



COIMBATORE INSTITUTE OF TECHNOLOGY

(Government Aided Autonomous Institution)
(Affiliated to Anna University, Chennai & Approved by AICTE, New Delhi)
Established in 1956, A Unit of V.Rangasamy Naidu Educational Trust
CIVIL AERODROME POST, COIMBATORE-641 014, TAMILNADU, INDIA

Criteria 1 – Curricular Aspects

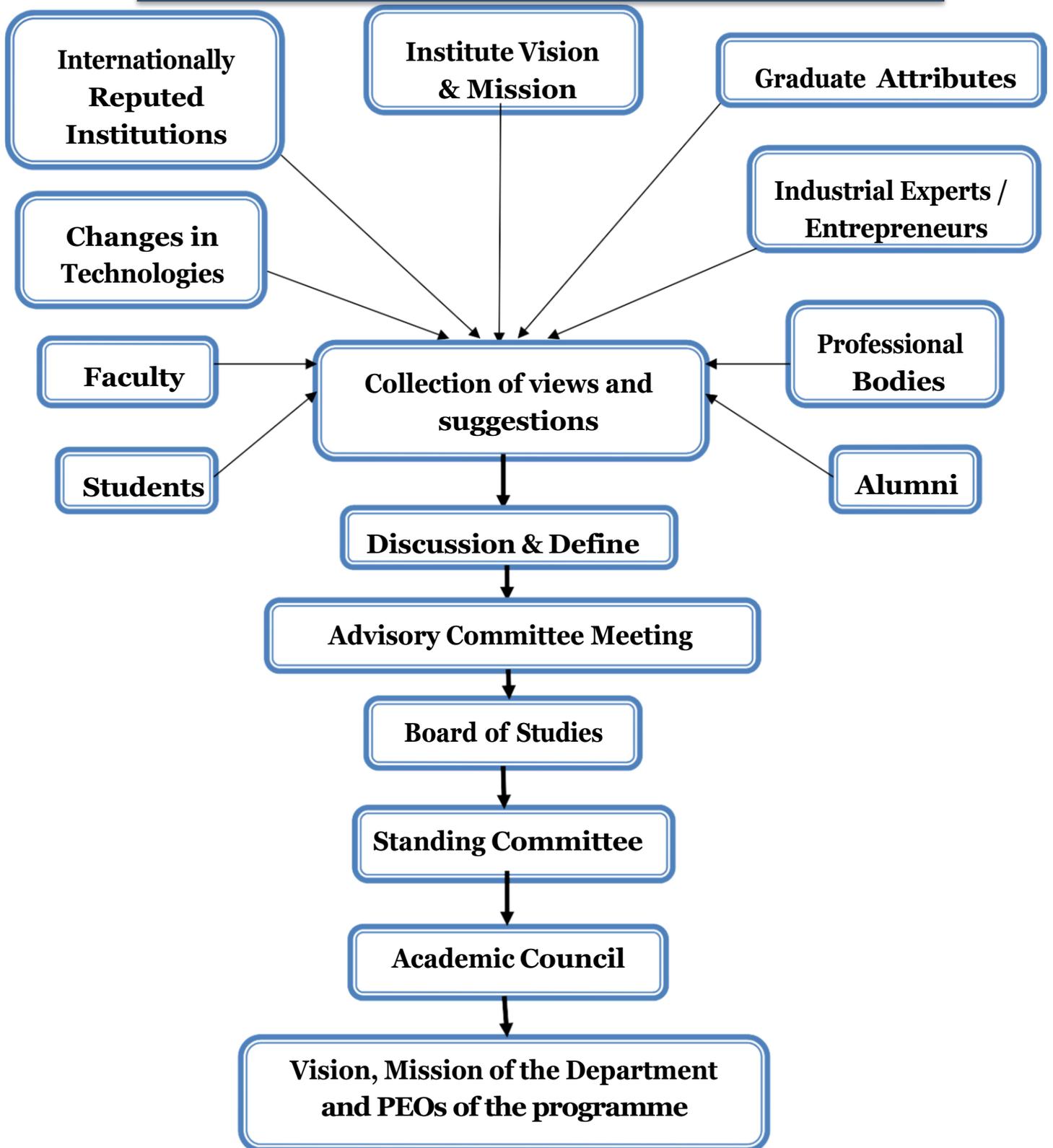
Key Indicator: 1.1 Curriculum Design and Development

1.1.1 Relevance of the curricula to local, regional, national and global needs reflected in Programme Outcomes (PO) and Course Outcomes (CO) of the programmes offered by the institution

