ST. JOSEPH'S COLLEGE (AUTONOMOUS) DEVAGIRI, CALICUT

(Affiliated to the University of Calicut)

BBA (Business Analytics)

PROGRAMME STRUCTURE AND SYLLABUS

2025-26 ADMISSION ONWARDS

(CUFYUGP Regulations 2024)

ELIGIBILITY FOR ADMISSION

Any candidate who has passed the Plus Two of the Higher Secondary Board of Kerala or that of any other University or Board of Examinations in any state recognized as equivalent to the Plus Two of the Higher Secondary Board in Kerala, with not less than 45**%** marks in aggregate is eligible for admission, However, SC/ST, OBC and other eligible communities shall be given relaxation as per University rules.

MEDIUM OF INSTRUCTION

The medium of instruction and examination shall be English.

PROGRAMME OUTCOMES (PO):

At the end of the graduate Programme at Calicut University, a student would:

Sl.No	Graduate Attributes	PO Statement
PO 1	Knowledge Acquisition	Demonstrate a profound understanding of knowledge trends and their impact on the chosen discipline of study
PO 2	Communication, Collaboration, Inclusiveness, and Leadership	Become a team player who drives positive change through effective communication, collaborative acumen, transformative leadership, and a dedication to inclusivity
PO 3	Professional Skills	Demonstrate professional skills to navigate diverse career paths with confidence and adaptability.
PO 4	Digital Intelligence	Demonstrate proficiency in varied digital and technological tools to understand and interact with the digital world, thus effectively processing complex information
PO 5	Scientific Awareness and Critical Thinking	Emerge as an innovative problem-solver and impactful mediator, applying scientific understanding and critical thinking to address challenges and advance sustainable solutions.
PO 6	Human Values, Professional Ethics, and Societal and Environmental Responsibility	Become a responsible leader, characterized by an unwavering commitment to human values, ethical conduct, and a fervent dedication to the wellbeing of society and the environment.
PO7	Research, Innovation, and Entrepreneurship	Emerge as a researcher and entrepreneurial leader, forging collaborative partnerships with industry, academia, and communities to contribute enduring solutions for local, regional and global development

PROGRAMME SPECIFIC OUTCOMES (PSO):

At the end of BBA Business Analytics at Calicut University, a student would acquire:

PSO1	Equip students with a comprehensive understanding of core business concepts, including finance, marketing, operations, and management, while integrating analytical approaches to decision-making.
PSO2	Develop students' proficiency in data analysis tools, techniques, and platforms, enabling them to process, visualize, and interpret complex datasets for business insights.
PSO3	Train students to apply analytical thinking and problem-solving skills to address real-world business challenges and drive data-informed decision-making.
PSO4	Foster awareness of ethical considerations, data privacy, and sustainability in business analytics, preparing students to responsibly manage data and its implications in diverse industries.
PSO5	Cultivate effective communication, teamwork, and leadership abilities to enable students to present analytical findings persuasively and collaborate with cross-functional teams in a business environment.

BBA BUSINESS ANALYTICS

PROGRAMME COURSE STRUCTURE

Semester	Course Code	Course Title	Total Hours/week			Credits	Marks		
			T	P	Total		I	E	Total
1	BAN1CJ101	Core Course 1 Principles of Management	4	0	4	4	30	70	100
	BAN1CJ102	Core Course 2 Introduction to Business Analytics	4	0	4	4	30	70	100
	BAN1CJ103	Core Course 3 Financial Accounting for Managers	4	0	4	4	30	70	100
	BAN1FM105	MDC/MDE-1 Analytics for Management	3	0	3	3	25	50	75
	BAN1FS111	Skill Enhancement Course 1 Spreadsheet for decision making	2	1	3	3	25	50	75
		Ability Enhancement Course1– English	2	2	4	3	25	50	75
		Ability Enhancement Course 2 – Additional Language	3	0	3	0	0	0	0
		Total			**25**	**21**			**525**
2	BAN2CJ101	Core Course 4 Managerial Economics	4	0	4	4	30	70	100
	BAN2CJ102	Core Course 5 Statistics for Business Analytics	4	0	4	4	30	70	100

	BAN2CJ103	Core Course6 Human Resource Management	4	0	4	4	30	70	100
	BAN2FS112	Skill Enhancement Course 2 Data Visualization using Power BI	2	2	4	3	25	50	75
		Ability Enhancement Course 3– English	2	2	4	3	25	50	75
		Ability Enhancement Course 4 – Additional Language	3	0	3	0	0	0	0
		Total			**23**	**18**			**450**
3	BAN3CJ201	Core Course 7 Organizational Behavior	4	0	4	4	30	70	100
	BAN3CJ202	Core Course 8 Marketing Management	4	0	4	4	30	70	100
	BAN3CJ203	Core Course 9 Enterprise Resource Planning	4	0	4	4	30	70	100
	BAN3CJ204	Core Course 10 Family Business Management	4	0	4	4	30	70	100
	BAN3FS113	Skill Enhancement Course 3 Principles of AI	2	2	4	3	25	50	75
		MDC/MDE 2 Business Intelligence for competitive Advantage	3	0	3	3	25	50	75
		Total			**23**	**22**			**550**
4	BAN4CJ205	Core Course 11 Business Analytics using R	4	0	4	4	30	70	100
	BAN4CJ206	Core Course 12 Data Mining	3	2	5	4	30	70	100
	BAN4CJ207	Core Course 13 Text and Social Media Analytics	3	2	5	4	30	70	100
	BAN4CJ208	Core Course 14 Financial Reporting and Analysis	4	0	4	4	30	70	100
	BAN4FV108	VAC 1 New Venture Management	3	0	3	3	25	50	75
		Value-Added Course 2 –English	3	0	3	3	25	50	75
		Total			**24**	**22**			**550**

5	BAN5CJ301	Core Course 15 Introduction to financial analytics	4	0	4	4	30	70	100
	BAN5CJ302	Core Course 16 Programming with Python	4	0	4	4	30	70	100
	BAN5CJ303	Core Course 17 Research Methodology	4	0	4	4	30	70	100
	BAN5EJ301	Elective 1 Marketing Analytics	4	0	4	4	30	70	100
	BAN5EJ302	Elective 2 HR Analytics	4	0	4	4	30	70	100
	BAN5FS114	Skill Enhancement Course 4 – Multivariate data analysis	3	0	3	3	25	50	75
	BAN5FS115	Skill Enhancement Course: - Summer Internship Report	0	0	0	4	100		100
		AuditCourse-1	0	0	0	0	0	0	0
		Total			**23**	**27**			**675**
6	BAN6CJ304	Core Course 18 Machine Learning Alogirthms 1	3	2	5	4	30	70	100
	BAN6CJ305	Core Course 19 Strategic Management	4	0	4	4	30	70	100
	BAN6EJ303	Elective 3 Investment and Financial Risk Analytics	4	0	4	4	30	70	100
	BAN6EJ304	Elective 4 Operations Management	4	0	4	4	30	70	100
	BAN6FV110	Value-Added Course 3 Sustainable business environment	3	0	3	3	25	50	75
	BAN6FS116	Skill Enhancement Course: - Project-1	4	0	4	4	30	70	100
		AuditCourse-2	0	0	0	0	0	0	0
		Total			**24**	**23**			**575**
Total Credits for Three Years						**133**			**3325**

7	BAN7CJ401	Core Course 20 Quality Management System	4	0	4	4	30	70	100
	BAN7CJ402	Core Course 21 Exploratory data analytics	4	0	4	4	30	70	100
	BAN7EJ401	Elective 5 Big data Analytics	4	0	4	4	30	70	100
	BAN7EJ402	Elective 6 Machine learning algorithms 2	4	0	4	4	30	70	100
	BAN7EJ403	Elective 7(in Honours with Research programme) Cloud computing	4	0	4	4	30	70	100
	BAN7OE401	Open elective(in honours programme) Analytics in health care	3	0	3	3	25	50	75
	BAN7FS117	Skill Enhancement Course: - Summer Internship Report	0	0	0	4	100		100
		Total			**23**	**27**			**675**
8	BAN8CJ404	Elective Course 8 (in Honours programme) Deep learning	3	2	5	4	30	70	100
	BAN8CJ405	Elective Course 9 (in Honours programme) Gamification in business	4	0	4	4	30	70	100
	BAN8EJ406	Elective Course 10 (in Honours programme) Simulation and Modelling	4	0	4	4	30	70	100
	BAN8FS118	SEC Project	3	0	3	3	25	50	75
	BAN8FS119	SEC R Project	4	0	4	4	30	70	100
		Total			**24**	**23**			**575**
Total Credits for Four Years						**177**			**4425**

NOTE:

1. There will be no pathway for BBA (SPORTS MANAGEMENT) students.
2. Students from other disciplines can choose Minor Groups in BBA (SPORTS MANAGEMENT).
3. If a student from other department chooses two Minor groups in BBA (SPORTS MANAGEMENT) (Major with Minor Pathway), then the title of the Minor will be **Functional Business Administration.**
4. The above-mentioned minor courses are offered by BBA (SPORTS MANAGEMENT) Department to other department students. So, they must attend the minor course classes along with BBA (SPORTS MANAGEMENT) students (core course) depending on the intake capacity of each department as per University Regulations.

EVALUATION SCHEME

1. The evaluation scheme for each course contains two parts: internal evaluation (about 30%) and external evaluation (about 70%). Each of the Major courses is of 4-credits. It is evaluated for 100 marks, out of which 30 marks is from internal evaluation and 70 marks, from external evaluation. Each of the General Foundation course is of 3-credits. It is evaluated for 75 marks, out of which 25 marks is from internal evaluation and 50 marks, from external evaluation.

2. The 4-credit courses (Major courses) are of two types: (i) courses with only theory and (ii) courses with 3-credit theory and 1-credit practicum.

- In 4-credit courses with only theory component, out of the total 5 modules of the syllabus, one open-ended module with 20% content is designed by the faculty member teaching that course, and it is internally evaluated for 10 marks. The internal evaluation of the remaining 4 theory modules is for 20 marks.
- In 4-credit courses with 3-credit theory and 1-credit practicum components, out of the total 5 modules of the syllabus, 4 modules are for theory and the fifth

module is for practicum. The practicum component is internally evaluated for 20 marks. The internal evaluation of the 4 theory modules is for 10 marks.

3. 3-credit courses (General Foundational Courses) in BBA (SPORTS MANAGEMENT) are of two types: (i) courses with only theory and (ii) courses with 2-credit theory and 1-credit practicum.

- In 3-credit course with only theory out of the total 5 modules of the syllabus, one open-ended module with 20% content is designed by the faculty member teaching that course, and it is internally evaluated for 5 marks. The internal evaluation of the remaining 4 theory modules is for 20 marks.
- In 3-credit courses with 2-credit theory and 1-credit practicum components, out of the total 5 modules of the syllabus, 4 modules are for theory and the fifth module is for practicum. The practicum component is internally evaluated for 15 marks. The internal evaluation of the 4 theory modules is for 10 marks.

Sl. No.	Nature of the Course		Internal Evaluation in Marks (about 30% of the total)		External Exam on 4 modules (Marks)	Total Marks
			Open-ended module / Practicum	On the other 4 modules		
1	4-credit course	only theory (5 modules)	10	20	70	100
2	4-credit course	Theory (4 modules) + Practicum	20	10	70	100
3	3-credit course	Only Theory (5 modules)	5	20	50	75
4	3-credit course	Theory (4 modules) + Practicum	15	10	50	75

1. MAJOR COURSES and GENERAL FOUNDATION COURSES

1.1. INTERNAL EVALUATION OF THEORY COMPONENT

Sl. No.	Components of Internal Evaluation of Theory Part of a Major Course	Internal Marks for the Theory Part of a Major Course of 4-credits	
		Theory Only	Theory +Practicum

		4 Theory Modules	Open-ended Module	4 Theory Modules	Practicum

*..There is no specific format for practicum summary report. It can be decided by teacher-in-charge according to the type of practicum chosen.		
Total Marks	20	

Sl. No.	Evaluation of Practicum Component of Credit-1 in a SEC Course	Marks for Practicum	Weightage
1	Continuous evaluation of practicum performed in classes by the students by using any kind of formative/summative methods given in the detailed syllabus.	8	50%
3	Evaluation of the practicum summary report submitted for the end semester viva–voce examination by the teacher-in-charge and additional examiner	7	50%
*..There is no specific format for practicum summary report. It can be decided by teacher-in-charge according to the type of practicum chosen.			
	Total Marks	15	

1.3. EXTERNAL EVALUATION OF THEORY COMPONENT

External evaluation carries 70% marks. Examinations will be conducted at the end of each semester. Individual questions are evaluated in marks and the total marks are converted into grades by the University based on 10-point grading system.

PATTERN OF QUESTION PAPER FOR MAJOR COURSES

Duration	Type	Total No. of Questions	No. of Questions to be Answered	Marks for Each Question	Ceiling of Marks
2 Hours	Short Answer	10	8 – 10	3	24
	Paragraph/ Problem	8	6 – 8	6	36
	Essay	2	1	10	10
				Total Marks	70

PATTERN OF QUESTION PAPER FOR GENERAL FOUNDATION COURSES

Duration	Type	Total No. of Questions	No. of Questions to be Answered	Marks for Each Question	Ceiling of Marks
1.5 Hours	Short Answer	10	8 – 10	2	16
	Paragraph/ Problem	5	4 – 5	6	24
	Essay	2	1	10	10
				Total Marks	50

2. INTERNSHIP

Programme	BBA (SPORTS MANAGEMENT)				
Course Code					
Course Title	**Internship-1 & Internship- 2**				
Type of Course	**SEC**				
Semester	5 & 7				
Academic Level					
Course Details	Credit	Lecture per week	Tutorial per week	Practical per week	Total Hours
	4	-	-		120
Pre-requisites					
Course Summary	This course is designed for undergraduate students to provide educational and career development opportunities to students by providing practical experience in a field or discipline, provide possible opportunities to learn, understand, and sharpen the real-time technical/managerial skills required on the job, understand the psychology of the workers and their habits, attitudes and approach to problem solving.				

The candidates must undergo two internships in any business organisation/local industries/Agriculture, health and allied sectors/Local Government institutions like Panchayats, Municipalities for a period of 120Hrs duration during summer vacation. Internship-1 should be completed preferably before the beginning of 5th Sem, and Internship- 2 should be completed preferably before the beginning of 7th Sem and prepare a report based on the information collected.

2.1. GUIDELINES FOR INTERNSHIP

1. Internship can be in Management or allied disciplines.
2. There should be minimum 120 hrs. of engagement from the student in the Internship.
3. Summer vacations and other holidays can be used for completing the Internship.
4. The students should make regular and detailed entries in to a personal log book through the period of Internship. The log book will be a record of the progress of the Internship and the time spent on the work, and it will be useful in writing the final report. All entries should be dated. The Internship supervisor should periodically examine and countersign the log book.
5. The log book and the typed report must be submitted at the end of the Internship.

6. The institution at which the Internship will be carried out should be prior-approved by the Department Council of the college where the student has enrolled for the UG (Honours) programme.

2.2. EVALUATION OF INTERNSHIP

- The evaluation of Internship shall be done internally through continuous assessment mode by a committee internally constituted by the Department Council of the college where the student has enrolled for the UG (Honours) programme.
- The credits and marks for the Internship will be awarded only at the end of semester 5 & semester 7.
- The scheme of continuous evaluation and the end-semester viva-voce examination based on the submitted report shall be as given below:

Component of Evaluation of Internship	Weightage	Marks/100
Continuous Evaluation of internship through interim presentation and reports by the committee internally constituted by the Department Council.	40%	40
End-Semester viva-voce examination to be conducted by the committee internally constituted by the Department Council.	35%	35
Evaluation of the day-to-day records and final report submitted for the end semester viva-voce examination by the committee internally constituted by the Department Council.	15%	15
Business Organization/ Local Industries/ Agriculture, Health and allied sectors/Local Government Institutions	10%	10

REPORT FORMAT

1. The report must be typed (double spaced), in APA format. Use standard margins (1" to 1.25") and font (Times New Roman, 12) and should contain maximum of 10-15 pages.

2. The report consists of the following information in this order:

Starting Pages

1. Title Page

2. Acknowledgement

3. Executive Summary

4. Table of Contents

Chapter 1: Brief Industry Profile

Chapter 2: Introduction of Company

Chapter 3: Organizational Analysis

Chapter 4: Internee Experience

a. A brief overview of the main business processes that the internee worked around

b. A brief overview of various departmental functions that the internee had the opportunity to observe

c. A narrative of personal experience in the intern's own words that may include: any new discoveries or observations made during the internship, any problems identified, personal account of interactions with others at the workplace, and specific skills learned.

Chapter 5: Future recommendations for a suitable course of action in the organizational

context

Chapter 6: A short essay identifying the gaps in classroom learning and experiential learning at the internship.

7. Appendices

EVALUATION CRITERIA FOR INTERIM PRESENTATION

Understanding of the Field (15 Marks)	**Challenges and Solutions (15Marks)**	**Communication Skills (5Marks)**	**Use of Visual Aids (5Marks)**

EVALUATION CRITERIA FOR VIVA-VOCE

Depth of Understanding (15 Marks)	**Integration of Academic Knowledge and Practical Application (10 Marks)**	**Communication Skills (2Marks)**	**Project Report (8 Marks)**

3. PROJECT

PROJECT IN HONOURS PROGRAMME

- In Honours programme, the student should do a Project of 8-credits in semester 8.

- The Project can be done in the same institution/ any other higher educational institution (HEI)/ research centre/ training centre.
- The Project in Honours programme can be a short research work or an extended internship or a skill-based training programme.
- A faculty member of the respective institution, where the student does the Project, should be the supervisor of the Project.

Programme	BBA (SPORTS MANAGEMENT)				
Course Code					
Course Title	**Project -2**				
Type of Course	**SEC**				
Semester	8				
Academic Level	400 – 499				
Course Details	Credit	Lecture per week	Tutorial per week	Practical per week	Total Hours
	8	8	-		240
	The teacher should have 8hrs/week of engagement in the guidance of the Project(s) in Honours programme, while each student should have 16 hrs/week of engagement in the Project work. Total hours are given based on the student's engagement.				
Course Summary	This course is designed for undergraduate honours students across all disciplines, offering them an opportunity to delve deeply into a topic of their choice, underpinned by rigorous research and creative methodology. It is an invitation to embark on an academic voyage that prioritizes critical thinking, problem-solving, and innovation, all within the framework of scholarly research. Students will engage in a self-directed project that not only contributes to their field of study but also encourages a personal journey of discovery and intellectual growth.				

