertising: Automated buying and selling of ad space. • Data Analytics and Targeting: Using data to reach the right audience. • Ad Campaign Optimization: Maximizing ad performance. Both MarTech and AdTech play pivotal roles in modern marketing, making them essential topics for MBA students aiming to excel in the dynamic digital landscape.
Course Outcomes	On completion of this course, the student will be able to: 1) Describe the Value chain & functions of Marketing & Advertising industry **[Comprehension]** 2) Apply online tools and platforms to solve marketing & advertising use cases **[Application]** 3) Analyse real-life Marketing & Advertising campaigns and recommend actions. **[Analysis]**
Course Objective	Gain access to practical tools and frameworks for MarkTech like recommendation engines, segmentation, creating and optimizing campaigns, marketing spends, price discounts etc. Also understanding the workflow and technologies used in Advertising, and how technology is enabling much more effective advertising campaigns. Understanding these technologies can open doors to exciting career opportunities in evergreen areas of Marketing & Advertising!

Module 1	**Marktech use cases and tools**	Hands on use of online tools	Quiz and projects based on online platforms	10 Hours

Topics:
Discuss functions and use cases of Marketing technology. Familiarize students with online tools like Google Advertising, Facebook Ad manager, recommendation engines, sentiment analysis, Goolge Analytics etc.

Module 2	**Adtech use cases and tools**	Quiz and demos of online resources	Quiz based on online platforms	10 Hours

Topics:
1. Understanding the traditional & digital Advertising Industry value chain
2. Key trends impacting advertising industry
3. Audience measurement in TV & Broadcasting industry
4. Media planning and management
5. Tools for Optimizing advertising spends
6. Technology transforming Outdoor, events etc.

Module 3	**Practical Applications Marktech & Adtech.**	Demos, videos & online platform to demonstrate tools and techniques.	Google Analytics, Google Ads, Facebook Ad Manager, etc.	10 Hours

Hands-on experience with Google Analytics, Google Ads, Facebook Ad Manager, generative AI content creation tools. Tools like SCANPRO to optimize ad spend etc. Segmentation, Sentiment Analysis & other tools to enhance marketing effectiveness.

Targeted Application & Tools that can be used:
Students would be encouraged to take up projects and through experiential learning activities in the class they will imbibe the cognitive approaches to understand and apply factors effective to understand Marktech and Adtech.

Professionally Used Software: KNimbus library access, Online AI&ML tools, YouTube videos

Project work/Assignment:
1. Lectures (22 Hours), review and bridging (4 Hours)
2. 2 Quizes
3. Industry free certification in GoogleAds Professional
4. Hands-on demo on live tools and assignment with project presentations.
5. Datasets & coding for segmentation, recommendation engines,

Text Books:
- Marketing 5.0: Technology for Humanity, Philip Kotler (Author), Wiley, 2021

References
- The AdTech Book by Clearcode | The Platforms, Processes, and Players

Journal
- The CMO's Guide to Marketing Technology (Martech) | Gartner
- Adtech Market Research Report 2019 (ICO, Ofcom) - GOV.UK (www.gov.uk)
- Data Analytics in Healthcare: A Tertiary Study | SN Computer Science (springer.com)

Library E-resources:
- https://presiuniv.knimbus.com/

Weblinks :
- https://ai-cases.com/retail/
- The power of AdTech and MarTech in modern marketing (deloitte.com)
- Strategic investments, tech, creativity, sustainability emerge as 4 megatrends: Deloitte marketing trends 2023
- AdTech Market 2024 Size, Growth Analysis Report, Forecast to 2031 (omrglobal.com)

Online Resources:
- https://skillshop.docebosaas.com/pages/16/skillshop-home-page . Students are required to complete at least 1 certification of the 4 ie. Google Ads search, Google Ads display, AI-Powered Performance Ads Certification, and Google Ads – Measurement Certification

Research Articles:
- Joel Mero, Anssi Tarkiainen, Juliana Tobon, Effectual and causal reasoning in the adoption of marketing automation, Industrial Marketing Management, Volume 86, 2020, Pages 212-222, ISSN 0019-8501. https://doi.org/10.1016/j.indmarman.2019.12.008

- Silva, S.C., Corbo, L., Vlačić, B. and Fernandes, M. (2023), "Marketing accountability and marketing automation: evidence from Portugal", EuroMed Journal of Business, Vol. 18 No. 1, pp. 145-164. https://doi.org/10.1108/EMJB-11-2020-0117
- Guercini, S. (2023), "Marketing automation and the scope of marketers' heuristics", Management Decision, Vol. 61 No. 13, pp. 295-320. https://doi.org/10.1108/MD-07-2022-0909

Multimedia (Videos):
- https://www.youtube.com/watch?v=zuf4NnRym0Q
- https://www.youtube.com/watch?v=oELlw_z3wQc
- https://www.youtube.com/watch?v=oELlw_z3wQc
- https://newdelhi.ad-tech.com/

Case Studies:
- https://www.linkedin.com/pulse/case-studies-how-companies-have-used-martech/
- https://www.hansacequity.com/news-knowledge/people-set/

Catalogue prepared by	Prof. Krishna Durbha
Recommended by the Board of Studies on	BOS NO:
Date of Approval by the Academic Council	Academic Council Meeting No.

Course Code: MBA3141	Course Title: Website Data Analytics Type of Course: Discipline Elective		L	T	P	C
			2	0	0	2
Version No.	2.0					
Course Pre-requisites	Digital Marketing Course					
Anti-requisites	NIL					
Course Description	Web analytics course covers the basics concepts of digital marketing, eCommerce and drives students into learning digital analytics from both a managerial and technical perspective. It examines a variety of digital tools, definitions, techniques and properties that can be applied across various channels including Google Analytics web platform other online tools including Adobe Analytics. Students will be assigned topics on which they will provide analytics using Adobe and Google Analytics software and create use cases for analytics. The course will consist of both lectures and hands on project. Students will learn essential and advanced areas in web analytics dealing with set-up, implementation, tag management, funnels, KPI's, conversions and campaign tracking and best practices. Students will be encouraged to complete Google Ads Measurement course online & get certified.					
Course Outcomes	On completion of this course, the student will be able to: CO1) Describe basic measures and concepts of web Analytics. **[Comprehension]** CO2) Apply web analytics tools for various real-world business cases. [**Application**] CO3) Apply Website metrics using Google Analytics (GA4) to solve business scenarios [**Application**]					

Course Objective:	The course web aims to enhance Employability Skills of students using Experiential Learning tools including example of analytical tools used to serve as a business metric for promoting specific products to the customers who are most likely to buy them and to determine which products a specific customer is most likely to purchase. This can improve ratio of revenue to marketing costs.			
Module 1	**Introduction: Definition and concepts**	Interactive Discussion and Online Resources	https://skillshop.withgoogle.com/	10 Hours
Topics: Definitions in Analytics, Digital Marketing, Why Web Analytics, Web 1.0 vs. 2.0, Theory of Customer Value, Buyer Psychology, Tracking and Cookies, Types of data, Funnel B2C & B2B [Blooms Level: Comprehension] Digital Marketing, Why Web Analytics, Web 1.0 vs. 2.0, Theory of Customer Value, Buyer Psychology, Tracking and Cookies, Types of data, Funnel B2C & B2B [7 hours - Blooms Level: Comprehension]				
Module 2	**KPI's, Metrics, Data collection, benchmarking**	Interactive Discussion and Online Resources	Analysis of Real World Data	10 Hours
Topics: KPIs & metrics web, Digital Ads and eCommerce, Visit & Content, Conversion metrics, ML Pipeline & missing values, Data Collection, Scraping data – tools, Eg: YouTube Sentiment analysis, online resources for benchmarking, [7 hours – Blooms: Application]				
Module 3	**Web Analytics platforms & GA4**	Assignment	Hands on training on Google Analytics	10 Hours
Topics: Hits, Page views, Visits, Unique visitors, Unique page views, Bounce, Bounce rate, Page/visit, Average time on site, New visits; Optimization (e-commerce, non e-commerce sites): Improving bounce rates, Optimizing adwords campaigns; Real time report, Audience report, Traffic source report, Custom campaigns, Content report, Google analytics, Introduction to KPI, characteristics, Need for KPI, Perspective of KPI, Uses of KPI.				

Project work/Assignment:

Project/ Assignment:
Assignment: 1] Calculate ROI from Web Data Analytics – case study from Text book
Assignment: 2] Google Analytics 4: Measure Google Merchandize metrics, funnel measurement, etc.
Assignment: 3] Google Analytics Reports : Google Analytics: Reports, Actionable Data with GA4 Platform Principles ,Google Analytics: Using Google Analytics Data,
Experiential Learning Activity: Demonstrate learning by doing project work using tools

Text Book
T1**.** Clifton B., Advanced Web Metrics with Google Analytics, Wiley Publishing, Inc.2nd ed.

