

#### (Abstract)

Conduct of Value Added Courses (VAC) 2024-'25 in the University Teaching Departments and Centres -Syllabi & Guidelines-Approved -Permission granted- Orders Issued

#### ACADEMIC D SECTION

ACAD D/ACAD D5/14984/2023

Dated: 31.01.2025

#### Read:-1.U.O No .ACAD H/ACAD H3/14984/2023 08.01.2024

- 2. Circular No. ACAD D/ACAD D5/14984/2024 dated:06.12.2024
- 3.Circular(reminder) No. ACAD D/ACAD D5/14984/2024 dated:27.12.2024
- 4.Emails/Letters received from the various Heads of Teaching Depts /Centres forwarding the Syllabus of respective Value Added Courses
- 5.Minutes of the meeting of the Committee constituted to scrutinise and finalise the proposals of Skill Development/Value Added/Add On Courses received from various Departments and also to allot the fund for Courses, held on 23.01.2025
- 6. Email dated:24.01.2025 from Prof(Dr.) Bindhu C.M., Dean, Faculty of Education
- 7. The Orders of Vice chancellor in the File no. ACAD D/ACAD D5/14984/2023 dated 31.01.2025

#### ORDER

- 1.Vide the papers read (2) and (3) above, Proposals were invited from various Teaching Departments/Centres of the University towards the Conduct of Value Added Courses (VAC) for the year 2024-'25.
- 2. Accordingly, as per the paper read (4) above, the HoDs/CDs/ADs of various Teaching Departments/Centres of the University submitted the Proposals for the conduct of Value Added Courses for 2024-'25 academic year.
- 3.Subsequently, the Committee constituted vide paper read (1) above scrutinized the Proposals and vide paper read (5) above finalized the Proposals submitted by 21 Teaching Departments/Centres of the University and also resolved to permit submission of new Proposals on or before 24.01.2025, if required. In tune with this, the Depts of Biotechnology and Microbiology and the Dept. of Molecular Biology submitted fresh Proposals of VACs, as permitted by the Committee.
- 4.As the KUTEC, Kasaragod had submitted two proposals for VAC (2024-25), the Remarks of the Dean, Faculty of Education was sought and the proposal suggested by the Dean was accepted.
- 5. Though the estimated amount in the Proposal submitted by Dept. of Statistical Sciences was above the maximum allocation of Rs.30000/- and that submitted by the Dept. of IT included request for additional allocation of Rs.10000/- for Software License over and above the permissible limit of Rs.30000/-, the Committee, after scrutiny, accepted these two Proposals limiting the maximum allocation to Rs.30000/- only, as stipulated in the Guidelines. The same is applicable in the case of all other Proposals also.

6. The details of the Proposals of the Value Added Courses (VACs) are mentioned below.

School/Department/Centre	Campus	VAC (2024-25)	Course Code
Technology  Mangattuparamba Mobile maste		Full-stack web and Mobile mastery- Practical Perspective	ITE24VA01
Dept. of Statistical Sciences	Mangattuparamba	Transforming Data into Insights : Mastering SPSS for Statistical Analysis	STA24VA01
Dept. of Mathematical Sciences	Mangattuparamba	Creative and Analytical Tools: For proficiency in M.S Office and Canva	MAT24VA01
Dept. of Journalism & Media Studies	Mangattuparamba	Introduction to Academic Writing.	JMS24VA01
Dept. of Wood Science & Technology	Mangattuparamba	Fundamentals of Modular Interior Design	WST24VA01
Centre for Management Studies  SAP Training in Financial Accounting/Sourcing and			CMS24VA01
Dept. of History  Mangattuparamba  Gender, Sexualities and Social Justice		Gender,Sexualities and Social Justice	HIS24VA01
School of Pedagogical Sciences	Dharmasala	Al in Education: Transforming Teaching and Learning	SPS24VA01
KUTEC	Dharmasala	Cyber Safety Practices for Educators	TED24VA01
Dept. of Economics	Palayad	Al and Software Tools for Data Analysis in Economics	ECO24VA01
School of Legal Studies	Palayad	The Art of Print Design and Production with Print Media Writing Techniques	LAW24VA01
School of Chemical Sciences	Payyannur	Artificial Intelligence in Chemistry	CHE24VA01
Dept. of Geography	Payyannur	Disaster Risk Reduction  Measures for Coastal  Zone Resilience	GEO24VA01
Dept. of Music	Payyannur	Marriage Songs (Epithalamium )	MUS24VA01
Dept. of Hindi	Nileswaram	Certificate Course in Translation and Secretarial Practice in Hindi	HIN24VA01
	Dept. of Information Technology  Dept. of Statistical Sciences  Dept. of Mathematical Sciences  Dept. of Journalism & Media Studies  Dept. of Wood Science & Technology  Centre for Management Studies  Dept. of History  School of Pedagogical Sciences  KUTEC  Dept. of Economics  School of Chemical Sciences  Dept. of Geography  Dept. of Music	Dept. of Information Technology  Dept. of Statistical Sciences Mangattuparamba  Dept. of Mathematical Sciences  Dept. of Journalism & Media Studies  Dept. of Wood Science & Technology  Centre for Management Studies  Dept. of History  Mangattuparamba  School of Pedagogical Sciences  KUTEC  Dharmasala  Dept. of Economics  Palayad  School of Legal Studies  Palayad  School of Chemical Sciences  Dept. of Geography  Payyannur  Dept. of Music  Payyannur	Dept. of Information Technology  Dept. of Statistical Sciences  Mangattuparamba  Dept. of Statistical Sciences  Dept. of Statistical Sciences  Mangattuparamba  Mangattuparamba  Dept. of Mathematical Sciences  Dept. of Journalism & Media Studies  Dept. of Wood Science & Technology  Centre for Management Studies  Dept. of History  Mangattuparamba  Sciences  Dept. of History  Mangattuparamba  Mangattuparamba  Mangattuparamba  School of Pedagogical Sciences  Muttec  Dept. of Economics  Palayad  School of Legal Studies  Palayad  Payyannur  Dept. of Geography  Payyannur  Dept. of Hindi  Nileswaram  Full-stack web and Mobile mastery- Practical Perspective  Transforming Data into Insights: Mastering SPSS for Statistical Analysis Creative and Analytical Tools: For proficiency in M.S Office and Canva  Introduction to Academic Writing.  Fundamentals of Modular Interior Design SAP Training in Financial Accounting/Sourcing and procurement/Sales  Gender, Sexualities and Social Justice  Al in Education: Transforming Teaching and Learning  Cyber Safety Practices for Educators  Al and Software Tools for Data Analysis in Economics  The Art of Print Design and Production with Print Media Writing Techniques  Payyannur  Dept. of Geography  Payyannur  Dept. of Geography  Payyannur  Dept. of Music  Payyannur  Dept. of Hindi  Nileswaram  Nileswaram  Nileswaram  Pursulmanamba  Full-stack web and Mobile mastery. Past into Insights: Mastering SPSS for Statistical Analysis and Tools: For proficiency in M.S. Office and Canva  Translation and Secretarial Practice in Translation and Secretarial Practice in

<b>1</b> 6.	Dept. of Commerce and Business Studies	Nileswaram	Sustainable Finance	CBS24VA01
17.	Centre for MBA	Nileswaram	Value Added Course 2025 on Microsoft Power BI	MBA24VA01
18.	KUTEC	Kasaragod	From Busy to Brilliant: Mastering MHT Method for Time Management, Enhanced Productivity and Unstoppable Success	TEK24VA01
19.	Dept. of Management Studies	Thavakkara	Certificate Course in SAP	MGS24VA01
20.	Dept. of Library & Information Science	Thavakkara	Data Analysis using SPSS-Practical	LIS24VA01
21.	Dept. of Physical Education.	Mangattuparamba	Principles of Ergonomics - Injury Prevention in Daily Life	DPE24VA01
22.	Dept. of Bio technology & Microbiology	Palayad	OMICS ANALYSIS USING BIOINFORMATICS	BIO24VA01
23.	Dept. of Molecular Biology	Palayad	Techniques in Molecular Diagnostics	MOB24VA01

- 7. The Vice Chancellor, after considering the matter in detail and in exercise of the powers of the Academic Council conferred under Section 11(1), Chapter III of Kannur University Act 1996 and all other enabling provisions read together with, accorded sanction to Approve and Implement the Syllabus of the various Value Added Courses 2024-'25, along with the respective Course Codes, as detailed in Para 6 above, subject to reporting the same, before the Academic Council.
- 8. Further the Guidelines for conducting the VAC(2024-25), as approved by the Vice Chancellor are as follows.
  - i) Minimum instructional hours shall be 30.
  - ii)Maximum financial allocation shall be Rs.30,000/-(Rupees Thirty Thousand only) to each Department/Centre per Course for the conduct of VAC.
  - iii) No Advance shall be paid for the conduct of the Value Added Courses. Expenditure in this regard shall be paid directly to the 'End Beneficiary', on submission of bills/vouchers.
  - iv) As the Fund towards the Value Added Courses are to be met from the Plan Fund, no fee shall be levied from the Students.
  - v) The Heads of the Departments /Centres are authorized to prepare and keep the Attendance Registers showing 30 hrs and the details of Faculty who conducts the classes.
  - vi) Classes are to be commenced from the 05.02.2025 and to be completed on or before 05-03-2025. The Bills and vouchers, towards the Expenditure in this regard shall be submitted to the University by the HoDs/CDs/ADs concerned on or before 15-

#### 03-2025. No extension of time will be given in this regard.

- vii) Classes shall be conducted in offline/Online/hybrid mode, without affecting the regular Teaching hours.
- viii)The Examinations on the Value Added Courses shall be conducted by the Head of the Department/ADs/CDs concerned.
- ix) The Certificate for Value added Courses shall be issued only in Digital Format and with Digital Signature. The responsibility to issue the Certificates of Value Added Course is vested with the HoDs/CDs/ADs, with the approval of the Department Council concerned.
- x) HoDs/CDs/ADs concerned shall forward the bills and allied documents with a covering letter including the details of classes conducted and Bio-data of the Resource Person(s) who handles the Classes, immediately after the completion of the Course.
- xi) A detailed report of the Courses conducted shall be submitted to the University, including the Students list, class timings, geo-tagged photos of the sessions etc.
- 9. The Web Manager shall take necessary actions to upload the Syllabi of Value Added Course 2024-'25 offered in University Teaching Depts./Centres on the University Website (www.kannuruniversity.ac.in).

Orders are issued accordingly.