EVALUATION OF PROJECT

1. The evaluation of project work shall be done internally through continuous assessment mode by a committee internally constituted by the Department Council.
2. The remaining 70% shall be awarded by the external examiner appointed by the University.
3. The scheme of continuous evaluation and the end-semester viva-voce of the project

Component of Evaluation of Project	Weightage	Marks/200
Continuous Evaluation of project through interim presentation and reports by the	30%	60

committee internally constituted by the Department Council.		
End-Semester viva-voce examination to be conducted by the external examiner appointed by the University.	50%	100
Evaluation of the day-to-day records and final report submitted for the end semester viva-voce examination by the committee internally constituted by the External Examiner	20%	40

4. EVALUATION CRITERIA FOR INTERIM PRESENTATION

Clarity of Research Question (15Marks)	**Originality and Creativity (10 Marks)**	**Methodological Rigor (15 Marks)**	**Progress and Milestones (15 Marks)**	**Communication& Presentation Skills (5 Marks)**

5. EVALUATION CRITERIA FOR VIVA-VOCE

Comprehension and Depth of Knowledge (10 Marks)	**Methodological Rigor and Integrity (10 Marks)**	**Contribution &Implications (20 Marks)**	**Communication Skills (10 Marks)**	**Response to Questions (20 Marks)**	**Project Report (30 Marks)**

FORMAT OF PROJECT REPORT

The report shall be printed and bound (preferably hard paper bound) with not less than 60 (A4 size) pages. The matter should be typed with double line spacing. The Fond Size for the text should be 12 with style Times New Roman. One inch margin should be left on top and bottom of the page, as well as left and right side of the typed pages.

A. Preface Section: - Title page of the report - Declaration by the student - Certificate from supervisory faculty counter Signed by Head of the Institution. - Acknowledgement - Chapter content – List of tables- List of figures

B. Executive Summary (Minimum 1 page)

C. Chapters

Chapter 1: Introduction (includes statement of the problem, objectives of the study, scope of the study, hypotheses if any, methodology employed, and limitations of the study)
Chapter 2: Industry profile/ Company profile/ Product profile/ Unit of study
Chapter 3: Review of literature (the review should be conducted by referring similar nature of studies conducted in academic journals, books, magazines, newspapers and other published sources)
Chapter 4: Data analysis and interpretation (data should be described and the collected data should be analyzed using appropriate tools)
Chapter 5: Findings, Conclusion and Recommendations

D. Bibliography

It should be prepared based on the guidelines prepared and updated by the American Psychological Association (APA style).

PROJECT IN HONOURS WITH RESEARCH PROGRAMME

- Students who secure 75% marks and above (equivalently, CGPA 7.5 and above) cumulatively in the first six semesters are eligible to get selected to Honours with Research stream in the fourth year.
- A relaxation of 5% in marks (equivalently, a relaxation of 0.5 grade in CGPA) is allowed for those belonging to SC/ ST/ OBC (non-creamy layer)/ Differently-Abled/ Economically Weaker Section (EWS)/ other categories of candidates as per the decision of the UGC from time to time.
- In Honours with Research programme, the student has to do a mandatory Research Project of 20-credits in semester 8.
- The approved research centres of University of Calicut or any other university/ HEI can offer the Honours with Research programme. The departments in the affiliated colleges under University of Calicut, which are not the approved research centres of the University, should get prior approval from the University to offer the Honours with Research programme. Such departments should have minimum two faculty members with Ph.D., and they should also have the necessary infrastructure to offer Honours with Research programme.
- A faculty member of the University/ College with a Ph.D. degree can supervise the research project of the students who have enrolled for Honours with Research. One such faculty member can supervise maximum five students in Honours with Research stream.

- The maximum intake of the department for Honours with Research programme is fixed by the department based on the number of faculty members eligible for project supervision, and other academic, research, and infrastructural facilities available.
- If a greater number of eligible students are opting for the Honours with Research programme than the number of available seats, then the allotment shall be based on the existing rules of reservations and merits.

Programme	BBA (SPORTS MANAGEMENT)				
Course Code					
Course Title	**Research Project**				
Type of Course	**SEC**				
Semester	8				
Academic Level	400 – 499				
Course Details	Credit	Lecture per week	Tutorial per week	Practical per week	Total Hours
	20	20	-		600
	The teacher should have 20 hrs/week of engagement) in the guidance of the Project(s) in Honours with Research programme, while each student should have 40 hrs/week of engagement in the Project work. Total hours are given based on the student's engagement.				
Course Summary	This course is designed for undergraduate honours students across all disciplines, offering them an opportunity to delve deeply into a topic of their choice, underpinned by rigorous research and creative methodology. It is an invitation to embark on an academic voyage that prioritizes critical thinking, problem-solving, and innovation, all within the framework of scholarly research. Students will engage in a self-directed project that not only contributes to their field of study but also encourages a personal journey of discovery and intellectual growth.				

EVALUATION OF PROJECT

1. The evaluation of project work shall be done internally through continuous assessment mode by a committee internally constituted by the Department Council.
2. The remaining 70% shall be awarded by the external examiner appointed by the University.
3. The scheme of continuous evaluation and the end-semester viva-voce of the project

Component of Evaluation of Project	Weightage	Marks/600
Continuous Evaluation of project through interim presentation and reports by the	30%	180

committee internally constituted by the Department Council.		
End-Semester viva-voce examination to be conducted by the external examiner appointed by the University.	50%	300
Evaluation of the day-to-day records and final report submitted for the end semester viva-voce examination by the committee internally constituted by the External Examiner	20%	120

EVALUATION CRITERIA FOR INTERIM PRESENTATION

Clarity of Research Question (40Marks)	**Originality and Creativity (30 Marks)**	**Methodological Rigor (40 Marks)**	**Progress and Milestones (50 Marks)**	**Communication& Presentation Skills (20 Marks)**

EVALUATION CRITERIA FOR VIVA-VOCE

Comprehension and Depth of Knowledge (40 Marks)	**Methodological Rigor and Integrity (40Marks)**	**Contribution &Implications (60 Marks)**	**Communication Skills (30 Marks)**	**Response to Questions (40 Marks)**	**Project Report (90 Marks)**

FORMAT OF PROJECT REPORT

The report shall be printed and bound (preferably hard paper bound) with not less than 100 (A4 size) pages. The matter should be typed with double line spacing. The Fond Size for the text should be 12 with style Times New Roman. One inch margin should be left on top and bottom of the page, as well as left and right side of the typed pages.

1. Title Page

The title page should succinctly capture the essence of the research while being inviting to a broad audience. It includes the thesis title, author's name, the institution, and the date. A compelling title can spark interest and set the stage for the narrative journey of the thesis.

2. Abstract

A well-crafted abstract serve as a microcosm of the research, providing a concise summary of the thesis's aim, methodology, findings, and implications. In this section, creativity lies in the ability to distil complex ideas into accessible language that entices a diverse readership.

3. Dedication and Acknowledgments

This section allows for personal expression, dedicating the work to individuals or groups who have been instrumental in the research journey. Acknowledgments give a human touch to the academic endeavour, highlighting the collaborative nature of knowledge creation.

4. Table of Contents

A navigational tool that should not only be functional but also reflective of the thesis's structure and creativity. Creative formatting and clear organization can make the table of contents an inviting roadmap to the thesis.

5. Introduction

The introduction lays the foundation, stating the research problem, objectives, and significance. Here, storytelling can be employed to weave a compelling narrative that frames the research question within a broader context, making it relevant to real-life situations.

6. Literature Review

A critical survey of existing literature, this section is an opportunity to creatively synthesize and critique previous work, highlighting gaps the thesis aims to fill. The use of visual aids, such as mind maps or infographics, can enrich this section by providing innovative summaries of complex academic dialogues.

7. Theoretical Framework

The theoretical framework in research is a vital component that underpins and guides the entire research process. It serves as the foundation upon which the research is built, providing a lens through which the study is conducted and understood. Essentially, the theoretical framework offers a structured approach to understanding, explaining, and making predictions about a given phenomenon or topic of interest. It does this by integrating concepts, theories, and models that are relevant to the research question or problem.

8. Methodology

Detailing the research design, methods, and analysis techniques, this section benefits from clarity and precision. Creative methodologies that utilize emerging technologies or interdisciplinary approaches can be highlighted here, showcasing the thesis's innovative edge.

9. Results and Discussion

This section presents the findings and interprets their implications. Creativity can be expressed through the use of visual storytelling with charts, graphs, and illustrations to make data compelling and digestible. A narrative approach to discussing the results can link them to broader themes and real-world implications.

10. Conclusion and Recommendations

The conclusion synthesizes the findings, reflects on the research's limitations, and suggests future research directions. This section can be an avenue for visionary thinking, proposing creative applications of the research and its potential impact on society.

11. References

Adherence to academic standards is crucial in the references section, but creativity can be shown in the organization and presentation style, making it easier for readers to explore the cited works.

12. Appendices

This section can house supplementary material in various formats, including datasets, code, questionnaires, or multimedia elements. Creatively integrating digital content can enhance the thesis's accessibility and engagement.

13. Digital and Interactive Elements

Incorporating digital elements like hyperlinks to datasets, online platforms for interactive visualizations, or even augmented reality (AR) experiences can revolutionize the way findings are presented and engaged with.

Eg:

Journals

1. Diamond, D. (1984). Financial intermediation and delegated monitoring. *Review of Economic Studies*, 51, 393-414.
2. Corter, J.E. and Chen, Y.J. (2006). Do investment risk tolerance attitudes predict portfolio risk? *Journal of Business and Psychology*, 20(3), 369-381.

Working Papers

1. González-Hermosillo, B.(2008, April). Investors' Risk Appetite and Global Financial Market Conditions.(IMF Working Paper no WP/08/85). https://www.imf.org/external/pubs/ft/wp/2008/wp0885.pdf

News Paper Article

1. Rukhaiyar, A. (2023, June 11). Retail investors' rush into India's equity markets has slowed; here is what's happening. *Business Today*.https://www.businesstoday.in/magazine/deep-dive/story/retail-investors-rush-into-indias-equity-markets-has-slowed-here-is-whats-happening-383209-2023-05-29

Book

1. Hair, J. F., Hult, G. T. M., Ringle, C. M., and Sarstedt, M. (2022). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. 3rd ed., Sage.

4. LETTER GRADES AND GRADE POINTS

- Mark system is followed for evaluating each question.
- For each course in the semester letter grade and grade point are introduced in 10-point indirect grading system as per guidelines given below.
- The Semester Grade Point Average (SGPA) is computed from the grades as a measure of the student's performance in a given semester.
- The Cumulative GPA (CGPA) is based on the grades in all courses taken after joining the programme of study.

- Only the weighted grade point based on marks obtained shall be displayed on the grade card issued to the students.

LETTER GRADES AND GRADE POINTS

Sl. No.	Percentage of Marks (Internal & External Put Together)	Description	Letter Grade	Grade Point	Range of Grade Points	Class
1	95% and above	Outstanding	O	10	9.50 – 10	First Class with Distinction
2	Above 85% and below 95%	Excellent	A+	9	8.50 – 9. 49	
3	75% to below 85%	Very Good	A	8	7.50 – 8.49	
4	65% to below 75%	Good	B+	7	6.50 – 7.49	First Class
5	55% to below 65%	Above Average	B	6	5.50 – 6.49	
6	45% to below 55%	Average	C	5	4.50 – 5.49	Second Class
7	35% to below 45% aggregate (internal and external put together) with a minimum of 30% in external valuation	Pass	P	4	3.50 – 4.49	Third Class
8	Below an aggregate of 35% or below 30% in external evaluation	Fail	F	0	0 – 3.49	Fail
9	Not attending the examination	Absent	Ab	0	0	Fail

- When students take audit courses, they will be given Pass (P) or Fail (F) grade without any credits.
- The successful completion of all the courses and capstone components prescribed for the three-year or four-year programme with 'P' grade shall be the minimum requirement for the award of UG Degree or UG Degree (Honours) or UG Degree (Honours with Research), as the case may be.

5.1. COMPUTATION OF SGPA AND CGPA

- The following method shall be used to compute the Semester Grade Point Average (SGPA):

The SGPA equals the product of the number of credits (Ci) with the grade points (Gi) scored by a student in each course in a semester, summed over all the courses taken by a student in the semester, and then divided by the total number of credits of all the courses taken by the student in the semester,

$$\text{i.e. SGPA (Si)} = \Sigma i\ (Ci \times Gi) / \Sigma i\ (Ci)$$

where Ci is the number of credits of the i^{th} course and Gi is the grade point scored by the student in the i^{th} course in the given semester. Credit Point of a course is the value obtained by multiplying the credit (Ci) of the course by the grade point (Gi) of the course.

$$\text{SGPA} = \frac{\text{Sum of the credit points of all the courses in a semester}}{\text{Total credits in that semester}}$$

ILLUSTRATION – COMPUTATION OF SGPA

Semester	**Course**	**Credit**	**Letter Grade**	**Grade point**	**Credit Point** (Credit x Grade)
I	Course 1	3	A	8	3 x 8 = 24
I	Course 2	4	B+	7	4 x 7 = 28
I	Course 3	3	B	6	3 x 6 = 18
I	Course 4	3	O	10	3 x 10 = 30
I	Course 5	3	C	5	3 x 5 = 15
I	Course 6	4	B	6	4 x 6 = 24
	Total	20			139
	SGPA				139/20 = 6.950

- The Cumulative Grade Point Average (CGPA) of the student shall be calculated at the end of a programme. The CGPA of a student determines the overall academic level of the student in a programme and is the criterion for ranking the students.

  CGPA for the three-year programme in FYUGP shall be calculated by the following formula.

$$\text{CGPA} = \frac{\text{Sum of the credit points of all the courses in six semesters}}{\text{Total credits in six semesters (133)}}$$

CGPA for the four-year programme in FYUGP shall be calculated by the following formula.

$$\text{CGPA} = \frac{\text{Sum of the credit points of all the courses in eight semesters}}{\text{Total credits in eight semesters (177)}}$$

- The SGPA and CGPA shall be rounded off to three decimal points and reported in the transcripts.
- Based on the above letter grades, grade points, SGPA and CGPA, the University shall issue the transcript for each semester and a consolidated transcript indicating the performance in all semesters.

6. Study Tour

Study tour to an Industrial or Business centre will form part of curriculum. The fourth / fifth semester BBA (SPORTS MANAGEMENT) students of regular colleges shall be taken, under the supervision of faculty members, to a Business or Industrial centre so as to enable them to have firsthand knowledge about location, and operations of the Business or Industry. The report submitted by the students in this respect shall be considered as one of the assignments of the any one of the courses in the concerned semester.

PRINCIPLES OF MANAGEMENT

Programme	BBA BUSINESS ANALYTICS HONOURS				
Course Code					
Course Title	**Principles of Management**				
Type of Course	Core Course				
Semester	1				
Academic Level	100 – 199				
Course Details	Credit	Lecture per week	Tutorial per week	Practicum per week	Total Hours
	4	4	-		60
Pre-requisites					
Course Summary	This course will provide a general introduction to management principles and theories, and a brief outline on history and development of management thought.				

Course Outcomes (CO):

This course aims to equip the students with basics of management principles

This course will enable the students to achieve the following outcomes.

CO	CO Statement	Cognitiv eLevel*	Knowledge Category#	Evaluation Tools used
CO1	Understand different management approaches	U	C	Instructor-created exams / Quiz
CO2	Demonstrate planning techniques	Ap	P	Practical Assignment / Observation of Practical Skills
CO3	Able to work in dynamic teams within organizations	Ap	P	Seminar Presentation / Team work exercises
CO4	Analyze different processes in staffing and controlling	An	P	Role plays
CO5	Build the ability for leading to formulate best control methods.	C	P	Role play

* - Remember (R), Understand (U), Apply (Ap), Analyse (An), Evaluate (E), Create (C)# - Factual Knowledge(F) Conceptual Knowledge (C) Procedural Knowledge (P)Metacognitive Knowledge (M)

Detailed Syllabus:

Module	Unit	Content	Hrs (60)	Internal (30)	External (70)
I	**Nature, Purpose and Evolution of Management Thought**		**10**	**20**	**16**
	1	Meaning; Scope; Managerial levels and skills; Managerial Roles; Management: Science, Art or Profession; Universality of Management.			
	2	Ancient roots of management theory; Classical schools of management thought- Scientific Theory and Henri Fayol 14 , ; Behavioural School- Max weber and Elton Mayo Hothrone Experiment			
	3	Quantitative School; Systems Approach, Contingency Approach; Contemporary Management thinkers & their contribution. Ancient Indian Management systems & practices. Comparative study of global management systems & practices.			
II	**Planning and controlling**		**12**		**18**
	4	Planning: Types of Plans; Steps in Planning Process; Plan vs Strategies, Policies and Planning			
	5	Decision making, Process of Decision Making, Techniques in Decision Making, Forecasting & Management by Objectives (MBO Sustainable Planning- inclusion of SDG in managerial planning)			
	6	Organizing: Organizational structure and design; types of organizational structures; Roles and Responsibilities Span of control, authority, delegation, decentralization and reengineering.			
III		**Staffing**			
	7	Human resource planning, Recruitment, selection, training & development, performance appraisal, Organizational Change - managing change, compensation and employee welfare. Use of Analytics and AI for HR Actions and Talent Management, Employee Motivation, Stress and managing employee stress			
IV	**Leading and controlling**				**18**
	8	Leadership concept, leadership Styles, Contemporary Leadership- Transformation leadership, servant leadership, toxic leadership, leadership communication.	**16**		
	9	Importance of coordination and control; control process; Methods and techniques of control; Designing control systems, Quality Management Social responsibility of managers, Managerial Ethics- Emerging Trends in Corporate Structure			
V	**Open Ended Module** Case studies and role plays on each step of management		**12**	**10**	

Text Books and Reference Books:

1. Heinz Weihrich, Mark V Cannice & Harold Koontz (2019). Management (15th Edition). McGraw Hill Publications
2. Daft, R. L. (2016). The new era of management (11th Edition). Cengage Publications.
3. Prasad, L.M., Principles and practices of management. New Delhi: Sultan Chand & Sons.
4. Stoner, J.F., Freeman, E. R., & Gilbert, D.R. (2013). Management (6th Edition). Pearson Publications

Introduction to Business Analytics

Programme	BBA BUSINESS ANALYTICS HONOURS
Course code	
Course Title	Introduction to Business Analytics
Types of Course	Core Course
Semester	1
Academic Level	100 – 199
Course Details	Credit: 4 | Lecture per week: 4 | Tutorial per week: - | Practicum per week: | Total Hours: 60
Prerequisites	Prior knowledge on database concepts and also spreadsheets will be advantageous.
Course Summary	The objective of this course is to equip students with an introduction to business analytics. Students will learn how to make data-driven decision in solving business problems. The students will be familiarised with tools like MS Excel to interpret data, PowerBI to visualise information and Weka for data mining.

