MARIAN COLLEGE
KUTTIKKANAM
(AUTONOMOUS)

MAKING COMPLETE

NIRF 84 (2018)
'A' Grade with CGPA **3.52** (III Cycle)

NAAC RE-ACCREDITATION– 4TH CYCLE

Criterion I - **Curricular Aspects**

Action Taken Report of
Department of Computer Applications (UG)

Action Taken Report (ATR) on Curriculum

A structured (rating-based) feedback form, designed by IQAC feedback committee, is circulated among stakeholders such as Students, Teachers, Alumni, and Industry experts by the department to get their suggestions with regard to the quality of the curriculum. The responses from stakeholders are analysed by the members of the feedback committee and suggestions are communicated to the department. The suggestions are discussed in the BOS meeting and necessary changes are recommended to the curriculum. These recommendations are forwarded to the Academic Council for approval. Based on the amendments made by the Academic Council, an Action Taken Report (ATR) is prepared by the department and is submitted to the IQAC.

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Action Taken Report 2016-17

Suggestions Received	Action Taken
Make the assessment and evaluation process more effective	As per the feedback received, the question bank system was introduced for the fair conduct of examination.
Ensure the credibility of the question bank	Implementation of structured vetting procedures (both internal and external) to improve the quality of examination questions.
Need for ICT enabled teaching-learning process	Decided to implement an ICT based teaching- learning process.
Improve the instructional design pattern to maximise the effectiveness and efficiency of learning experience	Adopted ADDIE format for curriculum design.

Action Taken Report 2017-18

Suggestions Received	Action Taken
Introductory topics in the 2016 syllabus are familiar to students as those topics are covered in higher secondary level. Therefore, these topics may be removed and can include topics of contemporary relevance	Course code: UBC1703 Course name: Fundamentals of Computers Digital Systems (core) Major Changes: Included number systems.
More advanced concepts in C needs to be included	Course Code: UBC1704 Course Name: Introduction to Programming in C (Core) Changed the course name and modified the course content
Familiarize the first year students with basic skills in word processing and presentation tools. Website tools like Wordpress has to be included	Course Code: UBC1706 Course Name:Office Automation Tools (New Non-Credit Course introduced)

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CPU organization may be included in the Computer Architecture course	UBC1708: Computer Architecture and Microprocessor Modified the course content
Advanced Concepts of Data Structure has to be included	Course Code: UBC1710 Course Name: Data Structures (Core) Updated the content by adding more concepts of Data Structures
Cobol programming can be removed from the syllabus to include latest programming language	Course Code: UBC1711 Course Name: Software Lab- II (Core) Modified the syllabus based on the concepts from data structures
It is better to change the course Accounting Fundamentals as a non-credit course	Course Code: UBC1712 Course Name: Accountancy and Spreadsheet tool (Non-Credit) New non credit course introduced.
Software testing portion which was removed from the old syllabus is helpful in industry.	Course Code: UBC1714 Course Name: Software Engineering(Core) Added new course
Innovations and Entrepreneurship skills of students need to be promoted	Course Code: UBC1719 Course Name: Entrepreneurship and Innovations(Non –Credit) Added new course
Emphasis has to be given to Software Testing	Course Code: UBC1723 Course Name: Software Testing and Quality Assurance (Core) New course introduced.
Visual Basic may be upgraded to latest visual programming language	Course Code: UBC1724 Course Name: Visual Programming Techniques(Core) (Course focus on .NET) New Course introduced.
Training on implementation of visual programming concepts and web development need to be included in the curriculum	Course Code: UBC1725 Course Name: Software Lab IV (Core)

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Need to support students to develop an idea of start-ups and encourage entrepreneurship skills.	Course code: UBC1726 Course Name: Business Idea Development *OR* Web Portal Development (*During Summer Vacation*) (Non-Credit) New course added
Course on Environmental Studies and Human Rights must be introduced	Course code: UCN1701 Course Name: Environmental Studies and Human New course added
It is good to have a course on Open OS platform in the programme	Course Code: UBC1732 Course Name: Linux Administration(core) New course added
Course on Mobile Application Development need to be introduced	Course Code: UBC1733 Course Name: Mobile Computing and Android Application Development(core)
LaTex can be introduced in the syllabus as it is a powerful tool for documentation	UBC1734A-Python Programming and LaTeX Added new course
Image Processing concepts may be given as an elective course as it is a thrust area of research.	Course Code: UBC1734B Course Name: Image Processing New course added
Need for job-oriented courses	UBC1734C Cloud Computing Added new course

