SNDT Women's University, Mumbai

Department of Resource Management

Master of Science

Resource Management & Ergonomics

as per NEP-2020

Syllabus for Semester – III & IV

(2024-25)

UNIVERSITY DEPT. OF RESOURCE MANAGEMENT
S.N.D.T. Women's University
Juhu Road, Santacruz (West),
Mumbai-400 049.

M.Sc. Resource Management & Ergonomics

Postgraduate Program of 2 years:

Year I

SN	Courses	Type of Course	Credits	Marks	Int	Ext
	Semester I					
114611	Fundamentals of Ergonomics & Design (Th)	Major (Core)	4	100	50	50
114612	Human Resource Management (Th)	Major (Core)	4	100	50	50
114613	Work Physiology & Work Study (2+2)	Major (Core)	4	100	50	50
114624	Work Posture and Analysis (Pr)	Major (Core)	2	50	50	0
124611	Consumer Behaviour (Th)	Major (Elective)	4	100	50	50
134611	Research Methodology (Th)	Minor Stream (RM)	4	100	50	50
	End of SEMESTER-I		**22**	**550**	**300**	**250**
	Semester II					
214611	Occupational Health & Safety (2+2)	Major (Core)	4	100	50	50
214612	Industrial Ergonomics (2+2)	Major (Core)	4	100	50	50
214613	Workplace & Environmental Ergonomics (2+2)	Major (Core)	4	100	50	50
214614	Statistics (Th)	Major (Core)	2	50	0	50
224611	Organization Behaviour (Th)	Major (Elective)	4	100	50	50
244641	Internship – Industry/Organization (Pr)	OJT	4	100	50	50
	End of SEMESTER-II		**22**	**550**	**250**	**300**

Exit option: (44 credit) after Three-Year UG Degree

RM & Ergonomics – Semester - III & IV

M.Sc. Resource Management & Ergonomics

Postgraduate Program of 2 years:

Year II

SN	Courses	Type of Course	Credits	Marks	Int	Ext
	Semester III					
314621	Product & Furniture Design (Pr)	Major (Core)	4	100	50	50
314612	Designing for Special Population (Th)	Major (Core)	4	100	50	50
314623	Statistical Computing for Data Analysis (Pr)	Major (Core)	4	100	50	50
314614	Behavioral & Cognitive Ergonomics (Th)	Major (Core)	2	50	0	50
324611	Ergonomics in Everyday Life (Th)	Major (Elective)	4	100	50	50
354621	Research Project (Pr)	RP	4	100	50	50
	End of SEMESTER-III		**22**	**550**	**250**	**300**
	Semester IV					
414621	Technologies & Sustainable Ergonomics (Pr)	Major (Core)	4	100	50	50
414622	Internship (Pr)	Major (Core)	8	200	100	100
424611	Ergonomics for Sports & Leisure (Th)	Major (Elective)	4	100	50	50
454631	Research Project - Dissertation	RP	6	150	100	50
	End of SEMESTER-IV		**22**	**550**	**300**	**250**

Semester III: Product & Furniture Design (Pr)

Major (Core): Product & Furniture Design (Pr)

Subject Code:

Course Description:

This practical course focuses on the design and development of products and furniture, tailored for MSc Interior Design & Ergonomics students. The course covers the entire design process, from conceptualization and sketching to prototyping and final presentation. Emphasis is placed on ergonomics, materials, and sustainable practices, enabling students to create functional, aesthetic, and user-centred designs.

Course Title	**Product & Furniture Design (Pr)**
Course Credits	**4 Credits**
Course Outcomes	After going through the course, learners will be able to
	1. Develop a comprehensive understanding of the product and furniture design process.
	2. Apply ergonomic & design principles to ensure comfort and usability.
	3. Explore and experiment with different materials and fabrication techniques.
	4. Create functional and aesthetically pleasing product and furniture designs.
	5. Produce prototypes and effectively communicate design ideas through presentations.
Module 1: Introduction to Product & Furniture Design	
Learning Outcomes	After learning the module, learners will be able to
	1. Apply design thinking and user-centered design methodologies.
	2. Integrate ergonomic principles into design projects.
Content Outline	• Overview of Product and Furniture Design • Design Thinking and User-Centered Design • History and Evolution of Furniture Design • Ergonomics and Human Factors • Introduction to Design Software (AutoCAD, Google SketchUp)
Module 2: Concept Development and Sketching	
Learning Outcomes	After learning the module, learners will be able to

	1. Develop and refine design concepts through sketching.
	2. Use rapid visualization techniques to communicate ideas & create mood boards
	3. Analyze case studies to understand successful design elements.
Content Outline	• Ideation and Concept Development • Sketching Techniques and Rapid Visualization • Creating Mood Boards and Design Narratives • Form and Function in Design • Case Studies of Iconic Furniture Designs
Module 3: Materials, Techniques, and Prototyping	
Learning Outcomes	After learning the module, learners will be able to
	1. Identify, select and incorporate sustainable materials for product & furniture design.
	2. Apply various fabrication techniques & utilize digital fabrication tools for precision and efficiency to create prototypes.
	3. Develop and test prototypes to refine design concepts.
Content Outline	• Material Selection and Properties • Sustainable Materials and Practices • Fabrication Techniques (Woodworking, Metalworking, Upholstery, etc.) • Digital Fabrication (3D Printing, CNC Milling) • Prototype Development and Testing
Module 4: Final Design and Presentation	
Learning Outcomes	After learning the module, learners will be able to
	1. Refine design concepts & produce detailed technical drawings with specifications based on prototype testing and feedback.
	2. Develop effective design presentation skills.
	3. Present final designs in a professional critique and exhibition setting.
Content Outline	• Refining Design Concepts and Prototypes • Creating Technical Drawings and Specifications • Design Presentation Techniques • Client and Stakeholder Feedback • Final Design Critique and Exhibition

Assessment Pattern:

Assignments/Activities towards Comprehensive Continuous Evaluation (CCE):

For Practical subject Total Marks – 100 (Continuous Assessment)

Module 1: Furniture Design Case study (Marks – 25)
- Research paper on the history of furniture design
- Ergonomic analysis project

Module 2: Sketching project (Marks – 25)
- Concept development sketches
- Mood board and design narrative

Module 3: Prototypes development (Marks – 25)
- Material selection and sustainability report
- Prototype development project

Module 4: Final project and presentations (Marks – 25)
- Technical drawings and specifications
- Final design presentation and critique

References

1. Ambrose, G., & Harris, P. (2011). **Ergonomics in Product Design**. AVA Publishing.

2. Lefteri, C. (2012). **Making It: Manufacturing Techniques for Product Design**. Laurence King Publishing.

3. Lawson, S. (2013). **Furniture Design: An Introduction to Development, Materials, and Manufacturing**. Laurence King Publishing.