Sd/-

## ANIL CHANDRAN R DEPUTY REGISTRAR (ACADEMIC)

For REGISTRAR

To:

- 1. HoDs/CDs/ADs concerned
- 2. Finance Branch
- 3. Examination Branch (Through the PA to CE)

Copy To: 1. PS to VC/PA to PVC/ PA to R/ PA to FO/PA to CE

- 2. EP IV Section/Academic C Section
- 3. JR & All DRs (Exam) DR/ AR (Academic)/Computer Programmer
- 4. Director IT Centre/Web Manager (To upload the Syllabi on the University web Site)
- 5. SF/DF/FC

Forwarded / By Order

SECTION OFFICER



#### VALUE ADDED COURSES

Name of the Department	Information Technology	
Course Name	Full-Stack Web and Mobile Mastery– Practical Perspective	
Course Code	MANUAL ITE 24VAOI	
Duration	30 h	
About the course:	This course is designed to give students a comprehensive understanding of web and mobile application development. The curriculum focuses on essential web technologies such as HTML, CSS, JavaScript, PHP, and Flutter with Dart for mobile application development. Students will gain practical knowledge in API creation using PHP to enable seamless interaction between web and mobile platforms. The course will also cover database management using MySQL and server management using the WAMP Local Server. Real-time deployment and hosting of web and mobile applications will be explored. Through hands-on sessions, students will build robust web and mobile applications, ensuring industry readiness. The course emphasizes tools like Visual Studio Code, Android Studio, and WAMP Server for an enhanced learning experience.	
Course Objectives:	<ol> <li>Provide a comprehensive understanding of web and mobile application development technologies.</li> <li>Equip students with skills to design and develop web applications using HTML, CSS, JavaScript, and PHP.</li> <li>Familiarize students with mobile app development using Flutter and Dart.</li> <li>Teach students to create APIs in PHP for webmobile interaction.</li> <li>Develop skills in database management using MySQL.</li> <li>Introduce server management and real-time hosting techniques.</li> </ol>	

	<ol> <li>Enable students to apply their knowledge to real- world projects.</li> </ol>	
Course Outcomes:	<ol> <li>Provide a comprehensive understanding of web and mobile application development technologies.</li> <li>Equip students with skills to design and develop web applications using HTML, CSS, JavaScript, and PHP.</li> <li>Familiarize students with mobile app development using Flutter and Dart.</li> <li>Teach students to create APIs in PHP for webmobile interaction.</li> <li>Develop skills in database management using MySQL.</li> <li>Introduce server management and real-time hosting techniques.</li> </ol>	
	<ol> <li>Enable students to apply their knowledge to real world projects.</li> </ol>	
Course Content	Module 1: Introduction to Web and Mobile  Development	
	<ul> <li>Overview of Web and Mobile Application         Development     </li> <li>Understanding the Development Life Cycle</li> <li>Tools for Development: Visual Studio Code,         Android Studio, WAMP Server     </li> </ul>	
	Module 2: Web Development Basics	
	<ul> <li>HTML: Structure and Elements</li> <li>CSS: Styling Techniques and Responsive Design</li> <li>JavaScript: Basics and Dynamic Content Manipulation</li> </ul>	
	Module 3: Backend Development with PHP	
	<ul> <li>Introduction to PHP</li> <li>Writing and Managing APIs</li> <li>Connecting PHP with MySQL</li> </ul>	
	Module 4: Database Management	

î

	Introduction to MySQL	
	CRUD Operations	
	Database Optimization and Best Practices	
	Module 5: Mobile Application Development	
	Introduction to Flutter and Dart	
	Building Mobile UIs	
	State Management and Navigation	
	Module 6: Web-Mobile Integration	
	API Communication between Web and Mobile  Applications	
	<ul> <li>Applications</li> <li>Authentication and Data Transfer</li> </ul>	
	Module 7: Server Management and Deployment	
	WAMP Server Setup and Management	
	<ul> <li>Hosting Web Applications</li> </ul>	
	Deploying Mobile Applications to Play Store	
	Module 8: Hands-on Projects and Case Studies	
	Building a Complete Web Application	
	Developing a Mobile Application with Flutter	
	<ul> <li>Integrating Web and Mobile Platforms</li> </ul>	
	Real-Time Hosting and Deployment Exercises	
Tentative list of resource	1.Sumesh K	
persons:	CEO, Ai2Gi, Mizone, Mangattuparamba.	
	2. Sreehari N, Technical Assistant, Dept. Of IT	
	3. Rishna , Technical Assistant, Dept of IT	
Expected Expenditure	Faculty honorarium = Rs. 30000/- (Rs. 1000 per hour)	
	Total Rs. 30,000/-	
	Additional Expense 10,000/- (For software licence)	
	Justification for Additional amount	

The proposed course, "Full-Stack Web and Mobile Mastery – Practical Perspective," is designed to equip students with practical skills in modern application development. Additional funds are required for licenses, hosting services, and other development tools to ensure effective learning and project execution. An additional Rs. 10,000/- may be granted to procure these resources.



# DEPARTMENT OF STATISTICAL SCIENCES KANNUR UNIVERSITY



# **VALUE ADDED COURSE:-2024-25**

#### PROPOSAL

Name of the Department	Department of Statistical Sciences  Transforming Data into Insights: Mastering SPSS for Statistical Analysis	
Course Name		
Course Code	MSSTAVACOS STAZAVAOI	
Duration	40 hours	
About the Course:	This course equips students with practical skills to conduct statistica data analysis using SPSS. With a blend of theoretical understanding and hands-on sessions, the course prepares participants to analyze, interpret and present data effectively.	
Course Objectives	<ul> <li>Statistical Foundations: Build a solid foundation in statistical concepts relevant to SPSS.</li> <li>SPSS Mastery: Gain expertise in using SPSS for data manipulation, analysis, and visualization.</li> <li>Practical Applications: Learn to apply statistical methods to solve real-world problems in various domains.</li> <li>Result Interpretation: Develop skills to interpret and communicate statistical findings.</li> <li>Report Writing: Learn to present data and statistical results professionally.</li> </ul>	
Course Outcomes	After completing the course, students will:  1. Understand essential statistical concepts for data analysis. 2. Use SPSS efficiently for data preprocessing and analysis. 3. Conduct hypothesis testing and advanced statistical analyses. 4. Generate meaningful reports and visualizations to support decision-making.	

#### Module 1: Introduction to SPSS and Data Analysis (5 hours)

Fundamentals of statistical data analysis, Overview of SPSS: Interface, navigation, and features, Importing and managing datasets: CSV, Excel, and database integration.

#### Module 2: Data Management and Preprocessing (6 hours)

Data cleaning techniques: Handling missing values and outliers, Recoding variables, creating new variables, and data transformation, Aggregating, splitting, and restructuring data.

#### Module 3: Descriptive Statistics and Visualization (10 hours)

Descriptive measures: Central tendency, dispersion, and distribution analysis, Exploring data visually: Histograms, pie charts, scatter plots, and box plots, Customizing and exporting graphs for reporting.

# Module 4: Hypothesis Testing and Inferential Statistics (7hours)

Course Content

Concepts of null and alternative hypotheses, Tests of significance: Z-tests, t-tests, chi-square tests, and ANOVA, Post-hoc analysis and interpreting p-values.

### Module 5: Advanced Statistical Techniques (10 hours)

Regression analysis: Linear and multiple regression models Factor analysis and principal component analysis (PCA), Non-parametric tests: Wilcoxon, Kruskal-Wallis, and Mann-Whitney tests, Time series analysis and forecasting basics.

### Module 6: Applications and Case Studies (7 hours)

Real-world problem-solving with SPSS datasets in fields like social sciences, business, and healthcare, Case studies: Marketing surveys, clinical trials, and policy research, Hands-on sessions with practical examples and interpretation.

#### Module 7: Reporting and Visualization (5 hours)

Formatting and generating reports directly from SPSS, Creating summary tables and exporting results, Best practices in presenting and visualizing statistical findings.

Tentative list of resource persons:	Key Resource person
	1. Dr. Drisya M., Assistant Proessor, Govt. Brennen College Thalassery
	2. Dr. Deepthi V., HSST, Govt. Higher Secondary School Uppala
	3. Mr. Jeswin Baby, Research Assistant, Carithas Hospital, Kottaym
	4. 4.Mr. Anurag, Statistical Analysit, Bangalore

### **Budget Estimate**

Item	Cost (₹)
TA/DA for Resource Persons	2,000/-
Remuneration	28,000/-
Printing and Stationery	1,000/-
Total	₹31/,000/-

Marcimum Allocation
Limited to Ro. 20,000/ unly

(Rupees thirty one thousand only)

Kannur-670567

Head of the Separtment
Department of Statistical Sciences
Mangattuparamba Campu
Kannus University, Kannus - 670567



# DEPARTMENT OF MATHEMATICAL SCIENCES KANNUR UNIVERSITY



#### **VALUE ADDED COURSE: 2025-26**

#### **PROPOSAL**

Name of the Department	Department of Mathematical Sciences	
Course Name	Creative and Analytical Tools: For proficiency in MS Office and Canva	
Course Code	MAT2HVA01	
Duration	30 hours	
About the Course:	This course is designed to enhance students' skills in utilizing MS Office and Canva for analytical and creative purposes. It focuses on empowering MSc Mathematics students with the tools to effectively communicate mathematical ideas, prepare visually appealing documents, and analyze data efficiently. The course blends theory and hands-on practice to provide a holistic learning experience.	
Course Objectives	<ul> <li>Proficiency in MS Office: Mastering Word for document preparation, Excel for data analysis, and PowerPoint for presentations.</li> <li>Design Skills with Canva: Developing skills to create professional-quality infographics, posters, and social media content.</li> <li>Integration of Tools: Combining MS Office and Canva to enhance the visual appeal and clarity of mathematical presentations.</li> <li>Problem-Solving: Applying these tools to solve mathematical problems and present solutions effectively.</li> <li>Practical Application: Utilizing skills in academic and professional contexts.</li> </ul>	
Course Outcomes	After completing the course, participants will:     Be proficient in MS Office (Word, Excel, PowerPoint) for document creation and data analysis.	

Dept of Mathematical Sciences, Kannur University | Value added course 2024-25

1

Department of Mathematical Sciences
Kannur University Campus P.O.
Mangattuparamba - 670 567

- Develop skills in Canva for designing creative and visually engaging content.
- Learn to integrate these tools to prepare professionalquality academic reports and presentations.
- Gain hands-on experience in applying tools to mathematical and analytical tasks.
- Enhance their ability to communicate mathematical concepts effectively through visuals and data.