References Books:
1. R1 Kaushik A., Web Analytics 2.0, The Art of Online Accountability and Science of Customer Centricity, Wiley Publishing, Inc. 1st ed.
2. R2 Sterne J., Web Metrics: Proven methods for measuring web site success, John Wiley and Sons

PU Library References :Web Analytics
- E1. EBSCO: https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/IJRDM-06-2017-0130/full/html
- E2. https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/JSOCM-06-2014-0043/full/html
- E3. https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/IJTC-03-2021-0039/full/html
- E4. https://zerogravity.photography/locations/wedding-photographers-in-bangalore/

Catalogue prepared by	Prof. Krishna Durbha
Recommended by the Board of Studies on	BOS NO:
Date of Approval by the Academic Council	Academic Council Meeting No. :

Course Code: **MBA4035**	**Course Title: SUPPLY CHAIN ANALYTICS** **Type of Course: Discipline Elective - Theory**	**L**	**T**	**P**	**C**
		2	**0**	**0**	**2**
Version No.	1.0				
Course Pre-requisites	1. **Basics of Production and Operations Management** 2. **Basics of Probability theory and regression analysis**				
Anti-requisites	**Nil**				
Course Description	Many companies are faced with the problem of analyzing the data that is piling up day by day. Data serves as a useful source of information to be analyzed that will help managers to take decision and plan for the future. Various theories and concepts are modelled to understand and analyze the supply chain processes. Through this course students will learn how do forecast demand, how to sequence various jobs on machines to minimize the waiting and idle time. Students will also understand the vendor process and the methodology used to evaluate and select the vendors.				
Course Out Comes	On successful completion of the course the students shall be able to: CO1) Analyze the demand in supply chain using various Forecasting methods. [Bloom – Analysis] CO2) Calculate least time for job scheduling in supply chains. [Bloom - Analysis] CO3) Interpret various vendor strategies using game payoffs.[Bloom-Application]				
Course Objective	The objective of this course is to make the students understand various aspects of Supply Chain Analytics through experiential mode of learning with the help of practical cases. Students will learn through cases the techniques to deal with practical situations which will enhance their employability.				
Course Content:					
Module 1	Supply Chain	Assignment/Quiz	Programming/Simulation/Data		10 Hours

	Demand Forecasting	Participative learning	Collection/any other such associated activity	

Introduction to Forecasting, methods of forecasting, moving average method, weighted moving average method, regression method for demand forecasting, linear and non-linear analysis, constructing normal equations, understanding replacement time based on variations in forecasted demand, case study on demand forecasting.

Module 2	Supply Chain Job Sequencing & Assignment	Case Study Experiential learning	Programming/ Simulation/Data Collection/any other such associated activity	10 Hours

Sequencing basics, modeling Nx2 machine problems, modeling Nx3 machine problems, Calculating Make-Span of sequences, preparing Job Flow Charts, Job Scheduling, Calculating Idle time and Waiting time, Optimal Assignment of Jobs to Machines/Managers/Salesman NxN and MxN problems using HUNGARIAN method, Exercise and Case study: Traveling Salesman.

Module 3	Vendor Evaluation and Selection	Case Study Experiential learning	Programming/ Simulation/ Data Collection/ any other such associated activity	10 Hours

Identifying vendors, Criterions for selection of vendors, Choice of suppliers by applying Game analysis technique, analysing payoffs for multiple strategies between 2 suppliers, 2-person-zero-sum game, Vonn Neumann method, Saddle point problems. Maximin and Minimax criterion, Mixed and Pure strategy problems, Order distribution to vendors. Case Study.

Targeted Application & Tools that can be used:
Above concepts are helpful in understanding the analytical techniques that will help managers to interpret Supply Chain problems through activities related to job sequencing, job assignment, vendor evaluation and forecasting. Students will understand the techniques that are required to solve practical problems.

Project work/Assignment: Mention the Type of Project /Assignment proposed for this course

Assignment type : Case study on forecasting, job sequencing and vendor payoff analysis

Text Book
Supply Chain Management: Strategy, Planning and Operation – by Chopra, Mendl & Kalra, 4th edition, Pearson

References
i.Operations Research-An Introduction, By Hamdy A Taha, 8th Edition, Pearson Education, Prentice Hall
ii.Supply Chain Management – Concepts, Practices and Implementation- by Sunil Sharma, Oxford University Press
ii.   Operations Research – J K Sharma
Lib-e-resource-links: from Presidency University
A.   https://www.proquest.com/docview/2681641810/6B6EF8E078A34195PQ/1?accountid=177896
B.   https://www.proquest.com/docview/2621365162/6B6EF8E078A34195PQ/4?accountid=177896
C.   https://www.proquest.com/docview/2578264845/9E24ADE6888B43F3PQ/2?accountid=177896
D.   https://www.proquest.com/docview/2621470142/3529C4DB879745F2PQ/1?accountid=177896
E.   https://www.proquest.com/docview/2557517590/80FB5D355CED46CFPQ/2?accountid=177896

Catalogue prepared by	Name/Names of the Faculty members prepared this catalogue Prof Krishna Durbha
Recommended by the Board of Studies on	Mention the BOS Number and the Date of BOS
Date of Approval by the Academic Council	Mention the Academic Council Meeting No. & the date of the meeting:

Course Code: MBA 4036	Course Title: Text Mining Type of Course: Lab Based Course	L- T-P- C	3	0	0	3
Version No.	1.1					
Course Pre-requisites	NIL. Students are expected to have numerical ability and understanding of Basic Statistics and either R or Python Code					
Anti-requisites	NIL					
Course Description	This course will cover the major techniques for mining and analyzing text data to discover interesting patterns, extract useful knowledge, and support decision making, with an emphasis on statistical approaches that can be generally applied to arbitrary text data in any natural language with no or minimum human effort. Detailed analysis of text data requires an understanding of natural language text, which is known to be a difficult task for computers. However, a number of statistical approaches have been shown to work well for the "shallow" but robust analysis of text data for pattern finding and knowledge discovery. You will learn the basic concepts, principles, and major algorithms in text mining and their potential applications					
Course Objective	This course will enhance EMPLOYABILITY through EXPERENTIAL LEARNING through lab tutorials.					
Course Out Comes	On successful completion of the course the students shall be able to: CO1) Describe how text is handled in Python[Comprehension] CO2) Apply basic natural language processing methods [Application] CO3) Illustrate text-based advanced data processing and visualization.[Application] CO4) Analyse how latest AI tools are being used in Industry [Analysis]					
Course Content						

Module 1	Introduction to Mining	Text Mining characteristics	Ability to identify the patters	09 Hours

Text Mining - characteristics, trends -Text Processing using Base Python & Pandas, Regular Expressions-Text processing using string functions & methods-Understanding regular expressions -
Identifying patterns in the text using regular expressions
Text Mining With R/Python

Module 2	Initial Data Processing	Reading Data from Folder/File	Finding Associations	12 Hours

Reading data from file folder/from text file, from the Internet & Web scrapping, Data Parsing -Cleaning and normalization of data-Sentence Tokenize and Word Tokenize, Removing insignificant words("stop words"), Removing special symbols, removing bullet points and digits, changing letters to lowercase, stemming /lemmatization/chunking - Creating Term-Document matrix- Tagging text with parts of speech - Word Sense Disambiguation - Finding associations - Measurement of similarity between documents and terms-
Visualization of term significance in the form of word clouds

Module 3	Advanced data processing and visualization with R/ Python	Assignment	Data Pre Processing for Text Analytics	12 Hours

Vectorization (Count, TF-IDF, Word Embedding's) - Sentiment analysis (vocabulary approach) -
Name entity ecognition (NER) - Methods of data visualization - word length counts plot - word frequency plots -

	word clouds, correlation plots, letter frequency plot, Heat map, Text Summarization			
Module 4	Examples in Text Mining	Assignment/Mini Project	Practical Examples	12 Hours

Practical and Business applied examples and case studies with Text Analytics

Targeted Application & Tools that can be used:

Targeted Application: Text Analytics

Tools: R or Python

Project work/Assignment: Mention the Type of Project /Assignment proposed for this course

    1. Assignment 1: Reading and capturing text
    2. Assignment 2: Collecting Journal Articles as input text
    3. Assignment 3: Text Mining Methods, Preparing Word Cloud

Text Book

    Blueprints for Text Analytics Using Python: Machine Learning-Based Solutions for Common Real World (NLP) Applications

    Jens Albrecht , Sidharth Ramachandran, O'Reilly

Reference Books

    R1: Applied Text Analysis with Python, Benjamin Bengfort Oreilly

R2: Text Mining with R, A tidy Approach , Julia Silge, O'Reilly

Web Links and Case Study Links

Catalogue prepared by	R Muruganandham
Recommended by the Board of Studies on	Mention the BOS Number and the Date of BOS
Date of Approval by the Academic Council	Mention the Academic Council Meeting No. & the date of the meeting:

Course Code: MBA3083	**Course Title:** PROGRAMMING FOR ANALYTICS **Type of Course: DISCIPLINE ELECTIVE (Theory with Embedded Lab)**	**L- T-P-C**	**3**	**0 0**	**3**
Version No.	2.0				
Course Pre-requisites	**Fundamentals of Business Analytics is inclusive pre-requisite for this Course. In addition, Critical thinking, reasoning, and analytical skills are required.**				
Anti-requisites	**NIL**				
Course Description	The course "Programming for Analytics" is to empower the Non analytics students with programming skills in Python. The programming skills with strong foundation towards analytics in business environment will be cultivated right from fundamentals to writing programs. This Course is covering competencies to handle data structures, file handling and essential skills for data analytics. Additionally addressing modeling issues for equipping the participants to couple judiciously with programming skills, in extracting data for business analytics. Participants' learning ranges from how to organize the work given, dissecting them and to refining the codes.				
Course Objectives	The Programming for Analytics course develops EMPLOYABILITY SKILLS through EXPERIENTIAL LEARNING methods				

