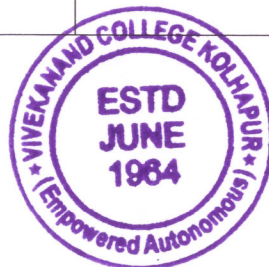


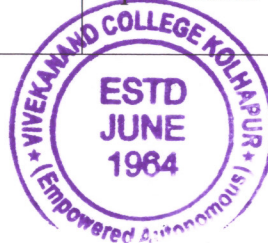
**Shri swami Vivekanand Shikshan Sanstha's  
Vivekanand College (An Empowered Autonomous), Kolhapur  
Department of MCA**

**Curriculum relevance: Course contents with cross cutting issues (PG) 2024-25 to 2025-26**

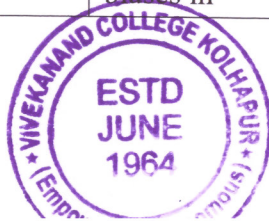
Sr. No.	Course Code	Course Titles	Year of Introduction	Professional Ethics	Gender	Human Values	Environment and Sustainability	Sustainable Development goals
1	DSC36DST11	Data Structure using C++	2024-25	Discuss responsible coding practices, such as avoiding memory leaks to ensure reliable software, emphasizing accountability in software development.	Use inclusive examples (e.g., datasets representing diverse demographics) to avoid gender bias in problem-solving scenarios.	Highlight integrity in writing clear, maintainable code that respects end-users' trust.	Introduce the concept of energy-efficient algorithms to minimize computational resource usage, aligning with SDG 12 (Responsible Consumption and Production).	Link data structures to SDG 9 (Industry, Innovation, and Infrastructure) by showing their role in building robust software systems.



2	DSC36DBM11	Database Management System	2024-25	Teach data privacy, security, and accountability in DBMS, emphasizing compliance with regulations like GDPR and ethical data handling through case studies on breaches.	Incorporate inclusive database design with gender-neutral fields and discuss mitigating biases in data analytics to promote gender equity.	Design user-centric databases prioritizing fairness, transparency, and trust, using scenarios to explore ethical decision-making in data management.	Optimize database performance for energy efficiency and develop systems for environmental monitoring, such as carbon tracking.	Align DBMS projects with SDGs like health (SDG 3) or sustainable cities (SDG 11), fostering systems thinking for global challenges.
3	DSC36CNW11	Computer Networks	2024-25	Teach ethical network design, emphasizing data privacy, security protocols, and responsible use of monitoring tools, with case studies on cyberethics violations.	Promote gender-inclusive network access and usage policies, addressing biases in technology access and representation.	Integrate fairness, transparency, and user trust in network management, teaching students to prioritize user rights in network policies and access control.	Focus on energy-efficient network infrastructure design and explore network applications for environmental monitoring.	Align network projects with SDGs like SDG 9 (Industry, Innovation, and Infrastructure) by designing networks to support digital inclusion and sustainable

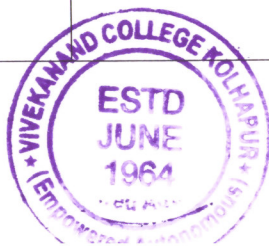


					n in network engineering.		such as IoT for smart grids.	urban development.
4	DSC36OSA11	Advance Operating System	2024-25	Teach ethical considerations in OS design, focusing on secure resource management and transparency in system monitoring to prevent misuse.	Promote inclusive OS interfaces and accessibility features, addressing gender disparities in technology access and usability.	Integrate fairness, privacy, and user empowerment in OS development, emphasizing equitable access control and transparent system operations.	Focus on energy-efficient OS algorithms and resource management to minimize computational power consumption in data centers.	Align OS projects with SDGs like SDG 9 (Industry, Innovation, and Infrastructure) by designing systems for sustainable digital infrastructure and connectivity.
5	DSC36CYS11	Cyber Security	2024-25	Teach ethical hacking principles and responsible disclosure practices, emphasizing accountability in	Promote gender-inclusive cybersecurity policies and address biases in	Integrate fairness, privacy, and trust in cybersecurity practices, teaching students to prioritize user rights in threat mitigation strategies.	Focus on energy-efficient cybersecurity solutions, such as optimizing encryption	Align cybersecurity projects with SDGs like SDG 16 (Peace, Justice, and Strong