Contents

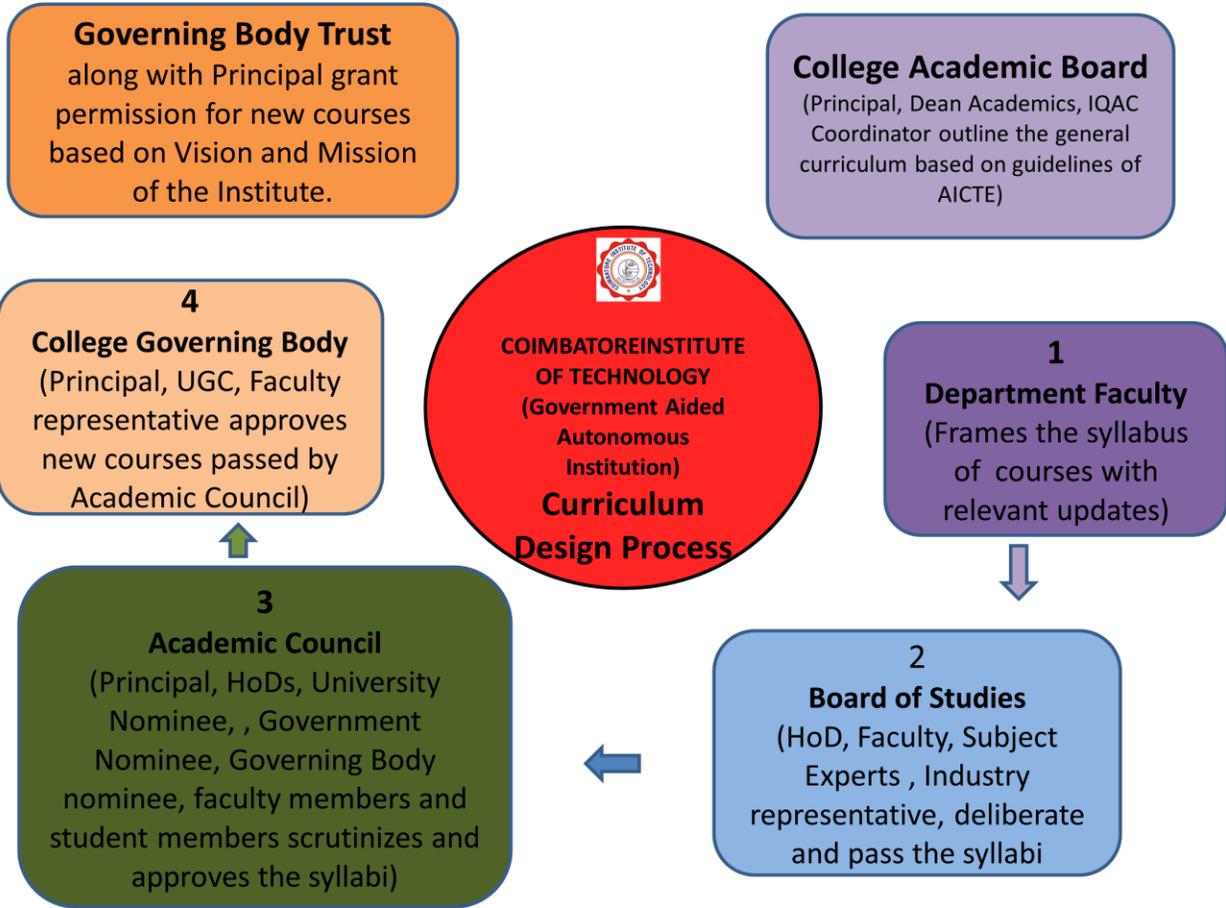
1.	Process flowchart for defining Vision and Mission of the Department, Programme Educational Objectives of the program.	Open
2.	Process flowchart for designing curriculum with sub-processes of course design and revision of curriculum	Open
3.	Vision & Mission of the Institute	Open
4.	Vision & Mission of the departments and PEO, PO & PSO of the Programmes	Open
5.	Syllabus of all Programmes	Open

Process flowchart for defining Vision and Mission of the Department, Programme Educational Objectives of the program.