Semester III: Designing for Special Populations (Theory)

Major (Core): Designing for Special Populations (Theory)

Subject Code:

Course Description:

This course is tailored for MSc Ergonomics students to explore the principles, theories, and practical applications of designing for special populations within the field of interior design. Special populations include individuals with diverse physical, sensory, cognitive, and emotional needs. Through theoretical studies, case analyses, and design projects, students will gain insights into creating inclusive and accessible interior environments that cater to the unique requirements of special populations from an ergonomic perspective.

Course Title	**Designing for Special Populations (Theory)**
Course Credits	**4 Credits**
Course Outcomes	After going through the course, learners will be able to
	1. Understand the diverse needs and characteristics of special populations relevant to ergonomics.
	2. Explore theoretical frameworks and principles of inclusive design from an ergonomic standpoint.
	3. Analyze case studies and best practices in designing for special populations with a focus on ergonomic considerations.
	4. Apply ergonomic principles to create accessible and user-friendly interior environments for special populations.
	5. Develop sensitivity, empathy, and awareness towards designing for diverse user groups with ergonomic needs.
Module 1 (Credit 1): Understanding Special Populations	
Learning Outcomes	After learning the module, learners will be able to
	1. Explore the ergonomic implications of physical, sensory, cognitive, and emotional disabilities & Socio-cultural perspectives on disability and ergonomics.
	2. Familiarize with legislation and standards governing accessibility and inclusion from an ergonomic standpoint.

	3. Develop empathy and a user-centered design approach towards special populations in ergonomic design.
Content Outline	• Introduction to Special Populations in Ergonomics and Interior Design • Overview of Physical, Sensory, Cognitive, and Emotional Disabilities from an Ergonomic Perspective • Socio-Cultural Perspectives on Disability and Ergonomics • Legislation and Standards for Accessibility and Inclusion in Ergonomics • Empathy and User-Centered Design Approach in Ergonomic Design
Module 2 (Credit 1): Theoretical Frameworks of Inclusive Design from an Ergonomic Perspective	
Learning Outcomes	After learning the module, learners will be able to
	1. Explore the inclusive environments & role of human factors and ergonomics in designing for special populations.
	2. Examine theories of environmental psychology and apply strategies for designing spaces that accommodate aging-in-place and universal accessibility with ergonomic considerations.
	3. Understand the importance of sensory design in creating multi-sensory environments from an ergonomic viewpoint.
Content Outline	• Principles of Universal Design and Inclusive Environments in Ergonomics • Human Factors and Ergonomics in Interior Design for Special Populations • Environmental Psychology and User Behavior from an Ergonomic Viewpoint • Designing for Aging-in-Place and Universal Accessibility with Ergonomic Considerations • Sensory Design and Multi-Sensory Environments in Ergonomic Design
Module 3 (Credit 1): Designing Environments for Special Populations	
Learning Outcomes	After learning the module, learners will be able to
	1. Formulate & Conceptualize design solutions with a user-centered ergonomic approach, incorporating universal design principles.
	2. Develop & Design project for a Special Environment that promote accessibility and inclusion with ergonomic features.
Content Outline	• Residential and Housing Design • Public Spaces and Community Facilities • Workplaces and Educational Environments • Healthcare and Rehabilitation Facilities

	• Transportation and Mobility Solutions
Module 4 (Credit 1): Case Studies and Best Practices in Ergonomic Design for Special Populations	
Learning Outcomes	After learning the module, learners will be able to
	1. Analyze case studies of inclusive design projects targeting special populations from an ergonomic perspective.
	2. Critically assess design solutions for their effectiveness in meeting diverse user needs from an ergonomic standpoint.
	3. Discuss ethical considerations and responsibilities in ergonomic design for special populations & explore strategies for promoting emotional well-being and mental health through ergonomic design.
Content Outline	• Case Studies of Inclusive Interior Design Projects with Ergonomic Considerations • Best Practices in Designing for Special Populations with a Focus on Ergonomics • Analyzing Design Solutions for Accessibility and Inclusion from an Ergonomic Perspective • Ethical Considerations in Ergonomic Design for Special Populations • Designing for Emotional Well-being and Mental Health with Ergonomic Principles

Assessment Pattern:

<u>Assignments/Activities towards Comprehensive Continuous Evaluation (CCE):</u>

Internal Total Marks – 50 (Continuous Assessment)

Module 1: Inclusive Design (Marks – 10)
- Assignment on the importance of inclusive design
- Case study analysis of an inclusive design project

Module 2: Accessibility project (Marks – 15)
- Report on Accessibility compliance
- Design project addressing physical, cognitive, and sensory impairments

Module 3: Design projects (Marks – 10)
- Design proposal for a specific population
- Presentation on multigenerational design strategies

Module 4: Group projects and presentations (Marks – 15)
- Design Project Proposal and Presentation with Ergonomic Emphasis
  - Assistive technology integration project
  - Final inclusive design project and presentation

References

1. Steinfeld, E., & Maisel, J. (2012). **Universal Design: Creating Inclusive Environments**. Wiley.

2. Leibrock, C. (1999). **Design for Dignity: Accessible Environments for People with Disabilities**. Whitney Library of Design.

3. Preiser, W. F. E., & Ostroff, E. (2001). **Universal Design Handbook**. McGraw-Hill Education.

4. Null, R. (2013). **Universal Design: Principles and Models**. CRC Press.

5. Story, M. F., Mueller, J. L., & Mace, R. L. (Eds.). (1998). **The Universal Design File: Designing for People of All Ages and Abilities**. NC State University, The Center for Universal Design.

6. Sanford, J. A. (2012). **Design for the Ages: Universal Design as a Rehabilitation Strategy**. Springer Publishing Company.

7. Pullin, G. (2009). **Design Meets Disability**. MIT Press.

8. Farage, M. A., Miller, K. W., Ajayi, F., & Hutchins, D. (Eds.). (2012). **Designing for Older Adults: Principles and Creative Human Factors Approaches**. CRC Press.

Semester III: Statistical Computing for Data Analysis (Pr)

Major (Core): Statistical Computing for Data Analysis (Pr)

Subject Code:

Course Description:

This practical course is designed for MSc students to gain hands-on experience with statistical software for data analysis. The course focuses on practical application rather than theoretical concepts, equipping students with the skills to analyse and interpret data relevant to the research. Students will work with real-world datasets and learn how to use statistical software tools such as SPSS, R, and Excel to perform data analysis, visualization, and reporting.