Course Outcomes (CO):

This course will enable the students to achieve the following outcomes.

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Understand the importance of data and also the importance of recording data efficiently	U	M	To understand and analyse given data set and tabularise them for demonstrating consumer preferences
CO2	To have an awareness regarding the applications of business analytics and also the tools used in data analytics	U	M	Practical Assignment, Lecture and Discussion
CO4	To get introduced to machine learning and its relevance	AN	M	Case studies
CO5	To understand classification and clustering	An	M	Observing and learning the prepared data and identify whether classification or clustering will be appropriate and also identify the dependent and independent variables
CO6	Explore the possibilities of applying data analytics in various functional domains of business	Ap	M	Case studies
CO7	To get introduced to text analytics	AN	M	Case studies , Presentations
CO8	To learn how to visualise data and create dynamic dashboards supporting decision making	Ap	M	Practical assignments
CO9	Learn to create models using Weka, a data mining tool	AP	M	Practical assignments

INTRODUCTION TO BUSINESS ANALYTICS

Module	Unit	Content	Hrs (60)	Internal (30)	External (70)
I	**Introduction to data analytics**		**10**	**20**	**16**
	1	Introduction to business analytics, Importance of business analytics			
	2	Importance of data, Types of data - Structured, Unstructured, Semi structured, DIKW Pyramid			
	3	Types of business analytics, Applications of business analytics, Tools used for business analytics (Python, R, PowerBi, Tableau)			
II	**Machine learning**				**18**
	4	Machine learning for analytics, Machine learning process,	**18**		
	5	Types of machine learning-supervised, Unsupervised and reinforcement, CRISP DM Model			
	6	Classification and Clustering, Examples of classification and clustering algorithms			
III	**Analytics for functional domains**				**18**
	7	Business analytics in functional domains (Human Resources, Marketing, Operations, Finance)	**10**		
	8	What is text analytics, Application of text analytics, Sentimental analysis			
IV	**Business Intelligence and Visualisation**		**12**	**10**	
	9	Business intelligence, OLAP, Visualization using PowerBi, Creating dashboards using PowerBI, Dashboards using Excel			
v	**10**	Hands on Session			
		Classification/ Clustering using Weka Demonstration the working of of an algorithm for classification/ clustering			

Text Books and Reference Books:

1. Sumati Varma. (2013). International Business (1st edi), Pearson.
2. Charles Hill. (2011). International Business: Text & Cases, Tata McGraw Hill, New Delhi.
3. Warren J. Keegan. (2010). Global Marketing Management (9th edi), Prentice Hall of India, NewDelhi. International Business by Daniel and Radebaugh –Pearson Education- 10th Edition

Programme	BBA BUSINESS ANALYTICS				
Course Code					
Course Title	**Financial Accounting for Managers**				
Type of Course	Core Course				
Semester	1				
Academic Level	100 – 199				
Course Details	Credit	Lecture per week	Tutorial per week	Practicum per week	Total Hours
	4	4	-		60
Pre-requisites					
Course Summary	Accounting is the language in which the financial information is communicated in the world of business. Managers, irrespective of their functional areas will be either directly or indirectly exposed to the financial information and will have to use them in their decision-making. This course tries to familiarize students with the basics of financial accounting. The course describes the concepts of accounting, its principles, its standards and uses of the accounting information. Ultimately this course discusses preparation of income statement and balance sheet and financial statement analysis.				

Financial Accounting for Managers

Course Outcomes (CO):

This course will enable the students to achieve the following outcomes.

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Understand the fundamentals of financial accounting, the principles and concepts underlying them	U	C	Test paper
CO2	Understand the financial statements and the items appearing therein.	U	P	Discussion
CO3	Analyze the impact of different methods of charging depreciation and also valuation of inventory on the financial statements.	An	P	Presentation
CO4	Assess the flow of cash in the business through cash flow statement.	E	P	Case study
CO5	Analyze and interpret the financial health of an organization through its financial statements and accounting information.	An	P	Case study

Remember(R), Understand(U),Apply (Ap), Analyse (An),Evaluate (E),Create(C)
#-FactualKnowledge(F)ConceptualKnowledge(C)ProceduralKnowledge(P)MetacognitiveKnowledge(M)

Detailed Syllabus:

Module	Unit	Content	Hrs (45)	Internal (30)	External (70)
I	**Introduction to Accounting and Transaction Processing**		**8**		
	1	Forms of business organization, importance of accounting in the information age, users of accounting information; Explanation and interpretation of accounting equation			
	2	Assets, Liabilities, Equity, Incomes, Expenses, Analyze the effects of transactions on the accounting equation			
	3	Accounting standards, Principles and Transaction Analysis..			
II	**Financial Statements**		**16**		
	4	Statement of Profit and Loss and Balance Sheet; Understanding the different items that appear in these two statements;			
	5	Different Types of assets and liabilities			
III	**Depreciation, Inventory Valuation**		**10**		
	6	Cost of Acquisition of depreciable assets, capital and revenue expenditure; Methods of depreciation – Straight line method and Written down value method, effect of choice of depreciation method on reported income			
	7	Inventory valuation and income measurement, Effect of inventory valuation error on reported earnings			
	8	Inventory valuation following perpetual inventory system under LIFO, FIFO and Weighted Average Cost Methods and their impact on reported earnings			
IV	**Cash Flow Statement**		**14**		
	9	Introduction to cash flow statement, its purpose and structure (indirect method only);			
	10	Computing Net cash flows from operating activities (using only the indirect method),			
	11	financing activities and the investing activities; interpreting the cash flow statement.			
V	**Practical exercises**		**12**		
	12	**Analysis of Financial Statements:** Introduction to analysis of financial statements and its purpose; Horizontal (comparative analysis and trend analysis) analyses and vertical (common-size) analysis; Ratio Analysis – Analysis of profitability, liquidity, solvency and capital market standing, Dupont analysis of a company by using its Profit and Loss Account and the Balance Sheet.	**5**		

Text books and references

1. Naryanaswamy, R. Financial accounting – A management perspective, (6th ed.). PHI.
2. Anthony, Robert. (2009), Accounting text and cases. New Delhi: Tata McGraw-Hill Publications.
3. Bhattacharya, A.B. (2010). Financial accounting for business managers. (3rd Ed.). New Delhi: Prentice Hall of India.
4. N. Ramchandran., & Kakani. (2010), Financial accounting for management (3rd ed.). Delhi: Tata McGraw-Hill Publications.

Programme	BBA INTERNATIONAL BUSINESS HONOURS				
Course Code	BIB1FM101				
Course Title	**Analytics for management**				
Type of Course	MDC				
Semester	1				
Academic Level	100 – 199				
Course Details	Credit	Lecture per week	Tutorial per week	Practicum per week	Total Hours
	3	3	-		45
Pre-requisites					
Course Summary	To introduce students to the principles, techniques, and applications of data analytics in management, enabling them to make data-driven decisions.				

Course Outcomes (CO):

This course will enable the students to achieve the following outcomes.

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Understand the Basics of Data Analytics	U	C	Case study
CO2	Develop Hands-On Skills in Data Handling and Visualization	Ap	P	Excel exercises
CO3	Apply Data Analytics to Real-World Business Problems	Ap	P	Small project

* - Remember (R), Understand (U), Apply (Ap), Analyse (An), Evaluate (E), Create (C)
# - Factual Knowledge(F) Conceptual Knowledge (C) Procedural Knowledge (P) Metacognitive Knowledge (M)

Detailed Syllabus:

Module	Unit	Content	Hrs (60)	Internal (30)	External (70)
I	**Basics of data analytics**		**10**		
	1	**Introduction to Data Analytics: W**hat is Data Analytics? Importance in Management and Business			
	2	**Types of Data:** Structured vs. Unstructured Data, Examples from Business Contexts			
	3	**Data Analytics Process:** Data Collection, Preparation, and Analysis Overview			
	4	**Introduction to Tools:** Overview of Excel as an Analytics Tool			
II	**Working with Data in Excel**		**12**		
	5	**Basic Excel Skills:** Formatting, Sorting, and Filtering Data, Basic Formulas and Functions			
	6	**Data Analysis Using Excel:** Logical Functions (IF, AND, OR), Basic Statistical Functions (AVERAGE, SUM, COUNT, MAX, MIN)			
	7	**Visualizing Data in Excel:** Creating Charts and Graphs, Pivot Tables for Simple Analysis			
III	**Introduction to Data Visualization**		**10**		
	8	**Role of Visualization in Decision-Making:** Importance of Clear and Effective Visuals			
	9	**Creating Dashboards in Excel:** Adding Charts, Tables, and Basic Dynamic Features,			
	10	**Interpreting Data Visualizations:** Insights for Business Decisions			
IV	**Data-Driven Decisions**		**13**		
	11	**Decision-Making in Organizations:** Types of Decisions: Strategic, Tactical, Operational, Role of Data in Making Informed Decisions			
	12	**Basic Concepts in Predictive Analytics:** Introduction to Trends and Forecasting (Simple Examples in Excel			
	13	**Applications of Data Analytics in Business Functions:** Sales, Marketing, HR, and Operations			
V	**Open ended module**		**10**		
	14	**Case Study:** Small Business Problem Solved Using Visualization.			
	15	**Final Project: S**tudents Analyze a Simple Dataset and Present Findings.			

Text books and Reference Books

Kinley, P. (2019). *Data analytics for beginners: Your guide to data science, big data, and data mining*. Independently published.

Kumar, U. D. (2017). *Business analytics: The science of data-driven decision making*. Wiley.

Winston, W. L. (2019). *Microsoft Excel 2019: Data analysis and business modeling*. Microsoft Press.

Knaflic, C. N. (2015). *Storytelling with data: A data visualization guide for business professionals*. Wiley.

Spreadsheet for decision making

Programme	BBA INTERNATIONAL BUSINESS				
Course Code					
Course Title	**Spreadsheet for decision making**				
Type of Course	SEC				
Semester	1				
Academic Level	100 – 199				
Course Details	Credit	Lectureper week	Tutorial perweek	Practicum perweek	TotalHours
	3	2	-	1	60
Pre-requisites					
Course Summary	This course provides a comprehensive introduction to using spreadsheets for data analysis. Students will learn essential spreadsheet functionalities, data organization and manipulation techniques, and data analysis tools for extracting insights from datasets.				

Course Outcomes(CO):

This course will enable the students to achieve the following outcomes.

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Clean and organize raw data for analysis	Ap	P	Case study
CO2	Apply formulas and functions to manipulate and analyze data	Ap	P	Practice exercises
CO3	Create informative charts and graphs to visualize trends and insights	An	P	Practice exercises
CO4	Build dashboards and reports to communicate findings effectively	An	P	Practice exercises
CO5	Use spreadsheet tools for what-if analysis and scenario planning	An	P	Practice exercises
CO6	Translate data insights into actionable recommendations for business decisions	An	P	Practice exercises

*-Remember(R),Understand(U),Apply(Ap),Analyse(An),Evaluate (E),Create(C)
#-
FactualKnowledge(F)ConceptualKnowledge(C)ProceduralKnowledge(P)MetacognitiveKnowledge(M)

Detailed Syllabus:

Module	Unit	Content	Hrs (45)	Internal (30)	External (70)
I	**Introduction to excel**		**12**		
	1	Introduction to data analytics, Introduction to data for decision making, types of data analytics, business analytics, Analytics process model Introduction to excel, creating simple worksheets, creating graph, Fill series			
	2	Working with formula in excel, Mathematical operations, Logical operations, Conditional formatting			
	3	Sorting, filtering, Data validation, circling invalid data, removing duplicates, subtotal.			
II	**Functions in excel**		**14**		
	4	Introduction to functions, Text functions, Date functions, logical functions			
	5	Math functions, statistical functions, financial function			
	6	sum,sumif, sumifs,count, countif, countifs,averageif, averageifs functions			
	7	Lookup, Vlookup and Hlookup functions, Applications of look up functions			
III	**What if analysis**		**14**		
	8	What if analysis tools (Goal seek, scenario manager, single variable Data table, two variable data table), Applications of what if analysis tools			
	9	Data summarisation, Pivot table for multidimensional analysis, index and match, Pivot chart, Slicers			
IV	**Visualisation using dashboards**		**10**		
	10	Creating simple dashboards in excel, Adding tables and charts to dashboard, adding dynamic contents to dashboard			
	11	Creating simple dashboards in excel, Adding tables and charts to dashboard, adding dynamic contents to dashboard			
	12	Macro What is VBA, Recording a Macro, Running a macro			
V	**Open ended module**		**10**		
	13	Create excel worksheets for practicing addition, subtraction, multiplication and division Create excel worksheets for practicing data validation, pivot table and subtotal Create excel sheets for practicing functions and what if analysis tools Create excel sheets for creating dashboards and also macros			

Text books and Reference Books

Walkenbach, J. (2023). Excel 2023 Bible (6th ed.). John Wiley & Sons.
Lonergan, M., & Moskal, B. (2022). Microsoft Excel 2021 step by step (15th ed.). Microsoft Press.
McComb, J., &Stranks, J. (Eds.). (2021). Excel for dummies (6th ed.). John Wiley & Sons.
Alexander, M., &Kusleika, D. (2018). *Excel 2019 All-in-One For Dummies*. For Dummies.
Winston, W. L. (2019). *Microsoft Excel 2019 Data Analysis and Business Modeling*. Microsoft Press.
Jelen, B. (2018). *Excel 2019 in Depth*. Que Publishing.
Alexander, M., & Walkenbach, J. (2016). *Excel Dashboards & Reports*. John Wiley & Sons.
Albright, S. C., Winston, W. L., & Zappe, C. (2019). *Data Analysis and Decision Making with Microsoft Excel*. Cengage Learning.
Gottung, T. (2018). *Excel 2019 Power Programming with VBA*. John Wiley & Sons.

MANAGERIAL ECONOMICS

Programme	BBA INTERNATIONAL BUSINESS				
Course Code					
Course Title	**Managerial Economics**				
Type of Course	Core course				
Semester	2				
Academic Level	100-199				
Course Details	Credit	Lecturepe rweek	Tutorial perweek	Practicum perweek	TotalHour s
	4	4	-		60
Pre-requisites					
Course Summary	This course is offered to equip students with the art of managerial decision making at the firm level. Managerial Economics introduces students to the concepts of demand, pricing, cost, production, and markets. The course also demonstrates how all these concepts helps the manager in taking optimum and rational decisions.				

Course Outcomes (CO):

This course will enable the students to achieve the following outcomes.

CO	**CO Statement**	**Cognitive Level***	**Knowledge Category#**	**Evaluation Toolsused**
CO1	Develop the fundamental concepts of microeconomics used to facilitate the problem of scarcity and resource allocation in the context of choices and opportunity cost.	U and Ap	M	Lecture and Discussion
CO2	Examine the factors determining the Demand and Supply, elasticities and forecasting of demand.	An	C	Lecture and Discussion
CO3	Analyze consumer behavior with the help of concepts of utility and indifference curve in their pursuit of maximization of satisfaction with limited money income.	An	C,F	Discussions and Practical assignments
CO4	Deduce the cost, revenue, and production functions for business implications.	Ap	M	Case analysis and presentations
CO5	Assess the different market conditions, intensity of competition, and conditions for equilibrium in different types of markets like perfect competition, monopoly, monopolistic competition, oligopoly, and duopoly.	E	M	Discussion

Detailed Syllabus

Module	Unit	Content	Hours	Internal	External
1		**Introduction**	8		
	1	Introduction to Managerial Economics-Economic Systems-Principles of managerial economics,			
	2	Integration with other managerial decision-making process-Tools and analysis of optimization			
	3	-role of Government, Competition Vs Cooperation. Relationship with other management subjects.			
2		**Demand and supply analysis**	12		
	4	Definition of demand, Law of demand and its determinants and exceptions, movement along the demand curve and shift in demand curve. Demand and supply relationship*.			
	5	Definition of supply, Law of supply, Movement along the supply curve and shift in supply curve, Factors affecting supply, Market equilibrium and pricing, floor price and ceiling price. Application of demand and supply analyses:			
	6	Concepts of elasticity, degree, determinants & types, practical implication, Relationship of Revenue and elasticity of demand, Demand forecasting and its use in demand. Qualitative and Quantitative interpretation of demand techniques-model specification using regression and OLS.			
3		**Consumer Behaviour (Application) and Analyses of Production, Costs and Revenues**	18		
	7	Introduction to Consumer behavior, Utility, Cardinal approach, Ordinal approach, Consumer's equilibrium using Indifference curve analysis and Consumer surplus, Application of Indifference curve analyses.			
	8	Production functions, Law of Variable proportions, returns to scale and economies of scale. Definition of supply, Law of supply,			
	9	Movement along the supply curve and shift in supply curve, Factors affecting			

		supply, Market equilibrium and pricing, floor price and ceiling price. Application of demand and supply analyses:			
4		**Market structures and decision making**	15		
	10	Market types, characteristics, Perfect competition features, Price determination and equilibrium in the short run and the long run,			
	11	Monopoly - features, equilibrium condition, Price discrimination. Monopolistic competition- features, Oligopoly - Cartels as one of the features of Oligopoly,			
	12	Game theory-types, static and dynamic games-Pricing Strategy (Case study), Sustainability business model- Circles of Sustainability.			
5		**Practical Exercises and Case analysis**	7		
	13	Case studies on break even analysis			
	14	Case studies on pricing strategy			
	15	Role play on consumer behavior			

REFERENCES

1. Mankiw, N Gregory. (2020) Principles of Micro Economics (9th Edition) Cengage Learning
2. D.N. Dwivedi (2021) Managerial Economics (21st Edition) S. Chand Publications
3. Paul G Keat, Philip Ky Young, Sreejata Banarjee (2016) Managerial Economics (6h Edition), Pearson Publications.

