

CMR INSTITUTE OF TECHNOLOGY

Vision: To create world-class technocrats for societal needs.

Mission: Achieve global quality technical education through:

- Innovative Research & Development
- Strong Industry-Institute Interaction
- Capacity building among stakeholders

Quality Policy: Strive for global professional excellence to meet stakeholder expectations.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (CSE)

Vision: To develop competent software professionals and innovators for global society.

Mission: The department of **Computer Science and Engineering** is committed to

- Create technocrats proficient in software design and development
- Adapt to emerging technologies through lifelong learning to address IT and ITES challenges
- Foster higher education, employment, research and entrepreneurship

B.Tech. - Computer Science and Engineering (CSE)

I. Programme Educational Objectives (PEOs): Engineering Graduates will

1. Pursue successful professional careers in IT and IT-enabled sectors.
2. Engage in lifelong learning to solve complex problems through multidisciplinary research.
3. Exhibit professionalism, ethics and interpersonal skills to develop leadership qualities.

II. Knowledge and Attitude Profile (WK)

1. Knowledge of natural sciences and relevant social sciences applicable to engineering.
2. Mathematics, statistics, data analysis and computing for engineering analysis and modelling.
3. Engineering fundamentals essential to the discipline.
4. Specialized engineering knowledge for professional practice.
5. Sustainable engineering design considering resources, environment, life-cycle cost and net-zero goals.
6. Knowledge of engineering technologies and practices relevant to the discipline.
7. Understanding engineering's societal role, public safety and sustainable development.
8. Research awareness, critical thinking and creative approaches to emerging issues.
9. Professional ethics, responsibilities, diversity, inclusion and respectful conduct.

III. Programme Outcomes (POs): Engineering Graduates will be able to

1. **Engineering Knowledge:** Apply knowledge of mathematics, natural science, computing, and engineering fundamentals to solve complex engineering problems. (WK1 to WK4).
2. **Problem Analysis:** Identify, formulate and analyze complex engineering problems to reach substantiated conclusions. (WK1 to WK4).
3. **Design/Development of Solutions:** Design and develop a component/system/process to solve complex societal engineering problems. (WK5).
4. **Conduct Investigations of Complex Problems:** Design and conduct experiments to analyze, interpret and synthesize data for valid conclusions. (WK8).
5. **Engineering Tool Usage:** Create, select and apply modern engineering & IT tools, skills, and resources to solve complex engineering problems. (WK2 and WK6).
6. **The Engineer and the World:** Analyze and evaluate societal challenges while solving complex engineering problems for global environmental sustainability. (WK1, WK5, and WK7).
7. **Ethics:** Apply professional code of ethics, responsibilities and norms in engineering practices. (WK9).
8. **Individual and Collaborative Teamwork:** Function effectively as an individual and as a member or leader in diverse and multidisciplinary teams.
9. **Communication:** Communicate effectively through technical reports, designs, documentation and presentations.

10. **Project Management and Finance:** Apply engineering management principles and financial knowledge to plan and manage projects effectively.
11. **Lifelong Learning:** Engage in independent and life-long learning in the broad context of technological changes. (WK8).

IV. Programme Specific Outcomes (PSOs): Engineering Graduates will be able to

1. Design and develop software systems using appropriate technologies and SDLC models.
2. Apply emerging computing technologies to solve real-world problems.

V. United Nations Sustainable Development Goals (SDGs)

1. **No Poverty:** End poverty in all its forms everywhere.
 2. **Zero Hunger:** End hunger, achieve food security and improved nutrition and promote sustainable agriculture.
 3. **Good Health and Well-Being:** Ensure healthy lives and promote well-being for all at all ages.
 4. **Quality Education:** Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
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M.Tech. - Computer Science and Engineering (CSE)

I. Programme Educational Objectives (PEOs): Engineering Graduates will

1. Pursue successful professional careers in IT and IT-enabled sectors.
2. Engage in lifelong learning and research to solve complex engineering problems.
3. Exhibit professionalism, ethics, interpersonal skills and leadership.