Course Title	**Statistical Computing for Data Analysis (Pr)**
Course Credits	**4 Credits**
Course Outcomes	After going through the course, learners will be able to
	1. Develop proficiency in using statistical software tools for data analysis.
	2. Apply statistical techniques to analyze and interpret any data.
	3. Gain practical experience in data visualization and reporting.
	4. Present statistical findings in a clear and professional manner.
	5. Apply statistical methods to solve real-world design & ergonomics research problems.
Module 1 (Credit 1) : Introduction to Statistical Concepts and Software	
Learning Outcomes	After learning the module, learners will be able to
	1. Understand basic statistical concepts & Navigate and use SPSS, R, and Excel for data analysis.
	2. Import and manage data in statistical software & conduct exploratory data analysis to summarize and visualize data.
Content Outline	• Overview of Statistical Concepts (Descriptive and Inferential Statistics)

	• Introduction to Statistical Software (SPSS, R, Excel) • Data Types and Data Entry • Basic Data Manipulation and Cleaning • Exploratory Data Analysis (EDA)
Module 2 (Credit 1) : Descriptive Statistics and Visualization	
Learning Outcomes	After learning the module, learners will be able to
	1. Calculate and interpret measures of central tendency and variability.
	2. Create and analyze frequency distributions and cross-tabulations & use data visualizations
	3. Develop skills in using statistical software to generate descriptive statistics and visualizations.
Content Outline	• Measures of Central Tendency (Mean, Median, Mode) • Measures of Variability (Range, Variance, Standard Deviation) • Frequency Distributions and Histograms • Cross-tabulations and Contingency Tables • Data Visualization Techniques (Charts, Graphs)
Module 3 (Credit 1) : Inferential Statistics and Hypothesis Testing	
Learning Outcomes	After learning the module, learners will be able to
	1. Apply sampling methods and confidence intervals.
	2. Perform hypothesis testing using t-tests, Chi-square tests, and ANOVA & Conduct correlation and regression analysis to examine relationships between variables.
	3. Use statistical software to perform inferential statistical analyses.
Content Outline	• Sampling Methods and Sampling Distributions • Confidence Intervals • Hypothesis Testing (t-tests, Chi-square tests) • Analysis of Variance (ANOVA) • Correlation and Regression Analysis
Module 4 (Credit 1) : Advanced Data Analysis and Reporting	
Learning Outcomes	After learning the module, learners will be able to
	1. Apply multivariate analysis techniques to complex data sets & conduct time series analysis and make forecasts based on data trends.
	2. Use non-parametric methods for data that do not meet parametric assumptions.

	3. Effectively report and interpret statistical results in a professional and scholarly manner.
Content Outline	• Multivariate Analysis Techniques (Factor Analysis, Cluster Analysis) • Time Series Analysis and Forecasting • Non-parametric Methods • Reporting and Interpreting Statistical Results • Presenting Data in Research Papers and Reports

Assessment Pattern:

Assignments/Activities towards Comprehensive Continuous Evaluation (CCE):

For Practical subject Total Marks – 100 (Continuous Assessment)

Module 1: Hands-on software tutorials and exercises (Marks – 25)
- Data entry and cleaning assignment
- Exploratory data analysis project

Module 2: Data visualization project (Marks – 25)
- Descriptive statistics report
- Data visualization assignment

Module 3: Case studies and real-world data analysis projects (Marks – 25)
- Hypothesis testing assignment
- Correlation and regression analysis project

Module 4: Group projects and presentations (Marks – 25)
- Multivariate analysis project
- Final data analysis report and presentation

References

1. Aggarwal, B. M. (2008). **Business statistics** (2nd ed.). Ane Books Pvt. Ltd.
2. Agresti, A., & Finlay, B. (2018). **Statistical Methods for the Social Sciences** (5th ed.). Pearson.
3. Field, A. (2018). **Discovering Statistics Using SPSS** (5th ed.). Sage Publications.
4. Gravetter, F. J., & Wallnau, L. B. (2020). **Essentials of Statistics for the Behavioural Sciences** (10th ed.). Cengage Learning.
5. Gupta, S. C., & Kapoor, V. K. (2014). **Fundamentals of mathematical statistics** (11th ed.). Sultan Chand & Sons.
6. Gupta, S. P. (2018). **Statistical methods** (46th ed.). Sultan Chand & Sons.
7. Nagar, A. L., & Das, R. K. (2003). **Basic statistics** (2nd ed.). Oxford University Press.
8. Heiman, G. W. (2014). **Basic Statistics for the Behavioural Sciences** (7th ed.). Cengage Learning.
9. Moore, D. S., McCabe, G. P., Alwan, L. C., Craig, B. A., & Duckworth, W. M. (2018). **The Practice of Statistics for Business and Economics** (5th ed.). W. H. Freeman.

10. Ram, A. (2016). **Statistics for management** (8th ed.). Vrinda Publications Pvt. Ltd.
11. Sharma, J. K. (2010). **Business statistics** (2nd ed.). Pearson Education India.
12. Srivastava, T. N., & Rego, S. (2008). **Statistics for management** (1st ed.). Tata McGraw-Hill Education.
13. Tamhane, A. C., & Dunlop, D. D. (2000). **Statistics and data analysis: From elementary to intermediate** (1st ed.). Prentice Hall India.
14. Tabachnick, B. G., & Fidell, L. S. (2019). **Using Multivariate Statistics** (7th ed.). Pearson.
15. Triola, M. F. (2018). **Elementary Statistics** (13th ed.). Pearson.
16. Wasserman, L. (2004). **All of Statistics: A Concise Course in Statistical Inference**. Springer.
17. Wickham, H., & Grolemund, G. (2017). ***R for Data Science: Import, Tidy, Transform, Visualize, and Model Data*. O'Reilly Media.**

Semester III: Behavioural & Cognitive Ergonomics (Theory)

Major (Core): Behavioural & Cognitive Ergonomics (Theory)

Subject Code:

Course Description:

This course is tailored for MSc Ergonomics students and focuses on understanding the behavioural and cognitive aspects of human performance within the context of ergonomics. Students will explore theories, principles, and methodologies related to human behaviour, cognition, and interaction with products, systems, and environments. The course aims to provide students with insights into designing ergonomic solutions that optimize human performance, satisfaction, and well-being.

Course Title	**Behavioural & Cognitive Ergonomics (Theory)**
Course Credits	**2 Credits**
Course Outcomes	After going through the course, learners will be able to
	1. Understand the theoretical foundations of behavioral and cognitive ergonomics.
	2. Analyze human factors influencing performance, decision-making, and user experience.
	3. Apply cognitive psychology principles to design intuitive and user-friendly products and systems.
	4. Explore methodologies for assessing cognitive workload, attention, and mental workload.
	5. Develop critical thinking skills for evaluating and improving the ergonomic design of products and environments.
Module 1 (Credit 1): Theoretical Foundations of Behavioral & Cognitive Ergonomics	
Learning Outcomes	After learning the module, learners will be able to
	1. Define behavioral and cognitive ergonomics and their relevance in design.
	2. Understand human information processing and cognitive architecture.

