BGU
BIRLA GLOBAL UNIVERSITY

VALUE· ADDED COURSES

Brochure & Course Content

Registration Form Link for Value-added Courses
https://forms.gle/RB85v4qwSXGqknH89

Birla Global University

IDCO Plot No. 2, Institutional Area
Gothapatna, Bhubaneswar - 751029, Odisha, India

About Value-added courses

BGU offers a diverse range of **Value-added Courses** with the aim to develop the student's holistic perspectives and understanding of the current industry challenges. These new edge course aim to prepare the students with the latest technical knowhows & employability skills for them to meet the needs of dynamic business world.

The courses are designed by the internal faculty experts. Before designing the syllabus, the feedback from the employers, alumni and industry people are sought & analyzed to select and design a basket of inter-disciplinary courses.

1. Objectives

Objectives of the Value-added Course are:

- To provide students an understanding of the expectations of industry
- To improve employability skills of students
- To bridge the skill gaps and make students industry ready
- To provide an opportunity to students develop their inter-disciplinary skills.

2. Guidelines for value added courses

- Value-added Course is not mandatory to qualify for any program.
- It is a faculty-assisted learning course open to all students without any additional fee.
- Classes for Value-added courses will be conducted during the RESERVED Time Slot in a week or beyond the regular class hours.
- The value-added courses may be also conducted during weekends / vacation period.
- A student will be permitted to register only one Value Added Course in a Semester.

3. Duration and Venue

- The duration of value-added course should not be less than 30 hours.
- The courses will be conducted on an online mode except a few courses which will be offered in the classes or labs

4. Registration:

The list of Value-added Courses will be displayed in the University Website along with the syllabus. A student shall register for a Value-added course offered during the semester by submitting the duly filled in registration form.

5. Attendance

Attendance and assessment record of the students who have registered for the course will be maintained by the faculty coordinator

- The record will contain details of the students' attendance, grades obtained in the tests.
- Assignments, Seminars, Experiments & Projects conducted.
- Each student will have a minimum of 75% attendance
- Relaxation of attendance requirement up to 10% may be granted for valid reasons such as illness, representing the University in extracurricular activities and participation in NCC.

6. Evaluation

- The passing requirement for value added courses shall be 40% of the marks prescribed for thecourse.
- A candidate who has not secured a minimum of 40% of marks in a course (internal and end-term)shall reappear for the course in the next semester/year.
- The grades obtained in VACs will not be included for calculating the CGPA.
- The grades will be reflected on the end semester grade sheet

7. Course Completion

- Students will get a certificate after they have successfully completed the course
- The students who have successfully completed the Value-added Course will be issued with aCertificate duly signed by the authorized signatories.

8. List of Value-added Courses

LIST OF VALUE-ADDED COURSES

Sl. No	Name of the School	Name of the Courses	Name of the Course Coordinator	Audience
1	**Birla School of Management**	Data Analysis using MS Excel	Dr. Piyush Gupta	All PG Students
2		Social Wellbeing	Dr. Snigdha Mohapatra	All PG & UG Students
3		Advanced selling Skills	Dr. Vivek Mishra	All MBA, M.Com & MA-Economics
4		Event Marketing	Dr.Suvendu Pratihari	All PG & UG Students
5		Campus to Corporate	Dr. Siddharth Mishra	All PG & UG Students
6		Finance and Quantitative Modelling using Excel & R for Beginners	Dr. Pradipta Kumar Sanyal	All PG & UG Students
7		English for Academic Purposes	Dr. Anubha Ray	All PG & UG Students
8		Commodity Markets: Genesis & Economic Utility	Prof. Swagat Mishra	All PG & UG Students
9	**Birla School of Commerce**	Basic Financial Analytics	Dr. Radha Krishna Mishra	All PG & UG Students of BSoM, BSoSS&H & BSoC
10		Text Analytics	Mr.Aswini Kumar Bhuyan	All PG & UG Students
11	**Birla School of Communication**	Media & Content Strategy	Dr. Shiv Shankar Das	All PG & UG Students
12		Mobile Filmmaking	Mr. Suresh Kumar Golle	All PG & UG Students
13	**Birla School of Social Science & Humanities**	Introduction to R	Dr. Amritkant Mishra	All PG & UG Students
14	**Birla School Law**	Building & Infrastructure Laws	Dr. Swagat Das	All PG & UG Students
15		Land Laws	Dr. Prithiviraj	All PG & UG Students
16	**Birla School of Applied Sciences**	Principle of Data Science	Dr. Manaswini Jena	All PG & UG Students
17		Computing Essentials	Dr. Manaswini Jena	All PG & UG Students except BSoAS

Course Name	Data Analysis using MS Excel
Course Type	Value added course
Course Credit	Non-Credit
Duration	30 hours
Mode of Conduct of the Course	Online
Audience	Post-graduation Students
Name of the Course Coordinator	Dr. Piyush Gupta
About the Course (Maximum 100 words)	The modern world regularly forces professionals to make decisions of great importance in the VUCA world. Successful decision making therefore requires the ability to use analytical tools like spreadsheets capturing the structure of complex problems, to analyse available options and make the best decisions given the information available. Spread sheets are the ubiquitous and powerful tool to solve such real-world problems efficiently. The course will develop student's skills in use of spread sheets for decision making and through the application of the techniques to a range of practical problems. Spread sheet's application experience in this course will enhance not only analytical problem-solving capabilities but also spread sheet skills of even an experienced Excel user. The course discusses examples of use of spread sheets in various domain of professional services such as consulting, law, management etc. using the visualisation of data and statistical tools available in MS Excel. Excel is ubiquitous in organisation and is needed for data driven decision making. You will be learning the spread sheet advance functions as per their application in the domain specific courses like HR Analytics, Marketing Analytics, Statistics for Business, Business Research Methods, Supply Chain Analytics, consulting, law services etc. Hence this course will help in developing the base knowledge of using spread sheets, which will be further helpful in your specialisation papers also.
Objectives (Maximum 3)	1-To learn using MS Excel for efficient decision making in real-world operations 2-To visualise data for generating basic intelligence. 3-To apply the inbuilt formulas to effectively analyse real-world problems.
Course Outcome (Maximum 4)	LO1-Understand spreadsheet functions to efficiently perform calculations related to real-world operations LO2-Identify real-world problems using data using spreadsheets. LO3-Apply spreadsheets' summarise and report tools to analyse real-world data.
Pre-requisite	Basic Mathematics

Course Outline (Maximum 5 Unit)	Unit-1: Working on Data in Spreadsheets: Applying Logic in Decision Making Unit-2: Excel for Problem Solving Unit-3: Data Visualisation with MS-Excel
Pedagogy	Lectures, Hands-on Practice, Case analysis
Suggested Readings	https://www.theexcelexperts.com/importance-excel-business/ https://www.youtube.com/watch?v=eIN40JN7sro&ab_channel=LeilaGharani