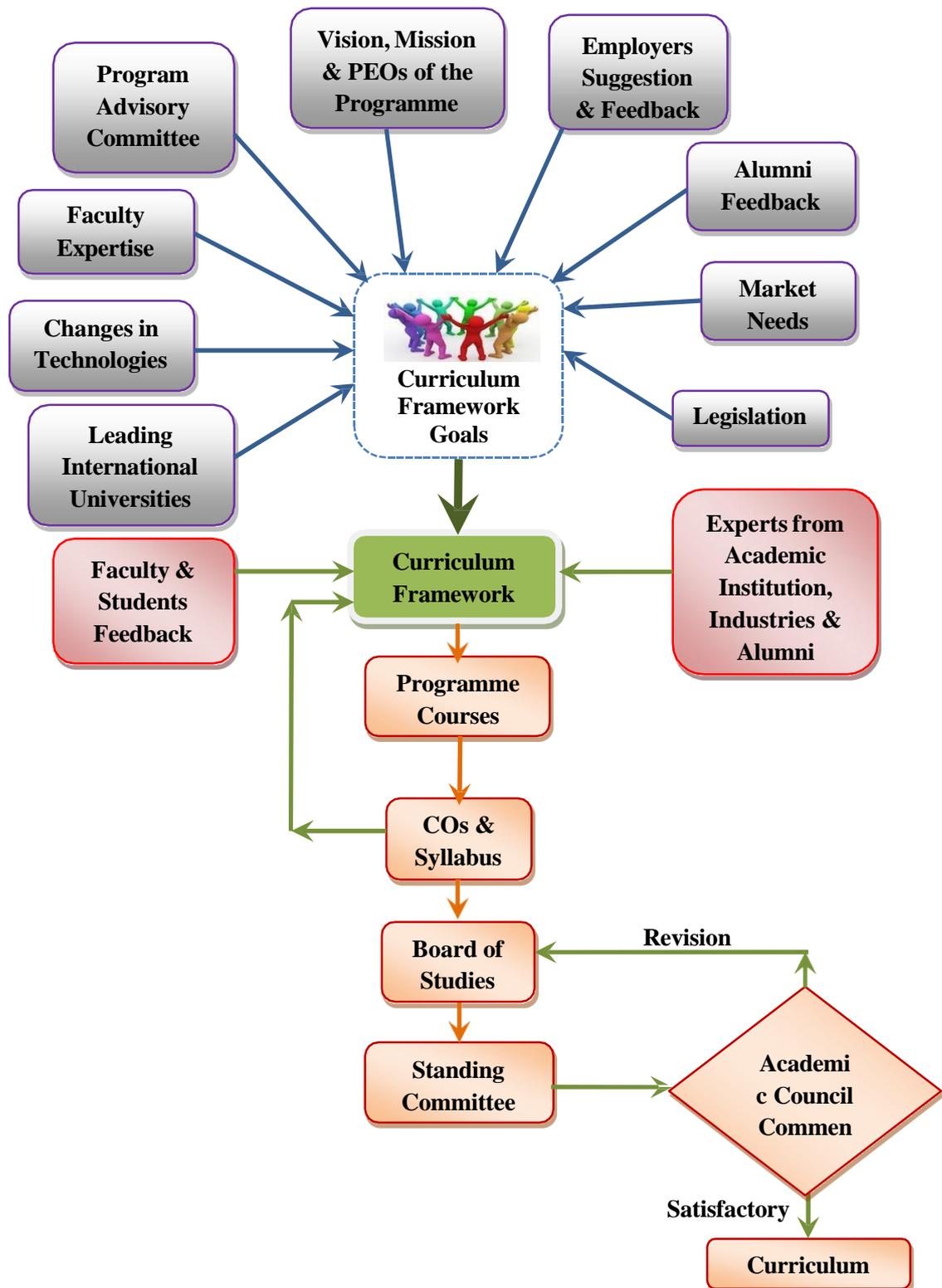


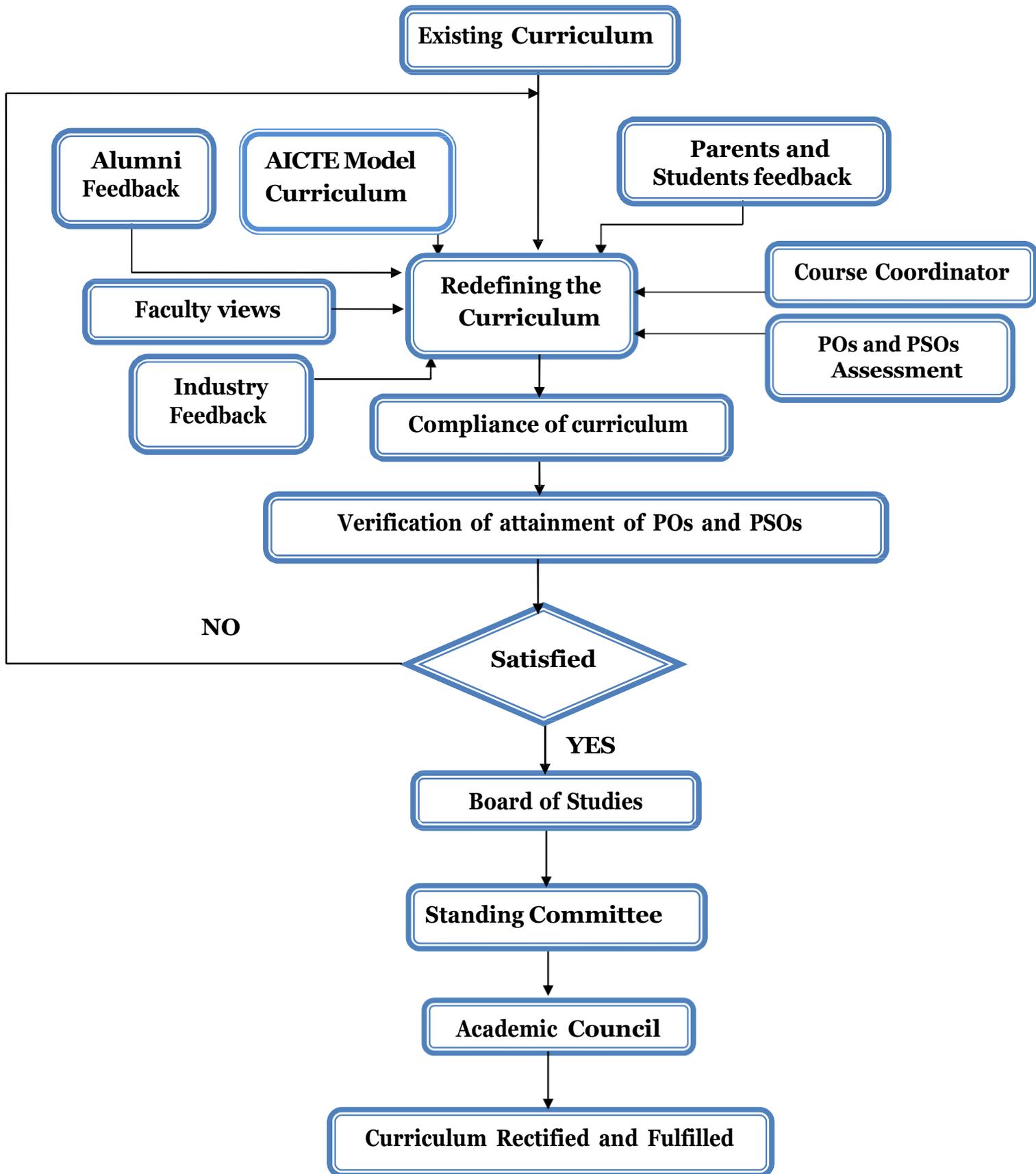
Process for defining the Vision and Mission of the Department, and PEOs of the program

CURRICULUM DESIGN PROCESS



Process flowchart for designing curriculum with sub-processes of course design and revision of curriculum







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VISION OF THE INSTITUTE

The Institute strives to inculcate a sound knowledge in engineering along with realized social responsibilities to enable its students to combat the current and impending challenges faced by our country and to extend their expertise to the global arena.

MISSION OF THE INSTITUTE

The mission of CIT is to impart high quality education and training to its students to make them world-class engineers with a foresight to the changes and problems and pioneers to offer innovative solutions to benefit the nation and the world at large.



COIMBATORE INSTITUTE OF TECHNOLOGY, COIMBATORE – 641 014
(An Autonomous Institution affiliated to ANNA UNIVERSITY, CHENNAI)

DEPARTMENT OF CIVIL ENGINEERING
REGULATIONS 2023 CHOICEBASEDCREDITSYSTEM

B.E. CIVIL ENGINEERING

VISION

To provide quality education in Civil Engineering and to become a state-of-the-art source of world-class Civil Engineers and Researchers

MISSION

- To impart quality education in diverse areas of civil engineering to achieve the industrial expectations.
- To offer state-of the art facilities towards academic and research excellence
- To nurture intellectual knowledge in modern technologies of Civil Engineering for enhancing entrepreneurship qualities and employability skills

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

PEO 1: To equip the graduates with sufficient knowledge and capabilities to become leaders in industry and academia.