Action Taken Report 2018-19

Suggestions Received	Action Taken
Need for ethical components in the curriculum	Ethical Aspects of Probability-Theory and Application are included in the course code: UBC1802 with the course name: Basic Statistics (Complementary)
	Included ethical aspects on the use of computers and their applications in the course with the Course Code:

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	UBC1803 and the Course Name: Fundamentals of Computers and Digital Systems (Core)
Remove obsolete topics from the syllabus and update it with contents of contemporary relevance	By replacing the outdated topics, advanced features of the Microsoft Office package are included Course Code: UBC1806 and Course Name: Office Automation tools (Non-Credit)
Need for ethical components in the syllabus	Incorporated ethical components in the use of Graph Theory in the Course Code: UBC1807 and Course Name: Discrete Mathematics (Complementary)
Include memory organization concepts with cache and virtual memory concepts. Include memory organization concepts with cache and virtual memory concepts.	Included memory organization with cache and virtual memory concepts in the Course Code: UBC1808 and Course Name: Computer Architecture and Microprocessor (Core) Included memory organization with cache and virtual memory concepts for the Course Code: UBC1808 and Course Name: Computer Architecture and Microprocessor (Core)
Integrated ethical aspects into Database Management System.	Integrated ethical aspects for the Course Code: UBC1809 and the Course Name: Database Management System (Core)
To add more advanced concepts in trees and include DBMS concepts in UBC1811.	Added more advanced concepts in trees for the Course Code: UBC1810 and Course Name: Data Structures (Core), included DBMS concepts for the Course Code: UBC1811 (Core) and the Course Name: Software Lab II.
Accountancy can be eliminated, and modern IoT technologies can be implemented in its place.	Removed Accountancy and introduced IoT technologies for the Course Code: UBC1812 and Course Name: IOT and Spreadsheet tool (Non-credit).
To add Ethics in the Interpretation of Statistical Inference	Included Ethics in the Interpretation of Statistical Inference for the Course Code: UBC1813 and Course Name: Advanced Statistical Methods (Complementary)
Use Software Engineering Concepts to incorporate Ethical Aspects into the design of systems.	Software Engineering concepts are used to incorporate Ethical Aspects into the design of systems for the Course Code: UBC1814 and Course Name: Software Engineering (Core).
Ethical considerations can be incorporated into decision-making using computer algorithms.	Ethical aspects are incorporated into decision-making using computer algorithms for the course code: UBC1816 and Course Name: Design and Analysis of Algorithm (Core).

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Incorporate ethical considerations into game theory decision-making.	Incorporated ethical considerations into game theory decision-making for the Course Code: UBC1820 and Course Name: Operations Research (Core)
To add ethical aspects in Web Application Development and to include more advanced development of Dynamic Web pages (PHP)	Added ethics aspects in Web Application Development and included more advanced development of Dynamic Web pages (PHP) for the Course Code: UBC1822 and Course Name: Web Programming using PHP (Core).
Incorporate ethical testing aspects.	Incorporated Ethical testing aspects for the Course Code: UBC1823 and Course Name: Software Testing and Quality Assurance
Introduce a new programming language that will enable students to explore a wide range of applications	To explore diverse application areas a new course was introduced with Course Code: UBC1824 and Course Name: Introduction to Python (Core).
Ethical aspects of Mobile Computing should be added.	Added Ethical aspects of Mobile Computing for the Course Code: UBC1833 and Course Name: Mobile Computing and Android Application Development (Core).
Integrate ethical aspects into Database Management System.	Integrated ethical aspects for the Course Code: UBC1809 and the Course Name: Database Management System (Core)
To add more advanced concepts in trees and include DBMS concepts in UBC1811.	Added more advanced concepts in trees for the Course Code: UBC1810 and Course Name: Data Structures (Core), included DBMS concepts for the Course Code: UBC1811 (Core) and the Course Name: Software Lab II.
Accountancy can be eliminated, and modern IoT technologies can be implemented in its place.	Removed Accountancy and introduced IoT technologies for the Course Code: UBC1812 and Course Name: IOT and Spreadsheet tool (Non-credit).
To add ethical components in the Interpretation of Statistical Inference	Included ethics in the Interpretation of Statistical Inference for the Course Code: UBC1813 and Course Name: Advanced Statistical Methods (Complementary)
Use Software Engineering Concepts to incorporate ethical aspects into the design of systems.	Software Engineering concepts are used to incorporate ethical aspects into the design of systems for the Course Code: UBC1814 and Course Name: Software Engineering (Core).