#### Module 1: Introduction to MS Office (8 hours)

Design goals of MS Office, components of MS Office: MS Word, MS Power Point, MS Excel. Basics of Word Processing: - Definition and Advantages, Importance of Word Processing.

Introduction to MS-Word: Menus and shortcut Menus, toolbars and customization, File Operations: Create, Open, Save, Rename, Close, and Manage Multiple Documents. Formatting and Layout: Text and Paragraph Formatting, Styles, Lists, Tables, and Graphics, Spelling, Grammar, and Page Formatting. Advanced Tools: - Macros and Table of Contents.

#### Module 2: Advanced Data Analysis using Excel (8 hours)

#### **Course Content**

Spreadsheet Basics, Customizing Excel Interface. Managing Worksheets: Modifying a Worksheet, Formatting Cells. Formulas and Functions: Creating and Using Formulas, Built-in Functions for Mathematical and Logical Operations. Data Management: Sorting and Filling Data, Organizing Data for Analysis. Data Visualization: Creating Charts and Graphs, Customizing Charts for Effective Representation. Advanced Applications: Mathematical Modelling Using Excel, Page Properties and Printing.

#### Module 3: Effective Presentations with PowerPoint (6 hours)

Principles of Slide Design, Layout and Color Schemes. Creating Presentations: Using the auto content Wizard, creating a Presentation from a Template, designing a Blank Presentation, Opening and Modifying Existing Presentations. Working with Slides: Understanding Auto Layout, Screen Layout Views, Adding and Organizing Slides, Incorporating Text and Graphics. Enhancing Presentations: Embedding Mathematical Content, Adding Animations and Slide Effects, Creating Dynamic and Interactive Presentations. Advanced Design Features: Using Master Slides for

Dept of Mathematical Sciences, Kannur University | Value added course 2024-25

Department of Mathematical Sciences Kannur University Campus P.O. Mangattuparamba - 670 567

Consistent Design, Customizing Color Schemes. Saving and Printing: Saving Presentations in Various Formats, Printing Slides and Handouts.

#### Module 4: Canva for Creative Design (8 hours)

Introduction to Canva: Setting up Canva on desktop and mobile, technical requirements, Free versus Pro: Benefits and differences, setting up a Canva account. Discovering and Editing Templates: Finding and editing templates, customizing templates: Colors, images, text, and fonts, Starting and finding your designs, Using lines, shapes, and text effects. Tools and Features for Elements and Images: Adding and editing elements, Adding and editing images. Designing Eye-Catching Graphics: Grouping and aligning elements, adjusting transparency and locking elements, Downloading and Sharing Designs: Downloading designs in different formats, sharing designs and linking to social media, creating clickable links. Printing Your Designs, PDF editing and direct printing through Canva.

Department of Mathematical Sciences
Kannur University Campus P.O.





#### VALUE ADDED COURSES

Name of the Department	Department of Journalism and Media Studies	
Course Name	Introduction to Academic Writing	
Course	(will be given by University)	
Code	JMS 24 VAOI	
Duration	30 h	
About the course:	This course equips learners with key skills in research writing advanced writing techniques, citation management, and MS Office tools. Ideal for students and professionals, it emphasizes practica applications to improve academic and professional writing and presentation capabilities.	
Course Objectives:	To develop proficiency in research writing, citation management, and advanced writing techniques for academic and professional purposes.     To enhance practical skills in using MS Office tools for creating well-structured documents and impactful presentations.	
Course Outcomes:	<ol> <li>Demonstrate the ability to structure and write cohesive research papers and academic documents.</li> <li>Apply advanced writing techniques to craft clear persuasive, and audience-specific content.</li> <li>Effectively use referencing styles and tools to manage citations and avoid plagiarism.</li> <li>Utilize MS Word for professional document formatting and Google Apps for creating impactful presentations.</li> <li>Exhibit improved editing and proofreading skills for refining written content.</li> </ol>	
Course Content	Module 1: Research Writing Skills Module 2: Advanced Writing Styles and Techniques Module 3: Reference Writing and Citation Skills Module 4: Introduction to MS Office and Google Apps for Academic Use	
Students Intake and Mode of Class	30; Online	
Tentative list of	Athira M P	
resource persons:	Muhammad Ashik N P	
	Shahal B	
	Aishwarya Pradeep	

#### **Detailed Syllabus**

Module 1: Research Writing Skills (7 Hours)

1. Basics of Academic Writing (2 hours)- Importance of research writing, Structure of research papers



- 2. Crafting Effective Abstracts, Introductions, and Conclusions (2 hours)
- 3. Literature Review Techniques (2 hours)- Finding credible sources, Summarizing and synthesizing research
- 4. Writing for Different Audiences (1 hour)- Academic, professional, and general styles

Module 2: Advanced Writing Styles and Techniques (8 Hours)

- 1. Developing a Persuasive Writing Style (3 hours)- Argument building and clarity
- 2. Writing Cohesion and Coherence (2 hours)- Linking ideas and maintaining flow
- 3. Editing and Proofreading Strategies (3 hours)- Tools and techniques for refining drafts

Module 3: Reference Writing and Citation Skills (7 Hours)

- 1. Introduction to Referencing Styles (2 hours)- APA, MLA, Chicago, etc.
- 2. Using Reference Management Tools (2 hours)- Zotero, Mendeley, or EndNote
- 3. Avoiding Plagiarism (2 hours)- Paraphrasing and citation techniques
- 4. Quick Referencing Exercises (1 hour)

Module 4: Introduction to MS Office and Google Apps for Academic Use (8 Hours)

- 1. Typography Basics (1 hour)
- 2. MS Word/Google Docs- Document Formatting and Styles (4 hours)
- 3. MS PowerPoint/Google Slides- Designing Effective Presentations (3 hours)

#### Reference Materials

- 1. The Craft of Research by Wayne C. Booth, Gregory G. Colomb, and Joseph M. Williams
- 2. Academic Writing for Graduate Students by John M. Swales and Christine B. Feak
- 3. Academic Writing for Graduate Students by John M. Swales and Christine B. Feak
- 4. Purdue Online Writing Lab (OWL) https://owl.purdue.edu
- 5. Writing with Style: Conversations on the Art of Writing by John R. Trimble
- 6. The Elements of Style by William Strunk Jr. and E.B. White
- 7. Hemingway App (Tool for concise writing) https://hemingwayapp.com
- Cite Right: A Quick Guide to Citation Styles by Charles Lipson
   Publication Manual of the American Psychological Association (APA Manual)
- 10. Zotero User Guide https://www.zotero.org/support/
- 11. Turnitin Blog on Plagiarism Prevention https://www.turnitin.com/blog
- 12. Microsoft Word Step by Step by Joan Lambert
- 13. Microsoft PowerPoint Step by Step by Joan Lambert
- 14. Official Microsoft Support Guides:
- Word: https://support.microsoft.com/word
- PowerPoint: https://support.microsoft.com/powerpoint

These materials provide comprehensive coverage of the topics taught in the course and serve as excellent references for further learning.





### VALUE ADDED COURSE

Name of the Department	DEPARTMENT OF WOOD SCIENCE AND TECHNOLOGY	
Course Name	Fundamentals of Modular Interior design	
Course Code	WST24VA01	
Duration	30 h	
About the course:	Modular design has been employed in many fields of design and manufacturing due to its design flexibility augmentation and waste reduction and ability to develop versatile solutions for sustainable spaces. Individual units can be replaced or reused without affecting the entire system.	
Course Objectives:	To train the students to get a complete idea about the key concepts, materials, and techniques involved in designing flexible, functional, and aesthetically pleasing modular spaces.	
Course Outcomes:	Learners will understand the key concepts, materials, and techniques involved in designing flexible, functional, and aesthetically pleasing modular spaces.	
	Students will get a hands-on experience in designing and implementing modular layouts, residential, commercial, and office settings.	
Course Content	Module 1: Introduction to modular design concepts and the materials and construction techniques. Spatial planning and Layout design. Application of modular interior design in different sectors  Module 2: Application of Design software like SketchUp and AutoCad in modular interior design, Project management and cost estimation	
Tentative list of	Shri Pranav K.V	
resource persons:	Quality control Team lead Livspace, Bangalore	
	Other concerned designers assigned by the industry experts will also to be included other than the chief instructor.	



#### VALUE ADDED COURSES

Name of the Department	Centre for Management Studies, Mangattuparamba
	Campus
Course Name	SAP training in Financial Accounting/Sourcing & Procurement / Sales
Course Code	(will be given by University)
Duration	30 hours
About the course:	As the market leader in enterprise application software, SAP is a the centre of today's business and technology revolution. The innovations in SAP enable more than 413,000 customers worldwide in more than 180 countries to work together more efficiently and use business insights more effectively. SAP helps organizations of all sizes and industries overcome the complexities that plague businesses, jobs, & lives. It provides employment to nearly 95000 employees and has 1600 hiring partners in India like Infosys, TCS Wipro, Capgemini, BOSCH etc. SAP Certification is a passport to a Global Career and it offers one of the highest paid jobs in the IT industry. Each student will have 2 months live server access provided to practice the hands-on experience.
Course Objectives:	<ul> <li>Equip students with hands on training to be better prepared to face the business world</li> <li>Provide effective self learning material which is good reference material</li> <li>Provide opportunity to explore beyond the curriculum</li> </ul>
Course Outcomes:	<ul> <li>Will increase employability for the students in top ranked organizations</li> <li>Will add practical value to the specialisation courses undergone by the students.</li> </ul>
Course Content	SAP S/4 HANA Cloud Public Edition, Financial Accounting. SAP S/4HANA Cloud Public Edition, Sourcing & Procurement SAP S/4HANA Cloud Public Edition, Sales
Tentative list of resource persons:	Mr. Stinu Thomas, Senior SAP S/4 HANA FI & HCM Certified Consultant & Trainer Ph: +91 9544 546406. Email: stinuthomas18@gmail.com Mr.Muhammed Shabeer, SAP MM & SD Functional Consultant Ph: +91 7902927272. email: mshabeerbasheer@gmail.com

Place : Mangattuparamba Date : 13.12.2024

Assistant Director

M.Shyja Karunakaran Assistant Director Centre for Management Studies Mangattuparamba Campus Kannur University



# PROPOSAL FOR VALUE ADDED COURSE DEPARTMENT OF HISTORY

HIS24 VAOI

Title: GENDER, SEXUALITIES AND SOCIAL JUSTICE

Format: Hybrid (Online and Offline classes)

#### Course Objective:

This advanced course delves into the complex and dynamic intersections of gender and sexuality, exploring their social, cultural, and historical constructions, as well as their roles in systems of power, identity, and resistance. Through a combination of lectures, discussions and case studies, students will engage with contemporary debates around the politics of gender and sexuality, the impact of globalization, and the role of media, literature, and pop culture in constructing these identities. Key topics include the evolution of sexual norms, gender fluidity, intersectionality, sexual rights, LGBTQ+ activism, transnational and postcolonial perspectives, and the ethical implications of research in gender and sexuality studies.