II. Programme Outcomes (POs): Engineering Graduates will be able to

1. Conduct research and investigation to solve complex engineering problems independently.
2. Prepare, present and substantiate technical reports and documents.
3. Demonstrate mastery in the field of Computer Science and Engineering.

III. Programme Specific Outcomes (PSOs): Engineering Graduates will be able to

1. Develop optimized solutions for complex computing problems using advanced technologies.
 2. Design and develop technically feasible and environmentally sustainable solutions.
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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (AI&ML)

Vision: To develop competent AI&ML professionals and innovators for global society.

Mission: The department of **Computer Science and Engineering (AI&ML)** is committed to

- Develop proficiency in AI&ML and software technologies to solve real-world problems.
- Promote innovation, research, and lifelong learning in emerging technologies.
- Foster ethical practices, higher education, employment, and entrepreneurship.

B.Tech. - Computer Science and Engineering (AI&ML)

I. Programme Educational Objectives (PEOs): Engineering Graduates will

1. Pursue successful professional careers in IT and IT-enabled sectors.
2. Engage in lifelong learning to solve complex problems through multidisciplinary research.
3. Exhibit professionalism, ethics and interpersonal skills to develop leadership qualities.

II. Knowledge and Attitude Profile (WK)

1. Knowledge of natural sciences and relevant social sciences applicable to engineering.
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4. Specialized engineering knowledge for professional practice.
5. Sustainable engineering design considering resources, environment, life-cycle cost and net-zero goals.
6. Knowledge of engineering technologies and practices relevant to the discipline.
7. Understanding engineering's societal role, public safety and sustainable development.
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III. Programme Outcomes (POs): Engineering Graduates will be able to

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10. **Project Management and Finance:** Apply engineering management principles and financial knowledge to plan and manage projects effectively.
11. **Lifelong Learning:** Engage in independent and life-long learning in the broad context of technological changes. (WK8).

IV. Programme Specific Outcomes (PSOs): Engineering Graduates will be able to

1. Design and develop software systems using appropriate technologies and SDLC models.
2. Apply AI&ML techniques and tools to solve real-world problems.

V. United Nations Sustainable Development Goals (SDGs)

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (DATA SCIENCE)

Vision: To develop competent Data Science professionals and innovators for global society.

Mission: The department of **Computer Science and Engineering (Data Science)** is committed to

- Develop proficiency in data science and analytics to solve real-world problems.
- Adapt to emerging technologies through lifelong learning and research.
- Foster higher education, employment, innovation and entrepreneurship.

B.Tech. - Computer Science and Engineering (Data Science)

I. Programme Educational Objectives (PEOs): Engineering Graduates will

1. Pursue successful professional careers in IT and IT-enabled sectors.
2. Engage in lifelong learning to solve complex problems through multidisciplinary research.
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II. Knowledge and Attitude Profile (WK)

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2. Apply data science and analytics techniques to solve real-world problems.

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING (ECE)

Vision: To develop competent ECE professionals and innovators to address societal needs.

Mission: The department of **Electronics and Communication Engineering** is committed to

- Provide excellence in education, research and extension services.
- Develop competent professionals and entrepreneurs through quality education.
- Promote lifelong learning in state-of-the-art technologies for global excellence.

B.Tech. - Electronics and Communication Engineering (ECE)

I. Programme Educational Objectives (PEOs): Engineering Graduates will

1. Acquire core competence for a successful professional career in the field of ECE.
2. Pursue higher education with a focus on multidisciplinary research.
3. Develop entrepreneurial skills through lifelong learning, innovation and ethical practices.