Course Out Comes	On successful completion of the course the students shall be able to: CO1) Demonstrate programming skills in Python for business analytics. CO2) Solve messy data problems across data structures using Pandas CO3) Develop model for decision making and Visualization using Python CO4) Solve a business problem using python programming			
Course Content:				
Module 1	Introduction to Python	Quiz	Data types and Decision statements	9 Hours
Python Language and programming basics, Google colab, Jupyter and Ipython, Understanding Data types, Datastructures and functions, Introduction to numpy arrays, Indexing and slicing in numpy, Computation on numpy arrays, Aggregation and Statistical methods, Advanced numpy operations				
Module 2	Data wrangling	Assignment and Case Study	Data Wrangling	12 Hours
Introduction to pandas data structures, Data indexing, selection and filtering, Handling missing data and data transformation, Data wrangling: combining and reshaping datasets, Summarising data and descriptive statistics, Data loading storage and file formats, Timeseries analysis, Pandas for data visualization				
Module 3	Model Development and Evaluation	Experiential Learning	Modelling Project	12 Hours
Introduction to data visualization with matplotlib, Plotting with matplotlib, Customizing matplotlib Data visualization with seaborn, Introduction to Machine Learning and Scikit learn, Model validation and Hyperparameter tuning, Feature engineering and naive bayes classification, Advanced machine learning techniques				
Module 4	Real world applications and datasets	Experiential Learning	Capstone Project	12 Hours
Introduction to Real world applications and projects, Market Analysis Project, Financial Reports Project, Employee Data Project, Sales Dataflow Project, Supply chain Analysis project, Capstone Project				
List of Experiments (Embedded Lab - Student's self-study): These experiments can be done using Python - NumPy, Pandas and Matplotlib Lab Experiments are to be conducted on the following topics Experiment1: Understanding data types Experiment2:The basics of Numpy Arrays Experiment3:Computation on arrays Experiment4:Introduction to pandas Experiment5:Data indexing and selection Experiment6:Working with Strings, Date and Time Experiment7:Data Wrangling Experiment8:Modelling				
Targeted Application & Tools that can be used: Using NumPy, Pandas, Matplotlib, Seaborn, SciPy, Scikit learn or any other relevant Libraries to arrive at a model, students can employ the dataset which shall either be publicly available or primary in nature. The learners can use any algorithm for modelling				
Project work/Assignment: Mention the Type of Project /Assignment proposed for this course				
The MT & ET evaluations will be based on the two Individual Projects on modelling with presentation. The Project and the Presentation will have 70:30 split in the evaluation in this respect. The Project should be original and shall be using any dataset either secondary or primary source. However, the process of analysis and the conclusions should be original. The Project shall foot on either classification or regression problems. Project can include self learning components depending on the project but should be related to Business and Analytics domain. Students are encouraged to choose topics relevant to their specialization and are not allowed to take up any project that is not related to Business.				
Text Book				

T1: Python for Data Science: A Hands-On Introduction , Yuli Vasiliev, 2022, no starch press, ISBN-13: 9781718502208,

References:

R1 Machine Learning with Python Cookbook: Practical Solutions from Preprocessing to Deep Learning-Chris Albon, ISBN 978-1491989388

R2 Python for Probability, Statistics and Machine Learning (2e), Dr Jose Unpingco, ISBN-978-3030185442, Springer, 2019

Online Resources:

Articles

University E Resources
Yentl Van Tendeloo, Hans Vangheluwe, Romain Franceschini, December 2019 ,WSC '19: Proceedings of the Winter Simulation Conference Pages 1415–1429 , An introduction to modeling and simulation with (Python(P))DEVS
https://presiuniv.knimbus.com/openFullText.html?DP=http://dl.acm.org/doi/10.5555/3400397.3400511

Carrizosa, E., Guerrero, V. & Romero Morales, D. On mathematical optimization for clustering categories in contingency tables. Adv Data Anal Classif (2022)
https://link.springer.com/article/10.1007/s11634-022-00508-4

Hoang, T.B.N., Mothe, J. Prediction of brand stories spreading on social networks. Adv Data Anal Classif (2021)
https://link.springer.com/article/10.1007/s11634-021-00450-x

Case study link
https://www.futurelearn.com/info/courses/data-analytics-python-data-wrangling-and-ingestion/0/steps/186670
https://livebook.manning.com/book/think-like-a-data-scientist/chapter-4/17
https://www.projectpro.io/article/python-projects-for-data-science/462

Datasets and Codes for Experiential learning
https://www.kaggle.com/datasets/heptapod/titanic
https://www.kaggle.com/datasets/pavansubhasht/ibm-hr-analytics-attrition-dataset
https://www.kaggle.com/code/mysarahmadbhat/eda-on-netflix/notebook
https://www.kaggle.com/code/aayushmishra1512/netflix-data-analysis-and-visualization/notebook
https://fraud-detection-handbook.github.io/fraud-detection-handbook/Chapter_3_GettingStarted/SimulatedDataset.html

Videos and Podcast
https://www.youtube.com/watch?v=G9NmACvXh8w
https://podcasts.google.com/feed/
aHR0cHM6Ly9yZWFscHl0aG9uLmNvbS9wb2RjYXN0cy9ycHAvZmVlZA

Catalogue prepared by	Dr N Srikanth Reddy
Recommended by the Board of Studies on	
Date of Approval by the Academic Council	

Course Code: MBA2030	Course Title: Consumer Behaviour Type of Course: Discipline Core Theory Only Course	L-T-P-C	3	0	0	3

Version No.	1.0
Course Pre-requisites	Fundamentals of Marketing Fundamentals of Sales
Anti-requisites	NA
Course Description	Consumer is the centre of all marketing actions. For a brand or a product to be able to appeal to the consumer and gain their loyalty, it is imperative that the it is not only created/designed but also marketed taking into serious consideration the interests, aspirations, and preferences of the consumer. Therefore, a clear understanding of Consumer Behaviour is indispensable to successful marketing action. The course provides students with a deep understanding of the concepts of consumer behaviour and to help them use this understanding to make better marketing decisions. The students will learn the key concepts and theories of consumer behavior, identify applications of these concepts and theories to real world consumer behavior problems and show how behavioral evidence can be used to evaluate alternative marketing strategies based on insights that can be used to drive innovation across industries.
Course Out Comes	On successful completion of the course the students shall be able to: 1] Explain the importance and the inter-disciplinary nature of Consumer Behavior. (Comprehension) 2] Apply the concepts of Motivation, Personality and Perception in consumer decision making. (Application) 3] Apply the concepts of Learning and Attitude in consumer decision making. (Application) 4] Analyze the effect of Sociological influences on Consumer Behavior. (Analysis)
Course Objective	This course is designed to improve the learners' EMPLOYABILITY SKILLS by using PARTICIPATIVE LEARNING techniques.

Module 1	Introduction to the study of Consumer Behavior	Role Play (EXPERIENTIAL LEARNING)	Experiential Learning activity depicting the different types of decision-making process of consumers applying to live products/services	12 Hours

Consumer Behaviour: Definition, Meaning & Importance, Nature & Scope, Theoretical framework of Consumer Behaviour, Traditional vs Digital consumers, Ethnography, Consumer Involvement, Causes, Low and high involvement, Models of Consumer Behaviour, Levels of Consumer Decision Making - Extensive Problem-Solving Model, Limited Problem-Solving Model, Routinized Response Behavior

Module 2	Psychological Influences on Consumer Behavior	Assignment and Case study	Primary data collection for Assignment	9 Hours

Motivation: Basics of Motivation, Needs, Goals, Positive & Negative Motivation, Rational Vs Emotional motives, Personality & Self Concept: Basics of Personality, understanding consumer diversity, Changing Lifestyles and footprint on Digital era. Family: Family decision making, Family consumption roles, Traditional family life cycle & implications. Opinion Leadership: Dynamics of opinion leadership process, Opinion Leadership & Marketing Strategy.

Module 3	Consumer Learning, Attitude, Memory and Information processing	Case Study (EXPERIENTIAL LEARNING)	Flip classroom/Experiential Learning through activity and assignment	12 Hours

Elements of Consumer Learning – motives, cues, responses, reinforcement, Reinforcement, Classical conditioning, S-R theory, Observational learning, Information processing – Short term, long term, perception v/s attitude, attitude formation, tri component model of attitude, TRA – Theory of reasoned action, ELM Model - The elaboration likelihood model , cognitive dissonance, Absolute Threshold / Just Noticeable Difference, Applications of Perception, Consumer Profiling, Psychographics

Module 4	Sociological Influences on Consumer Behaviour and Consumer behavior models	Term paper/Assignment/Case Study (EXPERIENTIAL LEARNING)	Field research	12 Hours

Social Comparison, Informational Social influence, Conformity & Norms, EKB Model, Howard Sheth Model, Family Decision-making Model, Pavlovian Model and Economic Model, Consumerism, Consumer protection Act (CPA-2019) in light of e commerce and digitization, Types of Decisions and Decision Making, Consumer Decision Making Influencers, Role of Culture in Decision Making, Experiential Utility
Role of Emotions in Decision Making, Motivation and Emotion, Social Judgement Theory
Targeted Application & Tools that can be used: Students would be encouraged to take up live projects and through experiential learning activities in the class they will imbibe the cognitive approaches to understand and apply factors effective to understand consumer minds.
Project work/Assignment:
1] Field project (Group): Select a Product/Brand of your choice and complete the following task: Provide a brief introduction to the product/Retailer/Organisation and explain what would attract the consumers to this brand from the category. Write in brief about any two external /internal factors which would influence the consumer on his purchase decision (keeping in mind the type of buying process involved for the product). Collect Primary Data from customers of the selected Product/brand about the factors you have considered important for their purchase and also the level of satisfaction (Post Purchase) Analyse the collected primary data by listing/interpreting your findings. Conclude your report with valid suggestions and or recommendations. (Kindly note: Student should visit PU library and access the online resources for the same and incorporate the assignment as well as attach the photo of log in and log out in person in the end of the assignment file.) 2] Group Assignment: Imagine you are a consumer who needs to buy any one of the following product: A Sports utility vehicle A luxury farmhouse A high-end mobile phone A motorbike/scooter While making the purchase decision you have to keep in mind the following and explain your choice based on: TRIO of NEEDS Motivation Process Brand Personality vs SELF IMAGE Keeping in mind the above factors explain: The buying process (selecting whether it is EPS, LPS, RPS). Apply the IPO (Input Process and Output) In completing the above task don't forget to Your written report should be backed up with relevant academic literature review as it is an open book term paper and a conclusion. (Kindly note: Student should visit PU library and access the online resources for the same and incorporate the assignment as well as attach the photo of log in and log out in person in the end of the assignment file.)
Text Book T1. Loudon, David L. And Bitta, Albert J. Della (1992), Consumer Behavior: Concepts and Applications. 4th Ed. Mcgraw Hill Education
References Books: R1 Consumer Behavior 12 e by Schiffman, J Wisenblit, and S.Ramesh Kumar. PU Online Library Https://presiuniv.knimbus.com/user#/home Articles: Evolution and trends in consumer behavior: Insights from Journal of Consumer Behavior-Web of Science Core Collection (knimbus.com). Griskevicius & Kenrick (2013) Fundamental motives: How evolutionary needs influence consumer behaviour (article). Fundamental motives: How evolutionary needs influence consumer behavior-Web of Science   Core Collection (knimbus.com). Loureiro, S. M. C., Bilro, R. G., & Japutra, A. (2020). The effect of consumer-generated media stimuli on emotions and consumer brand engagement. Journal of Product & Brand Management, 29(3), 387-408.