#### Course Outcome:

The course will enable the students to analyse and comprehend the key theoretical frameworks and scholarly debates related to gender and sexuality, including feminist, queer, postcolonial, intersectional, and critical race perspectives. It also intends to examine the historical and cultural constructions of gender and sexuality across different societies, understanding the ways in which these categories have evolved and how they intersect with power structures such as race, class, and ability. Upon successful completion, students will possess a deeper, critical understanding of how gender and sexuality shape individual lives and broader societal structures, preparing them for careers in research, NGO activities, policy development, and education.

Sl.No.	Course	Topic	(	Conta	ct		MAR	KS	CREDITS
	Çode		hours/week						
			L	T	P	ESE	CE	TOTAL	E 6.08

1	MAHIS03VAC05	GENDER,	4	0	-	60	40	100	4
		SEXUALITIES							
		AND SOCIAL							
		JUSTICE							

MAHIS03VAC05 - GENDER, SEXUALITIES AND SOCIAL JUSTICE

Module 1 10 hrs

Gender – Key Concepts, Intersectionality, Overview of Global Feminist Movement: Four Waves, Feminism – Basic Concepts and theories

Module 2

Queer Theories – Feminist Schools – Intersections of Race, Class and Caste with Gender – Gender and Human Rights

Module 3 10 hrs

Gender in Ancient, Medieval and Modern India: A brief survey, Gender and the State, Gender and Biopower, Post colonial perspectives on gender

#### READINGS

Simone de Beauvoir, The Second Sex, Random House, 2015.

Betty Friedan, The Feminine Mystique, W W Norton & Company, 2013.

Gerda Lerner, The Creation of Patriarchy, Oxford University Press, 1987.

Judith Butler, Gender Trouble: Feminism and the Subversion of Identity, Routledge, 2011.

Bell hooks, Yearning: Race, Gender and Cultural Politics, Routledge, 2014.

Kimberele Crenshaw, On Intersectionality: Essential Writings, New Press, 2024.

Patricia Hill-Collins, Black Feminist Thought: Knowledge, Consciousness and the Politics of Empowerment, Taylor and Francis, 2002.

Gloria Steinem, Outrageous Acts and Everyday Rebellions, Open Road Media, 2012.

V Geetha, Gender, Sthree, 2002.

Uma Chakraborthy, Gendering Caste Through a Feminist Lens, Sthree, 2003.

Anne Fausto-Sterling, "The Five Sexes: Why Male and Female Are Not Enough", The Sciences 33,no. 2 1993

Michel Foucault, *The History of Sexuality, Vol. 1: An Introduction*, Vintage Books, New York, 1990, Introduction and Chapter 1.

Scott, Joan Wallach, Gender and the Politics of History, Columbia University Press, New York, 1999.

Perreau, Bruno, Queer Theory: The French Response, Stanford University Press, 2016.



## KANNUR UNIVERSITY SCHOOL OF PEDAGOGICAL SCIENCES

Kannur University Campus P.O., Dharmasala – 670567 Phone: 0497-2781290 e-mail: spskannuruty@gmail.com

Value Added Course

SPS24VAOI

Course Duration: 30 hours

Course Title: AI IN EDUCATION: TRANSFORMING TEACHING AND LEARNING

#### Course Syllabus

#### **Course Objectives**

By the end of this course, students will:

- Develop an understanding of AI and its applications in education.
- Explore various AI tools and platforms that enhance teaching and learning.
- Design AI-assisted strategies to improve student engagement and learning outcomes.

#### Course Learning Outcomes

Upon successful completion, students will be able to:

- Demonstrate knowledge of AI concepts and their relevance in educational settings.
- Evaluate and select appropriate AI tools for various teaching-learning scenarios.
- Design and implement lesson plans that integrate AI tools to enhance educational outcomes.
- Critically analyze the ethical and pedagogical implications of AI in education.

#### Course Structure

#### Module 1: Fundamentals of AI in Education

(10 Hours)

Introduction to Artificial Intelligence (AI) and Machine Learning (ML). Overview of AI in the education sector: historical context and trends. Role of AI in enhancing personalized learning and adaptive instruction. Key concepts: Natural Language Processing (NLP), Computer Vision, and Data Analytics in Education.

Module 2: AI Tools and Platforms for Educators

(12 Hours)

Survey of AI tools: Learning Management Systems (LMS), adaptive learning platforms, virtual tutors. Hands-on experience with AI tools: ChatGPT, Grammarly, and Khan Academy's AI features. Strategies for integrating AI tools into lesson plans. Evaluating the impact of AI tools on student engagement and learning outcomes.

#### Module 3: Ethical and Pedagogical Considerations in AI Integration

(8 Hours)

Ethical issues in AI: data privacy, bias, and algorithmic transparency. Pedagogical challenges: balancing technology with human interaction. Frameworks for responsible AI use in education. Future directions for AI in education: opportunities and risks.

S/d

Head of the Department School of Pedagogical Sciences



# കണ്ണൂർ KANNUR



# സർവ്വകലാശാല UNIVERSITY

Accredited By NACC with B Grade ടീച്ചർ എഡ്യുക്കേഷൻ സെന്റർ

#### TEACHER EDUCATION CENTRE

TED 24 VAOI

കണ്ണൂർ സർവ്വകലാശാല കൃാമ്പസ് പി.ഒ., ധർമ്മശാല -670 567 Kannur University Campus P.O., Dharmasala-670567

Ph: 04972 784715

email:cddtedsla@kannuruniv.ac.in

KUTEC/DSLA/ Value Added Course/2024

10.12.2024

From

The Course Director

To

The Registrar Kannur University

Sir,

Sub: Kannur University Teacher Education Centre, Dharmasala –submission of proposal for conducting value added course for 2024-25-reg.

Ref: No. ACAD D/ ACAD D5/ 14984/ 2023 dated 06-12-2024

As per the reference cited above, I am submitting herewith the proposal for conducting value added course for 2024-25.

EDUCSTROM CENT

Yours faithfully

Course Director

Encl: 1. Proposal for VAC

# KANNUR UNIVERSITY TEACHER EDUCATION CENTRE DHARMASALA VALUE ADDED COURSE: CYBER SAFETY PRACTICES FOR EDUCATORS

Name of the Department	KANNUR UNIVERSITY TEACHER EDUCATION CENTRE DHARMASLA
Course Name	CYBER SAFETY PRACTICES FOR EDUCATORS
Course Code	TED24VA01
Duration	30 hours
About the Course	This course is designed to equip prospective teachers with essential knowledge and skills to navigate the challenges of the digital age. This course addresses key aspects of Cyber Safety, Cyber Security, including understanding of Cyber threats and various forms of it, implementing secure online practices, safeguarding student data, and promoting responsible digital citizenship. Through hands on activities, real world case studies, and practical tools, participants will learn how to protect themselves and their students in the virtual realm. This course will provide a comprehensive understanding on safe, ethical, and inclusive digital learning environment in educational institutions. It will be useful for their personal and professional career.
Course Objectives	Equip educators with foundational knowledge of cyber safety and digital ethics  Enable prospective teachers to safeguard digital learning environments  Promote responsible and secure technology use in classrooms  Understanding Digital Citizenship
Course Outcomes	On successful completion of the course, the students will be able to  • Understand cyber safety practices to be followed  • Acquire the skills to be practiced in the digital world  • Understand cyber security risks and digital ethics  • Understand about Cyber Laws  • Handle cyber threats in educational environments  • Promote safe and responsible digital behaviour among students  • Promote Digital Citizenship among Educators  • Protect personal and professional data in digital world

Course Content	Module 1: Introduction to Cyber Safety Measures Module 2: Cyber Threats Module 3: Data Protection and Privacy laws Module 4: Cyber Security tools for Educators				
Tentative list of resource persons	Module 5: Incident Response and Reporting  Academicians from various state and Central universities, Trainers and Resource Persons from Cyber Cell of Kerala Police Department				
Mode of Conduct	Hybrid mode				

#### Syllabus

# Module 1: Introduction to Cyber Safety Measures

(5 Hours)

- Overview of Cyber Safety and its importance in the real life
- Need for Cyber safety Practices for Educators
- Safe Internet Practices and Data Privacy
- Ethical responsibilities in Manging Student Data
- Understanding Digital Citizenship and Netiquette

#### Module 2: Cyber Threats

(10 Hours)

- Cyber Threats and its Understanding
- Conventional Crime, Cyber Crime and its forms
- Hacking-Types
- Types of Cyber Threats- Phishing, Malware, Ransomware, etc.
- · Threats in Online classrooms
- Cyber Bullying and Online Harassment
- Intellectual Property Theft
- Telecom Frauds
- · Crimes through social media, Victimization through social media

# Module 3: Data Protection and Privacy laws

(4 Hours)

- Basics of Data Protection and Privacy Laws
- National Cyber Security Policy
- Understanding Privacy Policies of Educational Apps and Platforms
- Ensuring Security in Virtual classrooms
- Understanding Cyber Criminal Behaviour

# Module 4: Cyber Security tools for Educators

(7 Hours)

 Overview of Tools for Cyber Security: Antivirus, VPNs, Encrypted Communication, etc.