STATISTICS FOR BUSINESS ANALYTICS

Programme	BBA BUSINESS ANALYTICS				
Course Code					
Course Title	**STATISTICS FOR BUSINESS ANALYTICS**				
Type of Course	Core Course				
Semester	2				
Academic Level	100 – 199				
Course Details	Credit	Lectureper week	Tutorial perweek	Practicum perweek	TotalHours
	4	4	-		60
Pre-requisites					
Course Summary	This course will discuss from both conceptual and application perspective, basic statistical methods widely used in business applications. The course gives an introduction to statistical methods needed in data analysis work related to applications in Economics, Finance, Marketing, Operations and Human Resources. Further it enables to conceptualize business problems in statistical terms and enhances understanding and application of fact and evidence-based decision-making process..				

Course Outcomes (CO):

This course will enable the students to achieve the following outcomes.

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Make use of data for appropriate visualization.	U and Ap	C	Instructor-created exams/ Problem solving sessions
CO2	Identify probability distributions appropriate to business data	An	P	Practical Assignment
CO3	Discover sampling techniques suitable for decision making.	Ap	P	Seminar Presentation/ Group Tutorial Work
CO4	Evaluate statistical data to support fact-based decision making.	E	C	Home Assignments
CO5	Estimate models for analyzing relationships between variables.	Ap	P	Seminar Presentation/ Group Tutorial

				Work

*-Remember(R), Understand(U),Apply(Ap),Analyse(An),Evaluate (E),Create(C)#-FactualKnowledge(F)ConceptualKnowledge(C)ProceduralKnowledge(P)MetacognitiveKnowledge(M)

Detailed Syllabus:

Module	Unit	Content	Hrs (60)	Internal (30)	External (70)
I	**Data Visualization**		**6**	**20**	**16**
	1	Frequency distributions, histograms, stem-and-leaf displays, bar charts, pie charts, and scatter plots.			
	2	Data Preparation: Editing, coding, data entry, cross-tabulation,			
	3	graphical displays using MS Excel			
II	**Introduction to Probability and Probability Distributions**		**16**		**18**
	4	Probability - Event algebra*. Conditions of statistical dependence and independence, Types of probability, probabilities under conditions of statistical independence, conditional probability under statistical dependence, Bayes' theorem and its applications.			
	5	Probability Distributions - Meaning of Probability Distribution, Random variables, Discrete and continuous random variables. Expected value,			
	6	Use of expected value in decision making, Variance of a random variable. Binomial, Poisson, Uniform, Normal and Exponential distributions and their properties and applications.			
III	**Sampling Methods Estimation and Testing Statistical Hypothesis**				**18**
	7	Sampling - Need, benefits and limitations. Probability and Non-probability sampling methods. Sampling distributions, Central Limit Theorem..	**20**		
	8	Estimation - Point and Interval estimators of mean and proportion - Determining sample size using confidence interval approach..			
		Testing Hypothesis - Concepts basic to hypothesis, null and alternative hypothesis, testing procedure, level of significance, Types of errors. Measuring power of a hypothesis test. Testing of means and proportions for small and large samples, testing of difference between means and proportions for small and large samples.			
IV	**Chi-square Test and Analysis of Variance and Correlation and Regression**				**18**
	9	Chi-Square test of goodness of fit and test of independence. ANOVA, Multiple comparison procedures. Inference about population variance. Overview of Analysis of CRD, RBD, LSD, and factorial designs. t-Test, Chi-square test for Goodness of Fit and independence	**10**		

		of attributes, ANOVA using MS Excel			
	10	Concept of Correlation - Measure of Correlation & Interpretation. Simple Linear Regression - Form, fitting, prediction, hypothesis testing in linear regression. Residual analysis for validation of assumptions* - normality, homoscedasticity, outliers and influential observations.			
	11	Correlation and Regression using MS Excel..			
V	**Open Ended Module** Data analysis with statistics add-ins and Descriptive Statistics Using MS Excel- What is excel add-ins. How to install analysis tool pack using statistics add-ins. Measures of central tendency & Measures of dispersion Using MS Excel Simple analysis using EXCEL Calculation of correlation coefficient and it‘s interpretation & Calculation of regression coefficient and construction of regression lines using Excel		**12**	**10**	

Text Books And Reference Books:

1. Richard I. Levin and David S. Rubin, Statistics for Management, Prentice Hall of India, latest edition.
2. S.P.Gupta, Statistical Methods, Sultan Chand.
3. Sanchetti and Kapoor, Statistics, Sultan Chand.
4. G.C.Beri, Statistics For Managemet, Tata McGraw Hill.
5. J.K. Sharma, Business Statstics: Pearson.
6. Anderson Sweeney Williams, Statistics for Business and Economics, Thomson.
7. Levine Krebiel&Bevenson, Business Statistics, Pearson edition, Delhi.

HUMAN RESOURCE MANAGEMENT

Programme	BBA BUSINESS ANALYTICS				
Course Code					
Course Title	**Human Resource Management**				
Type of Course	Core Course				
Semester	2				
Academic Level	100-199				
Course Details	Credit	Lecture per week	Tutorial per week	Practicum per week	Total Hours
	4	4	-		60
Pre-requisites					
Course Summary	This course is an introduction to the human resources function and related elements and activities. The course outlines the roles and functions of members of the human resources department, as well as educating others outside human resources, in how their roles include human resources-related activities. The student will learn about the evolution in human resources management as we know it today. Emphasis is placed on the modern-day importance of HRM and the new "corporate view" of the function.				

Course Outcomes (CO):

This course will enable the students to achieve the following outcomes.

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	To understand the basic concepts of human resource management	U	M	Lecture and Discussion
CO2	To create job description and job specification for a specified job	C	C	Class room exercise
CO3	To analyse the process of acquiring and retaining talent	AN	C,F	Discussions and Practical assignments

CO4	To evaluate the development initiatives	Ap	M	Case analysis and presentations
CO5	apply the new dimensions in employee employer relations at workplace	Ap	M	Role play

Detailed Syllabus

Module	Unit	Content	Hours	Internal	External
1		**Human resource management**	8		
	1	Concept: Meaning, Objectives, Scope, Functions, models of HRM, Strategic HRM, Human Resource Management A sustainability perspective.			
	2	Human Resource Management in India: An overview			
	3	skills and competencies of HR professionals Overview of ethical choices in HRM and expected professional standards .			
2		**Human Resource Planning, Job Analysis and Design**	8		
	4	Definition, Objectives scope and importance, Methods of forecasting,			
	5	Job analysis – objectives, process and methods, job description, job specification, job evaluation and job design.			
3		**Recruitment, Selection, Socialization and Retention**	8		
	6	Meaning and objectives, sources and constraints of recruitment, Selection process, Methods of selection, reliability and validity of test,			
	7	meaning and importance of socialization, methods of socialization and retention of employees			
	8	Ethical dilemmas in recruitment and selections, promotions and transfers. Employee privacy and confidentiality in testing			
4		**HRD and Performance Appraisal**	10		
	9	Meaning, Objectives and scope of human resource development			
	10	**Training: Orienting** and on boarding new employees, aligning strategy and training, the ADDIE five step model , conducting the training need analysis , Designing the training program , developing the Programme ,Implementing the Training Program, Management Development Programme,			

		Evaluation of training effectiveness Current trends in training			
	11	**Performance Management and Appraisal** : Meaning, Objectives, scope & purpose, Appraisal process, methods for evaluating performance, problems & challenges in appraisal, Fairness and equity in performance appraisals. Current trends in performance management			
	12	**Compensation** Definition and objectives, Basic factors in determining pay rates, Job evaluation methods how to create a market – competitive pay plan, Executive compensation, broad banding individual employee incentive, and recognition programme ,incentives for sales people , benefits Recent trends in wage and administration			
	13	**Industrial Relations:** Meaning and importance of industrial relations, Trade unions, Collective bargaining and Workers' participation in management.			
5	14	**Practice Exercises**	5		
	1	Analyse case studies of MNCs			
	2	Create job advertisements			
	3	Develop resume, questionnaire for training and development			

REFERENCES

1. Dessler, G & Varkey,B. (2018).*Human resource management*. 15 Edition PearsonCaterora.P,Gilly.M&Graham.J(2011).*15thEdition,InternationalMarketing*,Tata-McGraw-HillPublications
2. Camen, M M., Croucher, R & Leigh, S (Eds)(2011). *Human resource management: A case study approach.* India: Jaico.
3. Decenzo, D A & Robbins, S P (2011). *Human resource management*, John Wiley & Sons.
4. Fisher, C D., Schoenfeldt, L F & Shaw, J B (2011). *Human resource management*, Biztantra.
5. Mathis, R L & Jackson, J H (2000). *Human Resource Management*, 9th ed, South Western: Thomson Learning Publications.
6. Rao, V S P (2000). *Managing people.* Amexcel Publisher.

DATA VISUALISATION USING POWER BI

Programme	BBA BUSINESS ANALYTICS				
Course Code					
Course Title	**Data Visualisation using Power BI**				
Ty e oCourse	SEC				
Semester	2				
Academic Level	100 – 199				
Course Details	Credit	Lecture per week	Tutorial per week	Practicum per week	Total Hours
	3	1	-	2	45
Pre-requisites					
CourseSu mmary	This course will equip students with the design thinking framework and skills to solve complex problems creatively and user-centrically.				

Course Outcomes (CO):

This course will help students to understand the core principles and phases of design thinkingThiscoursewillenablethestudentstoachievethefollowingoutcomes.

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Develop Proficiency in Data Visualization Techniques:	U	P	Practice exercises
CO2	Master Data Preparation and Modeling	Ap	C	Practice exercises
CO3	Enhance Collaboration and Reporting Capabilities	C	P	Practice exercises

*-Remember(R),Understand(U),Apply(Ap),Analyse(An),Evaluate (E),Create(C)
#-
FactualKnowledge(F)ConceptualKnowledge(C)ProceduralKnowledge(P)MetacognitiveKnowledge(M)

Module	Unit	Content	Hrs (45)	Internal (30)	External (70)
I	**Introduction to Power BI**		**10**		
	1	**Overview of Business Intelligence and Visualization :**Importance of data visualization in decision-making,Introduction to Business Intelligence tools			
	2	**Getting Started with Power BI:** Power BI ecosystem (Power BI Desktop, Service, Mobile), Installing and setting up Power BI Desktop, Navigating the interface and understanding components			
	3	**Connecting to Data Sources:** Importing data from Excel, CSV, and databases, Introduction to Direct Query and Import modes.			
II	**Data Transformation and Modeling**		**12**		
	4	**Data Cleaning and Preparation:** Using Power Query Editor, Handling missing data, duplicates, and errors, Transforming and shaping data			
	5	**Data Modeling Basics:** Creating relationships between tables, Understanding star and snowflake schemas, Adding calculated columns and measures using DAX (Data Analysis Expressions)			
III	**Creating Visualizations**		**15**		
	8	**Basic Visualization Techniques:** Creating bar charts, pie charts, line graphs, and tables, Customizing visuals: formatting and interactivity			
	9	**Advanced Visualizations:** Using maps, scatter plots, and waterfall charts, Introduction to custom visuals from the Power BI Marketplace			
	10	**Designing Interactive Dashboards:** Creating slicers, filters, and drill-throughs, Best practices for dashboard layout and storytelling			
IV	**Sharing and Advanced Features**		**8**		
	12	**Publishing and Sharing Reports:** Publishing to Power BI Service, Collaborating with workspaces and sharing dashboards			
	13	**Power BI Service Features:** Scheduling data refreshes, Exploring Power BI apps			
	14	**Introduction to Advanced Features:** Overview of R and Python integration, Introduction to Power BI Embedded and Paginated Reports			
V	**Open ended module**		**5**		
	16	Creating datasets in excel. Create visualisations in Power BI			

Text books and Reference Books

Powell, B. (2018). *Mastering Microsoft Power BI: Expert techniques for effective data analytics and business intelligence*. Packt Publishing.

Powell, B. (2020). *Microsoft Power BI Cookbook: Over 100 actionable recipes to help you manage and analyze data effectively in Power BI*. Packt Publishing.

Russo, M., & Ferrari, A. (2020). *The definitive guide to DAX: Business intelligence for Microsoft Power BI, SQL Server Analysis Services, and Excel* (2nd ed.). Microsoft Press.

Raviv, G. (2019). *Collect, combine, and transform data using Power Query in Excel and Power BI*. Microsoft Press.

ORGANIZATIONAL BEHAVIOR

Programme	BBA INTERNATIONAL BUSINESS				
Course Code	BIB3CJ201				
Course Title	**Organizational Behavior**				
Type of Course	Core Course				
Semester	3				
Academic Level	200 – 299				
Course Details	Credit	Lecture per week	Tutorial per week	Practicum per week	Total Hours
	4	4	-		60
Pre-requisites					
Course Summary	This course deals with the basics of organization behaviour. It also deals with individual, group and organization behaviours. The course also deals with change management and organization development				

Course Outcomes(CO):

This course aims to equip students with the basic knowledge of organizational behavior and also the three levels of behavior.

This course will enable the students to achieve the following outcomes.

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	To understand the fundamental concepts of organizational behavior	U	C	Discussions
CO2	To understand the factors affecting the behavior of an individual in an organization and its effects	U	P	Case study
CO3	To understand group behavior, motivation theories and leadership styles	Ap	C	SeminarPresentation/ Case study
CO4	To understand about organization development and change	U	C	Role Play

*-Remember(R),Understand(U),Apply(Ap),Analyse(An),Evaluate (E),Create(C)#-FactualKnowledge(F)ConceptualKnowledge(C)ProceduralKnowledge(P)MetacognitiveKnowl

edge(M)

Detailed Syllabus:

Module	Unit	Content	Hrs (60)	Internal (30)	External (70)
I		**Introduction to OB**	**8**		
	1	Definitions, concepts in Organizational Behavior, foundations of OB, contributing disciplines to the OB field, Role of Managers in Organizational Behaviour			
	2	challenges and opportunities for OB, Introduction to International Organizational Behavior			
II		**Understanding Individual Behavior in Organizations**	**12**		
	3	Individual behavior, Attitudes and values;			
	4	Meaning of Perception, Factors Influencing Perception, Perception process			
	5	Personality-Meaning, Types and Determinants, Personality Traits Influencing OB, Personality traits Theories - Big Five Model, The Myers Briggs Type Indicator			
	6	Learning style, Bloom's taxonomy			
III		**Group behavior, motivation and conflict management**			
	7	Motivation – concept, theories of motivation, Designing motivational strategies for diverse workforces	**18**		
	8	Group behavior – concept, types of group, group development, group dynamics; Teams – types, creating effective teams, Challenges in multicultural teams, Building and leading effective multicultural teams			
	9	Conflict- concept, sources, types, management;			
	10	Meaning and importance of leadership,theories of leadership, Organizational power and politics			
IV		**Organization development and change**			
	11	organizational development and change, resistance to change, managing resistance to change, Lewin's three step model of change,	**12**		
	12	Stress – sources, consequences and management. Organizational climate – Factors affecting organizational climate Effect of organization culture on OB			
	13	Organizational structure, Effect of organization structure on OB			
V		**Open Ended Module** **1.** Case studies on motivation, leadership theories and stress management **2.** Role play on conflict management	**10**	**10**	

Text Books And Reference Books:

1. Stephen P. Robbins, Timothy A. Judge & Seema Sanghi, *Organization Behavior* – Pearson Publication, 13th Edition
2. Udai Pareek, *Understanding Organizational Behavior,* Second Edition, Oxford University Press.2010
3. Margie Parikh and Rajan Gupta, *Organizational Behavior,* Tata McGraw Hill Education Private Limited, 2010

Programme	BBA INTERNATIONAL BUSINESS HONOURS				
Course Code					
Course Title	Fundamentals of Marketing				
Type of Course	**Core Course**				
Semester	3				
Academic Level	200-299				
Course Details	Credit	Lecture per week	Tutorial per week	Practical per week	Total Hours
	4	4		-	60
Pre-requisites	Basic understanding of business and market, Understanding on consumers and their general behaviour				
Course Summary	This course provides a comprehensive understanding of the principles and practices of marketing. Including the product management, relationship marketing and the new era of marketing management.				