Tian, Y., Yoo, J. H., & Zhou, H. (2022). To read or not to read: An extension of the theory of planned behaviour to food label use. International Journal of Consumer Studies, 46(3), 984-993.

To read or not to read: An extension of the theory of planned behaviour to food label use-Web of Science Core Collection (knimbus.com).

Mulyanegara, R. C., Tsarenko, Y., & Anderson, A. (2009). The Big Five and brand personality: Investigating the impact of consumer personality on preferences towards particular brand personality. Journal of brand management, 16, 234-247.

Yan, L., Keh, H. T., & Wang, X. (2021). Powering sustainable consumption: The roles of green consumption values and power distance belief. Journal of Business Ethics, 169, 499-516.

Additional Reading;
Consumer attitudes to utility products: a consumer behaviour perspective
Https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/02634500210450837/full/html
Liu D, Darbandi M. (2022). Assessing the impact of cloud-based services on the consumer minds and its impact on consumer behaviour. Kybernetes.51(6):2127-2155 Link: https://web.p.ebscohost.com/ehost/detail/detail?Vid=23&sid=954f0526-3312-4742-b34a-1ee127cdcc2f%40redis&bdata=jnnpdgu9zwhvc3qtbgl2zq%3d%3d#AN=156948690&db=iih

Effect of television adverts on children's purchase behaviour: Evidence from ghanalink: https://www.tandfonline.com/doi/full/10.1080/23311975.2019.1614740

Consumer attitudes to utility products: a consumer behaviour perspective
Link:https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/02634500210450837/full/html

Liu D, Darbandi M (2022). Assessing the impact of cloud-based services on the consumer minds and its impact on consumer behaviour. Kybernetes.51(6):2127-2155 Link: https://web.p.ebscohost.com/ehost/detail/detail?Vid=23&sid=954f0526-3312-4742-b34a-1ee127cdcc2f%40redis&bdata=jnnpdgu9zwhvc3qtbgl2zq%3d%3d#AN=156948690&db=iih

Case Study: Do women customers love to talk about financial brands? An empirical evidence on the mediated service responsiveness and brand sincerity in creating a positive word of mouth
Https://www.tandfonline.com/doi/full/10.1080/23311975.2021.1945426

HBR Articles;
Magids, Scott, Zorfas, Allan, and Leemon, Daniel. (2015). The New Science of Emotions. Harvard Business Review.
Link: The New Science of Customer Emotions (hbr.org)

Weed, Keith (2012). Change Consumer Behavior with These Five Levers. Harvard Business Review.
Link: https://hbr.org/2012/11/change-consumer-behavior-with

Videos:
Consumer Behavior Models, Link: https://youtu.be/1dfn_htwlak
Consumer Behaviour Factors, Link: https://youtu.be/UL6imegssbQ

Catalogue prepared by	Dr. Mohamad Imrozuddin
Recommended by the Board of Studies on	
Date of Approval by the Academic Council	

Course Code: MBA3117	Course Title: SUPPLY CHAIN ANALYTICS Type of Course: Discipline Elective - Theory	L	T	P	C
		3	0	0	3

Version No.		1.0
Course Pre-requisites		3. Basics of Production and Operations Management 4. Basics of Probability theory and regression analysis
Anti-requisites		Nil
Course Description		Many companies are faced with the problem of analyzing the data that is piling up day by day. Data serves as a useful source of information to be analyzed that will help managers to take decision and plan for the future. Various theories and concepts are modelled to understand and analyze the supply chain processes. Through this course students will learn how do forecast demand, how to sequence various jobs on machines to minimize the waiting and idle time. Students will also understand the vendor process and the methodology used to evaluate and select the vendors.
Course Out Comes		On successful completion of the course the students shall be able to: CO1) Analyze the demand in supply chain using various Forecasting methods. [Bloom – Analysis] CO2) Calculate least time for job scheduling in supply chains. [Bloom - Analysis] CO3) Interpret various vendor strategies using game payoffs.[Bloom-Application]
Course Objective		The objective of this course is to make the students understand various aspects of Supply Chain Analytics through experiential mode of learning with the help of practical cases. Students will learn through cases the techniques to deal with practical situations which will enhance their employability.
Course Content:		

Module 1	Supply Chain Demand Forecasting	Assignment/Quiz Participative learning		Programming/Simulation/Data Collection/any other such associated activity	12 Hours

Introduction to Forecasting, methods of forecasting, moving average method, weighted moving average method, regression method for demand forecasting, linear and non-linear analysis, constructing normal equations, understanding replacement time based on variations in forecasted demand, case study on demand forecasting.

Module 2	Supply Chain Job Sequencing & Assignment	Case Study Experiential learning		Programming/ Simulation/Data Collection/any other such associated activity	12 Hours

Sequencing basics, modeling Nx2 machine problems, modeling Nx3 machine problems, Calculating Make-Span of sequences, preparing Job Flow Charts, Job Scheduling, Calculating Idle time and Waiting time, Optimal Assignment of Jobs to Machines/Managers/Salesman NxN and MxN problems using HUNGARIAN method, Exercise and Case study: Traveling Salesman.

Module 3	Vendor Evaluation and Selection	Case Study Experiential learning		Programming/ Simulation/ Data Collection/ any other such associated activity	12 Hours

Identifying vendors, Criterions for selection of vendors, Choice of suppliers by applying Game analysis technique, analysing payoffs for multiple strategies between 2 suppliers, 2-person-zero-sum game, Vonn Neumann method, Saddle point problems.

Module 4		Evaluation and Selection	Case Study Experiential learning	Programming/ Simulation/ Data Collection/ any other such associated activity	9 Hours

Maximin and Minimax criterion, Mixed and Pure strategy problems, Order distribution to vendors. Case Study.

	Targeted Application & Tools that can be used: Above concepts are helpful in understanding the analytical techniques that will help managers to interpret Supply Chain

		problems through activities related to job sequencing, job assignment, vendor evaluation and forecasting. Students will understand the techniques that are required to solve practical problems.
		Project work/Assignment: Mention the Type of Project /Assignment proposed for this course
		Assignment type : Case study on forecasting, job sequencing and vendor payoff analysis
		Text Book Supply Chain Management: Strategy, Planning and Operation – by Chopra, Mendl & Kalra, 4th edition, Pearson

		References
		v.Operations Research-An Introduction, By Hamdy A Taha, 8th Edition, Pearson Education, Prentice Hall
		   v. Supply Chain Management – Concepts, Practices and Implementation- by Sunil Sharma, Oxford University Press
		   vi. Operations Research – J K Sharma
		Lib-e-resource-links: from Presidency University
		   F. https://www.proquest.com/docview/2681641810/6B6EF8E078A34195PQ/1?accountid=177896
		   G. https://www.proquest.com/docview/2621365162/6B6EF8E078A34195PQ/4?accountid=177896
		   H. https://www.proquest.com/docview/2578264845/9E24ADE6888B43F3PQ/2?accountid=177896
		   I. https://www.proquest.com/docview/2621470142/3529C4DB879745F2PQ/1?accountid=177896
		   J. https://www.proquest.com/docview/2557517590/80FB5D355CED46CFPQ/2?accountid=177896

Catalogue prepared by		Name/Names of the Faculty members prepared this catalogue Prof Krishna Durbha
Recommended by the Board of Studies on		Mention the BOS Number and the Date of BOS
Date of Approval by the Academic Council		Mention the Academic Council Meeting No. & the date of the meeting:

Course Code: MBA3038	Course Title: TEAM DYNAMICS Type of Course: Open Elective and Theory Only course	L- P- T- C	3	0	0	3
Version No.	1.0					
Course Pre-requisites	Basic understanding of organization and organizational functions.					
Anti-requisites	NIL					
Course Description	Teams, teamwork and collaboration are essential to any modern organization. This course is being packed with information from psychology, sociology and business management helps the students to master the art of being a team member as well as a team leader. The purpose of the course is to impart all the necessary skills in team building, leading and motivating teams, bringing out the best team performance. This course, more specifically explains how to form, lead, motivate and assess teams. We live and work in an interconnected and integrated economies and business thus, it is very much necessary to have an understanding on the characteristics of multicultural and virtual teams. This course offers the same to enable students to work with and manage a highly diversified and geographically dispersed teams.					
Course Out Comes	**On successful completion of the course the students shall be able to:**					