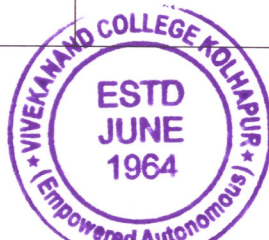




				securing systems against cyber threats.	threat detection systems to ensure equitable protection for all users.		algorithms to reduce computational energy demands.	Institutions) by designing secure systems for transparent governance.
6	DSC36OOP21	Object Oriented Programming with Python	2024-25	Teach ethical coding practices in Python OOP, emphasizing responsible data handling and transparency in software development.	Promote gender-inclusive software design by creating Python applications that avoid biases and ensure equitable user experiences.	Integrate fairness, privacy, and user empowerment into Python OOP projects, focusing on ethical object design and user-centric functionality.	Develop energy-efficient Python algorithms and applications for environmental monitoring, such as resource usage trackers.	Align Python OOP projects with SDGs like SDG 13 (Climate Action) by coding applications for environmental data analysis or sustainable resource management.



7	DSC36WEB21	Advance Web Technology	2024-25	Teach ethical web development practices, focusing on user data privacy, secure coding, and compliance with regulations like GDPR.	Promote gender-inclusive web design by creating accessible, unbiased interfaces and addressing gender disparities in tech access.	Integrate fairness, transparency, and user trust into web applications, emphasizing ethical UI/UX design and data handling.	Focus on energy-efficient web technologies and develop applications for environmental monitoring, such as carbon footprint trackers.	Align web projects with SDGs like SDG 11 (Sustainable Cities) by designing platforms for smart city data or digital inclusion.
8	DSC36SEG21	Software Engineering	2024-25	Teach ethical software development practices, emphasizing accountability, transparency, and adherence to codes of conduct like the ACM Code of Ethics.	Promote gender-inclusive software design by addressing biases in algorithms and ensuring equitable access to technology solutions	Integrate fairness, privacy, and user empowerment into software engineering processes, focusing on ethical requirements gathering and testing.	Focus on sustainable software practices, such as optimizing code for energy efficiency and developing tools for environmental monitoring.	Align software projects with SDGs like SDG 12 (Responsible Consumption and Production) by developing applications for sustainable resource management.

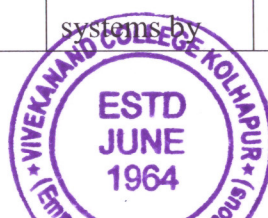


9	DSC36ADJ21	Advance Java Programming	2024-25	Teach ethical Java programming practices, focusing on secure coding and responsible data handling to comply with regulations like GDPR.	Promote gender-inclusive software design by creating Java applications with unbiased interfaces and addressing gender disparities in tech access.	Integrate fairness, transparency, and user trust into Java programming, emphasizing ethical design in application development.	Focus on energy-efficient Java algorithms and develop applications for environmental monitoring, such as resource usage trackers.	Align Java projects with SDGs like SDG 13 (Climate Action) by coding applications for sustainable resource management or environmental data analysis.
10	DSC36INS21	Information Security	2024-25	Teach ethical hacking and cybersecurity practices, emphasizing responsible data protection and	Promote gender-inclusive security policies and address biases in access control	Integrate fairness, privacy, and trust into information security, focusing on user-centric security measures and transparent practices.	Focus on energy-efficient security algorithms and develop systems for monitoring	Align security projects with SDGs like SDG 16 (Peace, Justice, and Strong Institutions) by designing systems for