Course Name	**Social Wellbeing**
Course Type	Value added course
Course Credit	Non-Credit
Duration	30 hours
Mode of Conduct of the Course	Online
Audience	All PG & UG Anybody who wants to practice social well-being
Name of the Course Coordinator	Dr. Snigdha Mohapatra
About the Course (Maximum 100 words)	Social wellbeing is about the mental health of an individual in the context of being social that includes individual's potential to manage one's thoughts, emotions, behaviours and interactions. The best thing about this course is the course will enable the learners to understand their own state of social wellbeing and will help them to work on the same to reach to an expected level. This course includes understanding the science behind the social wellbeing as found by several researchers like Prof. Seligman, (University of Pennsylvania), Prof. Laurie Santos (Yale University), Dr. Rajagopal Raghunathan (McCombs School of Business ,The University of Texas at Austin).
Objectives (Maximum 3)	The objective of this course is • To enable learners to understand their expectations in relationships, develop empathy, and ensure healthy relationships with family, peers & teachers. • To develop social awareness & human values in learners to engage in meaningful contribution in society. • To develop holistic approach towards happiness
Course Outcome (Maximum 4)	Upon successful completion of the course the students will be able to: CO1: Develop increased level of self-awareness and observe self and others better. CO2: Develop strong ability to reflect on one's thoughts and behaviors. CO3: Analyse and cope with stress & anxiety better. CO4: Reflect self-confidence with pleasant behavior.
Pre-requisite	Self-conviction to work on the suggested areas to work on oneself.
Course Outline (Maximum 5 Unit)	**UNIT I** **Concepts of Happiness** Introduction to happiness: How has happiness been thought about and written about throughout history? Why are some people happier than others? What is it and how is it measured? Measuring student's levels of well-being and related constructs — namely, happiness, life satisfaction, mood, gratitude, forgiveness, self-

	esteem, and depression. **UNIT II** **Why Be Happy and practicing Happiness activities** Is happiness a good thing or does it simply feel good? What are the most important determinants of happiness? What is the happiness set point? How does hedonic adaptation present a barrier to achieving happiness? Is it possible to sustainably increase happiness? Three happiness activities — writing gratitude letters, writing forgiveness letters, or visualizing their best possible selves — and writing a response paper about these experience. **UNIT III** **Positive Emotions and Living in the Present** Introduction to emotions and their measurement, Introduction to the broaden-and-build model. Introduction to flow. Practicing one of two happiness-increasing strategies involving flow — micro flow and flow in conversation — and writing a response paper about their experience. **UNIT IV** **Understanding and practicing Positive Emotions** Gratitude and Positive Thinking: Introduction to optimism. Introduction to gratitude. What are the consequences of rumination? practicing one of their signature strengths or developing a 'low' strength and writing a response paper about their experience. Love and Kindness: Introduction to love, attachment, and close relationships, Introduction to prosocial behaviour. Measures of attachment, passionate love, and companionate love. Coping and Forgiveness: Introduction to coping with stress and trauma, Introduction on expressive writing, Introduction to forgiveness. **UNIT V** **Taking Care of Your Body** Research on meditation. Introduction to physical activity. The benefits of acting happy.
Pedagogy	• Joyful exercises • Indoor games • Active enquiry • Reflective conversations • Storytelling • Guided practices for mindfulness • Group Discussions • Role-play/skits on situations • Presentations - Individuals and group presentations • Activities for Rapport Building and Team work

Suggested Readings	• Diener, E., Lucas, R. E., & Oishi, S. (2018). Advances and open questions in the science of subjective well-being. Collabra: Psychology, 4, 1-49. • Lyubomirsky, S. (2008). The how of happiness: A scientific approach to getting the life you want. penguin. • Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. American Psychologist, 55, 5-14.

Course Name	**Advanced Selling Skills**
Course Type	Value added course
Course Credit	Non-Credit
Duration	30 hours
Mode of Conduct of the Course	Physical
Audience	MBA, MCOM & MA ECO.
Name of the Course Coordinator	Dr. Vivek Mishra
About the Course (Maximum 100 words)	The course has been designed as a highly interactive, practice-led, action learning course. Sales are a matter of perfection through practice. The course aims to help the learner understand all the aspects involved in the sales process through practice and interactive processes. There will be an introduction to modern processes and terms like consultative sales, sales meetings, and relationships with a hands-on approach. There will be interactive sessions, action learning, planning exercises to get an idea of planning, execution and the right skills to win.
Objectives (Maximum 3)	• To understand the sales process • To identify and address objections and challenges in the process • To develop a sales strategy to successfully close the sale
Course Outcome (Maximum 4)	After completing the course the students should be able to: • Understand the various stages in the selling process • Identify different needs of the buyer and match product solutions to the same • Develop a strategy to build long-term relationships with customers • Apply modern selling approaches/practices to close the sale effectively
Pre-requisite	Basic understanding of sales
Course Outline (Maximum 5 Unit)	**Unit I** Marketing is not Selling; Sales: Meaning, Objectives, Characteristics, Functions; Understanding of Company, Product, Customer and Competitors; Overview of the Personal Selling Process

	Unit II Presales Preparation; Prospecting; Presentation - Strategies & Tactics; Objection Handling **Unit III** Closing Sales/ Wrapping up a Sale; Post-Sale Follow-Up & Maintenance; Brief of Action Project **Unit IV** Retail Sales; B2B Sales; FMCG Sales; Media Sales; Selling of Financial Products **Unit V** Territory Planning; Quota Setting; Sales Reporting; Managing Sales Performance
Pedagogy	Case Studies, Role Plays & Presentations
Suggested Readings	▪ **Text Book:** Sales and Distribution Management (6th Edition) Still, Cundiff, Govoni, and Puri, Pearson. ▪ **Reference Book**: Selling & Sales Management (11th Edition) David Jobber, Geoffrey Lancaster, Kenneth Le Meunier-FitzHugh, Pearson

Course Name	**Event Marketing**
Course Type	Value added course
Course Credit	Non-Credit
Duration	30 hours
Mode of Conduct of the Course	Online
Audience	All UG and PG students of BGU
Name of the Course Coordinator	Dr. Suvendu Kumar Pratihari, Assistant Professor, Marketing
About the Course (Maximum 100 words)	The focus of the course is on applying contemporary principles of strategic marketing to the process of event management. These concepts apply to the broadest definition of the event management industry including festivals, sporting events, community celebrations, cultural events, and arts productions.
Objectives (Maximum 3)	The objectives of the course are: • to introduce the concepts and tools used to design and implement a successful event marketing strategy, • to provide a practical insight into the unique characteristics of event marketing, and • to provide a unique experiential learning opportunity for the students to increase event attendance and profit.
Course Outcome (CO)	On successful completion of the course, a student will be able: CO1: To understand the segmentation, targeting, positioning, and concepts of customer behaviour in the context of event marketing. CO2: To develop a marketing strategy to design, communicate and deliver the event benefits to the target markets. CO3: To apply a systematic approach to the evaluation of an event marketing strategy, and CO4: To evaluate the success of an event from an economic and social perspective.
Pre-requisite	Basics of Marketing Management
Course Outline	**Unit 1: Introduction to event marketing** The Evolution of event marketing, Advantages of event marketing; 5 C's of Events- Conceptualization, costing, canvassing, customization, carrying-out; Importance of Events as a marketing communication Tool; The varied marketing needs addressed by Events. **Unit 2: Segmentation, Targeting, positioning, and customer behavior** Segmentation, targeting, and positioning of events; Key Elements