- Tools for Monitoring and Manging Digital Classrooms
- Device Security
- · Managing BYOD policies in Schools
- Risks of Public WIFI and how to avoid them
- Safe surfing

# Module 5: Incident Response and Reporting

(4 Hours)

- Steps of Cyber Security Breach Response
- Reporting Cyber Crimes: Process and Platforms
- Cyber Security Resources for Educators

#### Task and Assignment

- Analysing Privacy Policies of Educational Apps and Platforms
- Case study on real life Cyber Threats in Schools
- Designing a Cyber Incident Response Plan and preparation of a Report
- · Setting up of Secure Online Accounts

Co Ordinator : Dr Noufal P

Organizing Secretary : Dr Prasida

SCATION CEAVAGE WANNESS AND CONTROL OF THE SEASON OF THE S

TEACHER EDUCATION CELETAL
UNIVERSITY CAMPUS DIAGRASAL
KAMMUR- 570567

# Course Title: AI AND SOFTWARE TOOLS FOR DATA ANALYSIS IN ECONOMICS

Credits: 2 credit

Course Code MAECO03VAC01 ECO24VAO1

Duration 30 Hrs (from 3 January 2024 to 13 January 2024)

#### **Course Description**

This course is an initiative of the Department of Economics, Kannur University to address the Capacity Building in the area of Economic Data Analysis. This programme aims to produce trained professionals for the corporate and academic sector who can effortlessly do secondary data analysis using statistical software. In essence, the major outcome of the course is to develop graduate students fit for modern data analytical jobs and also to mould trained professionals to implement and manage governance projects/policy programmes in a disciplined manner. This course introduces students to the application of Artificial Intelligence (AI) techniques and software tools in economic data analysis. It focuses on equipping students with practical skills to analyze economic datasets, develop models, and interpret results. Topics include the use of AI methods such as machine learning and natural language processing, and the application of popular data analysis tools like Ms. Excel, GRETL, and Python. By the end of the course, students will have hands-on experience working with real-world economic data and deriving insights for economic decision-making.

#### **Learning Objectives**

By the end of the course, students will be able to:

- 1. Understand the fundamental principles of AI and its applications in economics.
- Use popular software tools for data analysis and visualization, including Ms. Excel, GRETL and Python
- 3. Apply machine learning techniques to analyze and predict economic trends.
- Perform text analysis using natural language processing on economic reports and policy documents.
- Interpret and communicate data-driven insights for economic research and policymaking.

#### Course Structure and Schedule

### Module 1: Introduction to AI and Data Analysis Tools (3 hours)

- Overview of AI in economics
- Introduction to various AI tools
- · Basics of economic data (e.g., time series, cross-sectional, panel data)

• Hands-on exercise: Setting up software environments and importing datasets

#### Module 2: Introduction to Data and Causal Inference in Economics (6 hours)

- Database on Indian economy World database
- · Open statistical software for casual interferences
- · Statistical inferences, Estimation and testing of hypothesis
- · Hands-on exercise: Visualizing trends in GDP, inflation, and unemployment data

#### Module 3: Ms. Excel and GRETL (9 hours)

- Introduction to Ms. Excel and GRETL
- · Software installation- Data Management -data manual adding and importing
- · Chart building -bar diagram, multiple bar diagram, pie diagram
- Correlation analysis
- Regression analysis

#### Module 4: Python (9 hours)

- Python Creating and importing data set in Python
- Data management in Python
- analysis of descriptive statistics
- Correlation analysis- Regression analysis- statistical tests

#### Module 5: Case Studies and Applications (3hours)

- · Case studies: AI applications in labor markets, trade, and macroeconomic modeling
- · Group project: Analyzing a real-world economic dataset using AI techniques
- · Presentation of results and discussion

#### Assessment Methods (Total 100 Marks)

- Assignments and Presentation (40 marks): Comprehensive analysis and presentation
  of economic data using AI tools.
- Test (60 marks)

#### Prerequisites

- Basic knowledge of economics (introductory level)
- Familiarity with statistics and probability
- No prior programming experience required, but willingness to learn coding is essential

#### **Expected Outcomes**

By completing this course, students will:

- Gain a foundational understanding of AI applications in economics.
- · Develop hands-on experience in data analysis and visualization.
- Build predictive models and perform text analysis on economic data.
- · Be prepared to leverage AI tools for advanced economic research and analysis.

#### List of resource persons

Dr. V. Shaharban - Associate Professor, and Head, Department of Economics, Kannur University, Dr. Janaki Ammal campus (Module 1, 2 and 5)

Mr. Lukkuman A. P, Assistant Professor, Department of Economics, Kannur University, Dr. Janaki Ammal campus (Module 2 and 5)

Mr. MUHAMMED SHAFI - Assistant Director - ITEC - Kannur University, Dr. Janaki Ammal Campus (Module 4)

Ms.Saranya - Assistant Professor, ITEC, Kannur University, Dr. Janaki Ammal Campus (Module 3)

Mr. Sameen SAP – Technical assistant, ITEC, Kannur University, Dr. Janaki Ammal Campus (Module 3)



KANNUR UNIVERSITY
School of Lega' Studies
Dr. Janaki Amma: Campus
Thalassery, Palayad

SLS/1/H.O.D/2024

Date: 11.12.2024

#### Minutes of the meeting held on 11/12/2024

Agenda:- To approve the syllabus of the value added course.

#### Members present:

1. Dr. Sheena Shukkur (Head of the Department)	S/d
2. Ms.PresennaKumari E.S (Ass.Professor,Regular)	S/d
3. Mrs. Shruthi A K Dasan (Ass.Professor, Contract)	S/d
4. Mrs.Jeeja .B (Ass.Professor, Daily)	S/d
5. Mr. Jishnu (Ass.Professor, Hourly)	S/d
6. Mrs. Nithya (Ass.Professor, Daily)	S/d
7. Dr.Sajina K(Ass.Professor, Hourly)	S/d

#### Resolution:

#### Item No.2:

It has been resolved to approve the syllabus of the value added-certificate course in Journalism-The Art of Print Design and Production with Print Media Writing Techniques for Legal Professionals. It has been decided to conduct the course from 01-01-2025 to 22-01-2025.



Solar.

Head of The Department

Department of Law School of Legal Studies Kannus University Phalassery Campus

Name of the Department	School of Legal Studies,  Department of Law, Palayad
Course Name	The Art of Print Design and Production with Print Media Writing Techniques
Course Code	SLSVACIZOZA LAW 24 YAOI
Duration	30 Hours /
About the Course	This Course is about combines the principles of print design and production with print media writing techniques. Students will learn the fundame stals of design, writing, and production, is well as how to integrate these skills to create effective print media projects.
Course Objectives;	The main goal of this course is to help students  - Understand the principles of print design and production  - Develop print media writing skills, including news, feature, and editorial writing  - Learn how to integrate design and writing skills to create effective print media projects  - Apply design, writing, and production skills to real-worl, print media projects



Course Outcome;	The course will provide the students, gain
	knowledge of print design, production, and
	writing techniques, Develop design, writing,
	and critical tienking skills. Prepare for career
	in print media, advertising, marketing, and
	digital media enhance creative,
	communication, and problem-solving skills.
Course content	Print Design and Production
	Design Fundamentals: Principles of
	design, color theory, typography
	Print Design Principles: Composition     Invent visual biography and flow
	layout, visual hierarchy, and flow
	Graphic Design Software: Adobe     Graphic Solds (Photoshop Illustrator)
	Creative Suite (Photoshop, Illustrator
	InDesign)
	Print Production Processes: Printing
	technologies, paper selection,
	finish ag techniques
	Pre-) ress and Post-Press Operations:
	File preparation, proofing, quality
	control, finishing, and packaging
	Print Media \\Vriting Techniques
	News Writing: Principles of news
	writing, structure, style, and tone
	Feature Writing: Writing feature      Flag and human-interest
	storics, profiles, and human-interest
	pieces Writing editorials.
	Editorial Writing: Writing editorials,     and columns
	opini ans, and columns
	Headline Writing: Crafting effective  William Hitles and captions
	<ul> <li>headlines, titles, and captions</li> <li>Cop, Editing: Principles of copy</li> </ul>
	editing, grammar, punctuation, and
	editirg, grantinar, portection

style

#### Design for Print Media

- Designing for Print Media: Applying design principles to print media writing
- Writing for Design: Writing effective copy for print design projects
- Visual Storytelling: Using images, graphics, and design elements to tell stories
- Print Media Production:
   Coor linating design, writing, and production for print media projects.

Tentative list of Resource persons;

Mr. Muhamized Ashiq N P, Assistant Professor Department of Journalism and Media Studies, Kannur University Campus, Mangattupa. 3mba

Mrs. Athira M.P. Assistant Professor Department of Journalism and Media Studies, Kansur University Campus, Mangattupa amba

Mr. Shahal P Assistant Professor Department of Journalism and Media Studies, Kannur University Campus, Mangattuparamba

Mr.Wassim . affer, Assistant
Professor, Department of
Multimedia, Oriental College of Hotel
Management & Culinary Arts, Vythiri



# KANNUR UNIVERSITY VALUE ADDED COURSES

CHE 24 VAOI

Name of the Departmen	nt   School of Chemical Sciences			
Course Name	Artificial Intelligence in Chemistry			
Course Code	(to be given by University)			
Duration	30hrs /			
About the course:	The field of chemistry is undergoing a revolution due to artificia			
	intelligence (AI). AI can predict reaction result with accuracy			
	regulates chemical selectivity, streamlines synthesis planning			
	speeds up catalyst discovery, stimulates material innovation, an			
	more.			
	This course enables the students with basic knowledge			
	AI to tackle the chemistry problems with rigorous mathematics			
	tools.			
Course Objectives:	The objective of this course is to present the overview of			
	principles and practices of AI to address chemistry related rea			
	world problems. This course is designed to develop a bas			
	understanding of problem solving, knowledge representation			
	reasoning and learning methods of AI.			
Course Outcomes:	On successful completion of this short-term course, a student			
	will be able to:			
	Explain the principles Artificial intelligence and			
	machine learning approaches			
	Develop an idea about data processing			
	techniques.			
	Learn on prediction of reaction result with the aid			
	of AI			
	Apply the skills gained in research and industrial			
	explores.			
	Post Graduates, after doing the course can get into various academy/Industry-based jobs like			
	(i) Technical Assistant (ii) Scientific Assistant			
Course Content	Module 1: Introduction to AI			
	Module 2: Machine Learning			
	Module 3: Data mining techniques			
	Module 4: AI for Chemist (Practical)			

# Tentative list of resource persons:

- Dr. Thasleema T M, Assistant Professor, Department of Computer Science, Central University of Kasargod.
- Dr. Adithya V, Assistant Professor, Department of Computer Science, Central University of Kasargod.
- 3. Dr. Anoop Ayyappan, Professor, School of Digital Science, Digital University, Kerala.
- 4. Dr. N. S. Sreekanth, Associate professor, Department of IT, Kannur University.
- Dr. Ashwani Kumar N, Assistant Professor, Department of Chemistry, Sir Syed College, Taliparamba

Dr.S.Sudheesh

Professor & Head

\$ - Justeesh

School of Chemical Sciences





(NAAC Accredited with B++ Grade)

**DEPARTMENT OF GEOGRAPHY** 

Swami Anandatheertha Campus, Payyanur Edat (P O), Payyanur – 670327. Tel: 04972 806401. e-mail: hodgeography@kannuruniv.ac.in