PEO 2: To promote research culture and self-development with an aptitude for lifelong learning among graduates.

PEO 3: To inculcate professional ethics with a commitment to the society and environment

PROGRAM OUTCOMES(POs)

Twelve Graduate Attributes as given by NBA as per Washington Accord agreement should be considered for all the UG programmes without any change for POs.

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems
2. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of

the information to provide valid conclusions

5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments
12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change

PROGRAM SPECIFIC OUTCOMES (PSOs)

- PSO1:** The graduates of this programme with proficiency in mathematics and physical science will excel in the core areas of civil engineering such as Structural, Environmental, Geotechnical, Water resources engineering and Construction Management
- PSO2:** The graduates will plan, produce detailed drawings, write specifications, prepare cost estimates
- PSO3:** The graduates will interact with stakeholders effectively and execute quality construction work

MAPPING OF PROGRAMME EDUCATIONAL OUTCOMES WITH PROGRAMME OUTCOMES AND PROGRAMME SPECIFIC COUTCOMES

PEOs	PROGRAMMEOUTCOMES												PSOs		
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
1	3	3	3	2	2	2	2	2	2	2	2	2	3	2	2
2	2	2	2	2	1	2	2	2	1	2	1	3	1	1	1
3	2	2	2	1	1	3	3	3	2	2	1	2	1	2	2



COIMBATORE INSTITUTE OF TECHNOLOGY, COIMBATORE – 641 014
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DEPARTMENT OF MECHANICAL ENGINEERING
REGULATIONS 2023 CHOICE BASED CREDIT SYSTEM

B. E. MECHANICAL ENGINEERING

VISION

To become one of the best mechanical engineering departments in the country within the next decade, in preparing engineers capable of working innovatively and creatively towards a better world.

MISSION

- Impart sound knowledge through effective teaching-learning methods.
- Prepare students to address current and impending challenges facing the country.
- Create and nurture an environment for fostering innovation and research.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

- PEO 1:** Acquire fundamental knowledge and expertise necessary for successful professional practice in mechanical engineering and allied fields, and for higher studies.
- PEO 2:** Attain and demonstrate essential technical skills to identify, analyze and solve complex problems and design issues in mechanical engineering.
- PEO 3:** Possess a professional attitude as an individual or a team member with consideration for societal, ethical and environmental factors, and display motivation for life-long learning.

PROGRAM OUTCOMES (POs)

- 1 **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2 **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principle of mathematics, natural sciences, and engineering sciences.

- 3 **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- 4 **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- 5 **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- 6 **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- 7 **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- 8 **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- 9 **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- 10 **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- 11 **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- 12 **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOs)

- PSO1:** Apply principles of mechanical engineering and physical sciences to model, analyze, design and select appropriate materials and manufacturing processes to create engineering solutions (products, systems, or processes) during their Mini-Project and Thesis Project Work.
- PSO2:** Work with contemporary technologies through multi-pronged opportunities such as industry linked One Credit Courses, In-plant Training, and Internships together with a Fast-tracked curriculum.
- PSO3:** Participate in team hackathons and develop critical thinking skills via hands-on-experience in research experiments to become an entrepreneur or initiate a start-up.

MAPPING OF PROGRAMME EDUCATIONAL OUTCOMES WITH PROGRAMME OUTCOMES AND PROGRAMME SPECIFIC COUTCOMES

PEOs	PROGRAMME OUTCOMES (PO)												PSOs		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1	3	2	2	2	2	2	2	-	-	1	3	1	3	2	1
2	2	3	3	3	3	2	2	1	1	2	3	2	3	2	3
3	-	1	3	1	-	3	3	3	3	3	3	3	2	2	3



COIMBATORE INSTITUTE OF TECHNOLOGY, COIMBATORE – 641 014
(An Autonomous Institution affiliated to ANNA UNIVERSITY, CHENNAI)
DEPARTMENT OF ELECTRONICS AND COMMUNICATION
REGULATIONS 2023 CHOICE BASED CREDIT SYSTEM

B. E. ELECTRONICS AND COMMUNICATION

VISION

To impart knowledge in the field of Electronics and Communication Engineering so as to nurture excellence in students, mould their capability to meet current and impending challenges and ignite aspirations to become innovators and entrepreneurs, thereby benefit the nation and world.

MISSION

- To impart high quality education and training to the students in the field of Electronics and Communication Engineering.
- To promote creation and dissemination of knowledge.
- To equip the students with right aptitude and attitude for continuous learning.
- To provide a framework for collaborative research with industries leading to innovation.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

PEO 1: The graduates will exhibit knowledge in Mathematics, Engineering fundamentals, Electronics and Communication Engineering and related fields for professional achievement in industry and organizations.

PEO 2: The graduates will be able to identify, analyze and apply engineering concepts for design of Electronics and Communication Systems and demonstrate multidisciplinary expertise to meet contemporary requirements.

PEO 3: The graduates will be able to function with leadership qualities, team spirit, managerial skills, attitude and ethics needed for successful career and entrepreneurship.

PROGRAM OUTCOMES (POs)

- 1 **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2 **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- 3 **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- 4 **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
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- 12 **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Design and develop models for signal processing and communication systems

PSO2: Design, develop and test electronic and embedded systems for real time applications

**MAPPING OF PROGRAMME EDUCATIONAL OUTCOMES WITH PROGRAMME OUTCOMES
AND PROGRAMME SPECIFIC COUTCOMES**

PEOs	PROGRAMME OUTCOMES												PSOs	
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
1	3	1	1	2	2	1	1					1	1	1
2	2	2	2	2	2	1	2				2	1	2	2
3				1		2	1	1	2		2	1		



COIMBATORE INSTITUTE OF TECHNOLOGY, COIMBATORE – 641 014
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
REGULATIONS 2023 CHOICE BASED CREDIT SYSTEM

B.E. – ELECTRICAL AND ELECTRONICS ENGINEERING

VISION

To empower the graduates with "capabilities of Academic, Technical and Professional competence and to nurture them in the emerging fields of research, and innovative product development".