	of Events: Event Infrastructure, Customer Groups, Clients, Event Organizers, Venue, and Media; Understanding customer behavior in events. **Unit 3: Event Design and value creation** Concept of product in events; Categories of events - Competitive events, Artistic expression, Cultural celebrations, Exhibition events, Charitable events, Special business events, Retail events, Social and charitable events; Event Variations- Time frame-based, Concept-based, Artist based, Client industry based. **Unit 4: Event Pricing, and Integrated Marketing Communication** Risk rating and setting pricing objectives, and pricing decisions; Understanding local legislation and tax laws; Event sponsorship - Concept of sponsorship, Sponsorship in a communication context, Synergy between sponsor and Event, Identifying potential sponsors, Practical Sponsor Incentivization, In-kind sponsorship. **Unit 5: Event Evaluation and Implications** Evaluating the event and Impact Measurement; Skills required for negation; Economic and social implications of event marketing; Event crisis management; Career in event marketing
Pedagogy	Lecture & Discussion; Workshop; Project presentation
Suggested Readings	Text Books: • Reic, I, (2017), Event Marketing Management: A Consumer Perspective, 1e, Routledge, London. • Gaur, S. S., and Saggere, S, V. (2013), Event marketing and management, 1e, Vikas Publishing House, New Delhi, India

Course Name	**Campus to Corporate**
Course Type	Value added course
Course Credit	Non-Credit
Duration	30 hours
Mode of Conduct of the Course	Hybrid
Audience	Any Undergraduate and Post Graduate Students
Name of the Course Coordinator	Dr. Siddharth Misra
About the Course (Maximum 100 words)	It's a course prepared and approved by Industry professionals and Academicians to make students industry ready. This aims at improving the hard and soft skills of students for better representation of their knowledge and skills and getting successful in the job interviews.
Objectives (Maximum 3)	• To make the students aware of some more techniques of Presentation. • To make them practice the interview questions (Mock interviews
Course Outcome (Maximum 4)	• Students will be confident to give independent presentations professionally. • Prepare the students for the interviews for better employability.
Pre-requisite	Basic level of knowledge and skills on specific domain and interest towards learning.
Course Outline (Maximum 5 Unit)	**Unit-I Professional Skills** Meetings, Agenda, Minutes of the Meeting, Business Etiquette. **Unit-II: Situation Based Conversation** Conversations in Pairs to be Conducted (based on situations related to day-today life), Enhancing communication Skills through Situation Based Conversations. **Unit-III Group Discussions and Role Play** Personality Traits to be evaluated, Dynamics of Group Behaviour,

	Group Etiquettes and Mannerism, Tips for Effective Group Discussion, Situation Based Role Play in Groups, Selling Skills, CRM Skills, Product Training. **Unit-IV Presentation Strategies** Defining purpose, audience and locale, organizing content, Preparing outlines, audio visual aids, nuances of body language, space, setting nuances and voice dynamics, build confidence, collocations to be used for day to day conversation, improve the ability to present in front of the group, Pitching Skills, Closing Skills, and Objection Handling Skills. **Unit-V: Mock Interviews** Practice through Mock Interviews for Recruitment.
Pedagogy	Hands on training from industry professionals, Role-plays, Mock interviews, Presentations and Group discussions
Suggested Readings	**TEXT BOOKS:** • Rozado, D., Rosas, F., Shim, Y., & Holtz, M. (2022). IN-DEMAND JOB SKILLS MONITOR. *Contemporary Research Topics*, 31. • Nitin Bhatnagar and Mamta Bhatnagar 'Effective Communication and Soft Skills: Strategies for Success', Pearson 2012 • Francis Peter S. J 'Soft Skills and Professional Communication', Tata McGraw-Hill 2012. **REFERENCE BOOKS:** • Meshram, M. M., & Hajare, D. M. (2023). PERSONALITY DEVELOPMENT AND SOFT SKILLS. *NEP*, 54. • Khair, U., & Misnawati, M. (2022). Indonesian language teaching in elementary school: Cooperative learning model explicit type instructions chronological technique of events on narrative writing skills from interview texts. *Linguistics and Culture Review*, *6*(S2), 172-184. • Ann Masters and Harold R. Wallace 'Personal Development for life and Work' Cengage Learning 2012

Course Name	**Finance and Quantitative Modelling using Excel and R for Beginners**
Course Type	Value added course
Course Credit	Non-Credit
Duration	30 hours
Mode of Conduct of the Course	Online
Audience	All Students of Birla Global University
Name of the Course Coordinator	Dr. Pradipta Kumar Sanyal
About the Course (Maximum 100 words)	This course is designed to give exposure to the students to make acquainted with the conceptual understanding of Financial Statements of Companies in India and Applications of Financial Models to forecast Financial Statements.
Objectives (Maximum 3)	• To develop an understanding of related concepts of finance and applications using Financial and Quantitative Modelling • To develop the skill of using Excel and R in Financial and Quantitative Modeling.
Course Outcome (Maximum 4)	On Completion of the Course, Students will be able to understand the Profit & Loss Accounts, Balance Sheets, Cash flow Statements, and Annual Reports of the Companies.
Pre-requisite	Basics of Finance, Statistics, and Mathematics
Course Outline (Maximum 5 Units)	**Module I- Introduction to the Concept of Finance** Finance and Accounting Concept, Profit and Loss Account, Balance Sheet and Cash Flow Statement, Time Value of Money, and Financial Forecast Process. **Module II- Interpretations of Financial Statements** Interpretations of Financial Statements Tools and Techniques for Financial Statement Analysis- Ratio Analysis, Comparative Statement Analysis, Common Size Statement Analysis, **Module III- Introduction to Spreadsheet and Model** Excel for Financial Modelling Excel formula functions, Data Validation, Solver, Data Analysis tools, Basic Modelling Techniques, Vlookups, Pivot Table, and Macros **Module IV: Introduction to R** Introduction to R, Data Retrieval, and Return Calculation, Returns Predictions using Regression in R. **Module V Financial Forecasting using Financial and Quantitative Models**

	Understanding Financial Models, Assumptions related to Financial Models, and Financial Forecasting
Pedagogy	Cases, Lectures using Excel, R
Suggested Readings	**Timothy R Mayes** (2018), **Financial Analysis With Microsoft Excel, Cengage India**