	CO1: Describe the basic concepts of teams and team work. (Understanding) CO2: Examine the process of team building and development. (Applying) CO3: Analyze the challenges of team leadership and team empowerment. (Analyze) CO4: Assess the skills required to assess team performance and manage work behaviors in the diversified teams. (Evaluate)			
Course Objectives	Objective of this course is to enhance **Employability Skills** using **Participative Learning** Methods.			
Course Content:				
Module 1	**Introduction to teams**	Assignment	Participative Learning	09 Hours
Topics: Understanding Teams – Definition, Types of teams, teams vs groups, Components of a team, benefits and problems from teams, What makes teams unique; Understanding team work – Team work, Decision making process, The role and importance of shared identity, trust, collaboration, Ethics and values in teams; Team life cycle. **(Bloom's Level- Understanding)**				
Module 2	**Team building**	Assignment	Class activity	12 Hours Hours
Topics: Team composition; Team cohesion; Team development theories – The Tuckman team model, Punctuated equilibrium model, Taxonomy of team process; Team building interventions; Multiteam systems and temporal dynamics; Creating shared values, identity, trust and collaboration; individual and collective team behaviour; Creating high-performance, synergy, collaboration, knowledge sharing. **(Bloom's Level- Applying)**				
Module 3	**Team Leadership**	Data Analysis	Case study	12 Hours Hours
Topics: Leadership qualities; Changing landscape of leading teams; Transition and Action phase leadership function; Challenges of team leadership; 3D team leadership – Individual, Team, Subteam; Leading and motivating team members; Individual and team empowerment; Team leadership across culture; Leadership in virtual teams. **(Bloom's Level- Analyze)**				
Module 4	**Analysing Team performance**	Assignment	Participative Learning	12 Hours Hours
Topics: **-** Assessing team performance; Developing & applying effective communication methods & practices; Teams and Organization politics; Role of culture in team development; Benefits of cultural diversity to teams; Nine Belbin team roles; Social Loafing and other counterproductive work behaviors, Reasons for a team failure. **(Bloom's Level- Evaluate)**				
Targeted Application & Tools that can be used: This course help the students to learn the skills to be a good team player as well as team leader and empower them to work with and manage a highly diversified and geographically dispersed teams. Tools: Resources that employers use to improve team development and collaboration. Employee Engagement Platforms, Brainstorming & Collaboration Team Building, Goal Setting, Virtual Meeting Platforms, Joint Calendars, Paperless Post, Activities, Intentional Encouragement & Google Forms.				
Project work/Assignment: Mention the Type of Project /Assignment proposed for this course: Participative Learning				
Assignment 1(Individual): Identify any two organizations and compare the team structures with detailed analysis between those organizations and submit a report. Assignment 2: (Group) Prepare a poster presentation on effective team building theme with your group by working on creative ideas and submit. Presentation is mandatory from entire group. Assignment 3: Refer to any one research article from the list in the reference and write a review report on the referred article and submit. (Review of e-resource from Presidency University – Link is mentioned in references section. Mandatory to submit screenshot of accessing digital resource. Otherwise, it will not be evaluated).				
Text Book T1: Levi, Daniel (2020). Group Dynamics for Teams, Fifth edition, SAGE Publications India Pvt Ltd, New				

Delhi

References

R1: Eduardo Salas (2017). Team Dynamics over time, e-Book, Bingley: Emerald Publishing Limited.
R2: Bradley L. Kirkman (2017). 3D Team Leadership, e Book, Stanford, California: Stanford Business Books.

Catalogue prepared by	Dr.R.Sethumadhavan
Recommended by the Board of Studies on	Mention the BOS Number and the Date of BOS
Date of Approval by the Academic Council	Mention the Academic Council Meeting No. & the date of the meeting: .: PU/AC-21.17/SOM16/MBA/2024-26

Course Code: MBA3046	Course Title: Game Theory in Business Type of Course: Open Elective Theory Only Course	**L – T – P - C**
		3 – 0 – 0 - 3
Version No.	1.0	
Course Pre-requisites	Economics Statistics for Research Quantitative Techniques	
Anti-requisites	NIL	
Course Description	**Game theory** is the study of **strategic decision-making** used to analyze competitive and cooperative scenarios among individuals or organizations. This course provides students with the tools to **evaluate** and **strategize** interactions involving multiple decision-makers, emphasizing its practical applications in **business contexts** such as **market competition, negotiations, pricing strategies,** and **decision-making under uncertainty.**	
Course Outcomes	**On successful completion of this course, students will be able to:** CO1**: Explain** fundamental concepts of game theory and their applications in business (Knowledge Level). CO2: **Analyze** and solve strategic decision-making scenarios using game theory principles (Analysis Level). CO3: **Develop** optimal strategies in complex and uncertain environments using tools such as Nash equilibrium and Bayesian games (Application Level). CO4: **Critically** evaluate cooperative and competitive interactions to improve business outcomes (Evaluation Level).	
Course Objective	1. Introduce students to the fundamental concepts and tools of game theory. 2. Enhance students' analytical and strategic thinking abilities to evaluate complex business interactions.	

Module 1	**Strategic Thinking and Simultaneous Games**	Assignment (Participative Learning)	Hands-on learning	**09 Hours**

	3. Provide experiential learning opportunities through case studies and simulations to apply game theory in real-world business contexts.			

Topics:

Introduction to strategic thinking, Interdependence in decision-making, Types and elements of games, Simultaneous-move games (Prisoner's Dilemma, Dominated Strategies), Best Responses, and Iterated Elimination.
Case Studies: Analyzing market competition scenarios.
Delivery: Lecture, Case Study Analysis, Group Activities.

Module 2	Games of Coordination	Assignment (Participative Learning)	Hands-on projects	**12 Hours**

Topics:

Topics: Coordination challenges, Sharing the Pie, Assurance Game, Payoff Dominant Equilibria, Cooperative Games, Chicken Game, Hawk-Dove Game. Application of game theory in pricing strategies and resource sharing.
Hands-On Activities: Role-playing games to understand payoff structures.

Module 3	**Randomized Strategies and Mixed Strategies**	Assignment (Participative Learning)	Workshops	**12 Hours**

Topics: Randomized Strategies in games, Expected Value Calculation, Mixed and Pure Strategy Equilibria, Strategic Randomization,
Monitoring Games, War of Attrition. Case Studies: Game-based decision-making under uncertainty.

Module 4	**Dynamic Sequential-Move and Bayesian Games**	**Assignment (Participative Learning)**	Simulation exercises	**12 Hours**

Topics: Game Tree Structures, Subgame Perfect Nash Equilibrium, Sequential-Move Games, Bayesian Games, Risk Sharing,
Limit Pricing Strategies. Application in business scenarios such as market entry and pricing wars.
Activities: Simulation exercises and real-world application projects.

Targeted Application & Tools that can be used:

Students would be encouraged to take up live projects and through experiential learning activities in the classroom.
Professionally Used Software: N/a

Delivery Procedure: This course follows a student-centric pedagogy involving interactive Hours, case-based learning, and experiential projects.
Methods include:
1. Conceptual Lectures: Introduction to theoretical frameworks.
2. Case Studies: In-depth analysis of real-world applications.
3. Group Discussions: Collaborative learning and problem-solving.
4. Simulation Exercises: Hands-on activities to practice game theory applications.
5. Project Work: Individual projects focusing on competitive strategies using game theory.

Project work/Assignment:

Assignment 1:

Ptalk.com conducted;

a) Ad campaign of 180×150 banner size to its client Whitefield Volkswagen Bangalore and the Cost per 1000 impression is Rs.25 and the impressions to be served is 600000, what will be the actual cost to the advertiser?

b) Ptalk.com did an Ad campaign having 728×90 banner size having served 20000 impressions and has generated 200 clicks, calculate the CTR of that Ad?

c) Ptalk.com is ready to spend Rs.20000 for Display Ad campaign having 160×600 size banner with number of clicks the Ad generated is 200, so what will be the Cost per Click?

d) If Ptalk.com PPC is worth Rs.10, number of Impressions is 20000, CTR is 6% and CR is 3%. Calculate the CPA to an advertiser?

e) Ptalk.com spends Rs.10,000 and media buy at Rs.10 CPM, to serve 500000 impressions and CTR on the ad is 0.1% with Landing Page Conversion Rate = 10%, calculate the number of leads and CPL?

Assignment 2:

Amazon.com conducted a Ad campaign of 200×180 banner size to its client Whitefield Volkswagen Bangalore and the Cost per 5000 impression is Rs.15 and the impressions to be served is 900000, whatwill be the actual cost to the advertiser?

b) Amazon.com did an Ad campaign having 900×100 banner size having served 40000 impressions and has generated 500 clicks, calculate the CTR of that Ad?

c) Amazon.com is ready to spend Rs.80000 for Display Ad campaign having 260×900 size banner with number of clicks the Ad generated is 900, so what will be the Cost per Click?

d) Amazon.com PPC is worth Rs.40, number of Impressions is 80000, CTR is 8% and CR is 5%. Calculatethe CPA to an advertiser?

e) Amazon.com spends Rs.50,000 and media buy at Rs.50 CPM, to serve 500000 impressions and CTR on the ad is 0.5% with Landing Page Conversion Rate = 50%, calculate the number of leads and CPL?

Text Books:

T1: Display Advertising (An Hour a Day) By David Booth and Corey Koberg, John Wiley & Sons, Inc. 2013.

References:

R1. Chadha A. (2016). Game Theory for Managers: Doing Business in a Strategic World. PHI Learning.
R2. Barron E.N. (2014). Game Theory: An Introduction. Wiley India Pvt Ltd.