				compliance with laws like GDPR.	systems to ensure equitable protection for all users.		environmental data securely.	secure digital infrastructure.
11	DSC36CCM21	Cloud Computing	2024-25	Teach ethical cloud computing practices, focusing on data privacy, security, and compliance with regulations like GDPR and CCPA.	Promote gender-inclusive cloud services by designing accessible platforms and addressing biases in user data analytics.	Integrate fairness, transparency, and user trust into cloud system design, emphasizing ethical data handling and user empowerment.	Focus on energy-efficient cloud architectures and develop applications for environmental monitoring, such as carbon tracking systems.	Align cloud projects with SDGs like SDG 9 (Industry, Innovation, and Infrastructure) by creating scalable systems for digital inclusion and sustainability.
12	DSC36AIM31	Artificial Intelligence & Machine Learning	2025-26	Teach ethical AI/ML development, focusing on responsible algorithm design,	Promote gender-inclusive AI/ML systems by	Integrate fairness, transparency, and accountability into AI/ML projects, emphasizing user-	Focus on energy-efficient AI algorithms and develop	Align AI/ML projects with SDGs like SDG 13 (Climate



				bias mitigation, and compliance with ethical standards like IEEE's Ethically Aligned Design.	designing models that avoid gender biases and ensure equitable outcomes for diverse users.	centric design and ethical decision-making.	models for environmental applications, such as climate change prediction.	Action) by developing systems for sustainable resource management or disaster prediction.
13	DSC36DAN31	Data Analytics Using Python	2025-26	Teach ethical data analytics practices using Python, emphasizing responsible data handling, privacy, and compliance with regulations like GDPR.	Promote gender-inclusive data analytics by creating Python-based tools that avoid biases and ensure equitable representation in datasets.	Integrate fairness, transparency, and user trust into Python data analytics projects, focusing on ethical visualization and interpretation.	Focus on Python analytics for environmental monitoring, such as energy consumption analysis, optimizing for low computational impact.	Align Python analytics projects with SDGs like SDG 13 (Climate Action) by developing tools for environmental data analysis or resource optimization.
14	DSC36ETH31	Ethical Hacking	2025-26	Teach ethical hacking principles, emphasizing	Promote gender-inclusive	Integrate fairness, transparency, and trust into ethical	Focus on energy-efficient	Align ethical hacking projects with





				responsible vulnerability testing and adherence to legal and ethical standards like the EC-Council Code of Ethics.	cybersecurity practices by addressing biases in security policies and ensuring equitable access to hacking tools and training.	hacking, focusing on protecting user privacy and promoting accountability in security practices.	hacking tools and develop cybersecurity solutions for environmental monitoring systems, such as IoT for smart grids.	SDGs like SDG 16 (Peace, Justice, and Strong Institutions) by securing digital infrastructure for sustainable development.
15	DSC36NLP31	Natural Language Processing	2025-26	Teach ethical NLP development, focusing on responsible data handling, bias mitigation, and compliance with privacy regulations like GDPR.	Promote gender-inclusive NLP systems by designing models that avoid gender biases and ensure equitable language processing for diverse users.	Integrate fairness, transparency, and user trust into NLP projects, emphasizing ethical text analysis and user-centric design.	Focus on energy-efficient NLP algorithms and develop models for environmental applications, such as climate change sentiment analysis.	Align NLP projects with SDGs like SDG 13 (Climate Action) by developing tools for analyzing environmental data or public awareness campaigns.



16	DSC36BCT3 1	Blockchain Technology	2025-26	Blockchain courses should emphasize ethical decision-making in technology development, focusing on transparency, accountability, and data privacy.	Course content can explore blockchain's potential to promote gender equality by enabling secure, transparent financial systems for underserved women.	Blockchain education should highlight trust, integrity, and fairness, core values reinforced by decentralized and immutable ledgers.	Courses must address blockchain's environmental impact, particularly energy-intensive consensus mechanisms like Proof of Work, and explore sustainable alternatives like Proof of Stake.	Blockchain content should align with SDGs, such as poverty reduction and climate action, by showcasing applications like transparent aid distribution or renewable energy trading.
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*V. S. G.*  
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