Course Name	**English For Academic Purposes**
Course Type	Value added course
Course Credit	Non-Credit
Duration	30 hours
Mode of Conduct of the Course	Offline
Audience	UG/PG students of BGU
Name of the Course Coordinator	Anubha Ray
About the Course	To communicate well, the command over the four language skills such as Listening, Speaking, Reading & Writing is essential. Students need regular & right practice to be able to hone their LSRW skills for academic purpose
Objectives	• The course will improve the reading, speaking & writing skills of the students to be able to communicate for academic purpose • It will enable the students to score more than minimum 6 band in IELTS practice
Course Outcome	At the end of the course, the students will be able to: • Understand the basic principles of LSRW skills • Apply the principles into their own writing to be able to draft descriptive paragraphs & compositions • Analyse the mistakes in IELTS practice & correct their own to improve the score
Pre-requisite	Should be able to read, write in English, should have sufficient knowledge of grammar & vocabulary
Course Outline	**Unit I** Three Step Writing Process; Drafting Unified & Coherent Paragraphs, Writing Expository Paragraphs & Compositions; Transitional Devices & expressions; Write & Improve(W&I) for Beginners; Write with Correct Vocabulary; Know your Grammar **Unit II** Planning & Brian storming; Writing an Article; W&I for Intermediate **Unit III** General Training to Score Better in IELTS; How to Speak Better with Appropriate Content, Grammar & Words; Being Phonetically Correct

	Unit IV Writing an Email; W&I for Intermediate **Unit** V Reading Comprehension; Attentive Listening; Practice & Score better in IELTS Academic in Reading & Listening
Pedagogy	Experiments in the Language Lab, One-to one training
Suggested Readings	Essays & Newspaper Articles

Course Name	**Commodity Markets: Genesis and Economic Utility**
Course Type	Value added course
Course Credit	Non-Credit
Duration	30 hours
Mode of Conduct of the Course	Online
Audience	All Graduate and Post Graduate Students
Name of the Course Coordinator	Prof. Swagat Kishore Mishra
About the Course (Maximum 100 words)	Commodities are the standardised resources or raw materials with intrinsic value that are used to manufacture refined goods. The quality of commodities may be variable, but they must be substantially uniform on some criteria across different producers. There are two types of commodities in the market, i.e. hard commodities and soft commodities. Hard commodities are often used as inputs to make other goods and provide services while soft commodities are mainly used for initial consumption. Inputs such as metals and minerals are classified as hard commodities while agricultural products like rice and wheat are softer commodities. Commodities are traded on the spot market or exchanges. The commodities must meet minimum standards set by the exchanges to be able to trade. Through this course, we will explore the commodity world in inclusiveness outlined in dedicated chapters.
Objectives (Maximum 3)	● To orient the students toward the Derivatives markets both agri and non-agri commodities and its applications in commodity trading. ● To practice market simulation of commodity exchanges.
Course Outcome (Maximum 4)	After undergoing the course, a student will be able to: CO1: To learn and develop economic modelling on market insights related to the operations on Commodity Trading and Congestion Management. CO2: To apply commodity market derivatives in agri and non-agri stocks.
Pre-requisite	Basic English and Mathematics.
Course Outline (Maximum 5 Unit)	**Module I** **Commodity Exchanges**

	National Commodity Derivatives Exchange of India (NCDEX), Commodity Trading in India **Module II** **Agri Commodity Market** Sesame and Coffee Commodity Trading **Module III** **Commodity Futures** Value at Risk, Market to Market, Forward Markets Commission, India **Module IV** **Non-Agri Commodity Trading** Crude Oil and Aluminium Commodity Trading **Module V** **Commodity Markets Outlook** Commodity Index Comparison Charts and Price Charts (Price Discovery and Price Risk Management), Reducing Information Gaps
Pedagogy	Lecture Notes, Simulation using Eviews 10 and MS Excel.
Suggested Readings	Reading material shall include but not limited to: i. Pink Sheet Data by World Bank ii. Annual Data and Price Charts by NCDEX, India iii. Lecture Notes (module wise) iv. Simulation Data Files Econometric Forecasting tools v. NCDEX, 'Beginners Guide to Commodity Markets', 2022 (e-book) https://ncdex.com/ncdex_ipft_commodity_guide/index.html

Course Name	**Basic Financial Analytics**
Course Type	Value added course
Course Credit	Non-Credit
Duration	30 hours
Mode of Conduct of the Course	Online
Audience	UG – 2nd year onwards PG- Any
Name of the Course Coordinator	Dr. Radha Krishna Mishra
About the Course (Maximum 100 words)	The course will equip the students with essential tools, techniques and models necessary for financial analytics for effective decision making. This course is of immense use to the UG and PG students aspiring to make a career in the field of finance.
Objectives (Maximum 3)	To equip the students with essential tools, techniques and models necessary for financial analytics for effective decision making.
Course Outcome (Maximum 4)	1. Demonstrate skills for computation and aggregation of data using MS Excel and R; 2. Present financial data with the help of charts pivot tables; 3. Perform financial analysis using MS-excel and R;
Pre-requisite	The candidate must have some basic knowledge of Statistics and Mathematics
Course Outline (Maximum 5 Unit)	**Introduction to Finance Analytics:** Introduction to Finance Analytics, Data-Driven Finance, Use of R and Python, What this course is Not About, Skills and Resources Needed to Excel in Finance Analytics **Data in Finance:** Fundamental Data, Obtaining Fundamental Data, Downloading Fundamental Data, Extracting Data using R, Fundamental Data for Indian Companies, Download Fundamental Data for Multiple Companies, Reading HTML Tables in R, Reading Data from Prowess, Market Data, Market Data using R, Downloading Non-Stock Markets Data, Reading data. **Exploratory Analysis of Financial Data:** Univariate Analysis of Fundamental Data, Categorical Data, Bi-variate and Multi-variate Analysis of Fundamental Data, Multivariate Analysis of Categorical Data, Analysis of Time Series Data,

	Understanding Basic Finance using R: Time Value of Money, Finding the Present Value of 'k' Number of Cashflows, Risk and Return, Computing Return using R, Computing Standard Deviation, Estimating Betas in R
Pedagogy	Class Room Teaching Application Case Study
Suggested Readings	• Pitabas Mohanty, *Financial Analytics*, Wiley • K Scott Proctor, *Building Financial Models Using MS-Excel*, Wiley • Jared P. Lander, *R for Everyone*, Pearson • Mark J. Bennett, Dirk L. Hugen, *Financial Analytics with R*, Cambridge University Press

Course Name	**Text Analytics**
Course Type	Value added course
Course Credit	Non-Credit
Duration	30 hours
Mode of Conduct of the Course	Online
Audience	UG & PG- Any
Name of the Course Coordinator	Aswini Kumar Bhuyan
About the Course (Maximum 100 words)	It is perspicuously evident that the application of computer software contributes significantly to the linguistic and stylistic study of literary and fictional texts, particularly to decode the different themes and ideologies pertaining to this type of texts. These computational software offer analysts and researchers the ability to arrive at authentic, reliable and credible results in an accurate and precise way more than any other analytical tools that would be conducted without the interference of computer
Objectives (Maximum 3)	To equip the students with essential tools and techniques necessary for text analytics
Course Outcome (Maximum 4)	01.Understanding the Text Analytics. 02.Using of different tools to analyses text. 03.Application of Text Analysis in the real life.
Pre-requisite	The candidate must have some basic knowledge of Statistics.
Course Outline (Maximum 5 Unit)	Introduction to Text Analysis: Sources: one file, multiple files & social media. String, Corpus, Document-term matrix, Word frequencies, Beginning the analysis, Loading the first text file, Separate content from metadata, Reprocessing the content. Accessing and Comparing Word Frequency Data: Accessing Word Data, Recycling, Token Distribution Analysis, searching with regular expression, Construct a document-feature matrix, Construct feature-occurrence matrix. Measures of Lexical Variety, Mean word frequency, Extracting Word Usage Means, Clustering, Classification, Correlation: Correlation Analysis, Testing Correlation with Randomization. Textual data visualization Word cloud, Lexical dispersion plot,

