

Mapping of CSE Curriculum and Activities to Sustainable Development Goals (SDGs)

At GMR Institute of Technology (GMRIT), the Department of **Computer Science and Engineering (CSE) and allied branches** not only deliver a robust academic curriculum but also integrates a wide range of co-curricular and extra-curricular activities. These initiatives contribute to the holistic development of students and align with the United Nations Sustainable Development Goals (SDGs).

Integrated Co-curricular and Extra-curricular Activities

- Full Semester Internship at Industries (4 months)
- Summer Internship (4 weeks)
- Employability skills training (Soft skills, Aptitude skills, Domain skills)
- Hackathons, Codeathon, Group Discussions, Technical Quizzes, Seminars by Alumni and Industry Experts
- Student Professional Chapters: ACM, CSI, IEEE, ISTE
- Student Clubs: Coding Club, Dance Club, Music Club, Film Club, etc.
- NSS & NCC activities and Yoga and Meditation classes
- Participation in Smart India Hackathons (SIH)
- Participation and Organization of International Conferences

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SDG	Relevant Courses	Core Topics Contributing to the SDG	Supporting Activities at GMRIT
SDG 2: Zero Hunger	AI & ML, Neural Networks, IoT, Data Science	<ul style="list-style-type: none">• Precision agriculture systems• Crop-yield prediction models• Smart irrigation using sensor data• Agri decision support	<ul style="list-style-type: none">• Hackathons on AgriTech• Summer/Full internships in Agri startups or NGOs• Seminars by Alumni working in Agri-analytics• Participation in Smart India Hackathon (SIH) – Agri themes
SDG 6: Clean Water & Sanitation	Environmental Studies, IoT Electives, Sensor Technologies	<ul style="list-style-type: none">• Water quality monitoring• IoT-based sanitation systems• Environmental impact analytics	<ul style="list-style-type: none">• Capstone/mini projects in sanitation/clean water• SIH participation – Water/Sanitation themes• Awareness drives via NSS/NCC
SDG 7: Affordable & Clean Energy	ML/DL, Cloud Computing, Data Analytics, Renewable Energy Electives	<ul style="list-style-type: none">• Smart grids, energy analytics• Clean energy dashboards• Predictive models for energy efficiency	<ul style="list-style-type: none">• Internships with clean energy firms• Technical clubs hosting energy challenges• IEEE Chapter seminars on energy tech

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SDG 9: Industry, Innovation & Infrastructure	AI/ML, Software Engineering, Cloud & Full-Stack Dev, DevOps	<ul style="list-style-type: none">• Scalable digital platforms• Industry 4.0 automation• Innovative product development	<ul style="list-style-type: none">• Full Semester Internship (4 months)• Hackathons & Codeathons• Technical quizzes & GDs – ACM/CSI/IEEE• Projects in International Conferences
SDG 11: Sustainable Cities & Communities	Data Visualization, IoT, Capstone Projects	<ul style="list-style-type: none">• Smart cities and urban mobility• IoT for waste, energy, building management• Urban data visualization	<ul style="list-style-type: none">• Coding club projects on smart solutions• SIH entries on smart city themes• NCC/NSS community outreach
SDG 12: Responsible Consumption & Production	Software Engineering, Cloud Computing, AI Ethics, Human Values	<ul style="list-style-type: none">• Energy-efficient software• Green computing practices• Ethical design and deployment	<ul style="list-style-type: none">• Green software workshops – IEEE/ISTE• Audit Courses – Ethics, IPR, Circular Economy• Alumni talks on sustainable practices
SDG 13: Climate Action	Environmental Studies, AI/ML, Climate electives	<ul style="list-style-type: none">• Climate change forecasting• Data-driven carbon tracking• Disaster response systems	<ul style="list-style-type: none">• NSS plantation & awareness• Climate-focused projects• Audit course on Climate Change
SDG 16: Peace, Justice & Strong Institutions	Cyber Security, Ethics & Human Values	<ul style="list-style-type: none">• Secure systems• Data privacy & compliance• Ethical AI systems	<ul style="list-style-type: none">• Hackathons on CyberSafety• NCC discipline efforts• Ethics & IPR workshops• NSS outreach
SDG 4: Quality Education	Core Programming, DBMS, AI/ML, Web Dev, etc.	<ul style="list-style-type: none">• Modern curriculum• Life-long learning platforms• Interactive learning design	<ul style="list-style-type: none">• Employability Skills (soft, domain)• Alumni mentoring & talks• Clubs & internships• ECA/CCA for holistic growth
SDG 17: Partnerships for the Goals	Project Work, DevOps, Full Stack, Cloud, Capstones	<ul style="list-style-type: none">• Interdisciplinary collaborations• Open data & integration• Innovation ecosystems	<ul style="list-style-type: none">• Industry-academia internships• SIH with Ministries• International Conferences• ACM/CSI/IEEE partnerships