MISSION

- Nurture the talent and creativity of the students by making them to practice and realize the core and allied concepts
- Empower the students in the thrust area of electrical engineering through the collaboration with industries and research activities
- Inculcate the lifelong learning and ethics on realizing them as responsible engineers for developing the society and their future

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

PEO 1: To apply the knowledge of engineering and science to solve the complex engineering problems

PEO 2: To promote the ability in offering alternative and optimal design solutions for the societal problems

PEO 3: To promote the ability in offering alternative and optimal design solutions for the societal problems

PEO 4: To develop the leadership skills, professional communication skills and to inculcate the habit to develop the techno-commercial and socio-economic products

PROGRAM OUTCOMES (POs)

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PROGRAM SPECIFIC OUTCOMES (PSOs)

- PSO1:** To select and apply the specific modern tools on engineering activities and to validate the solutions for the complex problems in electrical machines and drives, electrical power system, control and instrumentation system and power electronic systems.
- PSO2:** To design and develop the hardware with multidisciplinary approach for industrial automation, embedded systems, power and energy systems and computer communication systems.

**MAPPING OF PROGRAMME EDUCATIONAL OUTCOMES WITH PROGRAMME OUTCOMES
AND PROGRAMME SPECIFIC OUTCOMES**

PEOs	PROGRAMME OUTCOMES												PSOs	
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
1	3	3											3	
2			3	3		3								3
3					3	3	3	3					3	3
4									3	3	3	3		3



COIMBATORE INSTITUTE OF TECHNOLOGY, COIMBATORE – 641 014
(An Autonomous Institution affiliated to ANNA UNIVERSITY, CHENNAI)
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
REGULATIONS 2023 CHOICE BASED CREDIT SYSTEM

B. E. Computer Science and Engineering

VISION

To evolve as a leading department in the field of computer science and engineering education which nurtures the students to be globally competent professionals.

MISSION

Mission 1: Imparting value-based technical education to develop globally competent engineers capable of providing secure and “Out-of-the-Box” computing and information technology solutions.

Mission 2: Promoting collaborative learning and research with industry and Research organizations for continuous knowledge transfer and enhancement.

Mission 3: Enabling the graduates to adapt to the rapidly changing technology with strong fundamentals.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

PEO 1: Graduates will acquire sound knowledge in mathematical, scientific, and engineering fundamentals and knowledge in Information and Communication technology to analyze, formulate and solve real-life problems.

PEO 2: Graduates will encompass entrepreneurship skills and the ability to develop, and implement innovative, integrated, and secure information technology solutions with the support of state-of-the-art technology for meeting global challenges and changing requirements.

PEO 3: Graduates will possess a professional and ethical attitude, leadership qualities, a desire for lifelong learning, and the ability to work in multidisciplinary teams in meeting broader societal needs.

PROGRAM OUTCOMES (POs)

Twelve Graduate Attributes as given by NBA as per Washington Accord agreement should be considered for all the UG programmes without any change for POs.

1. **Engineering knowledge** : Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
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PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Able to formulate and analyze real-world problems with the application of AI, ML, Cloud Computing, DevOps, SDN, Computer Vision, Data Analytics, IoT, and Security

PSO2: Able to apply the knowledge gained through Software Engineering, Algorithm analysis, and Database Technologies for Industry and Research projects

MAPPING OF PROGRAMME EDUCATIONAL OUTCOMES WITH PROGRAMME OUTCOMES AND PROGRAMME SPECIFIC COUTCOMES

PEOs	PROGRAMME OUTCOMES												PSOs	
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
1	3	3	3	3	2	2	2	2	3	3	3	3	3	3
2	3	3	3	3	3	3	3	3	3	3	3	3	3	3
3	3	3	3	3	2	2	3	3	3	3	2	3	3	3



COIMBATORE INSTITUTE OF TECHNOLOGY, COIMBATORE – 641 014
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DEPARTMENT OF INFORMATION TECHNOLOGY
REGULATIONS 2023 CHOICE BASED CREDIT SYSTEM

B. TECH. INFORMATION TECHNOLOGY

VISION

To evolve as Centre of Excellence in teaching, learning, research and consultancy, integrating computer and information sciences with engineering concepts to develop products and services for the benefits of the industry and society at large.

MISSION

- To impart value based technical education and entrepreneurial skills to the graduates through state of art infrastructure.
- To educate graduates, towards the design and development of intelligent products and services meeting global demands and standards.
- To promote collaborative learning and research with industry, government and International organizations for continuous knowledge transfer and enhancement.
- To develop globally competent engineers capable of providing secure and “Out-of-the Box” computing and information technology solutions.
- To enable the graduates to adapt to the rapidly changing technology with strong fundamentals.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

PEO 1: Graduates will acquire sound knowledge in mathematical, scientific and engineering fundamentals and knowledge in Information and Communication Technology to analyze, formulate and solve the real-life problems.

PEO 2: Graduates will encompass entrepreneurship skills and ability to develop, implement innovative, integrated and secure information technology solutions for meeting the global challenges and changing requirements.

PEO 3: Graduates will possess professional and ethical attitude, leadership qualities, desire for lifelong learning, and ability to work in multidisciplinary teams in meeting the broader societal needs.

N.L.7

Dr. N. K. KARTHIKEYAN,
Professor & HOD - IT Dept.
Coimbatore Institute of Tech (CIT),
Coimbatore, Tamilnadu - 641 014.

PROGRAM OUTCOMES (POs)

- 1 **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
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- 0
- 1 **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- 1
- 1 **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.
- 2

PROGRAM SPECIFIC OUTCOMES (PSOs)

- PSO1:** Ability to design and develop cost effective, secure, reliable IT and network products and solutions using emerging tools and techniques for meeting the global needs.
- PSO2:** Ability to identify and analyze voluminous and heterogeneous data by applying suitable evolutionary algorithms, statistical techniques and analytical tools to facilitate information retrieval, pattern discovery, predictive modeling and decision making in scientific and business applications.