	Modifying lexical dispersion plots, Frequency plots, Correspondence Analysis.
Pedagogy	Class Room Teaching Application Case Study
Suggested Readings	• *Dictionary-Based Text Analysis in R*. (n.d.). Retrieved from https://cbail.github.io/SICSS_Dictionary-Based_Text_Analysis.html • Jockers, M. L., & Thalken, R. (2020). *Text Analysis with R: For Students of Literature*. Springer International Publishing. • Silge, J., & Robinson, D. (2017). *Text Mining with R: A Tidy Approach*. O'Reilly Media, Inc. • *Workflow: Tutorials for quanteda*. (n.d.). Retrieved from https://tutorials.quanteda.io/basic-operations/workflow/

Course Name	**Media and Content Strategy**
Course Type	Value added course
Course Credit	Non-Credit
Duration	30 hours
Mode of Conduct of the Course	Online
Audience	UG and PG Students of BGU
Name of the Course Coordinator	Dr. Shiv Shankar Das, Assistant Professor, Birla School of Communication
About the Course (Maximum 100 words)	The course on Media and Content Strategy provides comprehensive knowledge and practical skills to develop effective content strategies and optimize media channels. The course covers key aspects such as defining objectives, understanding target audiences, content creation, media channel selection, distribution strategies, and measurement techniques. By enrolling in the course, participants will learn how to create compelling content, engage audiences and increase brand visibility.
Objectives (Maximum 3)	1.Understand the principles and fundamentals of media and content strategy. 2.Develop skills in content creation, curation, and optimization. 3.Apply learned strategies and techniques to real-world scenarios through practical exercises and case studies.
Course Outcome (Maximum 4)	1.Gain a thorough understanding of media and content strategy principles, concepts, and best practices. 2.Develop the ability to analyse target audiences, identify their preferences and behaviours, and create content tailored to their needs. 3.Apply the hands-on experience in media and content strategy in real world scenarios.
Pre-requisite	None
Course Outline (Maximum 5 Unit)	**UNIT I** **Overview of media landscape and content strategy importance** Key terms and concepts in media and content strategy Audience Analysis and Segmentation Content planning and ideation **UNIT II** **Overview of different media channels** Evaluating channel strengths, limitations, and target audience demographics Selecting appropriate channels based on content objectives and audience preferences Content Distribution Strategies

	UNIT III **Crafting compelling and relevant content for different channels** Optimizing content for best user experience Media Channel Selection **UNIT IV** **Aligning content strategy with overall marketing and business objectives** Integrating content across various channels and touchpoints Coordinating content efforts with other marketing disciplines Emerging Trends and Best Practices **UNIT V** **Applying learned concepts through practical exercises and simulations** Critically evaluating and refining content strategies Final Project or Assessment
Pedagogy	Lectures, Case-Studies, Practical Exercises, Assignments
Suggested Readings	1.The Content Fuel Framework: How to Generate Unlimited Story Ideas – Melanie Deziel 2.Content Strategy for the Web – Kristina Halvorson 3.Content Everywhere: Strategy and Structure for Future-Ready Content – Sara Wachter-Boettcher 4.How to Write Copy That Sells: The Step-By-Step System for More Sales, to More Customers, More Often — Ray Edwards 5.Stories at Work: Your Compass to Business: Unlock the Secret to Business Storytelling –Indranil Chakraborty

Course Name	**Mobile Filmmaking**
Course Type	Value added course
Course Credit	Non-Credit
Duration	30 hours
Mode of Conduct of the Course	Hybrid
Audience	UG and PG Students
Name of the Course Coordinator	Suresh Kumar Golle
About the Course (Maximum 100 words)	With the latest advancements in mobile technology, creating top-notch videos using only your smartphone has never been simpler! This course is the ultimate guide to mobile filmmaking, covering everything from shooting techniques to sound recording, editing, and promotion. Whether you're an aspiring filmmaker, content creator, or simply curious about the world of mobile filmmaking, this course will equip you with the knowledge and skills necessary to make compelling videos that captivate your audience. Join us now and unlock the incredible potential of your smartphone to unleash your creativity in the exciting world of mobile filmmaking!
Objectives (Maximum 3)	• To learn the basics of mobile filmmaking, such as camera operation, lighting, sound, editing, and storytelling. • To develop the skills necessary to create high-quality mobile films. • To create a portfolio of mobile films. This portfolio can be used to showcase the skills
Course Outcome (Maximum 4)	• Students will be able to use their mobile phones to create high-quality videos. This includes understanding the basics of camera operation, lighting, sound, and editing. • Students will be able to develop their own creative vision for their videos. This includes understanding the elements of storytelling, such as plot, character, and setting. • Students will be able to share their videos with others. This includes understanding how to upload videos to the internet and how to promote them on social media. • Students will be able to collaborate with others on mobile filmmaking projects. This includes understanding how to work with actors, crew, and other filmmakers.
Pre-requisite	▪ **Basic knowledge of filmmaking.** This could include an understanding of the different elements of filmmaking, such as camera operation, lighting, sound, and editing. ▪ **Familiarity with a mobile device.** This could include knowing how to use your mobile device's camera and other features. ▪ **An interest in mobile filmmaking.** This is important as it will motivate you to learn and practice the skills necessary to create high-quality mobile films.

Course Outline (Maximum 5 Units)	**I - Unit** **Introduction to Mobile Filmmaking** Understanding the basics of mobile filmmaking The advantages and disadvantages of using a smartphone for filmmaking Understanding the limitations of mobile filmmaking and how to work around them **II - Unit** **Shooting Techniques and Composition** Mastering the art of shooting videos on your smartphone Understanding composition, lighting, and angles Techniques for shooting steady videos using your smartphone **III - Unit** **Sound and Audio in Mobile Filmmaking** Recording high-quality audio on your smartphone Using external microphones and other accessories to enhance audio quality Editing and mixing audio in post-production **IV - Unit** **Editing and Post-Production** Basic editing techniques for mobile filmmaking Choosing the right editing software and apps for your needs Understanding colour correction, sound design, and other post-production techniques **V - Unit** **Distribution and Promotion of Your Mobile Film** Understanding the various distribution channels for mobile films Developing a marketing strategy for your mobile film Using social media and other online platforms to promote your mobile film.
Pedagogy	**Lectures:** Lectures can be used to introduce students to the basic concepts of mobile filmmaking, such as camera operation, lighting, sound, and editing. **Hands-on workshops**: Hands-on workshops can give students the opportunity to practice the skills they have learned in lectures. This can be done by having students shoot and edit short films on their mobile devices.
Suggested Readings	- Miller, J. (2016). Mobile filmmaking: The complete guide to shooting and editing great video on your smartphone. London: Focal Press. - Davenport, A. H. (2017). The mobile filmmaking handbook: A complete guide to creating and distributing high-quality videos on your smartphone. New York, NY: Bloomsbury. - Reichmann, M. (2018). Shoot like a pro on your smartphone: The ultimate guide to mobile videography. New York, NY: Focal Press. - Christmas, J. (2019). The beginner's guide to mobile filmmaking: How to shoot, edit, and share stunning videos with your smartphone. New York, NY: Bloomsbury. - Levine, J. R. (2020). The mobile filmmaker's guide to storytelling: How to create engaging videos with your smartphone. New York, NY: Bloomsbury.

