

Marian College Kuttikkanam
(Autonomous)



Scheme and Syllabus of
Certificate Course
in
Data Analytics and Visualization

2023 Admissions



Affiliated to Mahatma Gandhi University Kottayam
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P G Board of Studies, Computer Applications, Marian College (Autonomous)

Sl. No	Category of Selection	Name & Designation
01	Chairman	Dr Mendus Jacob, +91 9447053716, mcadirector@mariancollege.org
02	Subject Experts	Mr Winny M Thomas, Vulnerability Researcher, FIRE- EYE, Bangalore, winnymthomas@yahoo.com , +91 988 056 6580
03	Subject Experts	Dr Saji Gopinath, Dean (Academics), IIMK, Calicut, saji@iimk.ac.in , +91 495 280 9421
04	Representative from Industry	Dr Srenivasa Prasad, IT Consultant, Forum of Learning initiatives for placement (FELIP), ESCI Engineering Staff College of India srenivasprasad@gmail.com , +91 800 863 9338
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06	Meritorious Alumnus	Mr Jinse Peter, Java/J2EE/MEAN stack Architect , Cognizant, +91 9746473449, jinse.peter@gmail.com
07	Faculty Member	Mr Win Mathew John, Associate Professor, +91 9447 573 105, win.mathew@mariancollege.org
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17	Nominee of the Vice Chancellor	

REGULATIONS GOVERNING CERTIFICATE COURSE IN DATA ANALYTICS AND VISUALIZATION UNDER THE CREDIT SYSTEM 2023

1. SHORT TITLE

- 1.1 These Regulations shall be called Marian College Kuttikkanam (Autonomous) Regulations of Certificate Course in Data Analytics and Visualization under the Credit System 2023.

2. SCOPE

- 2.1 The regulation provided herein shall apply to Certificate Course in Data Analytics and Visualization, conducted by Marian College Kuttikkanam (Autonomous) with effect from 2023 admissions.

3. TITLE OF THE PROGRAMME

- 3.1 The title of the programme is Certificate Course in Data Analytics and Visualization

4. PROGRAMME STRUCTURE

- 4.1 Students shall be admitted to the Certificate Course in Data Analytics and Visualization under the Faculty of Computer Applications.
- 4.2 **Duration of the Programme:** The Certificate Course shall extend over a period of Six Months.
- 4.3 The medium of instruction and examination shall be English.

5. REGISTRATION

- 5.1 A student shall be permitted to register for the Course at the time of admission.
- 5.2 A student who has registered for the Course shall complete the Course within a maximum period of six months from the date of commencement of the programme.

6. ELIGIBILITY FOR ADMISSION

- 6.1 The admission to the Certificate Course shall be as per the rules and regulations of the College.
- 6.2 The eligibility criteria for admission shall be as announced by the College from time to time and published in the Prospectus / Website of the college
- 6.3 A candidate seeking admission to Certificate Course in Data Analytics and Visualization must have
A pass in any recognized 10+2 OR at Graduate level.

7. EXAMINATION, EVALUATION AND GRADING

- 7.1 The department shall ensure that the college examination calendar shall be strictly followed.
- 7.2 Evaluation: The evaluation scheme shall contain
(a) Continuous Assessment (CA)
- 7.3 CA shall be in indirect grading.
- 7.4 Indirect grading for CA shall be based on six letter grades (A+, A, B, C, D and E) with numerical values 5, 4, 3, 2, 1 and 0 respectively
- 7.5 Grade point Average (GPA): CA components shall be applied to calculate the GPA of each course. Letter grade shall be assigned to each course based on the categorization provided below

Grade	Grade Point	Range
A+	5	90.00 – 100.00
A	4	80.00 – 89.99
B	3	70.00 – 79.99
C	2	60.00 – 69.99
D	1	50.00 – 59.99
E	0	0 – 49.99

- 7.6 **Continuous Assessment (CA):** The CA shall be based on a predetermined transparent system involving periodic tests and lab skills. The marks assigned to various components for CA is as follows.

7.6.1 Components of Continuous Assessment

All the components of the Continuous Assessment are mandatory for the courses.

Component	Assessment Criteria	Marks
1	MCQ	20
2	Activity oriented Assessments	80
Total		100

8. EVALUATION

- 8.1 The answers must be written in English.
- 8.2 Project evaluation, shall be conducted by the College at the end of the Certificate Programme.
- 8.3 To ensure transparency of the evaluation process, the CA grades awarded to the students shall be published.
- 8.4 A minimum of 50% of marks (**C Grade**) is required for a pass of CA.

9. AWARD OF CERIFICATE

- 9.1 The successful completion with a minimum of 'C' grade (50%) shall be the requirement for an award of the certificate by Marian College Kuttikkanam (Autonomous), Kerala.

Programme Outcome:

Programme Outcomes (PO) are what knowledge, skills and attitudes a graduate should have at the time of graduation. The following are the Programme Outcomes of Marian College, Kuttikkanam (Autonomous)

1. Domain Knowledge
2. Communicative competence
3. Proficiency in using Modern technologies
4. Reflective response to ethical and Social issues
5. Sustainability values
6. Critical thinking and Problem Solving
7. Entrepreneurship and Leadership
8. Teamwork and Leadership
9. Self-directed and Lifelong Learning

Programme Specific Outcome:

Programme Specific Outcomes (PSO) are statements that describe what the graduates of a specific Programme should be able to do

PSO1: Ability to incorporate standard practices and technological advancements in software development life cycle

PSO2: Expertise in providing optimized algorithmic solutions

PSO3: Expertise in recent technologies like SMAC (Social, Mobile, Analytics, Cloud), Machine Learning and IOT

PSO4: Demonstrate skills in ideation, innovation and commercialization of IT products and services

PMC2301CP - Certificate Course in Data Analytics and Visualization

Total Instructional Hours: 36

Credit : 2

Course Outcomes:

The student should be able to:

CO1: Identify various forms of data from the live environment.
CO2: Create Interactive data visualization using Excel.
CO3: Create Interactive data visualization using Tableau.
CO4: Create data visualizations using Power BI.

Module 1: Introduction to Data Analysis

(8 hours)

Scope and Significance, Understanding the various levels of data, dealing with categorical variable, quantifications of opinion and attitude of people, Primary data and Secondary data, the Kinds of Data Analytics – Descriptive, Diagnostic, Predictive and Data Mining

Module 2: Excel - A Business Intelligence platform

(10 hours)

Data cleaning using Excel. Appropriate chart selection for strategy presentation. How to make your data stand out with PivotTables and charts. Building interactive dashboards in Excel. AI in Excel.

Practical session on Data Preparation, creating Visualization and Interactive dashboards using Excel.

Module 3: Tableau - An Interactive Analytics platform

(12 hours)

Tableau Product Suite. How to connect to a data source using Tableau interface. Tableau interface and basic terminologies. Harness the power of your data. Build interactive dashboards.

Practical session on development of stories using tableau and cracking insights using interactive dashboards.

Module 4: Power BI - Unleash the power of business analytics.

(10 hours)

How to Install Power BI desktop? Preparing data with Power BI. Data visualization using Power BI.

Practical session on creating visualizations using power bi.