Course Outcomes (CO):

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Understand the core marketing concepts including holistic and relationship marketing approaches.	U	C	Assignment
CO2	Students will be able to identify and assess the factors that influence consumer behavior and buying decisions, applying the concepts of product.	E	P	Presentations
CO3	Students will be able to analyse the pricing strategies, incorporating elements of product development, branding, pricing models, and lifecycle stages.	An	P	Written examination
CO4	Gain proficiency in using various marketing communication tools, including advertising, sales promotion, direct marketing, and personal selling, both in traditional and digital contexts.	U	C	Assignment
CO5	Evaluate business structures and strategies, analyze competitive environments, and apply different frameworks.	An	P	Written examination

* - Remember (R), Understand (U), Apply (Ap), Analyse (An), Evaluate (E), Create (C)
# - Factual Knowledge(F) Conceptual Knowledge (C) Procedural Knowledge (P) Metacognitive Knowledge (M)

Detailed Syllabus:

Module	Unit	Content	Hrs
I		**Introduction to Marketing**	**10**
	1	Introduction to Marketing - Needs, Wants and Demand	
	2	Evolution of marketing concept – Holistic marketing concept	
	3	Introduction to Relationship Marketing, Concept of customer life time value, Database marketing,	
	4	Consumer Behaviour, influencing factors, Consumer buying decision process	
II		**Product and Pricing**	**15**
	1	Introduction to Products- Product classifications- levels of product	
	2	Product lifecycle-marketing strategies in various PLC stages	
	3	Brand- scope of branding	
	4	Pricing- setting the price- pricing strategies	
		Introduction to service - service marketing mix- Difference between consumer markets and business markets	
III		**Advertisement & Sales Promotion**	**12**
	1	Marketing Communication mix	
	2	Advertising, Sales Promotion	
	3	Direct Marketing, Personal Selling	
	4	Introduction to digital marketing, social media – types, characteristics	
	5	Traditional - media vs digital media- Search Engine Optimization	
IV		**Business Structure and strategies**	**15**
	1	Distribution channels - Overview of marketing strategy	
	2	Environmental Analysis - Corporate Strategy, Business Strategy and marketing strategy	
	3	Legal structures of businesses - Intellectual property rights	
	4	BCG Matrix. - Competitor analysis	
	5	Green Marketing - Ethics in marketing	
	6	**Introduction to Marketing Analytics:** Definition and Importance of Marketing Analytics, Role of Analytics in Modern Marketing Strategies	
V		**Open Ended Module:**	**8**
	1	Debate on ethical dilemmas in marketing - Design a social media campaign for a product/ Analysis of successful branding campaigns Hands-on: Using Excel for marketing data analysis	

REFERENCES

- *Kotler, P., & Armstrong, G. (2018). Principles of Marketing (17th ed.). Pearson.*
- *Solomon, M. R. (2019). Consumer Behavior: Buying, Having, and Being (13th ed.). Pearson.*

- "Product Management" by Donald R. Lehmann and Russell S. Winer
- "Pricing Strategy: Setting Price Levels, Managing Price Discounts, and Establishing Price Structures" by Tim J. Smith

SUGGESTED READINGS:

- "*The New Rules of Marketing and PR" by David Meerman Scott*
- *"Integrated Advertising, Promotion, and Marketing Communications" by Kenneth E. Clow and Donald Baack*

ENTERPRISE RESOURCE PLANNING

Programme	BBA BUSINESS ANALYTICS				
CourseCode					
CourseTitle	**Enterprise Resource Planning**				
TypeofCourse	Core Course				
Semester	3				
AcademicLevel	200-299				
CourseDetails	Credit	Lecture perwe ek	Tutorial per week	Practicum per week	Total Hours
	4	4	-		60
Pre-requisites					
CourseSummary	The subject enhances the level of practical knowledge about ERP and develops an understanding of management of various functions and processes in an organization with its integrated approach on appropriate implementation of Enterprise Resource Planning Systems like SAP and Open Source ERPs. The concepts learnt in this field are applicable to all specializations including, Marketing, Human Resources, Finance, Business Analytics, Lean Operations and Systems, and also in other fields.				

CourseOutcomes (CO):
Thiscoursewillenablethestudents toachievethefollowingoutcomes.

CO	**COStatement**	**Cognitive Level***	**Knowledge Category#**	**Evaluation Toolsused**
CO1	Identify the relevance and evolution of modern Enterprise applications.	U	C	Lecture and Discussion
CO2	Examine the basic concepts of Process Mapping and Business Process Reengineering in an ERP context.	U	C	Lecture and Discussion
CO3	Identify the ERP Lifecycle challenges and success factors.	An	C,F	Discussions and Practical assignments

CO4	Apply the latest trends in Enterprise Applications.	Ap	M	Case analysis and presentations
CO5	Build and configure business process in open source ERP.	C	M	Mini Project

Detailed Syllabus

Module	Unit	Content	Hours	Internal	External
1		**ERP Introduction, Technology & Functional Modules**	14		
	1	Introduction, Evolution from MRP to ERP,			
	2	Need for an ERP, Essentials, Advantages and Risks:			
	3	ERP Architecture, System Landscape, RDBMS, Configuration, Customisation:			
	4	Functional Modules of ERP; Manufacturing/SCM, Sales & Distribution, HR, Finance; CRM, SRM.			
2		**Business Process Redesign and Mapping**	8		
	5	Business Function & Processes, Cross Functional Processes,			
	6	Functional departments in a Business			
	7	Business Process Reengineering, Process mapping.			
3		**ERP Life Cycle: Selection an Implementation**	12		
	8	Pre-implementation tasks/Readiness for ERP, Requirements definition/analysis, Cost Benefit Analysis/ERP Costs,			
	9	ERP Life Cycle: Package Selection, ERP Transition Strategies, ERP Implementation Strategies, methodologies and challenges, ERP implementation lifecycle, Vendors and Consultants, Training & Education, Data Migration,.			
	10	Post Implementation activities, Success & Failure factors of ERP implementation, Testing and Users, Operation & Maintenance of an ERP system, Measurement of the performance of ERP system			
4		**ERP Market and Trends**			
	11	RP Market Share Analysis, Popular ERP Package Vendors, Cloud based ERP, Mobility, Business Intelligence and Analytics, Geographic Information			

		systems (GIS), OLAP, Security Systems for ERP, Enterprise Application Integration, ERP and e-Business, Open Source ERP.			
	12	SAP as a ERP Package - S&D Module, Odoo as an Open Source ERP Package/ERPSim.			
5		**Practical Exercises and Case analysis**	5		
	1	Case study on use of ERP in companies			
	2	Group discussion on merits and demerits of readymade ERP systems			
	3	Miniproject			

REFERENCES

1. Bradford, Marianne. Modern Erp: Select, Implement and Use Today's Advanced Business Systems. Morrisville, NC: Lulu, 2015. Print.
2. Leon, Alexis. Enterprise Resource Planning. (Fourth Edition) New Delhi: McGraw-Hill Education (India) Pte Ltd, 2019. Print.

Programme	BBA Business Analytics				
Course Code					
Course Title	**Family Business Management**				
Type of Course					
Semester					
AcademicLevel					
Course Details	Credit	Lecture per week	Tutorial per week	Practicum per week	Total Hours
	4	4	-		60
Pre-requisites					
Course Summary	This course will cater to the local needs of the community where family businesses play an important role.				

Course Outcomes (CO):
This course will enable the students to achieve the following outcomes.

CO	**CO Statement**	**Cognitive Level***	**Knowledge Category#**	**Evaluation Tools used**
CO1	Devising strategies for family business	AN	M	Lecture and Discussion
CO2	Development and implementation of effective governance	U	C	Lecture and Discussion
CO3	Understanding the basics of succession planning	AN	C, F	Discussions and Practical assignments

Detailed Syllabus

Module	Unit	Content	Hours	Internal	External
1		**Introduction**	15		
	1	Overview of the family business. Effective governance and the family business, Issue of ownership and conflict in family. Capital structure of closely held business and family business, cash, growth. Issues and challenges in family business and closely held family business.			
2		**Developing Effective Governance**	15		
	1	Understanding the relationships between family and business, management and ownership. Governance issues in family owned business, behavioral issues in closely held and family owned business & managed business. Conflict management and transition in family business			
3		**Growth Strategy**	15		
	1	Growth strategy for family owned business. Different models in family business. Developing sustainable family business organization structure, ownership, team of advisors, board of directors and corporate governance.			
4		**Succession Planning**	10		
	1	Family succession, issues of succession in a family firm, preparing for succession planning. Legal norms of succession-succession acts, important provisions. Involving non-family members, power struggles and issues of succession in a family firm, Valuation of the closely held firm, the changing role of family in the family business.			
5		**Practice Exercises**	5		
	1	Choose a successful family-owned business (e.g., Walmart, Reliance Industries) and prepare a report on its history, succession planning, and key challenges faced.			
		Interview a family business owner about their journey, challenges, succession			

		plans, and vision for the future. Present findings in a detailed report.			

REFERENCES

1. The 5Gs of Family Business by Walter Vieira, Mita Dixit SAGE Publications India. 2018
2. The 10 Commandments For Family Business Hardcover by Kavil Ramachandran SAGE Publications India. –2015
3. Family Business Models: Practical Solutions for the Family Business Hardcover – Illustrated,
4. by A. Gimeno (Author), G. Baulenas (Author), J. Coma-Cros (Author) Palgrave Macmillan, 2010
5. Family Business Governance: Maximizing Family and Business Potential (A Family Business Publication) Paperback – Illustrated, by Craig E. Aronoff PhD , John L. Ward PhD, Palgrave Macmillan 2011

Programme	BBA Business Analytics				
Course Code					
Course Title	**Principles of Artificial Intelligence**				
Type of Course					
Semester					
AcademicLevel					
Course Details	Credit	Lecture per week	Tutorial per week	Practicum per week	Total Hours
	3	3	-		45
Pre-requisites					
Course Summary	The course aims to provide basic concept of Artificial Intelligence and its application in Business, Finance and Accounting				

Course Outcomes (CO):
This course will enable the students to achieve the following outcomes.

CO	**CO Statement**	**Cognitive Level***	**Knowledge Category#**	**Evaluation Tools used**
CO1	Understanding of the basic areas of artificial intelligence including problem solving, knowledge representation, reasoning, decision making, planning, perception and action, and learning -- and their applications (e.g., data mining, information retrieval).	AN	M	Lecture and Discussion
CO2	Able to design and implement key components of intelligent agents of moderate complexity in Java and/or Lisp or Prolog and evaluate their performance	U	C	Lecture and Discussion

Detailed Syllabus

Module	Unit	Content	Hours	Internal	External
1		**Introduction**	5		
	1	Overview - Foundations, Scope, Problems, and Approaches of AI. Intelligent agents: Reactive, Deliberative, Goal-driven, Utility-driven, and Learning agents, Artificial Intelligence programming techniques.			
2		**Problem Solving through search and machine Learning**	15		
	1	Forward and Backward, State-Space, Blind, Heuristic, Problem-Reduction, A, A*, AO*, Minimax, Constraint propagation, Neural, Stochastic, and Evolutionary search algorithms, Sample applications			
		Learning from memorization, Examples, Explanation, and exploration. Learning nearest neighbor, Naive Bayes, and Decision tree classifiers, Q- learning for learning action policies, Applications. Sample Applications of AI, Student project presentations.			
3		**Knowledge Representation and reasoning**	10		
	1	Ontologies, Foundations of knowledge representation and Reasoning, Representing and Reasoning about objects, Relations, Events, Actions, Time, and Space; Predicate Logic, Situation calculus, Description Logics, Reasoning with defaults, Reasoning about knowledge, Sample applications.			
4		**Succession Planning**	10		
	1	Planning as search, Partial order planning, Construction and Use of planning graphs. Representing and Reasoning with Uncertain Knowledge: Probability, Connection to logic, Independence, Bayes rule, Bayesian networks, Probabilistic inference, and sample applications. Decision- Making: Basics of utility theory, Decision theory, Sequential decision problems, Elementary game theory, Sample applications.			

5		**Practice Exercises**	5		
	1	Use tools like Python (NLTK) or chatbot platforms like Dialogflow to create a simple chatbot for tasks like answering FAQs or booking appointments.			
		Research an AI ethics issue (e.g., bias in AI algorithms, privacy concerns in facial recognition) and present a case study highlighting challenges and possible solutions.			

REFERENCES

1. Knight, Kevin, Rich, Elaine, Nair, B; Artificial Intelligence, Third Edition, Publisher -McGraw-Hill Education Pvt.Ltd., 2017 Deepak Khemani, A First Course in Artificial Intelligence, Publisher -McGraw Hill Education Pvt. Ltd, 2017
2. Prabhat Kumar, Artificial Intelligence: Reshaping Life and Business, BPB Publication 2019
3. Kompella, Kashyap, Pelz-Sharpe, Alan, Artificial Intelligence, Third Edition, Deep Publishing

Programme	BBA Business Analytics				
Course Code					
Course Title	**Business Intelligence for competitive advantage**				
Type of Course	MDC				
Semester	3				
AcademicLevel	200-299				
Course Details	Credit	Lecture per week	Tutorial per week	Practicum per week	Total Hours
	3	3	-		45
Pre-requisites					
Course Summary	This course introduces students to the fundamentals of Business Intelligence (BI) and its application in achieving competitive advantage. Students will learn how to analyze, visualize, and interpret data using BI tools, while understanding their role in enhancing organizational decision-making and strategy. The course integrates theoretical concepts with hands-on experience, enabling students to create actionable insights and implement BI-driven solutions effectively.				

Course Outcomes (CO):
This course will enable the students to achieve the following outcomes.

CO	**CO Statement**	**Cognitive Level***	**Knowledge Category#**	**Evaluation Tools used**
CO1	Understand the fundamental principles and components of Business Intelligence and its role in decision-making and competitive advantage.	U	M	Lecture and Discussion
CO2	Develop proficiency in using BI tools for data analysis, visualization, and reporting.	U	C	Practical exercise
CO3	Apply advanced BI techniques and methodologies to solve real-world business problems and gain strategic insights.	Ap	P	Practical exercise

Detailed Syllabus

Module	Unit	Content	Hours	Internal	External
1		Introduction to Business Intelligence	5		
	1	Definition, scope, and importance of BI. Key components of BI: Data sources, Data Warehousing, and ETL processes. Role of BI in modern businesses and decision-making. Overview of BI tools and technologies (e.g., Power BI, Tableau, SAP BI). Challenges in implementing BI systems.			
2		**Data Analysis and Reporting with BI**	12		
	2	Data types and sources: Structured, semi-structured, and unstructured data. Data integration and preprocessing for BI.			
	3	Reporting in BI: Dashboards, scorecards, and key performance indicators (KPIs).			
3		**Advanced BI Techniques for Competitive Advantage**	15		
	4	Predictive analytics: Overview and applications. Role of Artificial Intelligence (AI) and Machine Learning (ML) in BI. Competitive analysis using BI: Market trends, customer behavior, and industry benchmarks.			
4		**Implementing BI Solutions in Business**	11		
	5	BI project lifecycle: Planning, implementation, and evaluation. Best practices for BI adoption in organizations. Ethical considerations and data privacy in BI.			
5		**Practice Exercises**	5		
	6	Hands-on: Creating basic dashboards and visualizations using a BI tool (e.g., Power BI or Tableau).			
		Group projects analyzing real-world case studies, guided practice with advanced BI techniques.			

		Case studies of organizations leveraging BI for strategic advantage			

REFERENCES

Turban, E., Sharda, R., Delen, D., & King, D. (2019). *Business Intelligence, Analytics, and Data Science: A Managerial Perspective* (4th ed.). Pearson.

Langer, A. M. (2020). *Guide to Business Intelligence and Analytics: The Data Science Handbook*. Springer.

Marr, B. (2017). *Data Strategy: How to Profit from a World of Big Data, Analytics, and the Internet of Things*. Kogan Page Publishers.

Cindi, H., & Cokins, G. (2020). *Performance Management: Integrating Strategy Execution, Methodologies, Risk, and Analytics* (3rd ed.). Wiley.

Business Analytics using R

Programme	BBA Business Analytics
Course code	
Course Title	Business Analytics using R
Types of Course	Core paper
Semester	4
Academic Level	300 – 399

Course Details	Credit	Lectureperweek	Tutorialperweek	Practicumperweek	Total Hours
	4	1	-	3	60

Prerequisites	
Course Summary	This course provides students with a comprehensive understanding of business analytics concepts and their applications using R programming. It covers key techniques such as data manipulation, visualization, and statistical analysis to enable students to derive actionable insights from business data. The course emphasizes hands-on learning through practical sessions, case studies, and a capstone project, ensuring students gain proficiency in tools and techniques relevant to marketing, finance, and HR analytics. By the end of the course, students will be able to leverage R for data-driven decision-making and solve real-world business challenges effectively.

Course Outcomes (CO):

This course will enable the students to achieve the following outcomes.

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Understand Business Analytics Frameworks	U	M	Practical Assignment
CO2	Develop Proficiency in R Programming	Ap	M	Practical Assignment
CO3	Apply Analytical Techniques	Ap	M	Practical Assignment
CO4	Solve Real-World Business Problems	An	M	Practical Assignment

Business Analytics using R

Module	Unit	Content	Hrs (60)	Internal (30)	External (70)
I		**Foundations of Business Analytics and R Programming**	10	20	16
	1	**Introduction to Business Analytics:** Definition and Importance Types of Analytics: Descriptive, Predictive, Prescriptive,Applications of Business Analytics in Marketing, Finance, and HR			
	2	**Introduction to R Programming:** Installing and Setting Up R and RStudio, Basics of R Syntax: Variables, Data Types, and Operators,Writing, Running, and Debugging R Scripts			
	3	**Data Handling in R:** Understanding Data Structures: Vectors, Lists, Matrices, Data Frames, Importing Data from CSV, Excel, and Databases, Cleaning and Preprocessing Data:			

		Handling Missing Values, Duplicates			
II	**Business Data Visualization with R**				**18**
	4	**Introduction to Data Visualization:** Importance of Visualization in Business Decision-Making, Principles of Effective Data Visualization ,	**18**		
	5	**Visualizing Data Using Base R:** Creating Basic Charts: Line Graphs, Bar Charts, Scatter Plots, Pie Charts, Customizing Charts: Labels, Colors, and Legends			
	6	**Advanced Visualization with ggplot2:** Grammar of Graphics in R, Building Business Dashboards: Combining Multiple Charts			
	7	**Interactive Visualizations:** Using plotly and shiny for Interactive Business Dashboards			
III	**Statistical and Predictive Analytics**				**14**
	8	**Descriptive and Inferential Statistics:** Measures of Central Tendency and Dispersion, Hypothesis Testing and Confidence Intervals, Applications in Business Scenarios			
	9	**Predictive Analytics Models** • Linear Regression for Sales and Revenue Prediction • Logistic Regression for Customer Churn Analysis • Decision Trees and Random Forests for Classification			
	10	**Clustering and Market Segmentation** • **K-Means and Hierarchical Clustering for Customer Segmentation** **Introduction to Time Series Analysis** • **Identifying Trends and Seasonality in Business Data** • **Forecasting Techniques Using ARIMA**			
IV	Business Applications		**12**	**10**	
	11	**Applications of Business Analytics** Marketing Analytics: Campaign Performance, Customer Segmentation Financial Analytics: Risk Analysis, Budget Optimization HR Analytics: Workforce Analysis, Employee Retention			
v	**12**	Hands on Session			
		Write R scripts for basic data manipulation. Import, clean, and preprocess a dataset using R.			

		Visualize a business dataset using ggplot2. Build a simple interactive dashboard using shiny. Develop regression and classification models using R.			

Text Books and Reference Books:

1. Kabacoff, R. I. (2015). *R in action: Data analysis and graphics with R* (2nd ed.). Manning Publications.
2. James, G., Witten, D., Hastie, T., & Tibshirani, R. (2013). *An introduction to statistical learning: With applications in R*. Springer.
3 Grolemund, G., & Wickham, H. (2017). *R for data science: Import, tidy, transform, visualize, and model data*. O'Reilly Media.