Course Name	**Introduction to 'R'**
Course Type	Value added course
Course Credit	Non-Credit
Duration	30 hours
Mode of Conduct of the Course	Online
Audience	Undergraduate students of different schools of Birla Global University
Name of the Course Coordinator	Dr Amritkant Mishra, Department of Economics, BSS&H
About the Course (Maximum 100 words)	The goal of this course is primarily enabling students to efficiently use the R programming language with the emphasis on problem solving and practical application. The R programming language is used for data analysis, data manipulation, graphics, statistical computing and statistical analysis. In short, R helps you analyze data sets beyond basic Excel file analysis. R is a free software environment that runs on a wide variety of UNIX platforms, Linux, Windows and Mac OS. The course begins with developing a basic understanding of the R working environment. Next, students will be introduced the necessary arithmetic and logical operators, salient functions for manipulating data, and getting help using R. Next, the common data structures, variables and data types used in R will be demonstrated and applied.
Objectives (Maximum 3)	1 To learn basic of R 2 To analyze the data with R Studios 3 To apply the inbuilt formulasto effectively analyze real-world problems.
Course Outcome (Maximum 4)	LO1 Understand the basics in R programming LO2 Import, review, manipulate and summarize datasets in R LO3 Perform appropriate statistical tests using R
Pre-requisite	Basic knowledge of statistics and computer
Course Outline (Maximum 5 Unit)	**Unit 1 Introduction to R:** R as a calculator, statistical software and programming language, R preliminaries, getting help, data inputting methods (direct and importing from other spread sheet applications like Excel), data accessing, and indexing, Graphics in R, built in functions **Unit 2 Descriptive statistics:** Diagrammatic representation of data (box plots, stem and leaf diagrams, bar plots, pie diagram, scatter plots), measures of

	central tendency (mean, median and mode), measures of dispersion (range, standard deviation, mean deviation), summaries of a numerical data. **Unit 3 Data Analysis:** Normal Distribution Plots to check Normality, Plotting probability curves for standard distributions, Correlation and Regression analysis.
Pedagogy	Hybrid mode (online and offline)
Suggested Readings	Using R for Introductory Statistics By John Verzani · 2018 An Introduction to Data Analysis in R Hands-on Coding, Data Mining, Visualization and Statistics from Scratch By Alfonso Zamora Saiz, Carlos Quesada González, Lluís Hurtado Gil, Diego Mondéjar Ruiz · 2020

Course Name	Building and Infrastructure Laws
Course Type	Value added course
Course Credit	Non-Credit
Duration	30 hours
Mode of Conduct of the Course	Online
Audience	All UG and PG students
Name of the Course Coordinator	Swagat Dash, Assistant Professor (Law)
About the Course (Maximum 100 words)	This course provides an in-depth understanding of the legal framework governing building construction and infrastructure development in India. It covers the relevant laws, regulations, and policies that impact the planning, design, construction, and maintenance of buildings and infrastructure projects. Students will gain knowledge of key legal aspects, including building codes, land acquisition, environmental regulations, contract laws, and dispute resolution mechanisms specific to India.
Objectives (Maximum 3)	1. Develop a comprehensive understanding of the legal framework governing building construction and infrastructure development in India. 2. Familiarize students with key laws, regulations, and policies related to building construction and infrastructure projects in India. 3. Equip students with the necessary skills to navigate legal challenges, contracts, and dispute resolution mechanisms specific to building construction and infrastructure projects in India.
Course Outcome (Maximum 4)	1. Ability to analyze and interpret building construction laws, regulations, and codes applicable in India. 2. Understanding of the legal considerations and compliance obligations in building construction and infrastructure development. 3. Competence in drafting and reviewing construction contracts, including knowledge of key clauses and provisions. 4. Proficiency in navigating legal challenges, dispute resolution mechanisms, and risk management strategies in the construction industry in India.
Pre-requisite	NA
Course Outline (Maximum 5 Unit)	**Unit 1: Introduction to Building Construction Infrastructure Laws in India** Overview of the legal framework governing building construction

	and infrastructure development Key government agencies and their roles Sources of construction laws in India (Acts, rules, codes, etc.) Understanding the National Building Code of India and its importance Study of the NBC provisions related to building design, construction, and safety Compliance requirements and implications **Unit 2: Development Control Regulations and Environmental Laws and Regulations in Construction** Introduction to Development Control Regulations (DCR) Zoning regulations and land use planning Study of local DCRs and their impact on construction projects Environmental impact assessment and clearance procedures Compliance with environmental laws, including the Environmental Impact Assessment (EIA) Notification, 2006 Sustainable construction practices and green building certifications (LEED, GRIHA, etc.) **Unit 3: Construction Contracts and Agreements and Construction Safety and Occupational Health Laws** Basics of construction contracts in India Types of contracts used in construction projects (EPC, BOT, etc.) Key clauses and provisions in construction agreements Occupational safety and health regulations in construction projects Roles and responsibilities of employers, contractors, and workers Construction safety plans and inspections **Unit 4: Real Estate (Regulation and Development) Act, 2016 (RERA) and Public-Private Partnership (PPP) in Infrastructure Development** Understanding the objectives and provisions of RERA Registration and compliance requirements for real estate projects Buyer rights and remedies under RERA Introduction to PPP models in infrastructure projects Legal and regulatory aspects of PPP projects in India Risk allocation and contractual frameworks in PPP agreements **Unit 5: Dispute Resolution in Construction Projects** Construction disputes and their resolution mechanisms in India Arbitration and alternative dispute resolution methods Case studies of construction dispute resolutions
Pedagogy	(a) Lecture-Based Teaching (b) Case Study Analysis (c) Guest Lectures and Expert Sessions (d) Multimedia Resources and Technology Integration (e) Practical Application Exercises
Suggested Readings	1. OPWD Code, OLR Publication 2. CPWD Code, OLR Publication