	3. Analyze models of human decision-making and problem-solving.
	4. Explore the role of attention and perception in ergonomic design.
	5. Discuss the significance of mental models in human-computer interaction.
Content Outline	• Introduction to Behavioral & Cognitive Ergonomics • Human Information Processing and Cognitive Architecture • Models of Human Decision-Making and Problem-Solving • Attention and Perception in Ergonomic Design • Mental Models and Human-Computer Interaction
Module 2 (Credit 1): Applications of Behavioral & Cognitive Ergonomics in Design	
Learning Outcomes	After learning the module, learners will be able to
	1. Apply principles of behavioral and cognitive ergonomics to design for user experience and usability.
	2. Conduct cognitive work analysis and task analysis to inform design decisions.
	3. Understand the role of human factors in product design and human-computer interaction.
	4. Apply interface design principles to enhance cognitive ergonomics.
	5. Explore methodologies for evaluating usability and user experience.
Content Outline	• Designing for User Experience and Usability • Cognitive Work Analysis and Task Analysis • Human Factors in Product Design and Human-Computer Interaction • Interface Design Principles for Enhancing Cognitive Ergonomics • Evaluating Usability and User Experience of Products and Systems

Assessment Pattern:

Assignments/Activities towards Comprehensive Continuous Evaluation (CCE):

Internal Total Marks – 50 (Continuous Assessment)

Module 1: Case study (Marks – 25)
- Literature review on theoretical foundations
- Conceptual analysis of a case study

Module 2: Project (Marks – 25)

- Design critique of a product or interface
- Usability evaluation report

References

1. Card, S. K., Moran, T. P., & Newell, A. (1983). **The Psychology of Human-Computer Interaction** (1st ed.). Psychology Press.
2. Dowell, J., & Craig, A. T. (1986). **Cognitive Ergonomics: Understanding, Learning, and Designing Human-Computer Interaction** (1st ed.). Lawrence Erlbaum Associates.
3. Hollnagel, E. (2016). **Cognitive Systems Engineering** (1st ed.). CRC Press.
4. Lee, J. D., Wickens, C. D., Liu, Y., & Boyle, L. N. (2017). **Designing for People: An Introduction to Human Factors Engineering** (3rd ed.). Create Space Independent Publishing Platform.
5. Salvendy, G. (Ed.). (2019). **Handbook of Human Factors and Ergonomics** (5th ed.). Wiley.
6. Vicente, K. J. (1999). **Cognitive Work Analysis: Toward Safe, Productive, and Healthy Computer-Based Work** (1st ed.). Lawrence Erlbaum Associates.

Semester III: Ergonomics in Everyday Life (Theory)

Major (Elective): Ergonomics in Everyday Life (Theory)

Subject Code:

Course Description:

This course is designed for MSc Ergonomics students to explore the principles, theories, and applications of ergonomics in everyday life contexts. Students will investigate how ergonomic design influences various aspects of daily activities, including work, leisure, transportation, and domestic environments. Through theoretical studies, case analyses, and real-world examples, students will develop a comprehensive understanding of how ergonomic principles can improve comfort, safety, and efficiency in everyday life.

Course Title	**Ergonomics in Everyday Life (Theory)**
Course Credits	**4 Credits**
Course Outcomes	After going through the course, learners will be able to
	1. Understand the fundamental principles and theories of ergonomics.
	2. Analyze ergonomic factors influencing daily activities in different contexts.
	3. Apply ergonomic design principles to improve comfort, safety, and efficiency in everyday life settings.
	4. Evaluate the ergonomic suitability of products, environments, and systems encountered in daily life.
	5. Develop critical thinking skills for identifying ergonomic challenges and proposing effective solutions.
Module 1 (Credit 1): Introduction to Ergonomics Principles	
Learning Outcomes	After learning the module, learners will be able to
	1. Define scope of ergonomics and its relevance in various domains.

	2. Explore the historical development of ergonomics as a discipline & understand human factors and ergonomics theories relevant to everyday life.
	3. Apply ergonomic design principles and guidelines to enhance daily activities considering ethics in design
Content Outline	• Definition and Scope of Ergonomics • Historical Overview of Ergonomics • Human Factors and Ergonomics Theories • Ergonomic Design Principles and Guidelines • Ethical Considerations in Ergonomics
Module 2 (Credit 1): Ergonomics in Work Environment	
Learning Outcomes	After learning the module, learners will be able to
	1. Analyze ergonomic factors influencing comfort and productivity in office environments.
	2. Design workstations for sitting & standing to minimize the risk of musculoskeletal disorders (MSD's).
	3. Evaluate the ergonomic suitability of workplace designs to promoting work-life balance and well-being in occupational settings.
Content Outline	• Ergonomics in Office Environments • Designing Workstations for Comfort and Productivity • Preventing Musculoskeletal Disorders (MSDs) in the Workplace • Ergonomic Considerations for Standing and Sitting Tasks • Work-Life Balance and Well-being in Occupational Settings
Module 3 (Credit 1): Ergonomics in Leisure and Transportation	
Learning Outcomes	After learning the module, learners will be able to
	1. Examine & Design ergonomic products for enhanced comfort and usability in leisure and recreation.
	2. Improve comfort and safety in travel and commuting through ergonomic design interventions.
	3. Discuss the ergonomic implications of digital devices and strategies for managing screen time
Content Outline	• Ergonomics in Leisure Activities and Hobbies • Designing Ergonomic Products for Leisure and Recreation • Ergonomic Considerations in Transportation Modes (e.g., Cars, Bicycles) • Improving Comfort and Safety in Travel and commuting • Ergonomics of Digital Devices and Screen Time Management
Module 4 (Credit 1): Ergonomics in Domestic Environments	

Learning Outcomes	After learning the module, learners will be able to
	1. Apply ergonomic principles to improve comfort and functionality in home design and interior spaces.
	2. Ensure child ergonomics and safety in home environments & select ergonomic furniture and equipment suitable for domestic use.
	3. Understand aging-in-place and universal design principles for creating inclusive domestic environments.
Content Outline	• Ergonomics in Home Design and Interior Spaces • Designing Kitchen and Bathroom Ergonomics • Child Ergonomics and Safety in Home Environments • Ergonomic Furniture and Equipment for Domestic use • Aging-in-Place and Universal Design Principles

Assessment Pattern:

<u>Assignments/Activities towards Comprehensive Continuous Evaluation (CCE):</u>

Internal Total Marks – 50 (Continuous Assessment)

Module 1: Assignment & Case study (Marks – 15)
- Written assignment on the history of ergonomics
- Case study analysis of ergonomic design principles

Module 2: Project Presentation (Marks – 10)
- Workplace ergonomic assessment report
- Presentation on work-life balance initiatives

Module 3: Case studies and real-world data analysis projects (Marks – 10)
- Ergonomic product design project
- Case study analysis of transportation ergonomics

Module 4: Group projects and presentations (Marks – 15)
- Home ergonomic assessment and redesign project
- Presentation on aging-in-place and universal design principles

References

1. Bridger, R. S. (2018). **Introduction to Human Factors and Ergonomics** (4th ed.). CRC Press.
2. Dul, J., & Weerdmeester, B. (2008). **Ergonomics for Beginners: A Quick Reference Guide** (3rd ed.). CRC Press.
3. Kroemer, K. H. E., Kroemer, H. B., & Kroemer-Elbert, K. E. (2001). **Ergonomics: How to Design for Ease and Efficiency** (2nd ed.). Prentice Hall.
4. Norman, D. A. (2013). **The Design of Everyday Things** (Revised and expanded ed.). Basic Books

5. Wilson, J. R., & Corlett, E. N. (2005). **Evaluation of Human Work** (3rd ed.). CRC Press.
6. Carayon, P. (Ed.). (2011). **Handbook of Human Factors and Ergonomics in Health Care and Patient Safety** (2nd ed.). CRC Press.