Online Resources:
  https://presiuniv.knimbus.com/user#/home Research
Articles:

- Abedian, M., Amindoust, A., Maddahi, R. and Jouzdani, J. (2022), "A game theory approach   to selecting marketing-mix strategies", Journal of Advances in Management Research, Vol. 19 No. 1, pp. 139-158. https://puniversity.informaticsglobal.com:2068/10.1108/JAMR-10-2020-0264 Download as .RIS
- https://puniversity.informaticsglobal.com:2293/insight/content/doi/10.1108/JAMR-10-2020-0264/full/html
- https://webpages.math.luc.edu/~enb/gamebook.pdf
- https://mathematicalolympiads.files.wordpress.com/2012/08/martin_j-_osborne-an_introduction_to_game_theory-oxford_university_press_usa2003.pdf
- http://www.ru.ac.bd/wp-content/uploads/sites/25/2019/03/405_01_Thie_An_Introduction_to-linear-programming-and-game-theory.pdf
- https://www.nature.com/articles/s41598-022-11654-2

Case Studies:

The right Game: Use Game Theory to Shape Strategy (HBR).
http://thuvien.bkc.vn/Ebook/Ebook-2/Kinh-Te-Quan-Tri/Tieng%20Anh/Harvard%20-%20Business%20-
%20Game%20Theory%20-%20Using%20Game%20Theory%20to%20Shape%20Strategy.pdf.

Ma Making game theory work for Manager (McKinsey & Company,2009).
http://thuvien.bkc.vn/Ebook/Ebook-2/Kinh-Te-Quan-Tri/Tieng%20Anh/Harvard%20-%20Business%20-
%20Game%20Theory%20-%20Using%20Game%20Theory%20to%20Shape%20Strategy.pdf.

F From Strategy to Business Models and to Tactics (HBR, Working Paper).
https://www.hbs.edu/ris/Publication%20Files/10-036.pdf

Catalogue prepared by	Dr. Rajib Sanyal
Recommended by the Board of Studies on	BOS NO: BOS held on 13-01-2024
Date of Approval by the Academic Council	Academic Council Meeting No., Dated

Course Code: MBA3047	Course Title: Data Story Telling (with Tableau and PowerBI)	L	P	T	C
	Type of Course: Open Elective (Theory with Embedded Lab)	3	0	0	3
Version No.	1.1				
Course Pre-requisites	• Should have basic mathematics and statistics knowledge • Should have completed Fundamentals of Business Analytics (FBA) Sem2				
Anti-requisites	NIL				
Course Description	One of the key skills of Managers is to be able to collate, analyse and present data to accurately reflect the state of the business, take decisions based on data and finally present highly impactful visualizations of the state of business and its future. The course will aim to provide necessary skills to students of Analytics to be able to collate, clean data, derive insights and present compelling visualizations, dashboards using industry top software like Tableau and PowerBI. These are very valuable skills for any Business Analytics professional today. All participants who successfully complete this course will get a certificate of participation by KPMG.				
Course Out Comes	On successful completion of the course the students shall be able to: CO1) Identify right business issues & data required to solve these **[Knowledge]** CO2) Describe relevant aspects of business for management action. **[Comprehension]** CO3) Prepare impactful management reports, dashboards using Tableau and PowerBI. **[Apply]** CO4) Evaluate various business solutions using data and recommend action. **[Analyze]**				
Course Content:					

Module 1	Data Visualization and Charts using PowerBI	Report – E review	12 Hours	Knowledge

Introduction to PowerBI Interface, Connecting data sources in PowerBI and Key components, filters - visual level, page level and report level, Charts- Line and stacked column chart, Line and clustered column chart, Doughnut chart, Heat map, Histogram, pareto, Box and Whiskers, Scatter plot, bubble chart, Text tables, Scatter chart, Map, Filled Map, Gauge, Card				
Module 2	**Data cleansing and Dashboard using PowerBI**	Assignment	10 Hours	Comprehension
Data cleaning in power BI, report building using Power BI, DAX expression and Dashboard Creation in PowerBI				
Module 3	**Data Visualization, Charts using Tableau**	**Practical**	**12 Hours**	**Application**
Introduction and Importance of Data Visualization, Introduction to Tableau Interface, creating user profiles and cloud interface, Connecting data sources in Tableau. Types of charts in visualization (Line and stacked column chart, Line chart, Area chart, Histogram)				
Module 4	**Building Advance Charts& Dashboard using Tableau**	**Assignment**	**11 Hours**	**Analysis**
Types of charts in visualization (pareto, Box and Whiskers, Scatter plot, bubble chart, Text tables), Basic and advanced filters in Tableau,Creating calculated fields, Parameters, sets and groups in Tableau, Data joins and Data blending, Dashboard Creation in Tableau (Layout, Designs, Elements, Objects, filters on dashboard) Story cards in Tableau				

List of Laboratory Tasks:
Experiment No 1: Connect to data and edit the connection properties
Level 1: with connections to a flat file using live connection and rename the canvas connection
Level 2: with connection to a flat file using extract and rename through edit connection
Experiment No 2: For the given business data related to sales of cycles across the world
Level 1: Create a calculated field on single sheet-based data from within data source
Level2: Create a calculated field based on a multiple data source

Targeted Application & Tools that can be used: Tableau Desktop, Tableau Public, Tableau online, Tableau and PowerBI. *Please note – only free trial versions will be installed in lab computers and not paid versions. IT support and help must be provided to ensure effective delivery of the course using authorized software.*

Project work/Assignment: Mention the Type of Project /Assignment proposed for this course
1. Assignment1: Collect data from open source data sites for a typical business event and apply visualization and analytics techniques
2. Assignment2: Prepare Dashboard report on stock profitability for a given stock exchange
3. Analyzing data for Customer Analytics, Pricing Analytics, Churn etc.
4. Presentation on effective dashboards using Tableau and PowerBI.

Text Book
  T1. Information Dashboard Design, 2nd e, Stephen Few, Analytics Press, 2013
  T2. Mastering Tableau – David Baldwin, November 2016, Packt Publishing, ISBN: 978-1-78439-769-2

References
1. *Practical Tableau -* Ryan Sleeper, 2018, O'Reilly Media Inc, ISBN 978-1-491-97731-6
2. *Tableau Your Data -* Danieal G Murray, 2013, John Wiley & Sons, ISBN 978-1-18-61204-0
3. *Introducing Microsoft PowerBI -*Alberto Ferrari and Marco Russo 2016, Microsoft Press, ISBN: 978-1-5093-0228-4

Online Resources:
Articles
University E Resources

Jensen, R.W., Limbu, Y.B. and Spong, Y. (2015), "Visual Analytics of Twitter Conversations about Corporate Sponsors of FC Barcelona and Juventus at the 2015 UEFA Final", International Journal of Sports Marketing and Sponsorship, Vol. 16 No. 4, pp. 3-9.
https://presiuniv.knimbus.com/openFullText.html?DP=https://www-emerald-com-presiuniv.knimbus.com/insight/content/doi/10.1108/IJSMS-16-04-2015-B002/pdfplus/html.
Carrizosa, E., Guerrero, V. & Romero Morales, D. On mathematical optimization for clustering categories in contingency tables. Adv Data Anal Classif (2022)
https://link.springer.com/article/10.1007/s11634-022-00508-4
Hoang, T.B.N., Mothe, J. Prediction of brand stories spreading on social networks. Adv Data Anal Classif (2021)
https://link.springer.com/article/10.1007/s11634-021-00450-x
Case study link
https://www.datasciencecentral.com/how-a-good-data-visualization-could-save-lives/
Datasets and Codes for Experiential learning
https://www.kaggle.com/datasets/heptapod/titanic
https://www.kaggle.com/datasets/pavansubhasht/ibm-hr-analytics-attrition-dataset
https://www.kaggle.com/code/mysarahmadbhat/eda-on-netflix/notebook
https://www.kaggle.com/code/aayushmishra1512/netflix-data-analysis-and-visualization/notebook
https://fraud-detection-handbook.github.io/fraud-detection-handbook/Chapter_3_GettingStarted/SimulatedDataset.html
Excellent visualization & reports. *https://www.gapminder.org/*
Videos and Podcast
https://www.youtube.com/watch?v=loYuxWSsLNc
https://podcasts.google.com/feed/aHR0cHM6Ly9kYXRhdml6dG9kYXkubGic3luLmNvbS9yc3M

Catalogue prepared by	Dr. Varalakshmi Dandu
Recommended by the Board of Studies on	Mention the BOS Number and the Date of BOS
Date of Approval by the Academic Council	Mention the Academic Council Meeting No. & the date of the meeting:

Course Code: MBA3048	Course Title: Environmental Sustainability and Value Creation Type of Course: Open Elective & Theory only	L- P-T-C	3	0	0	3
Version No.	1.0					
Course Pre-requisites	**Knowledge of basic concepts of Economics and business management is an advantage.**					
Anti-requisites	**NIL**					
Course Description	This course provides an overview of topics related to business sustainability with a focus on how environmentally sustainable approaches can create value for the firm. We will explore trends in corporate practices and consider specific examples to examine the interactions between the firm and the environment. This course has three					

	objectives: to increase students' knowledge of sustainability practices and their impact on firm performance; to teach students to think strategically and act entrepreneurially on environmental issues; to help students design business approaches to improve environmental outcomes, while simultaneously creating value.			
Course Objectives	This course is designed to improve the learners' **ENTREPRENUERSHIP SKILLS** by using **PARTICIPATIVE LEARNING** techniques.			
Course Outcomes	On successful completion of this course the students shall be able to: (1) Discuss important topics associated with Sustainability, Business and Policies for sustainable business 2) Apply the environmental impact assessment on real-time problems 3] Estimate climate-based risk to the business sector and strategize adaptation and resilient measures 4] Summarize the circular economy concept for eco-entrepreneurship			
Course Content:				
Module 1	Sustainability, Business, and Public Policy	Assignment (Participative Learning)	Track your carbon footprint for a week.	**10 Hours**
Topics: Basic concept of Sustainability, Sustainable business, policy initiatives at the international and national level, Definition of sustainability in the business context, Triple Bottom Line (TBL): Economic, Environmental, and Social Sustainability, The global sustainability agenda: UN SDGs and the role of business, Concepts and approaches for accessing the sustainability of Business, Sustainability Metrics, Sustainable competitive advantage: theory and practice, The role of leadership in driving sustainability				
Module 2	Measuring the Environment	Off class room activity (Experiential Learning)	Zero Trash Day and evaluate the value proposition	**10 Hours**
Topics: Understanding the environmental impact of business operations, Concepts in measuring the environment value. Benefit-Cost Analysis, Contingent Valuation Method: Travel Cost Method, Hedonic Price method, Preventive Expenditure method, Surrogate Markets, Property Value method, Wage-differential Approach, and Opportunity Cost Method, Assessing environmental risk and the cost of inaction, Sustainable competitive advantage: theory and practice, Companies successfully using sustainability as a competitive tool.				
Module 3	Managing Climate Risks	QUIZ	Climate adaptation strategy	**13 Hours**
Topics: Climate change preparedness and Business sector, Types of risks, resource depletion, and biodiversity loss Economic risk of climate change, Climate Adaptation and Resilience, Crisis Management and Communication, Managing climate risks, Enterprise risk management, Financial risk management, climate risk mitigation strategies, Adaptation strategies, Policy engagement and advocacy, KPI's for managing climate risks, Tools and frameworks for managing climate risks.				
Module 4	The Circular Economy	Mini Project (Experiential Learning)	**Eco-entrepreneurship Business Idea challenge**	**12 Hours**
Topics: Basic Concepts of circular economy and business reality, Linear Vs circular economy model, Value propositions generation and creation, Design Innovation and Eco-entrepreneurship, Challenges of eco-entrepreneurship. Opportunities for eco entrepreneurship, Sustainable Business Model- Product-service systems, cradle-to-cradle, and B Corp models, Sustainable competitive advantage: theory and				

practice, Value creation through eco-efficiency and innovation, Corporate Social Responsibility (CSR) and its evolution to strategic sustainability.

Targeted Application & Tools that can be used:

Application Area is SMEs, Large corporates and Social Entrepreneurship

Project work/Assignment:

Project Assignment: Track your carbon footprint for a week:carbonfootprint.com - Carbon Footprint Calculator

Zero Trash Day and evaluate the value proposition
Climate Variability and Business -Quiz
Eco-entrepreneurship Business Idea challenge

Corporate Sustainability: Samuel O. Idowu & Rene′ Schmidpeter,Springer

References

1) https://www.goodreads.com/book/show/21913812-this-changes-everything
2) https://www.goodreads.com/book/show/56268863-the-book-of-hope
3) https://www.goodreads.com/book/show/54870131-the-day-the-world-stops-shopping
Towards the Circular Economy: Business Rationale for an Accelerated Transition, Ellen MacArthur Foundation, 2015
Sustainability's deepening imprint | McKinsey
A Road Map for Natural Capitalism (hbr.org)
How Do Economists Really Think About the Environment? (rff.org)
(66) How to be a sustainable entrepreneur Part 1 - YouTube
(66) The Story of EcoPreneurship - YouTube
(66) Eco preneurship Opportunities & Challenges By Prof Manoj Kumar Pandey - YouTube
(66) Explaining the Circular Economy and How Society Can Re-think Progress | Animated Video Essay - YouTube
THE 17 GOALS | Sustainable Development (un.org)
Case Studies:

https://www.patagonia.com/activism/

https://www.unilever.com/files/92ui5egz/production/16cb778e4d31b81509dc5937001559f1f5c863ab.pdf

https://ijefm.co.in/v5i12/10.php#:~:text=Tesla%20is%20considered%20the%20leading,2)%20Armstrong%2C%20M.%20(

Videos:

Unilever : https://www.youtube.com/watch?v=OalF6p5sLSA

Tesla : https://www.youtube.com/watch?v=GQ_fF6kFQlk

IKEA: https://www.youtube.com/watch?v=FY9H-Jxxn0o

University Library links
The Tragedy of the Commons on JSTOR

Catalogue prepared by	Dr.Akhila R Udupa				
Recommended by the Board of Studies on					
Date of Approval by the Academic Council					

Course Code: MBA3049	Course Title: Industry 4.0 Type of Course: Open Elective – Theory Only Course	**L-P-T-C**	3	0	0	3
Version No.	1.0					
Course Pre-requisites	No prior technical background is required.					
Anti-requisites	NA					
Course Description	The world is on the verge of the Fourth Industrial Revolution, which will be fueled by advances in decision-making and process automation. Advances in information and communication technology (ICT) have resulted in significant increases in computational capacity and move towards complete digital transformation, as well as improved capabilities in connecting the dots in an increasingly networked society. Cloud-based digital platforms are ideal for developing new business models and using intelligent algorithms to analyze data and derive information for usage by Cyber-Physical Systems (CPS), Internet of Things (IoT), and Industrial IoT. This course covers the role of data, production systems, various Industry 4.0 technologies, applications, and case studies, among other topics which will enhance and enable the students to understand the need for business analysis and observation in the current industrial revolution 4.0. In particular, to understand the opportunities and challenges brought about by Industry 4.0, as well as how organizations and knowledge workers may better prepare to benefit from this transformative revolution.					
Course Out Comes	On successful completion of the course the students shall be able to: 1. Understand the drivers and enablers of Industry 4.0 [Comprehension Level] 2. Demonstrate the knowledge on smart manufacturing, smart products, and services, while making complex business decisions [Application Level] 3. Recognise the opportunities, challenges brought about by Industry 4.0 and how organizations and individuals should prepare to reap the benefits [Comprehension Level] 4. Formulate the deep insights on how smartness is being harnessed from data and appreciate what needs to be done to overcome some of the challenges. [Application Level]					
Course Objective	The main objective of the course is to develop both employability and entrepreneurial skills through participative learning and experiential learning using case study and article reviews.					
Module 1	**Introduction and pavement to Industry 4.0**	Quiz	Smart Business Transformation, Internet of Things (IoT), Industrial Internet of Things (IIoT)		09 Hours	

1.1 Concepts of Various Industrial Revolutions, Digitalization and the Networked Economy, Drivers, Enablers, Compelling Forces of Industry 4.0, The Journey so far: Developments in India, USA, China, European and other countries. **1.2** Trends on Smart Business Transformation, Internet of Things (IoT), Industrial Internet of Things (IIoT), Internet of Services (IoS), Internet of People (IoP), Internet of Everything (IoE), Smart Manufacturing, Smart Logistics, Smart Devices / Goods and Services, Smart Cities, Smart Cities and Geospatial Technology.				
Module 2	**Systems and Technologies Enabling Industry 4.0**	Articles & Case Study Discussion	Link in the Reference description below	12 Hours
2.1 Concepts of Cyber-Physical Systems (CPS), Internet of Things (IoT) Architecture & Infrastructure, Cloud Computing (Fundamentals), Collaborative Platform and Product Lifecycle Management in Industry 4.0 **2.2** Digital Technologies - Robotics, Robotic Process Automation, Data Analytics, Artificial Intelligence and Machine Learning, Blockchain, Augmented Reality (AR) and Virtual Reality (VR), 3D Printing, 5G Net, and Cyber Security, Disruptive Inventions supporting Industry 4.0 - Digital and Social Media Services, Internet & Mobile, Industry 4.0 Value Creation & Value Innovation.				
Module 3	**Role of Data, Information, and Knowledge in Industry 4.O World and Application Domains of Industry 4.O**	Assignment	Report Writing on Application Domains of Industry 4.O with reference to any industry as specified below.	12 Hours
3.1 Concepts of Resource-Based View of a Firm, Data, and Information as a Resource for Organizations, Harnessing and Sharing Knowledge in Organizations, Linked with Cloud Computing. **3.2** Application Domains of Industry 4.O: Engineering, Design and Development, Sales, Inventory Management, Quality Control, Plant Safety and Security, Facility Management and Customer Service.				
Module 4	**Opportunities, Challenges and Strategies in Industry 4.0 and Future Industrial Revolution 5.0**	Experiential Learning	Interacting with industry technology experts and submitting report on Strategies for Competing in an Industry 4.0 World, Skills for Workers in the Industry 4.0 & 5.0	12 Hours
4.1 Opportunities and Challenges, Strategies for Competing in an Industry 4.0 World, Skills for Workers in the Industry 4.0 **4.2** Concept on Future Industrial Revolution (Industry 5.0), Future of Works and Skills for Workers in the Industry 5.0 era				
Targeted Application & Tools that can be used: This course helps in understanding contemporary aspects of innovation for business to sustain in the market.				
Project work/Assignment: Mention the Type of Project /Assignment proposed for this course				
Assignment based on self-study topics (Articles & Case Analysis as shown in the course handouts)				
Text Book T1: Alp Ustundag and Emre Cevikcan (2018). *Industry 4.0: Managing the Digital Transformation.* Springer Publishers.				