# VALUE ADDED COURSE 2024-25

Name of the Department	DEPARTMENT OF GEOGRAPHY
Course Name	Disaster Risk Reduction Measures for Coastal Zone Resilience
Course Code	GEO 24 VAOI
About the course	The course provides an in-depth exploration of strategies aimed at enhancing the resilience of coastal areas to natural and man-made hazards. Focusing on disaster risk reduction (DRR), the course equips participants with the knowledge and practical skills necessary to assess, manage, and mitigate risks in coastal zones. Through a combination of theoretical insights and hands-on training, the course aims to prepare individuals for effective disaster management, with a special emphasis on the unique challenges faced by coastal communities. The course covers a wide range of topics, including hazard identification, vulnerability assessment, risk management strategies, and community-based approaches to disaster preparedness.
Course Objectives	<ul> <li>Understand and identify various types of hazards and disasters that affect coastal zones.</li> <li>Analyze and apply the Disaster Management Cycle and DRR Structure in real-world scenarios.</li> <li>Understand the principles and implementation of Early Warning Systems for coastal risk mitigation.</li> <li>Assess social vulnerability factors and their impact on disaster preparedness and response.</li> <li>Utilize HVCR analysis tools to design mitigation strategies.</li> <li>Gain practical experience in fire risks and mitigation measures, including hands-on training with fire-fighting tools.</li> </ul>
Course Outcomes	Upon successful completion of this course,

participants will:

- Be able to identify and categorize hazards and disasters affecting coastal zones.
- Have a clear understanding of the role of social vulnerability in disaster risk and be equipped to address it.
- Be skilled in using HVCR analysis tools to assess and mitigate disaster risks.
- Be knowledgeable about disaster management practices in Kerala and understand emerging challenges in coastal resilience.
- Be able to develop vulnerability profiles for coastal zones, focusing on unique regional challenges.
- Be trained in fire risk mitigation and capable of using fire-fighting tools effectively.
- Be able to create and implement communitybased disaster management plans that are sustainable and inclusive.

## Course Content

Module No.	Theme	Duration	Resource Person
1	Hazards and Disasters	2.00 Hour	Dr. Thara K. G. Former Member SDMA, Kerala
2	Disaster Management Cycle & DRR Structure	3.00 Hours	Shri. G. Padmanabhan Former Emergency Analyst, UNDP, India.
3	Early Warning Systems	3.00 Hours	Dr. S.C. Bhan Scientist E, IMD, New Delhi
4	Social Vulnerability	3.00 hours	Prof. Bashabi Gupta Professor, Department of Geography, Miranda House, University of Delhi
5	HVCR Analysis- Tools and Techniques	3.00 Hours	Dr. Soma Sarkar Assistant Professor, School of Global Affairs, Ambedkar University
6	Disaster management in Kerala and emerging challenges	2.00 Hours	Prof. Sreekumar Chattopadhyay, Former Scientist, NCESS
7	Vulnerability Profile of Coastal Zones of Kerala	3.00 Hours	Shri. John Mathai M. Scientist G(Rtd.), NCESS & Senior

			Consultant
8	Landslide Risk Management Strategy	2.00 Hours	Dr. Hari Kumar Regional Coordinator, Geohazards International
9	Risk Management: Simulation exercise in disaster preparedness	3.00 Hours	NDRF Team
10	Fire Risks and Mitigation Measures and Hands-on Training on Fire Fighting Tools	3.00 Hours	Kerala Fire and Rescue Services
11	Community Based Disaster Management Plan: Principles and Methods	3.00 Hours	Mr. Pradeep G.S. Hazard and Risk Analyst



# DEPARTMENT OF MUSIC: KANNUR UNIVERSITY Swamy Anandathirtha Campus: Edat P.O., Payyanur-670327

No. KU/DMU/UGC/2024-25

Dated 13th December 2024

To

The Registrar Kannur University MUS24VAOI

Ref: 1. Uty Circular No. ACAD D/ACAD D5/14984/2023 Dated 06-12-2024

Subject: Proposal for conducting Value Added course.

Sir.

With reference to Uty Circular No. ACAD D/ACAD D5/14984/2023 Dated 06-12-2024, I am submitting a proposal to conduct value added courses at the Department of Music for kind consideration.

Topic: Marriage songs (Epithalamium)

 Department of Music is proposed to conduct a value added course in the topic-Marriage songs (Epithalamium).

Music is an integral part of any celebration or ceremonies of social life. Songs of various genres are part and parcel of marriage ceremonies of different communities which makes the happy occasion joyful and memorable. This course is intended to provide training in singing marriage songs of various communities both traditional and contemporary. This is a practical (performance) oriented course.

The outcomes of the course are 1. Render traditional and modern marriage songs.

Compose and create new marriage songs.3. Impart training in singing marriage songs.

The Draft budget for the conduct of the course is as follows:

1. Remuneration to the expert(total 30 krs X Rs1000 per hour)

: Rs 30000/= /

TOTAL (Rupees Thirty Thousand Only)

: Rs 30000/=

It is requested that the above proposal for the conduct of Value Added Course may kindly be approved. Syllabus of the course is also attached.

(Dr. Mini N.

Professor & HoD HEAD OF THE DEPARTMENT DEPT. OF MUSIC, KANNUR UNIVERSI SWAMI ANANDA THEERTHA CAMPI EDAT P. O; PAYYANUR

KANNUR, KERALA-670 327



Name of the	Department of Hindi, Dr. P. K. Rajan Memorial Campus,		
Department	Nileshwar.		
Course Name	Certificate Course in Translation and Secretarial Practice		
	in Hindi (Hybrid mode)		
About the Course	The course is useful for a thorough understanding of the functional applications of the language including theoretical and practical phases of translation and secretarial noting and drafting. This will help the students in understanding the importance of translation and secretarial practices in modern socio-cultural and employment sectors.		
Course Objectives	<ol> <li>Understanding the meaning, concept and importance of Translation.</li> <li>Understanding the importance of translation.</li> <li>Train students in effective noting and drafting for employability.</li> <li>To learn and develop skills in Terminology and Technology of Translation.</li> <li>To develop awareness of current issues in Translating Interpreting Translation studies and practice.</li> <li>The course is designed to introduce the wide and vast study of translation, English to Hindi and vice-versa.</li> <li>It also helps to get better opportunities of employment In the field of Translation like Hindi translator, Hindi officer, Hindi Pradhyapak, Rajbhasha Adhikari etc.</li> </ol>		
Course Outcomes			
Course Content	Module 1 Translation: Meaning-Definition-Nature and Scope-Importance of translation in the present world.  Module 2 Principles of translation- Functions of translation-Different forms of translation-The process of translation and the role of translator – source language text- Target language		

	Module 3
	Problems of translation-Problems of literary translation-Problems of scientific and technical translation-Problems of translation in journalism-Problems of commercial and administrative translation-Administrative Noting and Drafting - Letter writing-Technical terminologies in different Fields- Problems of translating Technical terminology-  Module 4  Project work — Translation work based on literature (English to Hindi or Hindi to English to be submitted for
	evaluation at the end of the course.)
Tentative list of	1. Prof.(Dr.) Mohan, Senior Professor &
Resource Persons	Head(Rtd.), Department of Hindi, Delhi University.
	2. Prof.(Dr.) Muraleedharan Pillai,
	Reader&Head(Rtd.),Department of Hindi, Government Brennen College, Thalassery.
	3. Prof. (Dr.) Vinayakumar Yadav, Professor
	andHead, Department of Hindi,Bishop
	Cotton Women's Christian College,
	Bangalore.
	4. Dr. Ram Binod Ray, Assistant Professor,
	Department of Hindi and Comparative
	Literature, Central University of Kerala.
	5. Dr. R Jayachandran, Professor & Director, School of
	Indian Languages University of Kerala
	6. Faculty, Department of Hindi, Kannur University

Sd/-

Head, Department of Hindi



## Department of Commerce and Business Studies

## Value Added Course

Topic: Sustainable Finance

CBS24 VA01

## **Learning Objectives**

- To understand the principles and importance of sustainable finance in global and local contexts.
- To explore the role of financial systems in promoting environmental, social, and governance (ESG) goals.
- To familiarize learners with green bonds, social impact investments, and other sustainable finance instruments.
- To analyze the integration of sustainability into corporate finance and investment strategies.
- To evaluate the challenges and opportunities associated with sustainable financing in various sectors.

## **Learning Outcomes**

On successful completion of the course, the learner will be able to:

- Explain the concept and significance of sustainable finance and its role in driving sustainable development.
- Identify and analyze various sustainable financial instruments and their applications.
- Evaluate ESG factors in decision-making for investments and corporate finance strategies.
- Assess the challenges and risks involved in implementing sustainable finance practices.
- Propose innovative solutions to enhance the adoption of sustainable financial practices in business and policy-making

#### **UnitI: Introduction**

Introduction to Climate Change - Sustainable Development - Sustainability and Finance - Introduction to sustainable finance - Economics of transitioning to a lower carbon future - costs, past trends, emerging opportunities stranded assets - Opportunities and challenges in financing green assets

#### UnitII:GreenInvestment

Green bonds – an introduction and updates on latest developments-The involvement of stock exchanges-Role of stock exchange scan grow green finance and the development –green finance hubs

### UnitIII:GreenAssetsManagement

Development Finance Institutions and Blended Finance-Banking and sustainable asset management-Insurance and climate vulnerability – climate risks mitigation through the insurance sector

## UnitV:ESG&InternationalDevelopments

Concept of environmental, social, and governance (ESG)- International Governance for Climate Change - Climate Finance Opportunity for Financial Institutions - International developments in UNFCCC negotiations on climate finance and other international developments

#### Text&ReferenceBooks:

- $1.\ Dirk Schoenmaker, Willem Schramade, Principles of Sustainable Finance, OUP Oxford publishers$
- 2. HandbookofEnvironmentalandSustainableFinance,ScienceDirect
- 3. SimonThompson, GreenandSustainableFinance: PrinciplesandPractice, KoganPagepublisher



### KANNUR UNIVERSITY

MBA24VAOI

#### CENTRE FOR MBA

## DR PK RAJAN MEMORIAL CAMPUS, NILESHWAR.

## Proposal for Value Added Course- 2025 On Microsoft Power BI

## COURSE CONTENT

## Module - 1

- > Introduction to Power BI
- What is Power BI?
- · Benefits and features.
- · Power BI Desktop, Service, and Mobile Apps.
- · Licensing models (Free, Pro, Premium).
  - Data Sources and Connections
- · Connecting to different data sources (Excel, SQL Server, Web, APIs, etc.).