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Criterion I - **Curricular Aspects**

Need for more ethical components in the curriculum	Ethical aspects are incorporated into decision-making using computer algorithms for the course code: UBC1816 and Course Name: Design and Analysis of Algorithm (Core).
Need for more ethical components in the curriculum	Incorporated ethical considerations into game theory and decision-making for the Course Code: UBC1820 and Course Name: Operations Research (Core)
To add ethical components in Web Application Development and to include more advanced development of Dynamic Web pages (PHP)	Added ethics in Web Application Development and included more advanced development of Dynamic Web pages (PHP) for the Course Code: UBC1822 and Course Name: Web Programming using PHP (Core).
Incorporate Ethical Testing Aspects.	Incorporated ethical testing aspects for the Course Code: UBC1823 and Course Name: Software Testing and Quality Assurance
Introduce a new programming language that will enable students to explore a wide range of applications	To explore diverse application areas a new course is introduced with Course Code: UBC1824 and Course Name: Introduction to Python (Core).
Ethical aspects of Mobile Computing should be added.	Added ethical aspects of Mobile Computing for the Course Code: UBC1833 and Course Name: Mobile Computing and Android Application Development (Core).

Action Taken Report 2019-20

Suggestions Received	Action Taken
In order to familiarize students with the techniques of videography, a new non-credit course can be introduced.	**Course code:** UBC1906 **Course Name:** Digital Content Development
To make the students understand the concepts of Data analysis and spreadsheet tools, introduce a new non- credit course.	**Course Code:** UBC1912 **Course Name:** Data Analysis

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Criterion I - **Curricular Aspects**

To make the students understand and learn • the basic concepts of Internet and Cyber laws • the art of Web Designing • to acquire basics of digital marketing concepts, a new course is to be introduced.	**Course Code:** UBC1929 **Course Name:** Internet and Digital Marketing (Open Course)
Need for more technology-oriented courses	**Course Code:** UBC1908 **Course Name:** Computer Architecture and Microprocessor
To implement data structures using Object Oriented Programming concepts.	**Course Code:** UBC1910 **Course Name:** Data Structures Using C++
To implement data structures programs in C++	**Course Code:** UBC1911 **Course Name:** Software Lab II
Include the concept of Agility in project management.	**Course Code:** UBC1914 **Course Name:** Software Engineering
Include EER concepts in relational mapping.	**Course Code:** UBC1917 **Course Name:** Database management System
Focus should be given to practical aspects Implement programs like Computer graphics	**Course Code:** UBC1918 **Course Name:** Software Lab III
Additional tags in HTML need to be introduced because of the advancement in Web designing. Also, recommended to incorporate additional functionality in CSS and Javascript.	**Course Code:** UBC1922 **Course Name:** Web Programming using PHP

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Criterion I - **Curricular Aspects**

Recommended to update contents in OOPS concept of PHP Need for more MySQL functions.	
Recommended to update the open-source test automation tools.	**Course Code:** UBC1923 **Course Name:** Software Testing and Quality Assurance
Recommended for updated contents in Spread spectrum	**Course Code:** UBC1927 **Course Name:** Data Communication and Networks
Recommended to avoid Applet since Applet is not supported in the newer versions of Java. It was recommended to add Menu components in GUI.	**Course Code:** UBC1928 **Course Name:** Java Programming

Action Taken Report 2020-21

Suggestions Received	Action Taken
The content of Software Lab I has to be modified to incorporate the Operating System Concepts and Object-oriented programming concepts.	**Course Code:** UBC 2005 **Course Name:** Software Lab I (Core) Major Changes: Modified the course content to incorporate OS and OOPS concepts.
Inorder to implement practical experiments with different network architectures modify the syllabus by incorporating IP Addressing, Routing Algorithm and Monitoring Network Devices	**Course Code:** UBC 2008 **Course Name:** Computer Networks (Core) Modified the Course content.
Concept of Utility classes has to be included.	**Course Code:** UBC 2009 **Course Name:** Java Programming (Core) Modified Course content.