Data Mining

Programme	BBA BUSINESS ANALYTICS				
CourseCode					
CourseTitle	**Data Mining**				
TypeofCourse	Core paper				
Semester	4				
Academic Level	300 – 399				
CourseDetails	Credit	Lectureper week	Tutorial perweek	Practicum perweek	TotalHours
	4	3	-	1	60
Pre-requisites					
CourseSummary	This course introduces students to the principles and techniques of data mining, with a focus on applying these methods to solve business problems. Students will explore key data mining tasks such as classification, clustering, association analysis, and regression, along with advanced techniques like ensemble methods and neural networks. The course also emphasizes data preprocessing, handling real-world data, and understanding the ethical implications of data mining. Through hands-on exercises and a capstone project, students will gain practical experience in using data mining tools and algorithms to extract actionable insights from business data.				

Course Outcomes(CO):

This course will enable the students to achieve the following outcomes.

CO	COStatement	Cognitive Level*	Knowledge Category#	EvaluationTools used
CO1	Understand Core Data Mining Concepts and Techniques	U	C	Case study
CO2	Develop practical skills in data mining	Ap	P	Presentation
CO3	Explore Business Applications and Ethical Considerations	An	P	Case stud

Remember(R),Understand(U),Apply(Ap),Analyse(An),Evaluate (E),Create(C)
#-FactualKnowledge(F)ConceptualKnowledge(C)ProceduralKnowledge(P)MetacognitiveKnowledge(M)

Detailed Syllabus:

Module	Unit	Content	Hrs (60)	Internal (30)	External (70)
I	**Introduction to Data Mining and Business Applications**		**12**		
	1	**Overview of Data Mining** • Definition, Process, and Key Concepts • Differences between Data Mining, Machine Learning, and Statistics • Applications of Data Mining in Business Analytics	**3**		
	2	**Data Mining Techniques** • Classification, Clustering, Association, Regression • Supervised vs. Unsupervised Learning	**3**		
	3	**Data Mining Tools and Software** • Overview of Tools: R, Python, KNIME, and RapidMiner • Introduction to the CRISP-DM (Cross-Industry Standard Process for Data Mining) Framework	**3**		
II	**Data Preprocessing and Data Mining Algorithms**		**14**		
	4	**Data Preprocessing Techniques** • Data Cleaning: Handling Missing Data, Outliers, and Noise • Data Transformation: Normalization, Standardization, and Encoding • Feature Selection and Dimensionality Reduction	**4**		
	5	**Classification Techniques** • Decision Trees (CART, C4.5) • k-Nearest Neighbors (k-NN) • Support Vector Machines (SVM)	**4**		
	6	**Clustering Techniques** • K-Means Clustering • Hierarchical Clustering • DBSCAN (Density-Based Spatial Clustering)	**3**		
III	**Association Analysis, Regression, and Advanced Techniques**		**12**		
	7	**Association Rule Mining** • Market Basket Analysis • Apriori Algorithm • Applications in Retail and E-Commerce •	**5**		
	8	**Regression Techniques** • Linear Regression for Predictive Modeling • Logistic Regression for Classification Tasks • Business Applications of Regression Models	**5**		

	9	**Advanced Data Mining Techniques** • Ensemble Methods: Random Forests and Boosting Neural Networks for Complex Data Patterns	**5**		
IV	**Data Mining Applications, Ethics,**		**12**		
	10	**Applications of Data Mining in Business** • Customer Relationship Management (CRM) • Fraud Detection in Finance • Predictive Maintenance in Manufacturing •	**5**		
	11	**Ethical Issues in Data Mining** • Privacy Concerns and Data Security Fairness and Bias in Algorithms	**5**		
V	**Open Module**		**8**		
	12	• Explore datasets using basic data mining techniques in R or Python. • Understand the CRISP-DM framework with a case study. • Case study on association rule mining	**4**		

Text books and references

Han, J., Kamber, M., & Pei, J. (2011). *Data mining: Concepts and techniques* (3rd ed.). Elsevier. Sanders, N. R., & an, P.-N., Steinbach, M., & Kumar, V. (2018). *Introduction to data mining* (2nd ed.). Pearson.
Witten, I. H., Frank, E., & Hall, M. A. (2016). *Data mining: Practical machine learning tools and techniques* (4th ed.).
Agresti, A. (2018). *Statistical methods for the social sciences* (5th ed.). Pearson.

Text and Social media Analytics

Programme	BBA BUSINESS ANALYTICS				
Course Code					
CourseTitle	**Text and Social media Analytics**				
TypeofCourse	Core paper				
Semester	4				
Academic Level	300 – 399				
CourseDetails	Credit	Lectureper week	Tutorial perweek	Practicum perweek	TotalHours
	4	3	-	1	45
Pre-requisites	This course assumes that students have the basics about everyday finance				
Course Summary	The course introduces the students to the basic and intermediate levels of text and social media analytics. The coverage includes (a) basics of language processing, use of machine learning to analyze text and social media data, sentiment analysis, and, (b) the use of common software tools to carry out text, social media, and social network analysis.				

Course Outcomes(CO):

This course equips undergraduate students with practical knowledge of Fintech tools and their applications

CO	CO Statement	Cognitive Level*	Knowledge Category#	EvaluationToolsused
CO1	Demonstrate the applications of Natural Language Processing using Python programming.	Ap	P	Presentation
CO2	Measure text similarity with the purpose of clustering words and sentences.	Ap	P	Case study
CO3	Determine sentiment from text reviews using Python programming.	Ap	P	Practical application
CO4	Analyze social media data and networks.	Ap	P	Case study
CO5	Develop Python programs for case scenarios involving text and social media data.	Ap	P	Practical application

*-Remember(R),Understand(U),Apply(Ap),Analyse(An),Evaluate (E),Create(C)
#-
FactualKnowledge(F)ConceptualKnowledge(C)ProceduralKnowledge(P)MetacognitiveKnowledge(M)

Module	Unit	Content	Hrs (45)	Internal(30)	External (70)
I	**Natural language processing**		**6**		
	1	Natural language; text corpora and lexical resources. Introduction to NLP, overview of the applications: semantic analysis – question answering systems including chatbots;	**3**		
	2	contextual recognition including coreference resolution, speech recognition, word sense disambiguation, named entity recognition (NER);	**2**		
	3	text summarization including topic modelling; text classification including feature extraction and sentiment analysis. Ethical practices in handling data.	**2**		
II	**Text Pre-processing, Similarity and Clustering**		**12**		
	4	Text pre-processing: tokenization – sentence and word tokenization; normalization – cleaning text, removal of special characters and stop words, stemming, lemmatization; parts of speech (PoS) tagging – utility of ngrams.	**2**		
	5	Text similarity: Information retrieval; feature extraction – Bag of Words, TF-IDF, and word2vec models; term and document similarity; similarity measures – cosine similarity, Jaccard similarity and Levenshtein distance; Document clustering using k-means clustering, hierarchical clustering and affinity propagation	**3**		
III	**Sentiment Analysis**		**12**		
	6	Introduction to Data Acquisition and Extraction: Web Scraping, Defining the sentiment analysis problem – objective and tasks; understanding affect, emotion, mood, and opinion; setting up dependencies;	3		
	11	preparing the data for analysis; supervised machine learning using SVM; unsupervised lexicon-based techniques; model performance evaluation.	3		
IV	**Social Media Analytics**		**6**		
	14	Introduction; social media and social media networks; social media data – structured and unstructured data. Applications.	3		
	15	Data analysis and visualization: Collecting and extracting social media data; statistical analysis of data – key metrics like CTR, number of views, CPM; extracting useful patterns; social network analysis; creating network graphs; node importance – key influencers; modelling network dynamics and growth	3		
V	**Open ended module**		**7**		
	16	Natural language processing and sentiment analysis of customer reviews. Social media network analysis of Facebook data. Sentiment analysis of Twitter data with a specific reference to the ethics of using social media data.			

Text books and

Reference Books

1. Dipanjan Sarkar: Text Analytics with Python: A Practitioner's Guide to Natural Language Processing 2nd Edition. Apress (2019).
2. Marco Bonzanini: Mastering Social Media Mining with Python. 1st edition. Packt Publishing (2016).

Financial Reporting and Analysis

Programme	BBA BUSINESS ANALYTICS				
Course Code					
CourseTitle	**Financial Reporting and Analysis**				
TypeofCourse	Core paper				
Semester	4				
Academic Level	300 – 399				
CourseDetails	Credit	Lectureper week	Tutorial perweek	Practicum perweek	TotalHours
	4	3	-	1	45
Pre-requisites	This course assumes that students have the basics about everyday finance				
Course Summary	In order to make decisions using information contained in financial statements, a deeper understanding of the process of financial reporting is necessary. Knowledge of accounting standards and principles will help in deciphering the accounting information clearly. This is significant as accounting is the primary channel of sending information about a business to the external world. Analysing the financial statements using advanced ratios will shed deeper insight to the real performance of firms. Hence this course tries to cover the twin areas of reporting and analysis of financial statements.				

Course Outcomes(CO):

This course equips undergraduate students with practical knowledge of Fintech tools and their applications

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Compare the financial reporting regulations of India with international standards	An	P	Presentation
CO2	Analyze the financial health of the business through financial statements information	An	P	Case study
CO3	Evaluate financial reporting and disclosures	E	P	Practical application
CO4	Examine the effect of accounting standards on the financial numbers	E	P	Case study
CO5	Apprise the accounting standards on assets and debt with respect to the impact on the financials	Ap	P	Case study

*-Remember(R),Understand(U),Apply(Ap),Analyse(An),Evaluate (E),Create(C)
#-FactualKnowledge(F)ConceptualKnowledge(C)ProceduralKnowledge(P)MetacognitiveKnowledge(M)

Module-1	**Teaching Hours:3**
Overview and Regulatory Framework	
The regulatory and conceptual framework of preparation and presentation of financial statements- National differences in financial reporting practices – International Accounting Standards setting Boards- IASB, FASB- International Financial Reporting System- Indian scenario NACAS-NFRA- Ind AS, role of Securities and Exchange Board and Companies Act – Periodicity of financial statements- Fair value Accounting- Global Reporting Initiative- Integrated reporting- ESG reporting-Valuation methods of intangible assets – Human resources and brand valuation	
Module-2	**Teaching Hours:12**
Applied Financial Statement Analysis	
Modified Dupont analysis- Credit appraisal with financial statements- Cash flow analysis-operating vs financial – free cash flow and valuation- linkage between cashflow and income financial statement forecast with spreadsheet model- Earnings quality analysis-Aggressive treatment of income and expense-choices of accounting alternatives- related party transactions- asset impairment charges- Earnings management motives- Accounting shenanigans	
Module -3	**Teaching Hours:6**
Inference from Annual Reports	
Format of Annual report- Analysing the Management Discussion and Analysis- letters to shareholders- segment information -operating performance data- forward looking statements-business description risk, contingencies - Accounting policies and Notes to Accounts –analysing the press releases- conference calls and webcasts- non financial information letters to Theories of Disclosures- Format of Auditors Report- Audit Qualifications	
Module -4	**Teaching Hours:6**
Analysis of Accounting standards on tax and revenue	
Revenue recognition- alternate source of income AS -for Income Tax – Revenue recognition – components of EPS– analysis of non-recurring and other comprehensive income- Consolidation of Group Companies **Analysis of assets and debts** Recognition of Current tax liabilities -Analysis of current liabilities-operating vs financing – disclosure of off-balance sheet assets and liabilities- operating and financing leases-effect of leases on financial ratios	
Unit-5	**Teaching Hours:3**
Practical exercise	
Case study discussion Financial Statement Analysis	

Text books and reference

Krishna G. Palepu, Paul M. Healy (2015). 5th Edition, Business Analysis and Valuation: Using Financial Statements, Cengage Publications

New Venture Management

Programme	BBA Business Analytics				
Course Code					
Course Title	**New Venture Management**				
Type of Course					
Semester					
AcademicLevel					
Course Details	Credit	Lecture per week	Tutorial per week	Practicum per week	Total Hours
	3	3	-		45
Pre-requisites					
Course Summary	This course will cater to the local needs of the community where family businesses play an important role.				

Course Outcomes (CO):
This course will enable the students to achieve the following outcomes.

CO	**CO Statement**	**Cognitive Level***	**Knowledge Category#**	**Evaluation Tools used**
CO1	Identify innovative business opportunities, conduct feasibility studies, and create comprehensive business plans.	AN	M	Lecture and Discussion
CO2	Demonstrate the ability to develop financial models, identify funding sources, and manage financial resources effectively for sustainable growth.	U	C	Lecture and Discussion
CO3	Design and implement effective marketing strategies, operational workflows, and scalable models for successful business execution.	AN	C, F	Discussions and Practical assignments

Detailed Syllabus

Module	Unit	Content	Hours	Internal	External
1		**NEW VENTURE CREATION**	15		
	1	Introduction to Entrepreneurship and New Ventures Idea Generation and Opportunity Identification Feasibility Analysis and Business Model Development Legal Structures for New Ventures (Sole Proprietorship, Partnership, LLC, etc.) Intellectual Property Rights and Protection Building a Business Plan			
2		**NEW VENTURE EXECUTION**	15		
	1	Building the Founding Team and Organizational Structure Operations Management in Start-ups Technology and Digital Tools for Start-ups Risk Management and Mitigation Strategies Regulatory Compliance and Business Ethics Scaling the Business			
3		**New Venture Financing**	15		
	1	Understanding Start-up Financial Needs Sources of Funding (Bootstrapping, Angel Investors, Venture Capital, Crowdfunding) Financial Projections and Budgeting Investor Pitch Preparation Valuation of Start-ups Financial Risks and Exit Strategies			
4		**New Venture Marketing**	10		
	1	Introduction to Start-up Marketing Market Research and Customer Segmentation Branding and Positioning Digital Marketing Strategies (SEO, Social Media, Content Marketing) Sales Strategies and Customer Relationship Management (CRM) Measuring Marketing Effectiveness (KPIs and Analytics)of family in the			

		family business.			
5		**Practice Exercises**	5		
	1	Develop a Business Idea Canvas and Create an Operational Roadmap for a start-up.			
		Prepare and present a Funding Pitch Deck for a start-up idea.			
		Design a Go-To-Market Strategy for a start-up.			

REFERENCES

1. **Barringer, B. R., & Ireland, R. D. (2015).**
   Entrepreneurship: Successfully Launching New Ventures (5th Edition). Pearson Education.
2. **Hisrich, R. D., Peters, M. P., & Shepherd, D. A. (2016).**
   Entrepreneurship (10th Edition). McGraw-Hill Education.
3. **Scarborough, N. M., & Cornwall, J. R. (2018).**
   Essentials of Entrepreneurship and Small Business Management (9th Edition). Pearson Education.
4. **Blank, S., & Dorf, B. (2020).**
   The Startup Owner's Manual: The Step-by-Step Guide for Building a Great Company. Wiley.
5. **Kuratko, D. F., & Hornsby, J. S. (2021).**
   New Venture Management: The Entrepreneur's Roadmap (1st Edition). Routledge.

Marketing Analytics

Programme	BBA BUSINESS ANALYTICS				
Course Code					
CourseTitle	**Marketing Analytics**				
TypeofCourse	Elective				
Semester	5				
AcademicLevel	300 – 399				
CourseDetails	Credit	Lectureperweek	Tutorialperweek	Practicumperweek	TotalHours
	4	3	-	1	60
Pre-requisites					
Course Summary	To understand and analyse the role of analytical models and their impact on marketing decisions in the modern enterprise To evaluate the different processes and relationships in marketing systematically using statistical models and predictive analytics				

Course Outcome
CO1: Understand how to formulate a research problem and the methodology of conducting the research. CO2: Apply model building for solving marketing problems. CO3: Analyze various analytical tools for decision-making in Marketing. CO4: Compare various outcomes and interpret feasible options in Marketing. CO5: Formulate analytical models for marketers to use to improve their profitability

Module 1	Teaching Hours:10
INTRODUCTION TO MARKETING RESEARCH	
Basic concepts of marketing research. Process of marketing research, Formulating the research problem, Research design, Measurement and scaling. Questionnaire formulation, Sampling.	
Module 2	Teaching Hours:12
APPLICATION OF REGRESSION IN MARKETING	
Single variable regression in marketing, Adding variables to regression, Economic significance, Marketing action on regression outputs.	
Module -3	Teaching Hours:12
CUSTOMER LIFETIME VALUE	
Concept of customer value, Approaches to measuring customer value, Introduction to customer lifetime value, The present value of the future cash flows-attributed to the customer relationship, Customer retention and Customer lifetime value.	
Module -4	Teaching Hours:10
PRODUCT ANALYTICS	
Selection of relevant variables for product analysis- Principal component analysis for identifying variables, K- means cluster analysis for customer segmentation - positioning a product, identifying customer preferences using conjoint analysis	

	Teaching Hours:10
PRICING AND ADVERTISING ANALYTICS	
Pricing decisions - cost oriented, demand oriented, competition oriented, Price discrimination and revenue management, Pricing product lines, Price elasticity of demand, Building a comprehensive price elasticity model, Advertising and impersonal marketing communication, Advertising decisions in practice, Sales force decisions	
OPEN MODULE	
Case studies Customer segmentation using Weka	
Text Books And Reference Books: Malhotra N , K.,& Dash, S. (2016). Marketing Research: An applied orientation,Pearson Winston, W.L.(2014), Marketing Analytics, data driven techniques with Microsoft Excel , Wiley	
Essential Reading / Recommended Reading Lillien G.L., Rangaswamy A and Bryun A. (2012) Principles of Marketing Engineering, Trafford Publishers Nargundkar , R., (2002) .Marketing research : text and cases Venkatesan R., Farris , P., Wilcox R. (2014), Cutting- edge marketing analytics	

HR Analytics

Programme	BBA BUSINESS ANALYTICS				
Course Code					
CourseTitle	**HR Analytics**				
TypeofCourse	Elective				
Semester	5				
AcademicLevel	300 – 399				
CourseDetails	Credit	Lectureperweek	Tutorialperweek	Practicumperweek	TotalHours
	4	3	-	1	60
Pre-requisites					
Course Summary	This course introduces students to HRM metrics and analytics. This course intends to increase students' awareness of the usefulness of HRM metrics and analytics and equip them in using them in the workplace. Complexity in today's workforce, new technology investments, economic pressures, talent as a competitive edge, aligning the people strategy with the business strategy, and many other reasons are driving a change in HR to be analytics-dependent. In this era of ERP / HRMS-based systems, employee and HR database is either an integral part or remains strongly coupled with the main data warehouse. In such an environment, organizational goals and KPIs drive the HR performance measures/metrics. This has evolved in Scorecard based performance management systems - applied for individual employees as well for overall HR performance.				