Semester III: Research Project (Pr)

Research Project : Research Project (Pr)

Subject Code:

Course Description:

This course is designed to guide MSc Interior Design students through the process of conducting a comprehensive research project related to interior design. Students will learn how to formulate research questions, design and implement research methodologies, analyse data, and present their findings. The course aims to develop students' research skills and contribute to the body of knowledge in the field of interior design.

Course Title	**Statistical Computing for Data Analysis (Pr)**
Course Credits	**4 Credits**
Course Outcomes	After going through the course, learners will be able to
	1. Develop a research proposal with clear objectives and methodology.
	2. Conduct a literature review and contextualize the research within existing knowledge.
	3. Implement appropriate research methods and collect data.
	4. Analyze data using suitable techniques and tools.
	5. Present research findings in a coherent and scholarly manner.
Module 1: Research Foundations and Proposal Development	
Learning Outcomes	After learning the module, learners will be able to
	1. Develop clear and concise research questions and hypotheses.
	2. Design a research study with appropriate methodology.
	3. Plan & Write a comprehensive research proposal.
	4. Apply ethical principles in research.

Content Outline	• Introduction to Research in Interior Design • Formulating Research Questions and Hypotheses • Research Design and Methodology • Writing a Research Proposal • Ethics in Research
Module 2: Literature Review and Theoretical Framework	
Learning Outcomes	After learning the module, learners will be able to
	1. Conduct a thorough literature review on a chosen topic & Identify gaps and areas for further research.
	2. Develop a theoretical framework to guide the research.
	3. Appropriately cite sources and understand the importance of academic integrity.
	4. Design & Write a coherent literature review section.
Content Outline	• Conducting a Literature Review • Identifying Gaps in Existing Research • Developing a Theoretical Framework • Citing Sources and Avoiding Plagiarism • Writing the Literature Review Section
Module 3: Data Collection and Analysis	
Learning Outcomes	After learning the module, learners will be able to
	1. Apply various data collection methods & design effective tools for data collection.
	2. Collect data systematically and ethically.
	3. Analyze data using appropriate methods and tools
	4. Interpret and present data findings.
Content Outline	• Qualitative and Quantitative Research Methods • Designing Surveys, Interviews, and Observation Protocols • Data Collection Techniques • Data Analysis Methods (Statistical Analysis, Thematic Analysis) • Using Software Tools for Data Analysis (SPSS, R, Excel)
Module 4: Presenting Research Findings and Writing the Research Report	
Learning Outcomes	After learning the module, learners will be able to
	1. Structure report and present research findings clearly and effectively.

	2. Apply visual tools to enhance the presentation of data.
	3. Write logical conclusions and recommendations.
	4. Prepare for and deliver an effective oral presentation during viva voce.
Content Outline	• Structuring the Research Report • Writing the Results and Discussion Sections • Visualizing Data (Charts, Graphs, Tables) • Writing Conclusions and Recommendations • Preparing for Oral Presentations and Viva voce

Assessment Pattern:

Assignments/Activities towards Comprehensive Continuous Evaluation (CCE):

For Practical subject Total Marks – 100 (Continuous Assessment)

Module 1: Research Proposal (Marks – 25)
- Preparation of Research proposal
- Assignment on Ethics in research

Module 2: Review of Literature **(Marks – 25)**
- Collecting review of literature
- Literature review draft

Module 3: Data Collection (Marks – 25)
- Data collection plan
- Data analysis report

Module 4: Research Report (Marks – 25)
- Research report draft
- Final research report
- Oral presentation/Viva voce

References

1. Creswell, J. W., & Creswell, J. D. (2018). **Research Design: Qualitative, Quantitative, and Mixed Methods Approaches** (5th ed.). Sage Publications.
2. Bryman, A. (2016). **Social Research Methods** (5th ed.). Oxford University Press.
3. Babbie, E. R. (2020). **The Practice of Social Research** (15th ed.). Cengage Learning.
4. Yin, R. K. (2018). **Case Study Research and Applications: Design and Methods** (6th ed.). Sage Publications.
5. Saunders, M. N. K., Lewis, P., & Thornhill, A. (2019). **Research Methods for Business Students** (8th ed.). Pearson.
6. Cohen, L., Manion, L., & Morrison, K. (2018). **Research Methods in Education** (8th ed.). Routledge.
7. Neuman, W. L. (2014). **Social Research Methods: Qualitative and Quantitative Approaches** (7th ed.). Pearson.
8. Patton, M. Q. (2015). **Qualitative Research & Evaluation Methods** (4th ed.). Sage Publications.
9. Kothari, C. R. (2004). **Research Methodology: Methods and Techniques** (2nd ed.). New Age International Publishers.
10. Robson, C., & McCartan, K. (2016). **Real World Research** (4th ed.). Wiley.

Semester IV: Technologies & Sustainable Ergonomics (Practical)

Major (Core): Technologies & Sustainable Ergonomics (Practical)

Subject Code:

Course Description:

This course is designed for MSc Ergonomics students focusing on practical applications of technologies and sustainable practices in ergonomics design. Students will explore the integration of advanced technologies and sustainable principles to enhance ergonomic solutions in various domains. Through hands-on projects, case studies, and practical exercises, students will develop proficiency in utilizing technologies for ergonomic assessments, designing sustainable products and systems, and addressing contemporary challenges in ergonomics.

Course Title	**Technologies & Sustainable Ergonomics (Practical)**
Course Credits	**4 Credits**
Course Outcomes	After going through the course, learners will be able to
	1. Apply advanced technologies for ergonomic assessments and interventions.
	2. Integrate sustainable principles into ergonomic design practices.
	3. Evaluate the environmental impact of ergonomic solutions and propose sustainable alternatives.
	4. Utilize digital tools and software for ergonomic analysis, simulation, and visualization.
	5. Develop innovative and sustainable ergonomic solutions for real-world applications.
Module 1 (Credit 1): Introduction to Technologies in Ergonomics	
Learning Outcomes	After learning the module, learners will be able to

	1. Understand the role of technologies in enhancing ergonomics practices.
	2. Explore digital tools and software for ergonomic assessments and interventions.
	3. Discuss the application of wearable technologies for real-time monitoring and feedback.
	4. Examine the use of VR and AR in ergonomic design and training.
	5. Identify assistive technologies and their implications for human-machine interaction.
Content Outline	• Overview of Technologies in Ergonomics • Digital Tools and Software for Ergonomic Assessments • Wearable Technologies for Monitoring and Feedback • Virtual Reality (VR) and Augmented Reality (AR) Applications in Ergonomics • Human-Machine Interaction and Assistive Technologies
Module 2 (Credit 1): Sustainable Ergonomics Principles and Practices	
Learning Outcomes	After learning the module, learners will be able to
	1. Define sustainable ergonomics and its relevance in design practices.
	2. Explore principles and practices of sustainable product design.
	3. Discuss eco-design principles and strategies for reducing environmental impact.
	4. Understand the concepts of circular economy and closed-loop systems.
	5. Identify sustainable materials and manufacturing processes for ergonomic products.
Content Outline	• Introduction to Sustainable Ergonomics • Sustainable Product Design and Lifecycle Assessment • Eco-design Principles and Strategies • Circular Economy and Closed-Loop Systems • Sustainable Materials and Manufacturing Processes
Module 3 (Credit 1): Technologies for Sustainable Ergonomics	
Learning Outcomes	After learning the module, learners will be able to
	1. Explore the integration of technologies and sustainable principles in ergonomic design.