## Module - 2

- Data Transformation with Power Query
- · Using Power Query Editor.
- Data cleaning and transformation (split, merge, replace, etc.).
- · Creating calculated columns, measures, and tables.
- · Handling errors and missing data.

## Data Modelling

- · Creating relationships between tables
- Understand the business requirements and the key questions your model should answer.
- Plan the necessary tables, relationships, and measures to meet those goals.

## Module - 3

## DAX (Data Analysis Expressions)

- · Introduction to DAX.
- · Common DAX functions (SUM, COUNT, AVERAGE, etc.).
- Time intelligence functions.
- · Calculated measures and KPIs.

#### Data Visualization

• Creating basic visualizations (bar charts, line charts, pie charts, etc.).

- Advanced visuals (scatter plots, tree maps, waterfall charts, etc.).
- Custom visuals and themes.
- Drill-through, slicers, and filters.

## Module-4

## > Interactive Reports

- · Designing dashboards and reports.
- Using bookmarks, buttons, and tooltips for interactivity.
- · Hierarchies and drill-down capabilities.

#### > Power BI Services

· Over view of Power BI Services



## From Busy to Brilliant: Mastering MHT Method for Time Management, Enhanced Productivity and Unstoppable Success

KUTEC, KASARAGOD

Course Duration

30 Hours /

TEK 24 VAOI

#### Course Overview

This value-added course is designed to equip students with effective time management skills using the MHT (Meaning, Habit and Target) method. The course will provide students with practical tools and techniques to prioritize tasks, manage time, achieve goals and implement the MHT Method in daily lives to achieve effective time management. The students will learn how to align our daily tasks with their meaningful goals, create habits that support their productivity, and set targets that help them stay focused.

## **Course Objectives**

- Understand the principles of time management and its importance in academic and professional life.
- 2. Learn the MHT method, its components and its application in time management.
- 3. Develop skills and set SMART goals to prioritize tasks and manage time effectively.
- 4. Develop a habit of setting and achieving targets.
- 5. Create a personalized time management plan using the MHT method.

#### Course Outline

#### Unit I - Introduction to Time Management and MHT Method

Overview of time management and its importance - Introduction to the MHT method - Overview of the MHT Method - Components of the MHT Method: Meaning, Habit, and Target - Benefits of using the MHT Method in goal setting.

## Unit II - Understanding Meaning and Prioritization

Understanding the concept of meaning in time management - Importance of setting meaningful goals - How to identify and set meaningful goals using the MHT Method-Introducing 15 meanings for successful life - Examples of meaningful goals in different contexts - Prioritization techniques using the MHT method.

## Unit III - Building Habits for Time Management

Understanding the role of habits in time management - Importance of habits in achieving goals and supporting productivity - Strategies for building habits using the MHT method - Creating Habits for Success - Strategies for maintaining habits over time.- How to create habits that support meaningful goals.

## Unit IV - Setting Targets and Creating a Schedule

Understanding the importance of setting targets in time management – role of targets in achieving meaningful goals - Setting Targets for Focus and Motivation - How to set targets that support daily tasks and meaningful goals

## Unit V - Overcoming Procrastination and Distractions

Strategies for overcoming procrastination and distractions - Using the MHT method to stay focused and motivated - aligning daily tasks with meaningful goals in different contexts - Strategies for overcoming obstacles and staying motivated

## Unit VI - Implementing and Reviewing the Time Management Plan

Implementing the time management plan using the MHT method - Reviewing and adjusting the plan for continuous improvement - Creating a schedule using the MHT method

## Methodology

The course will be delivered through a combination of lectures, discussions, group activities, and individual exercises.

## **Target Audience**

The course is open to all students who want to improve their time management skills and achieve their academic and professional goals.

#### Assessment

- Participate in a discussion forum to share experiences and insights with the MHT Method.
- Complete a self-assessment quiz to identify current goal-setting strengths and weaknesses.
- 3. Set three meaningful goals using the MHT Method and create a plan to achieve them.
- 4. Create a habit tracker to monitor progress and stay on track

#### Course Materials

- 1. MHT method workbook
- 2. Goal-setting template
- 3. Habit tracker worksheet

## **Assessment Scoring**

- 1. Participation and engagement (20%)
- 2. Individual exercises and assignments (40%)
- 3. Creating a personalized time management plan using the MHT method (30%)
- 4. Quiz and final assessment (10%)

#### Resources

- 1. Atomic Habits by James Clear
- 2. The Power of Habit by Charles Duhigg
- 3. Ikigai by Hector Gracia and Francesc Miralles

#### Certificate

Upon successful completion of the course, participants will receive a certificate of completion.

## Programme Co-Ordinator

Dr. Abeera C A

Assistant Professor

Kannur University Teacher Education Centre

Kasaragod





## VALUE ADDED COURSES - 2024-25

Name of the Department	Department of Management Studies		
Course Name	Certificate Course in SAP		
Course Code	(will be given by University) MGS 24 V901		
Duration	30 hours		
About the course:	This course intends to provide students with skills in using SAP		
Course Objectives:	SAP is a very popular ERP software tool that provides numerous modules for managing all kinds of business functions covering all the aspects of business management. This course is expected to help students to use SAP.		
Course Outcomes:	<ul> <li>provide students with the skills and knowledge needed to work with SAP</li> </ul>		
Course Content	Module I Overview of the Basics of SAP, modules, implementation  Module II		
	SAP HANA – Sales		
	SAP HANA – Sourcing and Procurement		
	Module III		
	SAP HANA – Financial Accounting		
Tentative list of resource	STINU THOMAS & MUHAMMED SHABEER		
persons:	Electromech Enterprises PVT LTD		
	Edappally, Ernakulam.		
Estimated Expenditure	Rs. 30,000/ (For Resource Person)		

Head of the Department
Department of Management Studies



## KANNUR UNIVERSITY DEPARTMENT OF LIBRARY & INFORMATION SCIENCE

Dr. Vysakh C Head of the Department (i/c)

Kannur 670002 Ph: 04972-709075

Thavakkara Campus

Mob: 9744050979

18.12.2024

DLIS/VAC/2024

To

The Registrar, Kannur University

	PID	1	Scad	RD
DPE	KANNUR U	1	W	Fin
SDE	19 DE	3	2024	Exam
IQAC	PF LI	В	RTI	DSS

Sir.

Sub: Proposal for conducting value added course - reg

Ref: ACAD D/ACAD D5/14984/2023 dated 06.12.2024

As per the reference cited above, I am herewith forwarding the proposal of valued added course to be conducted for the academic year 2024-25. Kindly permit to conduct the value added course " Data Analysis using SPSS – Practical" in January 2025. Permission may be granted to invite Dr. Vahida Beegum T, Assistant Professor, Dept. of Library and Information Science, Farook College as resource person for the proposed Value added course.

Thanking you,

Yours faithfully

Head of the Department (i/c)

Dr. Vysakh,C Assistant Professor Dept. of Library & Information Science Kannur University Thavakkara Campus, Kannur - 670002



## VALUE ADDED COURSE

## Name: Data analysis using SPSS-Practical

## Course Description

This course will teach students how to use the IBM SPSS software package for data analysis. This course emphasizes the use of SPSS user-friendly menus with point-and-click functionality utilizing engaging datasets. Additionally, statistics and data visualizationthrough graphs and diagrams are introduced throughout the course.

## Course Objectives

- 1. To introduce SPSS software.
- 2. To discuss the provisions available with SPSS software
- 3. To use the software for statistical analysis
- 4. To use the software for making diagrams and charts.

## **Course Learning Outcomes**

At the end of the Course, the Student will be able to:

- 1. Prepare Google form for making questionnaires
- 2. To install SPSS software
- 3. To carry out statistical tests
- 4. To prepare charts and diagrams in SPSS

## Syllabus (30 hours)

## Module 1 Introduction to data collection (8 hours)

- 1.1 Creating and customising Google form
- 1.2 Data entry and preparation of questions
- 1.3 Multiple choice-check box-drop down
- 1.4 Multiple choice-tick box grid questions

## Module 2 Installation of SPSS (6 hours)

- 2.1 Installation of SPSS-Downloading-installing-Configuration
- 2.2 Data loading in SPSS
- 2.3 Data cleansing in SPSS
- 2.4 Testing normality of data in SPSS

## Module 3 Descriptive statistics and compare means (8 hours)

- 3.1 Frequency and Descriptives
- 3.2 Independent sample T-test
- 3.3 Oneway ANOVA
- 3.4 Mann Whitney U test

## Module 4 Correlation and Regression (8 hours)

- 4.1 Spearman correlation
- 4.2 Pearson correlation
- 4.3 Regression test
- 4.4 Chi-squire test

Dr. Vysakh.C Assistant Professor Dept. of Library & Information Science Kannur University

Thavakkara Campus, Kannur - 670002



## VALUE ADDED COURSE

DPE 24 VAOI

DEPT. OF PHYSICAL EDUCATION & SPORTS SCIENCES

### PRINCIPLES OF ERGONOMICS - INJURY PREVENTION IN DAILY LIFE

Instructional Hours: 30

## COURSE LEARNING OUTCOMES

After completing this course, the students will be able to

- Understand the concept of Human body mechanism and ergonomic practises.
- · Realise the importance of ergonomic corrections.
- Understand Health Risks factors Associated with poor postural habits.
- · Orienting students to lead good ergonomic practises.

## COURSE CONTENTS:

## Unit I: Systems of the Human Body

(6 hours)

- Introduction to human body and body mechanics
- Skeletal system- structure, function, and applied concepts of the skeletal system
- Muscular system- structure, function, and applied concepts of the muscular system
- · Posture-Types, development and postural deformities

## Unit II: Ergonomics in daily life

(10 hours)

- History and principles of ergonomics
- Workplace evaluation: Evaluating and optimizing work environments.
- Computer ergonomics for students: Correct sitting posture and screen use.
- · Correct techniques for lifting, carrying, and pushing objects.
- Understanding Human Walking Patterns and Gait Analysis
- Role of supportive devices (e.g., ergonomic chairs, footwear) in enhancing comfort and safety.

## Unit III: Injury Prevention in Daily Activities (6 hours)

- Common movement patterns leading to injuries.
- Strategies for reducing joint stress in repetitive tasks.
- Techniques to Enhance Balance, Stability, and Fall Prevention.
- Stretching and strengthening exercises for injury prevention.
- Long-term benefits of movement optimization in health and wellness.