Course Outcome
CO1: Apply the framework for HR measurements in the organization CO2: Examine the HR metrics for maximizing the impact of HR decisions. CO3: Evaluate the business process and forecast for HR. CO4: Interpret HR data into HR information. CO5: Determine the practical process of using predictive analytics for HR decisions in the organization

Unit-1	**Teaching Hours:6**
Quantitative HRM	
Framework of HR measurement How decision science influences HR measurements, connecting measures and organizational effectiveness, Today's HR measurement and approaches. Evolution of HR Analytics; HR Metrics and HR Analytics; Analytical	

Pyramid- Descriptive and Predictive models; Intuition versus analytical thinking; Ethical issues in Analytics; HRMS/HRIS and data sources; Analytics frameworks like LAMP, HCM: 21 Model.

HR measurement: Traditional vs. contemporary HR measures; Fundamental analytical concepts from statistics and research design; analytical concepts from economics and finance. Analytical Foundation of HR measurement(Self learning module)

Unit-2	**Teaching Hours:6**
Using HR Metrics for maximum impact	

Measures of efficiency, effectiveness and impact in HR processes and optimizing HR decisions. Staffing Metrics; Performance and compensation metrics; Learning and developmental metrics. HR's role in value chain. Developing Human Resources Balanced Score Card.

Unit-3	**Teaching Hours:6**
Business understanding and forecasting for HR	

Workforce segmentation and search for critical job roles; Statistical driver analysis – association and causation; Linking HR measures to business results; choosing the right measures for scorecards; Identifying and using key HR Metrics. Metrics and organizational Ethics. Workforce planning including internal mobility and career pathing; training and development requirement forecasting and measuring the value and results of improvement initiatives; optimizing selection and promotion decisions.

Unit-4	**Teaching Hours:6**
Communicating HR data and processing	

Data requirements; identifying data needs and gathering data; HR data quality, validity and consistency; Using historical data; Data exploration; Data visualization; Association between variables; Insights from reports; Root cause analysis of HR issues. Developing HR Metrics Dashboards- using templates and spreadsheets (Workshop Mode)

Unit-5	**Teaching Hours:6**
Modeling in HR	

Descriptive and indicative models for Employee retention and turnover; workforce productivity and performance; scenario planning.(Workshop Mode)

Text Books And Reference Books:

Essential Reading

1. Bhattacharyya, D. K. (2019). HR Analytics: Understanding Theories and Applications. SAGE Publications India Pvt Limited.
2. Soundararajan, R., & Singh, K. (2017). Winning on HR Analytics: Leveraging Data for Competitive Advantage. SAGE Publications: India.
3. Edwards, M. R., & Edwards, K. (2019). Predictive HR Analytics: Mastering the HR metric. Kogan Page Publishers: London.

Multivariate Data Analysis

Programme	BBA Business Analytics				
Course Code					
Course Title	**Multivariate Data Analysis**				
Type of Course					
Semester					
Academic Level					
Course Details	Credit	Lecture per week	Tutorial per week	Practicum per week	Total Hours
	4	4	-		60
Pre-requisites					
Course Summary	The course is aimed at imparting advanced data analysis skills using software's like MINITAB and SPSS to enhance the research capability of a student.				

Course Outcomes (CO):

This course will enable the students to achieve the following outcomes.

CO	**CO Statement**	**Cognitive Level***	**Knowledge Category#**	**Evaluation Tools used**
CO1	Understanding the assumptions made in performing each analysis and test,	AN	M	Lecture and Discussion
CO2	Decide what method to use with their dataset,	U	C	Lecture and Discussion
CO3	Analyse the data and get the results, and interpret the results and explain the findings to others	AN	C, F	Discussions and Practical assignments

Detailed Syllabus

Module	Unit	Content	Hours	Internal	External
1		**Introduction**	15		
	1	Meaning, Definition- Concept, Measurement scales Measurement errors, Types of multivariate techniques – Guideline for Multivariate Analysis and interpretative. A structured approach to Multivariate model building.			
2		**Factor Analysis**	15		
	1	Meaning, Objectives, Assumptions, Process of deriving Factors and assessing overall fitness, Criteria for the number of Factors to Extract - CFA - Interpreting the Factors – Rotation of Factors – Varimax – Significance of Factor Loadings , Structural Equation Modeling (SEM)			
3		**Multiple regression**	15		
	1	Simple regression, Multiple Regression Objective of Multiple Regression – Assumptions – Estimating the Regression model and assessing the overall model Fit – Interpreting the Regression variate – Assessing Multi collinearity. Logit & Probit model – Discriminant & Cluster Analysis.			
4		**Multiple discriminant and Multivariate Analysis of Variance**	10		
		Key terms – Objectives & Decision Process – Calculating Discriminate Z Scores – Potency Index – Rotation Loadings – Case wise Diagnostics – Assessing Overall Fit			
		MANOVA – Univariate test – Multivariate ANOVA – Two group case: Hotel ling's T square – group MONOVA – Post hoc Tests – Interpreting results			
5		**Practice Exercises**	5		
	1	Segment customers based on purchasing behavior using cluster analysis			
		Do employee Performance Prediction using Regression			
		Identify key factors driving customer satisfaction using Factor analysis			

REFERENCES

1. **Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019).** *Multivariate Data Analysis* (8th Edition). Cengage Learning.
2. **Tabachnick, B. G., & Fidell, L. S. (2018).** *Using Multivariate Statistics* (7th Edition). Pearson.
3. **Anderson, T. W. (2003).** *An Introduction to Multivariate Statistical Analysis* (3rd Edition). Wiley.
4. **Rencher, A. C., & Christensen, W. F. (2012).** *Methods of Multivariate Analysis* (3rd Edition). Wiley.

Johnson, R. A., & Wichern, D. W. (2014). *Applied Multivariate Statistical Analysis* (6th Edition

Programming with Python

Programme	BBA BUSINESS ANALYTICS				
Course Code					
Course Title	**Programming with Python**				
Type of Course	Core paper				
Semester	5				
Academic Level	300 – 399				
Course Details	Credit	Lecture per week	Tutorial per week	Practicum per week	Total Hours
	4	3	-	1	60
Pre-requisites					
Course Summary	Python is a general-purpose programming language which is simple and incredibly readable. The course discusses the fundamental principles of Object-Oriented Programming as well as in-depth data and information processing techniques. The course introduces core programming basics – including data types, control structures, algorithm development and program design with functions – through Python. During this course, students will explore real-world software development challenges while solving practical and contemporary business problems.				

Course Outcome
CO1: Outline Python programs for various scenarios using expressions, text or strings
CO2: Construct data structures of various types using Python programs.
CO3: Construct Python programs for data manipulation using NumPy and Pandas
CO4: Develop efficient Python programs using functions.
CO5: Design Python programs to visualize business data using matplotlib, Pandas and seaborn

Unit-1	Teaching Hours:3
Introduction to Python	
Programming essentials; data types and expressions – strings, variables, assignment, operators, type conversions; Using functions and modules – arguments and return values; Control statements: for loops – count-controlled, augmented assignment, steps; if-else statements – one-way, multiway (elif), logical operators and Boolean expressions; while loops – break, loop logic, errors and testing.	
Unit-2	Teaching Hours:6
String Operations and Data Structures	
Strings and text files: string concatenation, subscript operator, indexing, slicing a string; string methods, manipulating files and directories; text files: reading/writing text and numbers from/to a file. Lists: basic list operators, list methods, mutators, aliasing, object identity and structural equivalence; tuples; dictionaries: dictionary literals, adding and removing keys, accessing and replacing values, traversing dictionaries.	
Unit-3	Teaching Hours:6
Design with Functions	

Overview of Object-oriented programming, pickling, exception handling – the try-except statement. Overview of Functions, Functions as abstraction mechanisms, removing redundancy, hiding complexity; recursive functions; Managing a program's namespace – module variables, parameters and temporary variables; scope, lifetime, named arguments; higher-order functions – Map, Filter & Reduce; anonymous (lambda) functions. Simple student management system using python constructs and files.	
Unit-4	Teaching Hours:9
Data Manipulation using Numpy and Pandas	
The NumPy module: ndarrays, array-oriented programming, mathematical and statistical methods, sorting arrays, file input and output with arrays, array slicing using NumPy. The pandas module: pandas data structures – Series, Data Frame, Index objects; indexing, selection and filtering, function application and mapping, sorting and ranking, mathematical and statistical methods, reading and writing data in text formats, data preparation, transformation, wrangling – join, combine, reshape, data aggregation and group operations; string manipulation. Pandas-eval () and query ().	
Unit-5	Teaching Hours:6
Data Visualisation	
Advanced Plots and charts types (stacked bar chart, area chart, bubble chart, box plot, venn diagram, tree map), The matplotlib package: setting graph attributes, saving plots to files, plot configuration files, plotting with pandas and seaborn. Integrating with other Visualization tools.	
Text Books And Reference Books: 1. Manaranjan Pradhan, U Dinesh Kumar. (2019) Machine Learning using Python, Wiley 2. Lambert KA., Juneja BL. (2015). Fundamentals of Python. Cengage Learning.	
Essential Reading / Recommended Reading McKinney W (2018). Python for Data Analysis. 2nd Edition. O'Reilly Media.	

BUSINESS RESEARCH METHODS FOR MANAGEMENT

Programme	BBA BUSINESS ANALYTICS				
CourseCode					
CourseTitle	**Business Research Methods for Management**				
TypeofCourse	Core paper				
Semester	5				
Academic Level	300-399				
CourseDetails	Credit	Lectureper week	Tutorial perweek	Practicum perweek	TotalHours
	4	4	-		60
Pre-requisites					
CourseSummary	This course helps to understand the process of doing research in business and other socialsciences. It also equips students with the required skills to undertake research projects as part of thecurriculum. It also enables to acquire required skills to undertake research projects for thebusiness and commerce.				

Course Outcomes(CO):

The course aims to teach students what is research and also the methods of doing research. At the end of this course students should be able to carry out social science research studies.

This course will enable the students to achieve the following outcomes.

CO	COStatement	Cognitive Level*	KnowledgeCategory#	EvaluationToolsused
CO1	Understand and Apply Fundamental Research Concepts	U, Ap	F,P	Presentations
CO2	Develop Skills in Research Design and Data Analysis	C, Ap	P	Research formulation and data collection
CO3	Formulate Hypotheses and Prepare Comprehensive Research Reports	C	P	Do analysis and create report

Remember(R),Understand(U),Apply(Ap),Analyse(An),Evaluate (E),Create(C)
#-FactualKnowledge(F)ConceptualKnowledge(C)ProceduralKnowledge(P)MetacognitiveKnowledge(M)

Detailed Syllabus:

Module	Unit	Content	Hrs (45)	Internal (30)	External (70)
I	**Introduction to research methodology**		**15**		
	1	Research – Meaning, Definition			
	2	Types of research – Descriptive, Analytical, Applied, Fundamental, Quantitative, Qualitative, Exploratory, Historical			
	3	Research process :- Steps involved in research process			
	4	Identification of variables - Independent and dependent variables			
II	**Research Design**		**15**		
	5	Research Design – Meaning, Types of Research Design			
	6	Sampling – meaning, Types, Determination of sample size			
	7	Types of Data and methods of collecting data, Scales of measurement			
	8	Quantitative and Qualitative data analysis, Statistical tools and software (SPSS & EXCEL)			
III	**Formulation of Hypothesis**		**8**		
	9	Hypothesis – meaning, Definiton, Characteristics			
	10	Procedures for formulation of hypothesis			
	11	Testing of hypothesis (Theory)			
IV	**Data Analysis and Report Writing**		**12**		
	12	Data Analysis			
	13	Report Writing –Contents of a research report, footnotes and bibliography			
V	**Open Module**		**10**		
	14	Students can identify a research problem, develop questionnaire and collect data	**5**		
	15	An analysis using percentage method can be conducted	**5**		

Text books and references

1. **Kothari, C. R., & Garg, G. (2019).***Research methodology: Methods and techniques* (4th ed.). New Age International Publishers.
2. **Saunders, M., Lewis, P., & Thornhill, A. (2019).***Research methods for business students* (8th ed.). Pearson Education.
3. **Booth, W. C., Colomb, G. G., Williams, J. M., Bizup, J., & Fitzgerald, W. T. (2016).***The craft of research* (4th ed.). University of Chicago Press.
4. **Creswell, J. W., &Poth, C. N. (2018).***Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications.
5. **Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2012).***Business research methods* (9th ed.). Cengage Learning.

Suggested Readings

1. **Creswell, J. W., & Creswell, J. D. (2017).***Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.

2. **Salkind, N. J. (2021).***Statistics for people who (think they) hate statistics* (7th ed.). SAGE Publications.
3. **Pallant, J. (2020).***SPSS survival manual* (7th ed.). Routledge.
4. **Meschede, N. (2019).***Applied statistics using Excel and SPSS*. SAGE Publications.
5. **Creswell, J. W., & Plano Clark, V. L. (2018).***Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.

Introduction to Financial Analytics

Programme	BBA BUSINESS ANALYTICS				
CourseCode					
CourseTitle	**Introduction to Financial Analytics**				
TypeofCourse	Core paper				
Semester	5				
AcademicLevel	400 – 499				
CourseDetails	Credit	Lecture per week	Tutorial per week	Practicum per week	TotalHours
	4	4	-		60
Pre-requisites					
Course Summary	Businesses today accumulate large amounts of data through their transaction processing systems. There is tremendous potential in such data to extract vital information for better business decision making. The course covers concepts and applications of analytics models that are indispensable for analysing financial data. It offers students hands-on experience in exploratory data analysis for solving real-life business problems.				

Course Outcome

CO1: Conduct exploratory analysis of economic and financial data.

CO2: Construct financial analytics models.

CO3: Perform statistical tests to check the robustness of analytics models.

CO4: Interpret results and decipher the link between theory and practice.

CO5: Understand and apply analytical tools and models to solve business problems**.**

Unit-1	Teaching Hours:3
Introduction to Analytics for Finance	
Terminology, evolution of data analytics, machine learning, structured and unstructured data, supervised and unsupervised learning. Introduction to prediction, classification,	

association, clustering and time-series. Applications of analytics in finance. Solving Analytics Problem through CRISP-DM Framework and SEMMA process. Problem identification, data mining/preparation, modelling and interpretation. Ethics in data collection process.	
Unit-2	Teaching Hours:6
Exploratory and Predictive Models	
Exploratory data analysis –Data cleaning, outlier treatment, data visualization, univariate and bivariate analysis, model fit metrics, model diagnostics, overfitting, oversampling. Application in finance – best performing stock identification Predictive data analysis – Multiple linear regression using R, model building, assumptions, diagnostic testing, issues in prediction. Time series models using R.	
Unit-3	Teaching Hours:9
Classification Models	
Introduction to classification – concepts and applications in finance. Decision Trees – concept of partitioning, data pre-processing, model training, model building in R. Logistic Regression – building model in R, classification table and AUC. Support Vector Machine (SVM) & Random forest – introduction, hyper plane, maximal and soft margin classifier, kernels, models using R. Neural networks – introduction, structure of neural networks, information flow, types of layers, training a neural network, neural network in R.	
Unit-4	Teaching Hours:9
Cluster Analysis Techniques	
Introduction to cluster analysis, applications of cluster analysis in finance, cluster analysis process – attributes selection, distance calculation, selecting clustering algorithm, determining number of clusters, visualizing cluster results, interpretation and validation. Types of clustering – hierarchical and non-hierarchical methods. Building clustering models in R. Case study on the application of clustering analysis technique in financial data analysis.	
Open Module	Teaching Hours:3
Emerging applications of analytics in finance	
Association – extracting and inspecting association rules, mining techniques, visualization of product association. Social network analysis, big data analytics, cognitive analytics, deep learning, text analytics. Latest trends and cases from industry.	
Text Books And Reference Books: 1. Shmueli, G., Patel, N. R., & Bruce, P. C. (2008). Data Mining for Business Intelligence: Concepts, Techniques, and Applications in Microsoft Office Excel with XLMiner (2nd ed., p. 428). Wiley 2. Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L., Multivariate data analysis, 7th edition, Prentice hall, 1998	

Essential Reading / Recommended Reading

1. Applied Multivariate Statistical Analysis by Richard A. Johnson, Dean W. Wichern, PHI Learning

2. Maindonald, J., & Braun, J. (2006). Data analysis and graphics using R: an example-based approach (Vol. 10). Cambridge University Press.

Machine Learning Algorithms

Course Title	**Machine Learning Algorithms**				
Type of Course	**Core Course**				
Semester	6				
Academic Level	300-399				
Course Details	Credit	Lecture per week	Tutorial per week	Practical per week	Total Hours
	4	2	-	2	60
Pre-requisites					
Course Summary	This course provides the core knowledge and skills needed in the area of Machine Learning Algorithms. Businesses today accumulate large amounts of data through their transaction processing systems and social networks. There is tremendous potential in such data to extract vital information for better business decision making.. .				

Course Outcome	
CO1: Apply exploratory analysis of the data using R programming CO2: Identify the significance of supervised machine learning algorithms CO3: Analyze business problems using supervised machine learning algorithms CO4: Recommend appropriate analytical models of classification and prediction for real-time business scenarios using R programming CO5: Explain feasible solutions for real- life business problems under investigation	
Unit-1	**Teaching Hours:6**
Machine Learning Algorithm for Decision Making	
Introduction to Machine Learning Algorithms, Supervised and Unsupervised learning, Use of Machine Learning for customer churning, prediction, segmentation. Issues in Prediction and Ethics in Machine Learning*	
Unit-2	**Teaching Hours:12**
Sales and Revenue prediction	
UsingSimple and Multiple Linear Regression, step wise regression, forward and backward methods, Model building, Model Validation and residual analysis. Economic significance, Marketing action on regression outputs	
Unit-3	**Teaching Hours:12**
Defaulter prediction in Banking	
Using Logistic Regression and Discriminant analysis for fraud detection of customers in banking sector. Model estimation, Binary logit and multinomial models.	