N. K. 47

**MAPPING OF PROGRAMME EDUCATIONAL OUTCOMES WITH PROGRAMME OUTCOMES
AND PROGRAMME SPECIFIC OUTCOMES**

PEOs	PROGRAMME OUTCOMES												PSOs	
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
1	3	3	3	3	3							2	3	3
2				2	3	3	3					2	3	3
3								3	3	3	3	2		

N. K. 47

Dr. N. K. KARTHIKEYAN,
Professor & HOD - IT Dept.
Coimbatore Institute of Tech (CIT),
Coimbatore, Tamilnadu - 641 014.



COIMBATORE INSTITUTE OF TECHNOLOGY, COIMBATORE – 641 014
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DEPARTMENT OF CHEMICAL ENGINEERING
REGULATIONS 2023 CHOICE BASED CREDIT SYSTEM

B.TECH. CHEMICAL ENGINEERING

VISION

Create Chemical Engineers by nurturing innovation, critical thinking, and entrepreneurial spirit to offer solutions to the growing needs of the society.

MISSION

- To provide academic and research proficiency to pursue a successful career in the field of chemical engineering
- To nurture critical thinking among students and enable them to offer innovative solutions for a sustainable environment.
- To promote entrepreneurial spirit among the young minds.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

PEO 1: Students will exhibit professional knowledge in understanding of chemical processes, design and development of chemical equipment's in process & chemical industries.

PEO 2: Students will be able to perform industrial solutions for engineering and handle problems of process industries relevance to society.

PEO 3: Students can adapt to changes in technologies through continuous education and will be able to contribute to national and global economic growth with socially responsible practices.

PROGRAM OUTCOMES (POs)

Twelve Graduate Attributes as given by NBA as per Washington Accord agreement should be considered for all the UG programmes without any change for POs.

- 1 **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

- 2 **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
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- 5 **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- 6 **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- 7 **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- 8 **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- 9 **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- 10 **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- 11 **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- 12 **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Understand and apply working knowledge of chemical engineering principles and applications

PSO2: Implement the inter-perceptual skills of individuals in chemical/allied engineering profession

MAPPING OF PROGRAMME EDUCATIONAL OBJECTIVES WITH PROGRAMME OUTCOMES AND PROGRAMME SPECIFIC COUTCOMES (Where 1. Slight, 2. Moderate 3. Substantial)

PEOs	PROGRAMME OUTCOMES												PSOs	
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
1	3	3	3	3									3	3
2				3		3	2			2				
3								3	3			3	3	



COIMBATORE INSTITUTE OF TECHNOLOGY, COIMBATORE – 641 014
(An Autonomous Institution affiliated to ANNA UNIVERSITY, CHENNAI)
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
REGULATIONS 2023 CHOICE BASED CREDIT SYSTEM

M.E. – EMBEDDED AND REAL TIME SYSTEMS (ERTS)

VISION

To empower the graduates with "capabilities of Academic, Technical and Professional competence and to nurture them in the emerging fields of research, and innovative product development".

MISSION

The mission of the Electrical and Electronics Engineering program is to:

1. Nurture the talent and creativity of the students by making them to practice and realize the core and allied concepts.
2. Empower the students in the thrust area of electrical engineering through the collaboration with industries and research activities.
3. Inculcate the lifelong learning and ethics on realizing them as responsible engineers for developing the society and their future

PROGRAMME EDUCATIONAL OBJECTIVES (PEOS)

PEO1: Develop the on-demand technical skills to be a competent professional.

PEO2: Foster creative solutions to real life challenges

PEO3: Practice ethical research of social value.

PROGRAMME OUTCOMES (POs)

PO1: An ability to independently carry out research /investigation and development work to solve practical problems.

PO2: An ability to write and present a substantial technical report/document.

PO3: Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program

PO4: An ability to use modern tools, professional software platforms, embedded systems for diversified applications.

PO5: An ability to recognize societal challenges and responsibilities and offer engineering solutions

PO6: An ability to participate effectively in a team and lead with a vision to offer solutions globally.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: An ability to select appropriate techniques to modernize the existing infrastructure in line with the industry standards with the industry standards

PSO2: An ability to apply concepts in Engineering analysis and design

MAPPING OF PROGRAMME EDUCATIONAL OUTCOMES WITH PROGRAMME OUTCOMES AND PROGRAMME SPECIFIC OUTCOMES

PEOs	PROGRAMME OUTCOMES												PSOs	
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2
1	3	3	3	3									3	
2			3	3		3								3
3					3	3							3	3

COIMBATORE INSTITUTE OF TECHNOLOGY

(Government Aided Autonomous Institution Affiliated to Anna University, Chennai)

VISION AND MISSION OF THE INSTITUTE

VISION

The Institute strives to inculcate a sound knowledge in Engineering along with realized social responsibilities to enable its students to combat the current and impending challenges faced by our country and to extend their expertise to the global arena.

MISSION

The Mission of the institute is to impart high quality education and training to its students to make them world-class Engineers with a foresight to the changes and problems and pioneers to offer innovative solutions to benefit the nation and the world at large.

DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE
VISION AND MISSION OF THE DEPARTMENT

VISION

To promote innovative research and consultancy through effectual teaching and learning process to develop emerging technology solutions for the benefits of industry and society.

MISSION

1. Imparting quality value based technical education and produce technology professionals with innovative thoughts and inspiring leadership skills.
2. Having rational thinking for design and development of cutting-edge products by engaging with industry stakeholders to fulfil the global demands and standards.
3. Strengthening the core competence in the domain of Artificial Intelligence and Data Science
4. Enabling the graduates to adapt to the evolving technologies through strong fundamentals and lifelong learning

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO1: Build next generation of highly skilled graduates equipped with a strong knowledge in Artificial intelligence (AI) and Data Science (DS) for creating innovative solutions to society's pressing challenges.

PEO2: Create engineers in addressing wide variety of challenges in managing and analysing different nature of data and able to use and develop software systems in complex data intensive and AI- related applications.

