Karmaveer Bhaurao Patil University, Satara

(State Public Cluster University)

Constituent College: Yashwantrao Chavan Institute of Science, Satara

Programme and Credit Structure

(As per Department of Higher and Technical Education, Govt. of Maharashtra GR Dated 13 March 2024)

Name of the Programme : B.Voc(Software Development)

Specialization : The degree shall be titled as 'Bachelors of Vocational in Software Development'

Faculty of Study : Science

Time Line for Implementation:

1. **B.**Voc**.** (SOFTWARE DEVELOPMENT) Sem I& II from Academic Year **2024-25**
2. **B.Voc. (SOFTWARE DEVELOPMENT)** Sem. III& IV from Academic Year **2025-26**
3. **B.**Voc**.** (SOFTWARE DEVELOPMENT) Sem. V& VI from Academic Year **2026-27**

Program Specific Outcomes (PSO): The student will be able to

1. Proficiency in Programming Languages: Graduates should demonstrate proficiency in at least one programming language commonly used in software development such as Java, Python, C++, or JavaScript.
2. Computational Analysis Skills: Graduates will demonstrate proficiency in employing computational analysis techniques, including machine learning algorithms, natural language processing, and computer vision, to analyze data and address real-world challenges.
3. Understanding Software Development Lifecycle: Understanding of the software development lifecycle including requirements gathering, design, implementation, testing, deployment, and maintenance.
4. Knowledge of Software Development and Creating Various Applications: Ability to develop mobile applications for various platforms (Android or iOS) using appropriate development frameworks and tools, Competency in developing web-based applications using frontend technologies like HTML, CSS, and JavaScript, along with backend technologies like Node.js, PHP, or ASP.NET.
5. Project Development and Research Skills: Students should be capable of conceptualizing, designing, and implementing Various Websites, Android Applications, Various Databases, conducting experiments, and analyzing data to derive meaningful insights and solutions.
6. Software Quality Assurance: Understanding of software quality assurance principles and practices including testing methodologies, debugging, and ensuring software reliability and robustness.
7. User Interface/User Experience (UI/UX) Design: Proficiency in designing intuitive and user-friendly interfaces for software applications, considering principles of usability and user experience.
8. Problem-Solving and Critical Thinking: Ability to analyze complex problems, propose effective solutions, and apply critical thinking skills to troubleshoot and debug software applications.
9. Communication and Collaboration: Effective communication skills for interacting with clients, stakeholders, and team members, as well as collaborating in multidisciplinary teams to achieve project goals.

10. Ethical and Professional Conduct: Understanding of ethical issues related to software development, including privacy, security, intellectual property, and adherence to professional codes of conduct.

Program Outcomes (PO):

After completing B.**Voc**. (**SOFTWARE DEVELOPMENT**) **Programme the students will be able to: -**

1. Technical Competence: Graduates will demonstrate proficiency in software development concepts, techniques, and tools relevant to the field, including programming languages, databases, and development frameworks.
2. Problem-solving Skills: Graduates will be able to analyze complex problems in software development, propose effective solutions, and implement them using appropriate methodologies and technologies.
3. Effective Communication: Graduates will possess strong communication skills, both verbal and written, enabling them to effectively convey technical information, collaborate with team members, and interact with clients and stakeholders.
4. Teamwork and Collaboration: Graduates will be able to work effectively as part of multidisciplinary teams, demonstrating the ability to contribute positively, communicate ideas, and resolve conflicts to achieve common goals.
5. Continuous Learning and Adaptability: Graduates will recognize the importance of lifelong learning in the rapidly evolving field of software development and demonstrate the ability to adapt to new technologies, methodologies, and paradigms.
6. Ethical and Professional Conduct: Graduates will understand and adhere to ethical standards and professional codes of conduct relevant to software development, including issues of privacy, security, and intellectual property rights.
7. Quality Assurance and Testing: Graduates will understand the principles of software quality assurance and be able to apply testing methodologies and techniques to ensure the reliability, security, and performance of software applications.
8. Project Management: Graduates will possess basic project management skills, including the ability to plan, organize, and execute software development projects within scope, schedule, and budget constraints.
9. Entrepreneurial Mindset: Graduates will demonstrate an entrepreneurial mindset, with the ability to identify opportunities, innovate, and apply business acumen in the development and commercialization of software products and services.
10. Global Perspective: Graduates will recognize and appreciate the global nature of the software industry, understanding diverse cultural and socio-economic factors that influence software development and deployment worldwide.

Semester, Credits, NSQF Level and Exit Points

Sr	Semester	Year	Year	Credits	Level	Exit Points & Award
1	Sem. I & II	2024-25	1 Year	60	4.5	**UG Diploma (SOFTWARE DEVELOPMENT)**
2	Sem. III & IV	2025-26	2 Year	120	5.0	**UG Advanced Diploma (SOFTWARE DEVELOPMENT)**
3	Sem. V & VI	2026-27	3 Year	180	5.5	**B.Voc (SOFTWARE DEVELOPMENT)**

Chairman
BoS in Software Development

Secretary
Academic Council

Chairman
Academic Council