References
R1: Klaus Schwab (2017). *The Fourth Industrial Revolution*. Portfolio Penguin Publisher
R2: Alasdair Gilchrist (2016). *Industry 4.0: The Industrial Internet of Things*. Apress Publishers,
R3: Sudip Misra, Anandarup Mukherjee and Chandana Roy (2020). *Introduction to Industrial Internet of Things and Industry 4.0.* CRC Press

(Kindly note: Student should visit PU library and access the online resources for the same and incorporate the assignment)
Research Articles in Journals
https://presiuniv.knimbus.com/user#/home
Research Articles & Case Study References

Sources: Presiuniv.knimbus.com, Sage Publications, SCI Elsevier & HBR

1. Moving from Industry 2.0 to 4.0 in India
https://www.sciencedirect.com/science/article/pii/S235197891830209

2. Opportunities of Sustainable Manufacturing in Industry 4.0
https://www.sciencedirect.com/science/article/pii/S221282711600144X

3. Pros & Cons of Implementing Industry 4.0 for the Organizations
https://www.tandfonline.com/doi/full/10.1080/21693277.2020.1781705?cookieSet=1

4. A Complexity View of Industry 4.0
https://journals.sagepub.com/doi/full/10.1177/2158244016653987

5. Industry 4.0: The Future of Productivity & Growth in Manufacturing Industries
https://www.bcg.com/publications/2015/engineered_products_project_business_industry_4_future_productivity_growth_manufacturing_industries

6. Characteristics and Skills of Leadership in the Context of Industry 4.0
https://www.sciencedirect.com/science/article/pii/S2351978920307472

7. Renault - An Industry 4.0 Case Study
https://www.thedigitaltransformationpeople.com/channels/the-case-for-digital- transformation/renault-an-industry-4-0-case-study/

8. Revisiting Industry 4.0 with a Case Study
https://ieeexplore.ieee.org/document/8726697

9. Industry 4.0: Optimize Operations and Shape Future Innovation Industry 4.0: Optimize Operations and Shape Future Innovation.
https://www.ptc.com/en/solutions/digital-manufacturing/industry-4-0#:~:text=Industry%204.0%20is%20the%20application,additive%20manufacturing%2C%20and%20IoT%20analytics.

10. Challenges and Driving Forces for Industry 4.0 Implementation
https://www.mdpi.com/2071-1050/12/10/4208

11. How Leaders are Navigating the Fourth Industrial Revolution
https://hbr.org/sponsored/2019/03/how-leaders-are-navigating-the-fourth-industrial-revolution

12. Manufacturing Next
https://hbr.org/sponsored/2019/11/manufacturing-next#:~:text=Manufacturing%20is%20in%20the%20midst,internet%20of%20things%20(IoT).

Videos for Reference:

- What is the Fourth Industrial Revolution? | CNBC Explains
https://www.youtube.com/watch?v=v9rZOa3CUC

- Industry 4.0 – KPMG
https://www.youtube.com/watch?v=IMmnSZ7U1qM

Catalogue prepared by	Dr. Aurobindo K S
Recommended by the Board of Studies on	BOS NO: xxth. BOS held on dd/mm/yyyy
Date of Approval by the Academic Council	Academic Council Meeting No. 14, Dated dd/mm/yyyy

Course Code: MBA3170	Course Title: **Introduction to Artificial Intelligence with Python** **Type of Course: OPEN ELECTIVE** **(Theory with Embedded Lab)**	**L- P-T- C**	3	0	0	3
Version No.	1.0					
Course Pre-requisites	Fundamentals of Business Analytics is inclusive pre-requisite for this Course. In addition, Critical thinking, reasoning, and analytical skills are required.					
Anti-requisites	**NIL**					
Course Description	The course "Python" is designed to equip participants with essential Python programming skills tailored for data-driven decision-making. This comprehensive course spans from fundamental programming concepts to advanced analytical techniques, enabling learners to effectively utilize Python in a business analytics context. Participants will gain hands-on experience with Python's data handling and visualization libraries, building a strong foundation in data structures, control statements, functions, and packages. The curriculum includes data wrangling, exploratory data analysis, and visualization techniques, empowering learners to interpret complex datasets and present insights effectively. Additionally, the course delves into specialized topics such as web scraping, API integration, sentiment analysis, and time-series trend modeling, preparing participants to tackle real-world challenges in data analytics. Through a blend of theory, practical exercises, and real-world case studies, participants will develop competencies to analyze trends, extract actionable insights, and create impactful visualizations. The course culminates in a capstone project, providing an opportunity to integrate learned concepts and showcase practical skills in a business scenario.					
Course Objectives	The Python course develops EMPLOYABILITY SKILLS through EXPERIENTIAL LEARNING methods					
Course Out Comes	On successful completion of the course the students shall be able to: CO1 Demonstrate basic programming skills in Python for business analytics. CO2 Solve messy data problems across data structures using					

	Pandas and Numpy CO3 CO4		Develop Visualization using Python Solve a business problem using NLP	

Course Content:				
Module 1	**Introduction to Python**	Quiz	**Data types and Decision statements**	**9 Hours**
Python and Programming concepts, Exploring IDE , Syntax, semantics and tokens, Data types and operations, Data structures and CRUD, Execution flow control statement, Loop and Loop control statement, Functions, Packages.				
Module 2	**Packages For Data Handling**	Assignment and Case Study	**Data Wrangling**	**12 Hours**
Introduction to Numpy and Pandas, Numpy Fundamentals, Pandas Basics, Data Wrangling with Pandas, Advanced Numpy for Data handling, Exploratory data analysis with pandas Data Wrangling and transformation, Integrating Numpy and Pandas, Real World case studies and projects on sales data				
Module 3	**Packages For Data Visualization**	Experiential Learning	**Modelling Project**	**12 Hours**
Matplot lib plotting functions, modules and toolkits, plots and charts using matplot lib Matplot lib exercises, Pandas plotting functions, modules and extensions, plots and charts using matplot lib, Pandas plotting exercises, Introduction to Seaborn, plots and charts using Seaborn, Plotly and other packages.				
Module 4	**Packages For Trends And Sentiments**	Experiential Learning	**Capstone Project**	**12 Hours**
Data Collection using webscraping, API integration, surveys and feedbacks, Natural Language Processing, Emotion detection, Sentiment Analysis, Time series analysis , understanding trends for predictive modelling, Case study on website traffic trend, Capstone project				

List of Experiments (Embedded Lab - Student's self-study): These experiments can be done using Python - NumPy, Pandas and Matplotlib
Lab Experiments are to be conducted on the following topics
Experiment1: Understanding data types
Experiment2:The basics of Numpy Arrays
Experiment3:Computation on arrays
Experiment4:Introduction to pandas
Experiment5:Data indexing and selection
Experiment6:Working with Strings, Date and Time
Experiment7:Data Wrangling
Experiment8:Modelling
The Experiments can be reorganized as per requirements. If Project based learning is implemented the above sequence acts as a scope and not actual experiment

Targeted Application & Tools that can be used:
Using NumPy, Pandas, Matplotlib, Seaborn, SciPy, Scikit learn or any other relevant Libraries to arrive at a model, students can employ the dataset which shall either be publicly available or primary in nature. The learners can use any algorithm for modelling

Project work/Assignment: Mention the Type of Project /Assignment proposed for this course
The MT & ET evaluations will be based on the two Individual Projects on modelling with presentation. The Project and the Presentation will have 70:30 split in the evaluation in this respect.
The Project should be original and should be using any dataset either secondary or primary source. However, the process of analysis and the conclusions should be original. The Project shall foot on either classification or regression problems. Project can include self-learning components depending on the project but should be related to Business and Analytics domain. Students are encouraged to choose topics relevant to their specialization and are not allowed to take up any project that is not related to Business.

Text Book
T1: Python for Data Science: A Hands-On Introduction, Yuli Vasiliev, 2022, no starch press, ISBN-13: 9781718502208,

References:
R1 Machine Learning with Python Cookbook: Practical Solutions from Preprocessing to Deep Learning-Chris Albon, ISBN 978-1491989388 **R2** Python for Probability, Statistics and Machine Learning (2e), Dr Jose Unpingco, ISBN-978-3030185442, Springer, 2019

Online Resources:

Articles

University E Resources

Yentl Van Tendeloo, Hans Vangheluwe, Romain Franceschini, December 2019 ,WSC '19: Proceedings of the Winter Simulation Conference Pages 1415–1429 , An introduction to modeling and simulation with (Python(P))DEVS
https://presiuniv.knimbus.com/openFullText.html?DP=http://dl.acm.org/doi/10.5555/3400397.3400511

Carrizosa, E., Guerrero, V. & Romero Morales, D. On mathematical optimization for clustering categories in contingency tables. Adv Data Anal Classif (2022)
https://link.springer.com/article/10.1007/s11634-022-00508-4

Hoang, T.B.N., Mothe, J. Prediction of brand stories spreading on social networks. Adv Data Anal Classif (2021)
https://link.springer.com/article/10.1007/s11634-021-00450-x

Case study link
https://www.futurelearn.com/info/courses/data-analytics-python-data-wrangling-and-ingestion/0/steps/186670
https://livebook.manning.com/book/think-like-a-data-scientist/chapter-4/17
https://www.projectpro.io/article/python-projects-for-data-science/462

Datasets and Codes for Experiential learning
https://www.kaggle.com/datasets/heptapod/titanic
https://www.kaggle.com/datasets/pavansubhasht/ibm-hr-analytics-attrition-dataset
https://www.kaggle.com/code/mysarahmadbhat/eda-on-netflix/notebook
https://www.kaggle.com/code/aayushmishra1512/netflix-data-analysis-and-visualization/notebook
https://fraud-detection-handbook.github.io/fraud-detection-handbook/Chapter_3_GettingStarted/SimulatedDataset.html

Videos and Podcast
https://www.youtube.com/watch?v=G9NmACvXh8w
https://podcasts.google.com/feed/
aHR0cHM6Ly9yZWFscHl0aG9uLmNvbS9wb2RjYXN0cy9ycHAvZmVlZA

Catalogue prepared by	Dr N Srikanth Reddy
Recommended by the Board of Studies on	
Date of Approval by the Academic Council	