PEO3: Demonstrate professionalism in graduates and reflect on personal performance and self-management processes as a means of continued professional development and lifelong learning in areas of emerging technologies.

PROGRAM OUTCOMES (POs)

PO1:	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and Artificial Intelligence and Data Science basics to the solution of complex engineering problems.
PO2:	Problem analysis: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences
PO3:	Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
PO6	The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change

PROGRAMME SPECIFIC OUTCOMES (PSO)

1. Graduates should be able to evolve AI based efficient domain specific processes for effective decision making in several domains such as business and governance domains.
2. Graduates should be able to arrive at actionable Fore sight, Insight , hind sight from data for solving business and engineering problems
3. Graduates should be able to create, select and apply the theoretical knowledge of AI and Data Analytics along with practical industrial tools and techniques to manage and solve societal problems



COIMBATORE INSTITUTE OF TECHNOLOGY, COIMBATORE – 641 014
(An Autonomous Institution affiliated to ANNA UNIVERSITY, CHENNAI)
DEPARTMENT OF CIVIL ENGINEERING
REGULATIONS 2023 CHOICE BASED CREDIT SYSTEM

M. E. ENVIRONMENTAL ENGINEERING

VISION

To provide quality education in Civil Engineering and to become a state-of-the-art source of world-class Civil Engineers and Researchers.

MISSION

- M1 - To impart quality education in diverse areas of civil engineering to achieve the industrial expectations.
- M2 - To offer state-of the art facilities towards academic and research excellence.
- M3 - To nurture intellectual knowledge in modern technologies of Civil Engineering for enhancing entrepreneurship qualities and employability skills.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

Programme Educational Objectives of the post graduate program of Environmental Engineering are

PEO 1: Empower graduates with advanced technical and managerial proficiencies in environmental engineering and they will adeptly solve global and national environmental challenges.

PEO 2: Excel in various professional contexts, honing their problem-solving, research, and communication skills and they will contribute effectively to interdisciplinary teams and complex problem-solving scenarios.

PEO 3: Exemplify ethical leadership, addressing environmental issues responsibly and they will exhibit awareness of societal needs, promoting sustainable solutions with a focus on social well-being.

PROGRAM OUTCOMES (POs)

Three Graduate Attributes as given by NBA as per Washington Accord agreement should be considered for all the PG programmes without any change for POs.

- PO1:** An ability to independently carry out Research / Investigation and Development work to solve practical Problems in Environmental Engineering
- PO2:** An ability to write and present a substantial Technical Report / Document
- PO3:** Students should be able to demonstrate a Degree of Mastery over the area as per the specialization of the program.

PROGRAM SPECIFIC OUTCOMES (PSOs)

Graduates of the program M.E. Environmental Engineering will be able to

- PSO1:** Acquire advanced knowledge and design capabilities in environmental engineering, applying current codes, tools, and techniques to develop sustainable solutions for societal needs
- PSO2:** Analyze and solve complex environmental engineering problems through integrated experimental, analytical, and numerical approaches, considering safety, serviceability, economy, durability, and environmental impact.
- PSO3:** Effectively collaborate in scientific research, drawing upon acquired knowledge contribute to decision-making and advance innovative solutions for environmental engineering challenges.

MAPPING OF PROGRAMME EDUCATIONAL OUTCOMES WITH PROGRAMME OUTCOMES AND PROGRAMME SPECIFIC COUTCOMES

PEOs	PROGRAMME OUTCOMES			PSOs		
	PO1	PO2	PO3	PSO1	PSO2	PSO3
1	X	X	X	X	X	X
2	X	X	X		X	
3				X	X	X



COIMBATORE INSTITUTE OF TECHNOLOGY, COIMBATORE – 641 014
(An Autonomous Institution affiliated to ANNA UNIVERSITY, CHENNAI)

DEPARTMENT OF CIVIL ENGINEERING
REGULATIONS 2023 CHOICE BASED CREDIT SYSTEM

M. E. CONSTRUCTION MANAGEMENT

VISION

To provide quality education in Civil Engineering and to become a state-of-the-art source of world-class Civil Engineers and Researchers.

MISSION

- M1 - To impart quality education in diverse areas of civil engineering to achieve the industrial expectations.
- M2 - To offer state-of the art facilities towards academic and research excellence.
- M3 - To nurture intellectual knowledge in modern technologies of Civil Engineering for enhancing entrepreneurship qualities and employability skills.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

The educational objectives of the postgraduate programme of PG Construction Management are:

PEO 1: Excel in research or will succeed in Construction Engineering and Management profession in the government, public and private sector organizations.

PEO 2: Have a sound knowledge in statistics, project management and construction engineering fundamentals required for solving real time construction Engineering and Management Problems using modern equipment and software tools.

PEO 3: Become entrepreneurs and develop processes and construction technologies through innovation, by integrating their knowledge in multidisciplinary management to meet the needs of society and formulate solutions that are technically sound, economically feasible, and socially acceptable.

PEO 4: Have professional and ethical attitude, effective communication skills, teamwork skills, leadership quality, multidisciplinary approach and an ability to relate Construction Engineering and Management issues in broader social context.

PEO 5: Have competence of excellence, leadership, written ethical codes and guidelines, and the life-long learning needed for a successful professional career.

PROGRAM OUTCOMES (POs)

POs describe what students are expected to know or be able to do by the time of post-graduation from the program. The Program Outcomes of M.E Construction Management are as follows:

- PO1** An ability to independently carry out research/investigation and development work to solve practical problems
- PO2** An ability to write and present a substantial technical report/document
- PO3** Able to demonstrate a degree of mastery over the area as per the specialization of the program at a level higher than the requirements in the appropriate bachelor program

PROGRAM SPECIFIC OUTCOMES (PSOs)

Graduates of the program M.E. Construction Management will be able to

PSO1: Knowledge of Construction Engineering and Management discipline

PSO2: Critical analysis of Construction management problems and innovation

PSO3: Conceptualization and evaluation of engineering solutions to Construction Issues.