	2. Utilize digital twin and simulation tools for sustainable product development.
	3. Discuss IoT applications in monitoring and optimizing sustainability in ergonomics.
	4. Analyze data using advanced analytics for assessing environmental impact.
	5. Identify smart technologies for enhancing energy efficiency and waste reduction
Content Outline	• Integration of Technologies and Sustainable Principles • Digital and Simulation Tools for Sustainable Design • IoT (Internet of Things) Applications in Sustainable Ergonomics • Data Analytics for Environmental Impact Assessment • Smart Technologies for Energy Efficiency and Waste Reduction
Module 4 (Credit 1): Case Studies and Innovative Solutions	
Learning Outcomes	After learning the module, learners will be able to
	1. Analyze case studies of technologies and sustainable ergonomics applications.
	2. Develop innovative solutions for addressing contemporary ergonomic challenges.
	3. Apply design thinking principles and prototyping techniques to sustainable ergonomics projects.
	4. Pitch and present ergonomic solutions effectively to stakeholders.
Content Outline	• Case Studies of Technologies and Sustainable Ergonomics Applications • Innovative Solutions for Addressing Contemporary Challenges • Design Thinking and Prototyping for Sustainable Ergonomics • Pitching and Presenting Ergonomic Solutions to Stakeholders • Reflection on Learning and Future Directions in Technologies & Sustainable Ergonomics

Assessment Pattern:

<u>Assignments/Activities towards Comprehensive Continuous Evaluation (CCE):</u>

For Practical subject Total Marks – 100 (Continuous Assessment)

Module 1: Assignment &/ Hands-on exercise (Marks – 25)

- Literature review on technologies in ergonomics

- Hands-on exercise using digital tools for ergonomic assessment

Module 2: Case study &/ Project (Marks – 25)
- Article/Research paper on sustainable ergonomics practices
- Design project incorporating sustainable principles

Module 3: Project &/ Report (Marks – 25)
- Design project integrating technologies and sustainable principles
- Data analysis report on environmental impact assessment

Module 4: Case study Report (Marks – 25)
- Case study analysis and presentation
- Final project presentation and reflection

References

1. Biselli, P. M., & Soares, M. (Eds.). (2019). **Technologies for Sustainable Ergonomics**. CRC Press.
2. Chapman, J. (2005). **Sustainable Product Design**. Routledge.
3. Thatcher, A., Yeow, P. H. P., & Moray, N. (2018). **Sustainable Ergonomics: Designing Work Systems for a Sustainable Future**. Springer.
4. Kleiner, B. M., & Sears, J. M. (2011). **Macroergonomics: Theory, Methods, and Applications**. CRC Press.
5. Martin, J. W., & Lave, L. B. (2010). **Design for Environment: A Guide to Sustainable Product Development** (2nd ed.). McGraw-Hill.
6. Robertson, M. M., & Maynard, W. S. (Eds.). (2005). **Sustainable Work Systems: From Design to Action**. Taylor & Francis.

Semester IV: Internship (Pr)

Internship: Internship (Pr)

Subject Code:

Course Description:

The Internship course offers MSc Ergonomics students the opportunity to gain substantial practical experience in the field of interior design through supervised work placements in relevant industries. This extended internship allows students to deepen their understanding of interior design practice, develop advanced skills, and build professional networks. Through hands-on projects and immersive experiences, students will enhance their readiness for career advancement in the interior design profession.

Course Title	**Internship (Pr)**
Course Credits	**8 Credits (240 Hours)**
Course Outcomes	After going through the course, learners will be able to
	1. Apply advanced theoretical knowledge and skills to real-world design projects.
	2. Develop advanced professional skills, work ethics, and leadership qualities.
	3. Establish strong connections and networks within the interior design industry.
	4. Engage in critical reflection and self-assessment to identify areas for continuous improvement and growth.
Module 1: Pre-Internship Preparation and Goal Setting	
Learning Outcomes	After learning the module, learners will be able to
	1. Apply advanced theoretical knowledge and skills to real-world design projects.
	2. Gain extensive practical experience across various aspects of interior design practice.
	3. Develop advanced professional skills, work ethics, and leadership qualities.
	4. Establish strong connections and networks within the interior design industry.
Content Outline	• Defining Personal and Professional Objectives for the Internship

	• Tailoring Resume, Portfolio, and Cover Letter for Placement Opportunities • Researching and Identifying Potential Internship Host Organizations • Developing Effective Networking Strategies • Setting Learning Goals and Expectations for the Internship Experience
Module 2: Immersive Internship Experience	
Learning Outcomes	After learning the module, learners will be able to
	1. Familiarize oneself with the host organization's operations, culture, and projects.
	2. Adopt roles and responsibilities within the internship setting.
	3. Actively participate in real-world design projects and collaborative activities.
	4. Seek mentorship and guidance from experienced supervisors and peers.
Content Outline	• Introduction to the Host Organization's Structure, Culture, and Projects • Understanding Internship Roles, Responsibilities, and Expectations • Engaging in Real-World Design Projects and Collaborative Activities • Applying Advanced Interior Design Concepts, Techniques, and Methodologies • Seeking Mentorship and Professional Guidance from Supervisors and Peers
Module 3: Professional Development and Leadership	
Learning Outcomes	After learning the module, learners will be able to
	1. Develop advanced design and presentation skills for professional settings.
	2. Enhance communication, negotiation, and client management abilities.
	3. Collaborate effectively & manage time, resources, and project deadlines efficiently and responsibly.
	4. Navigate ethical, legal, and regulatory considerations inherent in interior design practice.
Content Outline	• Developing Advanced Design and Presentation Skills • Enhancing Communication, Negotiation, and Client Management Abilities • Leading and Collaborating Effectively within Design Teams • Managing Time, Resources, and Project Deadlines