## Unit IV: Musculoskeletal Disorders (8 hours)

- Overview of common musculoskeletal disorders (MSD)
- Factors Contributing to MSDs: Workplace, lifestyle, and physical factors.
- Recognizing early signs and symptoms.
- Role of rest, exercise, and physical therapy in MSD recovery.
- Prevention strategies and Management techniques for long-term health.

## REFERENCES:

- 1. Glenda . L., Key . (1995). Industrial therapy. Mosby publishers.
- 2. David C. Alexander. (2020). *Applied ergonomics*. Taylor and Francis group publishers.
- 3. Aydin Tozeren . (2000). Human body dynamics. Springer publishers.
- 4. Waldemer Karwowski. (1999). *International encyclopedia of ergonomics and human factors*. Taylor and Francis Publishers.
- 5. Dul, J., & Weerdmeester, B. (2001). Ergonomics for beginners: A quick reference guide (2nd ed.). Taylor & Francis.





## VALUE ADDED COURSES

Name of the Department	Department Of Biotechnology and Microbiology		
Course Name	OMICS ANALYSIS USING BIOINFORMATICS		
Course Code	(will be given by the University) BIO 24VA 01		
Duration	30 hours		
About the course:	This VAC course provides a comprehensive overview of bioinformatics, its significance, and its applications in modern biology. It begins with an introduction to the field, exploring its role in advancing biological research, biotechnology, and omics studies. The syllabus emphasizes practical skills for students to understand basic omics analysis in DNA and protein sequences.		
Course Objectives:	To provide a fundamental understanding of bioinformatics, focusing on biological databases, sequence alignment, phylogenetics, protein structure prediction, validation, and molecular visualization using advanced computational tools		
Course Outcomes:	The students will be well versed in basic understanding of omics studies. This will enable them to find job prospects in research and pharmaceutical industries and life science companies. students can effectively utilize bioinformatics tools and databases for sequence alignment, phylogenetic analysis, protein structure prediction, validation, and visualization to solve biological research problems and techniques used in life science studies.		
Course Content	Department provides a special syllabus for the value added course on Omics Analysis using Bioinformatics.		
Tentative list of resource persons:	Mr. Ramesh K V     Assistant Professor on Daily wages     Department of Biotechnology and Microbiology.		

## DEPARTMENT OF BIOTECHNOLOGY AND MICROBIOLOGY Dr. JANAKI AMMAL CAMPUS, PALAYAD, KANNUR UNIVERSITY

## VALUE ADDED COURSE - Syllabus

## OMICS ANALYSIS USING BIOINFORMATICS

- 1) Introduction, definition and applications of Bioinformatics in modern times.
- 2) Bioinformatics resources and Genome database :NCBI
- 3) Biological database and various types of classification:
  - a) Primary database
  - b) Secondary database
  - Molecular Structure database: Retrieval of protein structures from PDB database.
     Molecular visualization of proteins.
  - d) Secondary protein sequence database
  - e) Secondary nucleotide sequence database
- 4) Accessing Expasy-Swiss Prot databases
- 5) Various file formats for biomolecular sequences
- 6) Database searching methods
- 7) Sequence alignment method-pairwise and MSA
  - a) BLAST analysis of nucleic acid and protein sequences.
  - b) Protein pair wise alignment EBI EMBOSS tool.
  - c) Multiple alignment of nucleic acids and proteins CLUSTALX
- 8) Phylogenetic analysis:
  - a) Relationship of phylogenetics to sequence alignment, terminology, tree style
- 9) Structure prediction methods
  - Primary structure: Retrieval of protein sequence from UniProtKb File formats.
     Protein sequence characterization PROTPARAM.
  - c) Secondary structure prediction and analysis of unknown protein
  - d) Tertiary structure prediction and analysis: Basic principles and steps
  - e) Validation of protein structures using online tool.
  - f) Structure validation: Generation and Analysis of Ramachandran Plot using PROCHECK
- 10) Structure visualisation and analysis using PyMOL, SPDBV.



## (RE-ACCREDITED BY NAAC WITH B++ GRADE) **DEPARTMENT OF MOLECULAR BIOLOGY**

Dr JANAKI AMMAL CAMPUS PALAYAD P.O., THALASSERY-670661

## VALUE ADDED COURSE 2024-25 (In association with Malabar Cancer Centre, Thalassery)

## "Techniques in Molecular Diagnostics"

Course Code: MOB24VAO1

30 Hours

2 Credits

## **Course Objectives**

- To provide students with theoretical knowledge and practical skills in molecular diagnostic techniques.
- To introduce regulatory standards, laboratory accreditation processes, and Good Manufacturing Practices (GMP).
- To train students in interpreting and reporting molecular diagnostic test results with handson exposure to laboratory techniques.
- To introduce students to molecular tumor boards and their role in patient care.

## Course Learning Outcome

Upon completion of this course, students will

- > Have a thorough understanding of molecular diagnostic principles and techniques.
- ➤ Be proficient in performing and interpreting qPCR, FISH, karyotyping, PCR, and sequencing techniques.
- Understand GMP and accreditation standards for molecular labs.
- > Gain experience in molecular tumor boards and real-world applications of diagnostics.
- Be skilled in preparing and analyzing diagnostic reports.

#### Course Structure

Total Duration: 30 Hours (Theory: 20 Hours; Practical/Lab: 10 Hours)

## Module 1: Introduction and Fundamentals of Molecular Diagnostics

7 hrs

Theory: 5 hrs; Lab: 2 hrs

Introduction to Molecular Diagnostics (2 Hours – Theory): Overview of molecular diagnosis and its applications; Key areas: infectious diseases, oncology, genetic disorders; Role of molecular biology in precision medicine.

Good Laboratory Practices (GLP) in Molecular Diagnosis (2 Hours - Theory): Definition, principles, and importance of GLP in diagnostics; Quality assurance and control in

molecular testing; Examples of GLP-compliant molecular diagnostic processes; Lab structure of molecular diagnosis labs and IVD reagents.

Laboratory Accreditation and Quality Standards (2 Hours – Theory): Overview of ISO 15189 standards for medical laboratories; Accreditation processes for molecular diagnostic labs; Importance of standard operating procedures (SOPs).

Lab Component (1 Hour - Lab): Overview of laboratory setup and GLP-compliant workflows.

## Module 2: Molecular Diagnostic Techniques I

7 hrs

Theory: 5 hrs; Lab: 2 hrs

Real-Time PCR (qPCR) (2 Hours – Theory + 1 Hour – Lab): Principles and applications in molecular diagnostics; Designing primers and probes for qPCR assays; Live demonstration of qPCR analysis in the lab.

Polymerase Chain Reaction (PCR) (1 Hour – Theory + 1 Hour – Lab): Review of PCR and its variants (conventional, multiplex, etc.); Lab session: Running and analyzing PCR results.

Fluorescence In Situ Hybridization (FISH) (2 Hours – Theory): Principles, workflow, and applications in cancer and genetic diagnostics.

## Module 3: Molecular Diagnostic Techniques II

9 hrs

Theory: 7 hrs; Lab: 2 hrs

Karyotyping (2 Hours – Theory + 1 Hour – Lab): Introduction to chromosomal analysis techniques; Lab session: Preparing and analyzing karyotype samples.

Sequencing Techniques (3 Hours – Theory + 2 Hours – Lab): Basics of Sanger sequencing and Next-Generation Sequencing (NGS); Applications in genetic mutation analysis and disease diagnosis; Lab session: Setting up and running sequencing experiments.

Fluorescence In Situ Hybridization (FISH) (1 Hour – Lab): Hands-on session: Hybridization and signal analysis.

## Module 4: Case Studies, Reporting, and Molecular Tumor Boards

7 hrs

Theory: 5 hrs; Lab: 2 hrs

Molecular Tumor Board (MTB) (1 Hour – Theory + Live Session): Structure and role of a molecular tumor board in patient care; Discussion of real-life case studies; Live MTB Session: Students participate in a tumor board to discuss molecular testing results and treatment options.

Interpretation and Reporting of Test Results (1 Hour – Theory + 2 Hours – Lab): Key components of molecular diagnostic reports; Guidelines for interpreting results: sensitivity, specificity, and clinical relevance. Lab session: Preparing and reviewing molecular diagnostic reports from test data.

Real-Time Case Integration (2 Hours – Theory): Applying knowledge to case studies in molecular diagnostics; Collaborative discussion and troubleshooting.

#### Assessment

- Theory: Written test (40%).
- Lab/Practical: (40%).
- Participation: Engagement in the live molecular tumor board session (20%).

The course will be conducted in a hybrid mode (online/offline). A comprehensive written examination will be conducted (offline). Certificates will be issued (in pdf format) after the successful completion of the course.

## **COURSE INSTRUCTORS (Tentative list)**

Sl. No.	Name of the Faculty	Designation and Address
1.	Dr. Deepak Roshan V G	Associate Professor
		Division of Genetics and Cytogenetics
		Malabar Cancer Centre
		Moozhikkara (PO), Thalassery
		Kannur-670 103
		Mobile: 9895780404
		Email: deepakroshanvg@gmail.com
2.	Dr. Vipin Gopinath	Assistant Professor
		Clinical Laboratory Services and
		Translational Research,
		Malabar Cancer Centre
		Moozhikkara (PO), Thalassery
		Kannur-670 103
		Mobile: 9961290035
		Email: gopinath.vipin@gmail.com
3.	Dr. Anupama KP	Assistant Professor
		Department of Molecular Biology
		Kannur University-Dr Janaki Ammal
		Campus, Palayad, Thalassery
		Mobile: 8606103464
	2 2 1 2 2	Email: anupamasivankp@gmail.com
4.	Dr. Sreeja Chellappan	Assistant Professor
		Department of Molecular Biology
		Kannur University-Dr Janaki Ammal
		Campus, Palayad, Thalassery
		Mobile: 9972226815
-	Dr. Arrest Verses C	Email: sreejasoorej@gmail.com
5.	Dr. Arun Kumar G	Assistant Professor
		Department of Molecular Biology
		Kannur University-Dr Janaki Ammal
		Campus, Palayad, Thalassery
		Mobile: 9961034148
		Email: arunkumar@kannuruniv.ac.in

**Budget Estimate: Rs 30,000/-** (An honorarium @Rs 1000/hr will be given to the instructors. External experts will deliver online classes and internal experts in hybrid mode. Lab sessions will be offline. No TA/DA will be provided)

Course Coordinator for VAC 2024-25: Dr. Arun Kumar G

Sd/-

Head, Department of Molecular Biology