	3. CCH's A Practical Guide to Construction & Real Estate by Kirit S. Sanghvi, Wolters Kuller

Course Name	**Land Laws**
Course Type	Value added course
Course Credit	Non-Credit
Duration	30 hours
Mode of Conduct of the Course	Online
Audience	All UG and PG students
Name of the Course Coordinator	Prithivi Raj, Assistant Professor (Law)
About the Course (Maximum 100 words)	Studying land laws is crucial as it enhances legal awareness, protects property rights, promotes social justice, facilitates development, safeguards the environment, and offers professional opportunities. Understanding land laws empowers individuals to navigate complexities, make informed decisions, and advocate for their rights. It ensures fair compensation and rehabilitation for affected communities during land acquisition. Additionally, it enables individuals to engage in sustainable development practices, participate in environmental assessments, and contribute to land conservation efforts. Proficiency in land laws opens up diverse career paths and provides a global perspective on land governance. In summary, studying land laws equips individuals with knowledge that has practical, legal, and societal significance.
Objectives (Maximum 3)	1. To provide students with a comprehensive understanding of the legal framework and principles governing land acquisition, ownership, and use. 2. To familiarize students with the constitutional provisions and legislative acts related to land laws in India. 3. To develop critical thinking and analytical skills in evaluating land-related issues, including property rights, compensation, rehabilitation, and sustainable land management.
Course Outcome (Maximum 4)	4. Students will be able to demonstrate a thorough understanding of the legal provisions and processes involved in land acquisition, ownership, and use. 5. Students will be able to analyze and interpret constitutional provisions and legislative acts pertaining to land laws. 6. Students will be able to evaluate the social, economic, and environmental impacts of land acquisition and propose measures to address any associated challenges. 7. Students will develop the ability to critically assess land-related issues, apply legal principles to real-world scenarios, and propose solutions that consider equitable outcomes and sustainable land management practices.

Pre-requisite	NA
Course Outline (Maximum 5 Unit)	**Unit 1: Introduction to Land Laws** 1.1. Concept of Eminent Domain and Constitutional Amendment of Fundamental Right to Property 1.2. Land Acquisition Rehabilitation & Resettlement Act, 2013- Object, Classification of the Acquisition & applicability of the Act 1.3. Mandatory Consultation, Process of Consultation & Social Impact Assessment 1.4. Preliminary Notification, Objection, Award by Collector, Compensation Provision, Rehabilitation and Resettlement Awards **Unit 2: Land Tenure and Land Reforms** 2.1. Principles of Tenancy , Definitions of Agricultural year, collector, Intermediary, Estate, Khas Possession, Raiyat 2.2. Concept of Consequences of vesting of an estate, Concept of Certain land in khas possession and Occupancy Rights, Service Tenure, Be-Bandobast Proceedings, Issuance of Tenancy Certificates 2.3. Land Reforms- Objective, Definitions, Rights of Raiyat and Prohibition of letting, Eviction of Raiyat, Rights of Tenant, Resumption of the Land for personal cultivation. 2.4 The Process of Conversion of Agricultural Land, Partition among the Co-Sharers, Restriction on alienation of land by S.Cs and S.Ts and effect of the violation , Ceiling area, determination of ceiling area, process of settlement of ceiling surplus land. **Unit 3: Consolidation of Holdings and Prevention of fragmentation Laws** 3.1. Consolidation of holding: Object and reasons, the meaning of consolidation, agriculture land, chaka, consolidation area, fragment 3.2. Preparation of Map and Land Register, Preparation of consolidation scheme, Enforcement of scheme 3.3. Prevention and fragmentation Disposal of Proceeding of Transfer of Land Creating Fragmentation, 3.4. Revision, Closure of consolidation operations, Bar of the jurisdiction of civil court **Unit 4: Survey and Settlement Laws** 4.1. Objective of the Act, Definitions- Agency, Land Owner, Licensed Surveyor, Modern Technology, Recess, Record of Right, Revisional Survey and Settlement 4.2 Special Survey and Settlement, License Surveyor- Grant of License, Duty of the Surveyor, Dereliction duty 4.3. Cancellation of the License. 4.4. Updating the Land Records **Unit 5: Land Acquisition Laws in India** 5.1 Historical perspective: Evolution of land acquisition laws in

	India 5.2 Constitutional provisions: Article 19 and Article 31 of the Indian Constitution 5.3 Land acquisition acts: Review of the Land Acquisition Act, 1894, and the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 5.4 Land acquisition authorities: Role and responsibilities of district collectors, Land Acquisition Officer (LAO), and Rehabilitation and Resettlement Officer (RRO) 5.5 Land acquisition process: Step-by-step overview, including notification, declaration, social impact assessment, and acquisition of land 5.6 Compensation and rehabilitation: Understanding the principles and mechanisms for determining compensation and rehabilitation measures 5.7 Judicial interpretations: Interpreting the constitutional validity and scope of land acquisition laws 5.8 Land acquisition controversies: Discussion on contentious issues surrounding land acquisition, including displacement, tribal rights, and environmental concerns
Pedagogy	(a) Lecture-Based Teaching (b) Case Study Analysis (c) Guest Lectures and Expert Sessions (d) Multimedia Resources and Technology Integration (e) Practical Application Exercises
Suggested Readings	1. Odisha Land Reforms Manual, OJR Publishing House 2. Taxman's New Law Relating to Land Acquisition Rehabilitation & Resettlement, Taxmann Publication 3. Dr. N Maheswara Swamy, Land Laws, Asia Law House 4. Kawal D.P Singh, Land Laws including Land Acquisition and Rent Laws, Satyam Law International

Course Name	Principles of Data Science
Course Type	Value added course
Course Credit	Non-Credit
Duration	30 hours
Mode of Conduct of the Course	Online
Audience	School of Commerce, School of Management (Both UG and PG)
Name of the Course Coordinator	Dr. Manaswini jena
About the Course (Maximum 100 words)	Data science is a multidisciplinary field that uses statistical and computational methods to extract insights and knowledge from data. It comprises a combination of skills and knowledge from numerous fields such as statistics, computer science, mathematics and the domain expertise. The process of data science involves several steps, including data collection, cleaning, exploration, analysis, and interpretation. These steps are often iterative and the process may be refined based on acquired result. Data science is a field that involves using statistical and computational techniques to extract insights and knowledge from data so as to use the data effectively. It includes a wide range of tasks, including data cleaning and preparation, data visualization, statistical modelling and machine learning.
Objectives (Maximum 3)	1. An understanding of basic concepts of Data Mining and the fundamentals of Data Preparation. 2. An introduction to Machine Learning. 3. An introduction to Deep Networks.
Course Outcome (Maximum 4)	CO1: Explain the needs of and Data Mining. CO2: Explain the needs of Data Preparation before analysis. CO3: Explain Artificial Intelligence and Machine Learning theories CO4: Explain the concepts of Deep Networks.

Pre-requisite	1. Concepts of statistics and mathematics
Course Outline (Maximum 5 Unit)	**UNIT1:** **Data Mining**: Introduction to Data, Types of Data, Data Mining Functionalities, Interestingness of Patterns, KDD, Classification of Data Mining Systems, data mining algorithms. **UNIT2:** **Data Preparation and Analysis:** Pre-processing of Data, data cleaning, data integration, data transformation, data reduction, data discretization **UNIT3** **Artificial intelligence:** Artificial Intelligence (AI), Applications, History and Types of AI, Knowledge Based Agent, Knowledge Representation, Knowledge Representation Techniques, Propositional Logic, Rules of Inference Subsets of Artificial Intelligence **UNIT4** **Machine learning:** Learning theory: Supervised, un-supervised, reinforcement learning. Terminologies of Machine learning, Machine learning life cycle. Hypothesis and target class, Inductive bias, Occam's razor, Limitations of inference machines, Approximation and estimation errors. **UNIT5** **Deep Learning**: Artificial Neural Network(ANN), Basic Perceptron model, Different types of ANN, Deep Neural Network, Introduction to CNN and its applications
Pedagogy	Collaborative Learning and Active Learning
Suggested Readings	**Reference Books:**

	1. Jiawei Han, Micheline Kamber, and Jian Pei, “Data Mining Concepts and Techniques”, Third Edition, Elsevier, 2011 2. Simon O. Haykin, Neural Networks and Learning Machines, Pearson Education, 2016 3. C. M. Bishop, Pattern Recognition and Machine Learning, Springer, 2010. 4. Taulli Tom. Artificial Intelligence basics: A non-technical introduction. Apress, 2019. 5. Singh, P. ed., 2022. Fundamentals and Methods of Machine and Deep Learning: Algorithms, Tools, and Applications. John Wiley & Sons.