Concept of Discriminant analysis, fisher function, fitting the model, validation of the model fit and model performance assessment. Economic significance, Marketing action on regression outputs

Unit-4	**Teaching Hours:20**

Attrition prediction

Using Classification Trees for Segmentation, Identification of strategies in Human Resources
Concept, Introduction to Decision trees and random forest, Concept of Partitioning, Data pre-processing, Model training, Model building in R, Model comparison, parameter tuning.

Fraud detection in Finance

Customer classification problem in Finance for fraud detection Using SVM and KNN
Introduction, Hyper plane, Maximal Margin Classifier, Soft Margin Classifier, Kernels, Model building in R
Introduction to the concept of K-Nearest neighbour, application and prediction using the model

Unit 5 – Open Module **Teaching Hours:10**
Practical Assignments

Text Books And Reference Books:
Essential references:

1. U Dinesh Kumar (2017), Business Analytics: The Science of Data - Driven Decision Making, Wileys

Essential Reading / Recommended Reading
Recommended references:

1. Turban, E., Aronson, J. E., Liang, T.-P., & Sharda, R. (2010). *Decision support and business intelligence systems* (9th ed., p. 720). Prentice-Hall.
2. Berson, A., Smith, S. J., & F. (1997). *Data Warehousing, Data Mining and OLAP* (1st ed., p. 640). Computing McGraw-Hill.
3. Han, J., &Kamber, M. (2000). *Data Mining: Concepts and Techniques* (1st ed., p. 550). Morgan Kaufmann
Shmueli, G., Patel, N. R., & Bruce, P. C. (2008). Data Mining for Business Intelligence: Concepts, Techniques, and Applications in Microsoft Office Excel with XLMiner (2nd ed., p. 428). Wileys

STRATEGIC MANAGEMENT

Programme	BBA BUSINESS ANALYTICS				
Course Code					
Course Title	**Strategic Management**				
Type of Course	Core paper				
Semester	6				
Academic Level	300 – 399				
Course Details	Credit	Lecture per week	Tutorial per week	Practicum per week	Total Hours
	4	4	-		60
Pre-requisites					
Course Summary	This course equips students with the knowledge and skills necessary to make sound financial decisions for an organization. It covers the essential concepts and tools used in managing a company's finances, including financial planning, investment decisions, financing decisions, and working capital management.				

Course Outcomes (CO):

This course aims to develop a strong foundation in financial management principles and concepts and to enhance problem-solving and decision-making abilities in financial contexts.

This course will enable the students to achieve the following outcomes.

CO	CO Statement	Cognitive Level *	Knowledge Category#	Evaluation Tools used

CO1	Understand the fundamentals of financial management, the role of finance in organizations, the goals of financial management (profit maximization vs. wealth maximization)	U	C	Instructor-created exams / Quiz
CO2	Understand the concept of time value of money and its applications in financial decisions.	Ap	P	Practical Assignment / Observation of Practical Skills
CO3	Evaluate investment opportunities using various capital budgeting techniques	Ap	P	Seminar Presentation / Group Tutorial Work
CO4	To analyze the capital structure of a firm and its impact on financial performance.	U	C	Instructor-created exams / Home Assignments
CO5	Develop practical skills in the preparation of financial statements.	Ap	P	Seminar Presentation / Group Tutorial Work

* - Remember (R), Understand (U), Apply (Ap), Analyse (An), Evaluate (E), Create (C)# - Factual Knowledge(F) Conceptual Knowledge (C) Procedural Knowledge (P) Metacognitive Knowledge (M)

Detailed Syllabus:

Module	Unit	Content	Hrs (60)	Internal (30)	External (70)
I		**Overview of Strategic Management**	**10**	**20**	**16**
	1	Concept and Process of Strategic Management			
	2	Functional Strategies: Human Resource Strategy, Marketing Strategy, Financial Strategy			
	3	Levels of Strategies: Corporate, Business and Operational Level Strategy Management: Meaning – Objectives – Scope			

II	**Strategy Formulation**		**12**		**18**
	4	Strategic Formulation - Strategic Choice, Stages, and Importance of Strategic Formulation			
	5	Formulation of Alternative Strategies: Mergers, Acquisitions, Joint Ventures, Diversification, Turnaround, Divestment, Liquidation			
	6	Corporate Portfolio Analysis - SWOT Analysis, PESTE Michael Porter's Five Force Analysis, BCG Matrix, GE Nine Cell Matrix, Hofer's Matrix, McKinsey 7 -S Model			
III	**Strategy Implementation, Evaluation and Control**				**18**
	7	Concept of Strategy Implementation-Nature of Strategy Implementation-Behavioral, Structural, Functional and Procedural Implementations	**16**		
	8	Criteria of Strategy Evaluation-Strategy Surveillance-Mechanism for Controlling Strategy-Du Pont's Control Model-Concept of Value Chain-Strategy Audit			
IV	**Corporate Restructuring**				**18**
	9	Concept, Need of Corporate Restructuring-Factors of Corporate Restructuring - Internal and External	**10**		
	10	Forms of Corporate Restructuring-Indian Strategic Alliances and International Businesses - Importance, Types			
	11	Governing Strategies of PPP Model			
V	**Open Ended Module** 1 Expert Guest Lectures and Workshops: Invite industry experts to share insights on strategicchallenges they have faced and the strategies they have employed to overcome them. 2 Debate on Strategic Decisions: Organize debates on strategic decisions taken by real-world companies,whether successful or not. Topics can include mergers and acquisitions, market entry strategies, diversification, or strategic alliances		**12**	**10**	

Text Books And Reference Books:

Thomas, J. (Year of Publication). Strategic Management - Text and Cases. Pearson.

2. Hill, C. W. L., Schilling, M. A., & Jones, G. R. (Year of Publication).Strategic Management. Cengage Learning.

3. Werther, Jr, W. B., & Chandler, D. (Year of Publication). Strategic Management and CSR Strategic Corporate Social Responsibility: Stakeholders in a Global Environment. Sage.

4. Srinivasan, R. (Year of Publication). Strategic Management: The Indian Context. Prentice Hall of India.

5. Kazmi, A. (Year of Publication). Strategic Management. Tata McGraw Hill.

6. Glueck, W. F., &Lavch, L. R. (Year of Publication). Business Policy and Strategic Management. McGraw Hill.

Investment and Financial Risk Analytics

Programme	BBA Business Analytics				
Course Code					
Course Title	**Investment and Financial Risk Analytics**				
Type of Course	Elective				
Semester	6				
AcademicLevel					
Course Details	Credit	Lecture per week	Tutorial per week	Practicum per week	Total Hours
	4	4	-		60
Pre-requisites					
Course Summary	The course emphasizes an analytical approach to understanding financial markets, utilizing data science, statistical modeling, and advanced analytics tools to drive investment and risk management decisions.				

Course Outcomes (CO):
This course will enable the students to achieve the following outcomes.

CO	**CO Statement**	**Cognitive Level***	**Knowledge Category#**	**Evaluation Tools used**
CO1	Understand the principles of investment analysis and portfolio management.	AN	M	Lecture and Discussion

CO2	Develop risk assessment and mitigation strategies.	U	C	Lecture and Discussion
CO3	Apply risk management frameworks to real-world financial scenarios.	AN	C, F	Discussions and Practical assignments
CO4	Analyze financial data using statistical and quantitative tools.	AN	C, F	Discussions and Practical assignments

Detailed Syllabus

Module	Unit	Content	Hours	Internal	External
1		**Introduction to Investment Analysis**	15		
	1	Basics of Financial Markets and Instruments Time Value of Money and Discounted Cash Flow (DCF) Risk vs. Return: Fundamental Concepts Overview of Investment Strategies Introduction to Investment Analytics Tools			
2		**Portfolio Theory and Asset Pricing Models**	15		
	1	Modern Portfolio Theory (MPT) Efficient Frontier and Capital Market Line (CML) Capital Asset Pricing Model (CAPM) Arbitrage Pricing Theory (APT) Data-Driven Portfolio Optimization Techniques Analytical Tools for Portfolio Performance Evaluation			
3		**Risk Management Tools and Techniques**	15		
	1	Types of Financial Risks: Market, Credit, Operational Value at Risk (VaR) Models Stress Testing and Scenario Analysis Derivatives for Risk Hedging: Options, Futures, and Swaps Risk Analytics Frameworks and Key Risk Indicators (KRIs) Predictive Analytics in Risk			

		Management			
4		**Advanced Topics in Investment and Risk Analytics**	10		
	1	Behavioral Finance and Investment Decisions Algorithmic and High-Frequency Trading Emerging Trends: ESG Investing and Cryptocurrencies Case Studies in Risk Analytics and Investment Strategies Machine Learning and AI in Financial Analytics Big Data Analytics for Investment Decision-Making			
5		**Practice Exercises**	5		
	1	Apply portfolio theory to construct and monitor a live portfolio. Use real-time stock market data to build and manage an investment portfolio over a set period. Prepare a report analyzing portfolio performance, risk-adjusted returns, and adjustments made over time.			
		Validate the effectiveness of VaR models on historical financial data. Select a financial instrument, calculate VaR using historical and Monte Carlo simulation methods, and backtest the model to evaluate its predictive accuracy. Prepare technical report comparing the performance of different VaR models and identifying any weaknesses.			

REFERENCES

- Bodie, Z., Kane, A., & Marcus, A.J. (2017). *Investments* (11th Edition).
- Hull, J.C. (2018). *Options, Futures, and Other Derivatives* (10th Edition).
- Fabozzi, F.J., & Markowitz, H.M. (2011). *The Theory and Practice of Investment Management*.
- Phillipe Jorion (2007). Value at Risk, 3 rd Edition: The New Benchmark for Managing Financial Risk 2)
- Michel Crouhy (2014). The Essentials of Risk Management,2nd Edition.

Operations Management

Programme	BBA BUSINESS ANALYTICS				
Course Code					
Course Title	**Operations Management**				
Type of Course	**Elective**				
Semester	6				
Academic Level	400 – 499				
Course Details	Credit	Lecture per week	Tutorial per week	Practicum per week	Total Hours
	4	4	-		60
Pre-requisites					
Course Summary	The course is oriented to familiarize the students with fundamentals of Operations Management, and tools and techniques used in taking decisions in operating and controlling the Production and Service Industries. Emphasis is on managerial processes for effective operations in both goods-producing and service-rendering organization globally				

Course Outcomes (CO):

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Enable the learner to explain the basic concepts and terms related to Production and Operations and its importance in an industrial organization.	U	C	Instructor-created exams / Quiz
CO2	To equip the students with operations management concepts, strategies and tools for effective utilization of resources and meeting customer expectations. Apply the decision models to various real time problems.	Ap	P	Practical Assignment / Observation of Practical Skills
CO3	Describe MRP & CRP concepts, inventory types and its objectives and calculate EOQ using various models. Develop the optimum schedule for allocation of machines and jobs. To identify the bottlenecks and apply various methods to eliminate.	Ap	P	Seminar Presentation / Group Tutorial Work
CO4	Familiarize the students with various tools and techniques used by operations managers for	U	C	Instructor-created exams / Home Assignments

	operational, tactical and strategic decision making.			
CO5	The ability to make decisions and plan, develop, execute and control Operations strategies	Ap	P	One Minute Reflection Writing assignments
CO6	Enhance management skills needed for the effective operations management and make decisions concerning OM Strategies, designs and operations with high level personal autonomy and accountability.	Ap	P	Viva Voce
* - Remember (R), Understand (U), Apply (Ap), Analyse (An), Evaluate (E), Create (C) # - Factual Knowledge(F) Conceptual Knowledge (C) Procedural Knowledge (P) Metacognitive Knowledge (M)				

Detailed Syllabus:

Module	Unit	Content	Hrs (60)	Internal (30)	External (70)
I	**Introduction to Global Operations Management**		**12**	**20**	**16**
	1	Global Operations Management: Overview and Evolution			
	2	Competitive Priorities and Operations Strategy			
	3	New Product Development in a Global Context: Manufacturability and Reliability			
	4	Quality Management for Global Operations: Quality Cost and TQM			
	5	Global Operations Performance Metrics: KPIs			
II	**Tools and Techniques for Global Operations Management**		**12**		**18**
	6	Statistical Process Control for Quality Management: Control Charts			
	7	Process and Capacity Design in Global Operations: Bottlenecks, capacity constraints and operational hedging strategies.			
	8	Forecasting Techniques for Global Operations: Qualitative and quantitative, error in forecasting methods			
	9	Global Inventory Management and Control: ABC and EOQ			
	10	Just-in-Time and Lean Systems Strategies for Global Operations			
III	**Operations Planning and Execution in a Global Context**		**12**		**18**
	11	Production and Demand Planning for Global Operations: Scheduling and flowtime			
	12	Learning Curves and Human Resource Planning for Global Operations: learning rates, procedure durations, and future costs			

	13	Supply Chain Management and Risk Mitigation: Purchasing and Warehousing			
	14	Advanced Topics in Global Inventory Management: MRP and Bullwhip Effect			
IV	**Advanced Topics in Global Operations Management**				
	15	Facilities Location and Layout Strategies for Global Operations: Offices, supermarkets, warehouses, and processes	**12**		**18**
	16	Advanced Topics in Global Quality Management: Quality standards and certifications			
	17	Comparison of operations management practices in different regions/countries (e.g., Asia, Europe, etc.)			
	18	Role of technology and innovation in enhancing global operations performance			
	19	Considering the environmental impact of global operations.			
V	**Open Ended Module**				
		• Case Studies - Real-world examples illustrating concepts learned. Group Discussions and Analysis of Case Studies. • Practical Applications - Application of Learned Principles to Simulated Scenarios • Sustainability in Operations: Environmental Sustainability considerations, Social Responsibility in Operations, Sustainable Supply Chain Practices	**12**	**10**	

REFERENCES

1. Pannerselvam (2012), *Production and Operations Management*, 3rd edition, Prentice Hall, India
2. Buffa, E.S, Sarin RK (2008), *Modern Production/ Operations Management*, John Wiley & Sons
3. Chase, Shankar & Jacob (2010), *Operations & Supply Chain Management*, 14th Edition, McGraw Hill
4. Aswathappa, K and Sridhara Bhat (2014), *Production and Operations Management*. Himalaya Publishing House.
5. Chunawalla, S. A., (2012), *Production and Operations Management*, Fourth Edition, Himalaya Publishing House, New Delhi.
6. Everett E., Adam Jr. & Ronald J Ebert, *Production and Operation Management*, Fifth edition, Prentice Hall of India.

Sustainable Business Environment

Programme	BBA BUSINESS ANALYTICS				
Course Code					
Course Title	**Sustainable Business Environment**				
Type of Course	**VAC**				
Semester	6				
Academic Level	300-399				
Course Details	Credit	Lecture per week	Tutorial per week	Practical per week	Total Hours
	3	3	-	-	45
Pre-requisites					
Course Summary	This course begins with an introduction to the business environment, providing a foundational understanding of the external factors that impact businesses. Students then delve into the political and economic environment, examining how government policies and macroeconomic trends influence business operations and strategies. Next, the focus shifts to sustainable business practices, where learners explore ways to align business activities with environmental and social responsibility for long-term viability. Finally, the course covers the technological and socio-cultural environment, equipping students with insights into how technological advancements and cultural dynamics shape industries and consumer behavior. Through these modules, students gain a holistic understanding of the multifaceted business landscape, preparing them to navigate complexities and drive sustainable business growth. .				

Course Outcomes (CO):

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Enable learner to gain a comprehensive grasp of the external factors shaping organizational operations, strategies, and performance, facilitating informed decision-making for sustained success	U	C	Standardized Test

CO2	Enable the learner to analyze the government influence on business environment, comprehend the intricate relationship between regulatory policies and business operations, enabling adept navigation of legal frameworks for sustainable growth and compliance.	Ap	P	Observation and Practical Skills
CO3	Enable the learner to grasp the significance of macroeconomic factors and global trends in shaping business decisions and strategies for sustained profitability.	Ap	P	Observation and Practical Skills
CO4	Enable the learner to understand the impact of government policies and regulations on business operations, enabling strategic adaptation to navigate regulatory complexities and foster sustainable growth.	U	C	Standardized Test
CO5	Enable learner to analyze how innovations drive industry evolution, while in the socio-cultural module, analyze cultural dynamics to adapt strategies for diverse consumer markets.	Ap	P	Case Study
CO6	Enable students to explore sustainable business practices to ensure long-term viability and positive impact on both society and the environment	Ap	P	Observation and Practical Skills
* - Remember (R), Understand (U), Apply (Ap), Analyse (An), Evaluate (E), Create (C) # - Factual Knowledge(F) Conceptual Knowledge (C) Procedural Knowledge (P) Metacognitive Knowledge (M)				

Detailed Syllabus:

Module	Unit	Content	Hrs (45)	Internal (25)	External (50)
I		**Business and It's environment**			
	1	Business – Nature, Concepts and Meaning.			

	2	Business environment- Nature, Concepts and Meaning.			
	3	Business Environment- Components			
	4	Business Environment- Types and its Role in Business			**12**
	5	Role of Economic Policy in Business.	**9**		
	6	Business Ethics			
II	**Economic and Political Environment**				
	6	Economy- Meaning, Nature and its Role in Indian context.			
	7	Factors affecting economy (Macro & Micro)			
	8	Political institutions- (Legislature- Executive- Judiciary)	**9**		**12**
	9	Role of Center and State Governments on Economy-			
	10	Economic policies- impact of Fiscal, Monetary, EXIM policy and industrial policy on business.			
	11	Impact of Liberalization, Privatization and Globalization in Indian context			
III	**Technological and Socio-cultural environment**			**20**	
	10	Concept of technology in business environment and importance of making technological policies.			
	11	Role of AI in business environment.			
	12	Nature of Corporate governance- factors influencing Corporate governance	**9**		**12**
	13	Mechanisms of Corporate governance			
	14	Nature of culture- impact of culture on business**.**			
IV	**Sustainable Business Environment**				
	17	Natural environment-meaning and influence on business			
	18	Environmental regulation and policy instruments.			**14**
	19	Introduction to Sustainability and sustainable development			
	20	Sustainability standards	**9**		
	21	Sustainable products and Eco branding			
	22	Sustainable value frame work and green supply chain			
V	**Open Ended Module**				
		In collaboration with an NGO, organize a field trip to an ecologically significant location. After the visit, students will be tasked with preparing a SWOT analysis to assess the potential for making this place business-friendly.	**9**	**5**	

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