II. Knowledge and Attitude Profile (WK)

1. Knowledge of natural sciences and relevant social sciences applicable to engineering.
2. Mathematics, statistics, data analysis and computing for engineering analysis and modelling.
3. Engineering fundamentals essential to the discipline.
4. Specialized engineering knowledge for professional practice.
5. Sustainable engineering design considering resources, environment, life-cycle cost and net-zero goals.
6. Knowledge of engineering technologies and practices relevant to the discipline.
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8. **Individual and Collaborative Teamwork:** Function effectively as an individual and as a member or leader in diverse and multidisciplinary teams.
9. **Communication:** Communicate effectively through technical reports, designs, documentation and presentations.
10. **Project Management and Finance:** Apply engineering management principles and financial

knowledge to plan and manage projects effectively.

11. **Lifelong Learning:** Engage in independent and life-long learning in the broad context of technological changes. (WK8).

IV. Programme Specific Outcomes (PSOs): Engineering Graduates will be able to

1. Apply domain-specific knowledge to design and analyze VLSI and embedded systems.
2. Apply hardware and software tools with analytical skills to solve engineering problems.

V. United Nations Sustainable Development Goals (SDGs)

1. **No Poverty:** End poverty in all its forms everywhere.
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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING (ECE)

Vision: To develop competent ECE professionals and innovators to address societal needs.

Mission: The department of **Electronics and Communication Engineering** is committed to

- Provide excellence in education, research and extension services.
- Develop competent professionals and entrepreneurs through quality education.
- Promote lifelong learning in state-of-the-art technologies for global excellence.

M.Tech. - VLSI

I. Programme Educational Objectives (PEOs): Engineering Graduates will

1. Pursue successful professional careers in VLSI design.
2. Engage in lifelong learning and research to solve complex VLSI problems.
3. Exhibit professionalism, ethics, interpersonal skills and leadership.

II. Programme Outcomes (POs): Engineering Graduates will be able to

1. Conduct research and investigation to solve complex engineering problems independently.
2. Prepare, present and substantiate technical reports and documents.
3. Demonstrate mastery in the field of VLSI.

III. Programme Specific Outcomes (PSOs): Engineering Graduates will be able to

1. Design fault-tolerant VLSI circuits to optimize power and area.
 2. Develop technically feasible and environmentally sustainable VLSI systems.
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Department of Electronics Engineering (VLSI Design & Technology)

Vision: To develop competent VLSI professionals and innovators to address societal needs.

Mission: The department of **Electronics Engineering (VLSI Design & Technology)** is committed to

- Provide excellence in VLSI education, research and extension services.
- Develop competent professionals and entrepreneurs through quality education.
- Promote lifelong learning in state-of-the-art VLSI technologies for global excellence.

B.Tech. - Electronics Engineering (VLSI Design & Technology)

I. Programme Educational Objectives (PEOs): Engineering Graduates will

1. Acquire core competence for a successful professional career in the field of VLSI.
2. Pursue higher education with a focus on multidisciplinary research.
3. Develop entrepreneurial skills through lifelong learning, innovation and ethical practices.

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Master of Business Administration (MBA)

Vision: To develop competent management professionals and leaders for global society.

Mission: The MBA programme is committed to

- Provide a state-of-the-art curriculum for quality management education.
- Promote lifelong learning for professional success.
- Foster an ecosystem for research and extension services.

I. Programme Educational Objectives (PEOs): Management Graduates will

1. Pursue successful professional careers in management.
2. Engage in lifelong learning to solve managerial problems.
3. Exhibit ethics, entrepreneurship and leadership skills.

II. Programme Outcomes (POs): Management Graduates will be able to

1. Apply knowledge of management theories and practices to solve business problems.
2. Apply analytical and critical thinking for data-driven decision-making.
3. Demonstrate value-based leadership.
4. Understand, analyze and communicate global, economic, legal and ethical aspects of business.
5. Lead teams to contribute effectively and achieve organizational goals.

III. Programme Specific Outcomes (PSOs): Management Graduates will be able to

1. Apply marketing, finance and HR knowledge to analyze the business environment.
 2. Apply managerial and entrepreneurial skills to address business challenges.
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