Computing Fundamentals

Course Name	**Computing Fundamentals**
Course Type	Value added course
Course Credit	Non-Credit
Duration	30 hours
Mode of Conduct of the Course	Online
Audience	School of Commerce, School of Management, School of Journalism and Mass Communication, School of Economics (UG)
Name of the Course Coordinator	Dr. Pradeep K. Tiwari
About the Course (Maximum 100 words)	The Computing Fundamentals course is designed to maximize the value and benefits of using computer technology. It elaborates the computing functionalities, the parts of a computer associated with each of those functions. It covers various aspects of operating systems and multimedia. It helps to understand computer networks, discussing applications of networking, network topologies and types of networks. It will help students gain knowledge about IP addressing, DNS, websites, URLs, HTML, web browsers, and search engines. It also describes the operational guidelines for computer usage, including do's and don'ts, email usage, email etiquettes. Overall, this course provides a comprehensive understanding of operating systems, multimedia, computer networks, the internet, and important guidelines for computer usage in today's digital world.
Objectives (Maximum 3)	1. An understanding of basic of computers and operating system. 2. A basic understanding computer network and internet connectivity. 3. An understanding social interaction through application of internet
Course Outcome (Maximum 4)	CO1: Explain the fundamental concepts of the computer system, computer equipment; both hardware and software CO2: Explain various operating systems CO3: Explain peripheral devices and networking and internet CO4: Explain the terms and various functions associated with internet
Pre-requisite	It is a basic course.

Course Outline (Maximum 5 Unit)	**UNIT1:** **Computer Fundamentals:** Definition and Purpose, Data, Information and Knowledge, Characteristics of Computers, Classification of Computers, Generations of Computer, Basic organization of Computer, System Software and Application Software **UNIT2:** **Operating Systems and Multimedia:** Types of Operating System**,** Windows v/s Linux**,** Mobile based OS**,** Multimedia, Definition and Types**,** Multimedia Software **UNIT3** **Computer Networks:** Applications of Networking, Network Topologies- Mesh, Bus, Star, Ring, Types of Network (LAN, MAN, WAN), Network Cables - Optical Fiber, Twisted, Co-axial, Network Devices- Hubs, Switch, Router, Network Interface Card, Ethernet **UNIT4** **Internet:** Introduction and Usage of Internet, Internet Connectivity Options (Wired and Wireless), IP Addressing and DNS, Website, URL, HTML, Web Browser and Search Engines **UNIT5** **Operational Guideline of Computer Usage:** Do's and Don'ts of Computer, E-mails, Email Etiquettes, Cyber Security, Internet Frauds, Secure Password Formation, Computer Security, Malware, Virus, Ransomware etc., Social Media and its Impact
Pedagogy	Collaborative Learning and Active Learning
Suggested Readings	1. E. Balagurusamy "Fundamentals of Computers" Published by Tata McGraw-Hill Education Pvt. Ltd. 2. P.K.Sinha, "Computers Fundamentals", BPB Publications. 3. R. Thareja, Fundamental of Computer, (1e) Oxford Publications, 2014. 4. K. Atul, Information Technology, (3e) Tata McGraw Hill Publication, 2008.

Principles of Data Science

Course Name	Principles of Data Science
Course Type	Value added course
Course Credit	Non-Credit
Duration	30 hours
Mode of Conduct of the Course	Online
Audience	School of Commerce, School of Management (Both UG and PG)
Name of the Course Coordinator	Dr. Manaswini jena
About the Course (Maximum 100 words)	Data science is a multidisciplinary field that uses statistical and computational methods to extract insights and knowledge from data. It comprises a combination of skills and knowledge from numerous fields such as statistics, computer science, mathematics and the domain expertise. The process of data science involves several steps, including data collection, cleaning, exploration, analysis, and interpretation. These steps are often iterative and the process may be refined based on acquired result. Data science is a field that involves using statistical and computational techniques to extract insights and knowledge from data so as to use the data effectively. It includes a wide range of tasks, including data cleaning and preparation, data visualization, statistical modelling and machine learning.
Objectives (Maximum 3)	4. An understanding of basic concepts of Data Mining and the fundamentals of Data Preparation. 5. An introduction to Machine Learning. 6. An introduction to Deep Networks. 7.
Course Outcome (Maximum 4)	CO1: Explain the needs of and Data Mining. CO2: Explain the needs of Data Preparation before analysis. CO3: Explain Artificial Intelligence and Machine Learning theories CO4: Explain the concepts of Deep Networks.
Pre-requisite	1. Concepts of statistics and mathematics

Course Outline (Maximum 5 Unit)	**UNIT1:** **Data Mining**: Introduction to Data, Types of Data, Data Mining Functionalities, Interestingness of Patterns, KDD, Classification of Data Mining Systems, data mining algorithms. **UNIT2:** **Data Preparation and Analysis:** Pre-processing of Data, data cleaning, data integration, data transformation, data reduction, data discretization **UNIT3** **Artificial intelligence:** Artificial Intelligence (AI), Applications, History and Types of AI, Knowledge Based Agent, Knowledge Representation, Knowledge Representation Techniques, Propositional Logic, Rules of Inference Subsets of Artificial Intelligence **UNIT4** **Machine learning:** Learning theory: Supervised, un-supervised, reinforcement learning. Terminologies of Machine learning, Machine learning life cycle. Hypothesis and target class, Inductive bias, Occam's razor, Limitations of inference machines, Approximation and estimation errors. **UNIT5** **Deep Learning**: Artificial Neural Network(ANN), Basic Perceptron model, Different types of ANN, Deep Neural Network, Introduction to CNN and its applications
Pedagogy	Collaborative Learning and Active Learning
Suggested Readings	**Reference Books:** 1. Jiawei Han, Micheline Kamber, and Jian Pei, "Data Mining Concepts and Techniques", Third Edition, Elsevier, 2011 2. Simon O. Haykin, Neural Networks and Learning Machines, Pearson Education, 2016 3. C. M. Bishop, Pattern Recognition and Machine Learning, Springer, 2010. 4. Taulli Tom. Artificial Intelligence basics: A non-technical introduction. Apress, 2019. 5. Singh, P. ed., 2022. Fundamentals and Methods of Machine and Deep Learning: Algorithms, Tools, and Applications. John Wiley & Sons.