	• Navigating Ethical, Legal, and Regulatory Considerations in Interior Design Practice
Module 4: Reflective Practice and Career Planning	
Learning Outcomes	After learning the module, learners will be able to
	1. Reflect critically on internship experiences, achievements, and challenges.
	2. Evaluate progress towards initial learning objectives and goals set at the beginning of the internship.
	3. Gather feedback from supervisors, mentors, and peers to inform self-assessment.
	4. Develop a strategic career plan and set actionable goals for future advancement.
Content Outline	• Reflecting on Internship Experiences, Achievements, and Challenges • Evaluating Progress Towards Initial Learning Objectives and Goals • Gathering Feedback from Supervisors, Mentors, and Peers • Identifying Strengths, Weaknesses, and Areas for Professional Growth • Developing a Strategic Career Plan and Setting Future Goals

Assessment Pattern:

<u>Assignments/Activities towards Comprehensive Continuous Evaluation (CCE):</u>

For Practical subject Total Marks – 100 (Continuous Assessment)

Module 1: Internship Pre-preparation (Marks – 25)
- Internship goals and objectives statement
- Updated resume, portfolio, and cover letter submission

Module 2: Progress Mid-Term (Marks – 25)
- Mid-internship progress report and evaluation
- Supervisor feedback and performance evaluation

Module 3: Professional Development (Marks – 25)
- Professional development portfolio showcasing advanced skills
- Leadership and teamwork assessment

Module 4: Classroom Project (Marks – 25)
- Final internship reflection report
- Presentation & Viva voce

References

1. **Department Internship Manual**. (2020).

Semester IV: Ergonomics for Sports & Leisure (Theory)

Major (Elective): Ergonomics for Sports & Leisure (Theory)

Subject Code:

Course Description:

This course is designed for MSc Ergonomics students interested in understanding the application of ergonomic principles to sports and leisure activities. Students will explore the interaction between humans and sports equipment, environments, and facilities, with a focus on optimizing performance, safety, and comfort. Through theoretical studies, case analyses, and practical exercises, students will develop the knowledge and skills necessary to design ergonomic solutions that enhance the sporting experience and promote well-being in leisure activities.

Course Title	**Ergonomics for Sports & Leisure (Theory)**
Course Credits	**4 Credits**
Course Outcomes	After going through the course, learners will be able to
	1. Understand the principles and theories of ergonomics as applied to sports and leisure.
	2. Analyze human factors affecting performance, injury prevention, and comfort in sports and leisure activities.
	3. Apply ergonomic design principles to sports equipment, facilities, and environments.
	4. Evaluate the ergonomic suitability of sports and leisure products and facilities.
	5. Develop critical thinking and problem-solving skills for addressing ergonomic challenges in sports and leisure contexts.
Module 1 (Credit 1): Introduction to Ergonomics for Sports & Leisure	
Learning Outcomes	After learning the module, learners will be able to

	1. Define ergonomics and its relevance to sports and leisure activities.
	2. Identify human factors affecting performance and safety in sports.
	3. Understand the biomechanics of movement and its implications for sports performance.
	4. Apply ergonomic design principles to sports equipment and facilities.
	5. Discuss ethical considerations in the application of ergonomics to sports and leisure.
Content Outline	• Overview of Ergonomics and Its Applications in Sports & Leisure • Human Factors Influencing Performance and Safety in Sports • Biomechanics of Movement and Sports Performance • Ergonomic Design Principles for Sports Equipment and Facilities • Ethical Considerations in Ergonomics for Sports & Leisure
Module 2 (Credit 1): Human-Centered Design in Sports Equipment and Apparel	
Learning Outcomes	After learning the module, learners will be able to
	1. Examine ergonomic design principles for sports equipment and apparel.
	2. Explore materials and technologies used in sports product design.
	3. Consider anthropometric factors in designing sports equipment for athletes.
	4. Evaluate the role of comfort in optimizing performance in sports apparel.
	5. Discuss sustainability and eco-friendly practices in sports product design.
Content Outline	• Ergonomic Design of Sports Equipment and apparel • Materials and Technologies in Sports Product Design • Anthropometric Considerations in Designing for Athletes • Comfort and Performance Optimization in Sports Apparel • Sustainability and Eco-friendly Practices in Sports Product Design
Module 3 (Credit 1): Ergonomics of Sports Facilities and Environments	
Learning Outcomes	After learning the module, learners will be able to

	1. Understand the principles of ergonomic design for sports facilities and venues.
	2. Explore environmental ergonomics in outdoor sports and leisure activities.
	3. Consider safety and accessibility in the design of sports environments.
	4. Identify ergonomic challenges and solutions in extreme sports contexts.
	5. Discuss the importance of user experience and enjoyment in sports and leisure environments
Content Outline	• Designing Ergonomic Sports Facilities and Venues • Environmental Ergonomics in Outdoor Sports and Leisure Activities • Safety and Accessibility Considerations in Sports Environments • Ergonomic Challenges and Solutions in Extreme Sports • User Experience and Enjoyment in Sports and Leisure Environments
Module 4 (Credit 1): Advanced Topics in Sports Ergonomics	
Learning Outcomes	After learning the module, learners will be able to
	1. Explore emerging trends and innovations in sports ergonomics.
	2. Understand ergonomic considerations in e-sports and virtual reality.
	3. Examine strategies for injury prevention and rehabilitation in sports.
	4. Discuss the role of data analytics and technology in optimizing sports performance.
	5. Identify future directions and challenges in sports ergonomics research.
Content Outline	• Emerging Trends and Innovations in Sports Ergonomics • Ergonomic Considerations in E-sports and Virtual Reality • Injury Prevention and Rehabilitation in Sports • Data Analytics and Technology in Sports Performance Optimization • Future Directions and Challenges in Sports Ergonomics Research

Assessment Pattern:

<u>Assignments/Activities towards Comprehensive Continuous Evaluation (CCE):</u>

Internal Total Marks – 50 (Continuous Assessment)

Module 1: Assignment & Case study (Marks – 15)

- Literature review on human factors in sports ergonomics
- Case study analysis of ergonomic design in a sports facility

Module 2: Project Assignment (Marks – 10)

- Design critique of a sports equipment or apparel
- Article/Research paper on sustainable practices in sports product design

Module 3: Case studies and real-world data analysis projects (Marks – 10)

- Design proposal for an ergonomic sports facility or venue
- Case study analysis of user experience in a sports environment

Module 4: Group projects and presentations (Marks – 15)

- Research presentation on an advanced topic in sports ergonomics
- Final exam covering advanced topics in sports ergonomics

References

1. Reilly, T., & Knapik, B. (Eds.). (2003). **Ergonomics in Sport and Physical Activity: Enhancing Performance and Improving Safety**. Routledge.
2. Rasmussen, J. M., & Wickens, C. D. (2014). **Human Factors in Sports, Health, and Performance**. CRC Press.
3. Troup, J. D. G. (1992). **Ergonomics in Sports and Exercise**. Butterworth-Heinemann.
4. Kerr, R. (2003). **Ergonomics and the Design of Sport**. Routledge.
5. Hong, Y. (Ed.). (2013). **International Research in Sports Biomechanics**. Routledge.
6. Bullock, M. I., & Panagiotopoulou, A. (2016). **Handbook of Ergonomics in Sport and Exercise**. Nova Science Publishers.