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Content of the Software Lab II has to be modified to incorporate the content with Java Programming Concepts, Networking concepts using CISCO Packet and Data structure concepts	**Course Code:** UBC 2011 **Course Name:** Software Lab II (Core) Modified the course content.
Need for more courses pertaining to technological advancements	**Course Code:** UBC 2015 **Course Name:** Infrastructure Management (Core) New course added
Need for more courses pertaining to technological advancements	**Course Code:** UBC 2016 **Course Name:** Virtualization and Cloud (Core) New course added
Incorporate advanced concepts of Infrastructure Management, Virtualization and Cloud and Problem-solving using PYTHON in the syllabus	**Course Code:** UBC 2018 **Course Name:** Software Lab III (Core) Modified the course content.
Need for more elective courses	**Course Code:** UBC 2019B **Course Name:** H/W Workshop (Non Credit Elective) New Non Credit Elective Course added to the syllabus
Introduce a course to incorporate new concepts in the area of Artificial Intelligence and Machine Learning.	**Course Code:** UBC 2021 **Course Name:** Artificial Intelligence (Core) New Course added
Modify the course content of DBMS to include PL/SQL and SAN.	**Course Code:** UBC 2022 **Course Name:** Database Management Systems (Core) Major Changes : Modified the course content.
Add a new course to introduce the concepts of Agile, Scrum, Devops, and Design Thinking.	**Course Code:** UBC 2023 **Course Name:** Process Management (Core) New Course added

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Modify the content of Software Lan IV to incorporate PHP-MySQL commands and PL SQL.	**Course Code:** UBC 2025 **Course Name:** Software Lab IV Modified the course content.
Modify the course content of Software Testing to incorporate the Software Testing tool -Selenium.	**Course Code:** UBC 2027 **Course Name:** Software Testing (Core) Modified the course content.
Introduce a new course for managing Client Relationship Management using Service Now Tool.	**Course Code:** UBC 2028 **Course Name:** Client Relationship Management New Course introduced
Introduce a new course to include digital technologies in all branches of Computer Science.	**Course Code:** UBC 2030 **Course Name:** Digital Technology New Course introduced
Modify the content of Software Lab V to include the concepts of digital technology, client relationship management and software testing.	**Course Code:** UBC 2031 **Course Name:** Software Lab V (Core) Modified the course content.
Introduce a new course to understand the cognitive domains of problem solving, reasoning and decision making.	**Course Code:** UBC 2033 **Course Name:** Cognitive Science for Problem Solving New course introduced
Incorporate the contents discussing the impact of IT on environment and society.	**Course Code:** UBC 2035 **Course Name:** IT, Environment and Human Rights (Core) Modified the course content.
Add a new course to introduce the concepts of Big Data Technologies.	**Course Code:** UBC 2036A **Course Name:** Big Data Analysis (Core-Elective) New Course introduced
Introduce a new course to familiarise the students with new machine learning technologies.	**Course Code:** UBC 2036C **Course Name** Machine Learning (Core-Elective) New Course added
Introduce a new course to familiarize the concepts of Cryptography and Network Security.	**Course Code:** UBC 2036D **Course Name:** Cryptography and Network Security (Core-Elective) New Course added

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Modify the content of Software Lan IV to incorporate PHP-MySQL commands and PL SQL.	**Course Code:** UBC 2025 **Course Name:** Software Lab IV Modified the course content.
Modify the course content of Software Testing to incorporate the Software Testing tool -Selenium.	**Course Code:** UBC 2027 **Course Name:** Software Testing (Core) Modified the course content.
Introduce a new course for managing Client Relationship Management using Service Now Tool.	**Course Code:** UBC 2028 **Course Name:** Client Relationship Management New Course introduced
Introduce a new course to include digital technologies in all branches of Computer Science.	**Course Code:** UBC 2030 **Course Name:** Digital Technology New Course introduced
Modify the content of Software Lab V to include the concepts of digital technology, client relationship management and software testing.	**Course Code:** UBC 2031 **Course Name:** Software Lab V (Core) Modified the course content.
Introduce a new course to understand the cognitive domains of problem solving, reasoning and decision making.	**Course Code:** UBC 2033 **Course Name:** Cognitive Science for Problem Solving New course introduced
Incorporate the contents discussing the impact of IT on environment and society.	**Course Code:** UBC 2035 **Course Name:** IT, Environment and Human Rights (Core) Modified the course content.
Add a new course to introduce the concepts of Big Data Technologies.	**Course Code:** UBC 2036A **Course Name:** Big Data Analysis (Core-Elective) New Course introduced
Introduce a new course to familiarise the students with new machine learning technologies.	**Course Code:** UBC 2036C **Course Name** Machine Learning (Core-Elective) New Course added
Introduce a new course to familiarize the concepts of Cryptography and Network Security.	**Course Code:** UBC 2036D **Course Name:** Cryptography and Network Security (Core-Elective) New Course added

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