Semester IV: Research Project – Dissertation

Research Project: Research Project – Dissertation

Subject Code:

Course Description:

The Research Project - Dissertation course is the pinnacle of the MSc Ergonomics program, offering students the opportunity to delve deeply into a topic of their choose within the field of Human Factors & Ergonomics. Under the mentorship of a faculty advisor, students will conceive, execute, and document an extensive research project that contributes to the advancement of knowledge in interior design. This course emphasizes critical analysis, research methodology, and scholarly writing, preparing students for careers in academia, research, or professional practice.

Course Title	**Research Project – Dissertation**
Course Credits	**6 Credits**
Course Outcomes	After going through the course, learners will be able to
	1. Develop a well-defined research question or hypothesis within the scope of interior design.
	2. Design and implement a robust research methodology suitable for investigating the research question.
	3. Collect, analyze, and interpret data using appropriate quantitative or qualitative research methods.
	4. Demonstrate proficiency in scholarly writing, including literature review, methodology description, and results discussion.
Module 1: Research Proposal Development	
Learning Outcomes	After learning the module, learners will be able to
	1. Define a clear and concise research question and objectives.
	2. Conduct a thorough review of existing literature and establish a theoretical framework.
	3. Design an appropriate research methodology and justify methodological choices.
	4. Address ethical considerations and develop a detailed research proposal outlining the research plan and timeline.
Content Outline	• Formulating a Research Question and Objectives • Review of Literature and Theoretical Framework

	• Research Design and Methodology • Ethical Considerations and Institutional Approval • Developing a Comprehensive Research Proposal
Module 2: Data Collection and Analysis	
Learning Outcomes	After learning the module, learners will be able to
	1. Implement data collection techniques and ensure data quality and integrity.
	2. Recruit participants and obtain informed consent in accordance with ethical guidelines.
	3. Manage and analyze collected data using appropriate statistical or qualitative analysis methods.
	4. Interpret research findings derived from quantitative and qualitative data analysis & present data analysis results
Content Outline	• Selection of Data Collection Techniques and Instruments • Participant Recruitment and Informed Consent • Data Management and Quality Assurance • Quantitative Data Analysis Methods • Qualitative Data Analysis Techniques
Module 3: Research Execution and Progress Reporting	
Learning Outcomes	After learning the module, learners will be able to
	1. Execute research activities according to the approved research plan and timeline.
	2. Manage project timelines and milestones effectively to ensure timely progress.
	3. Identify and address challenges encountered & maintain open communication with supervisors and seek guidance as needed.
	4. Prepare and deliver progress reports that document research execution and findings.
Content Outline	• Executing Research Activities According to Plan • Project Management and Timelines • Addressing Challenges and Modifying Research Protocols • Communicating Progress with Supervisors • Preparing and Delivering Progress Reports
Module 4: Data Interpretation and Results Presentation	
Learning Outcomes	After learning the module, learners will be able to
	1. Analyze and interpret research findings derived from collected data.
	2. Present research results clearly and effectively through written and oral means.
	3. Utilize data visualization techniques to enhance the presentation of results.
	4. Discuss the implications and limitations of the study findings.
Content Outline	• Analyzing and Interpreting Research Findings • Presenting Results Effectively • Utilizing Data Visualization Techniques

	• Discussing Implications and Limitations of the Study • Drafting the Results Section of the Dissertation
Module 5: Dissertation Writing and Revision	
Learning Outcomes	After learning the module, learners will be able to
	• Structure the dissertation manuscript according to established academic conventions.
	• Demonstrate proficiency in scholarly writing and citation practices.
	• Revise and edit the dissertation draft for clarity, coherence, and academic rigor.
	• Incorporate feedback received from supervisors and peers to improve the quality of the dissertation & submit manuscript.
Content Outline	• Structuring the Dissertation: Introduction, Methodology, Results, Discussion, Conclusion • Academic Writing Style and Citation Practices • Revising and Editing the Dissertation Draft • Incorporating Feedback from Supervisors and Peers • Finalizing the Dissertation for Submission
Module 6: Dissertation Viva Voce and Presentation	
Learning Outcomes	After learning the module, learners will be able to
	• Prepare and deliver a comprehensive dissertation defense presentation that effectively communicates research findings and contributions.
	• Respond confidently and professionally to questions and critiques posed by the examining committee.
	• Reflect on the research journey, including challenges faced, lessons learned, and personal growth experienced throughout the process.
	• On successful completion of the dissertation, acknowledge the support received from mentors, peers, and loved ones.
Content Outline	• Preparing for the Dissertation Defense • Presentation of Research Findings to Examining Committee • Responding to Questions and Critiques • Reflecting on the Research Journey • Celebrating the Completion of the Dissertation

Assignments/Activities towards Comprehensive Continuous Evaluation (CCE):

For Practical subject Total Marks – 100 (Continuous Assessment)

Module 1: Research Proposal (Marks – 25)

- Research proposal submission

- Proposal presentation

Module 2: Data collection (Marks – 25)
- Data collection and management plan
- Data analysis report

Module 3: Progress report (Marks – 25)
- Progress report on research execution
- Presentation on research progress

Module 4: Project (Marks – 25)
- Presentation on data interpretation and results
- Results section draft of the dissertation

Module 5: Progress report (Marks – 25)
- Dissertation draft submission
- Peer review and feedback

Module 6: Project (Marks – 25)
- Dissertation viva voce presentation evaluation by the examining committee.
- Responses to questions and critiques during the viva.

References

1. Creswell, J. W., & Creswell, J. D. (2018). **Research Design: Qualitative, Quantitative, and Mixed Methods Approaches** (5th ed.). Sage Publications.
2. Bryman, A. (2016). **Social Research Methods** (5th ed.). Oxford University Press.
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4. Yin, R. K. (2018). **Case Study Research and Applications: Design and Methods** (6th ed.). Sage Publications.
5. Saunders, M. N. K., Lewis, P., & Thornhill, A. (2019). **Research Methods for Business Students** (8th ed.). Pearson.
6. Cohen, L., Manion, L., & Morrison, K. (2018). **Research Methods in Education** (8th ed.). Routledge.
7. Neuman, W. L. (2014). **Social Research Methods: Qualitative and Quantitative Approaches** (7th ed.). Pearson.
8. Patton, M. Q. (2015). **Qualitative Research & Evaluation Methods** (4th ed.). Sage Publications.
9. Kothari, C. R. (2004). **Research Methodology: Methods and Techniques** (2nd ed.). New Age International Publishers.
10. Robson, C., & McCartan, K. (2016). **Real World Research** (4th ed.). Wiley.

SNDT Women's University, Mumbai

BOARD OF STUDIES
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Structure & Syllabus for

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