MAPPING OF PROGRAMME EDUCATIONAL OUTCOMES WITH PROGRAMME OUTCOMES AND PROGRAMME SPECIFIC COUTCOMES

PEOs	PROGRAMME OUTCOMES			PSOs		
	PO1	PO2	PO3	PSO1	PSO2	PSO3
1	X	X	X	X	X	X
2	X	X	X		X	
3				X	X	X
4	X		X	X	X	X
5	X	X	X	X	X	X



COIMBATORE INSTITUTE OF TECHNOLOGY, COIMBATORE – 641 014
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DEPARTMENT OF CIVIL ENGINEERING
REGULATIONS 2023 CHOICE BASED CREDIT SYSTEM

M. E. STRUCTURAL ENGINEERING

VISION

To provide quality education in Civil Engineering and to become a state-of-the-art source of world-class Civil Engineers and Researchers.

MISSION

- M1 - To impart quality education in diverse areas of civil engineering to achieve the industrial expectations.
- M2 - To offer state-of the art facilities towards academic and research excellence.
- M3 - To nurture intellectual knowledge in modern technologies of Civil Engineering for enhancing entrepreneurship qualities and employability skills.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

Programme Educational Objectives of the post graduate program of Environmental Engineering are

PEO 1: Become highly skilled and innovative Structural Engineers, capable of contributing effectively in academia or industry, in leading or supportive roles.

PEO 2: Commit to lifelong learning by pursuing advanced degrees, professional certifications, and continuous skill development in Structural Engineering.

PEO 3: Achieve successful employment in structural engineering firms, related industries, or research programs.

PEO 4: Demonstrate awareness of the environmental and societal impact of structural engineering practices and strive for sustainable solutions.

PROGRAM OUTCOMES (POs)

Three Graduate Attributes as given by NBA as per Washington Accord agreement should be considered for all the PG programmes without any change for POs.

- PO1:** An ability to independently carry out Research / Investigation and Development work to solve practical Problems in Structural Engineering
- PO2:** An ability to write and present a substantial Technical Report / Document
- PO3:** Students should be able to demonstrate a Degree of Mastery over the area as per the specialization of the program.

PROGRAM SPECIFIC OUTCOMES (PSOs)

Graduates of the program M.E. Structural Engineering will be able to

- PSO1:** Acquire advanced knowledge and design capabilities in structural engineering, applying current codes, tools, and techniques to develop sustainable solutions for societal needs
- PSO2:** Analyze and solve complex structural engineering problems through integrated experimental, analytical, and numerical approaches, considering safety, serviceability, economy, durability, and environmental impact.
- PSO3:** Effectively collaborate in scientific research, drawing upon acquired knowledge to contribute to decision-making and advance innovative solutions for structural engineering challenges.

MAPPING OF PROGRAMME EDUCATIONAL OUTCOMES WITH PROGRAMME OUTCOMES AND PROGRAMME SPECIFIC COUTCOMES

PEOs	PROGRAMME OUTCOMES			PSOs		
	PO1	PO2	PO3	PSO1	PSO2	PSO3
1	x	x	x	x	x	x
2	x	x	x		x	
3				x	x	x

COIMBATORE INSTITUTE OF TECHNOLOGY

(Government Aided Autonomous Institution Affiliated to Anna University, Chennai)

VISION AND MISSION OF THE INSTITUTE

VISION

The Institute strives to inculcate a sound knowledge in engineering along with realized social responsibilities to enable its students to combat the current and impending challenges faced by our country and to extend their expertise to the global arena.

MISSION

The mission of CIT is to impart high quality education and training to its students to make them World-Class Engineers with a foresight to the changes and problems, and pioneers to offer innovative solutions to benefit the nation and the world at large.

COIMBATORE INSTITUTE OF TECHNOLOGY

(Government Aided Autonomous Institution Affiliated to Anna University, Chennai)

DEPARTMENT OF COMPUTER APPLICATIONS

VISION AND MISSION

VISION

The Department of Computer Applications strives to groom students with diverse backgrounds into competitive software professionals and pioneering leaders in offering innovative solutions to dynamic global challenges in tune with the needs of the society.

MISSION

The Mission of Department of Computer Applications is to :

- M1** Provide an environment for students to gain expertise in theoretical foundations of computer applications with emphasis on strong practical training that will enable them to develop real world applications catering to the global needs.
- M2** Offer students a quality learning process in a research oriented environment with industrial collaboration that motivates them to innovate and explore.
- M3** Develop intellectual curiosity and a commitment to lifelong learning in students, with societal and environmental concerns.

COIMBATORE INSTITUTE OF TECHNOLOGY

(Government Aided Autonomous Institution Affiliated to Anna University, Chennai)

DEPARTMENT OF COMPUTER APPLICATIONS

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEOs for MCA programme are designed based on the Department Mission.

MCA Graduates will be able to :

- PEO 1** : Develop software solutions to problems across a broad range of application domains through analysis and design.
- PEO 2** : Contribute to research of their chosen field and function and communicate effectively, to perform both individually and in a multi-disciplinary team.
- PEO 3** : Continue the process of life-long learning through professional activities; adapt themselves with ease to new technologies, while exhibiting high ethical and professional standards.

COIMBATORE INSTITUTE OF TECHNOLOGY

(Government Aided Autonomous Institution Affiliated to Anna University, Chennai)

DEPARTMENT OF COMPUTER APPLICATIONS

PROGRAMME OUTCOMES (POs)

The following are Programme Outcomes for the MCA Programme :

- PO1** : Graduates will be able to apply knowledge of computing fundamentals, computing specialization and domain knowledge for the abstraction and conceptualization of computing models from defined problems and requirements.
- PO2** : Graduates will have the ability to understand and analyze a given real-world problem and propose feasible computing solutions.
- PO3** : Graduates will be able to analyze customer requirements, create high level design, implement and document robust and reliable software systems.
- PO4** : Graduates will be able to transform complex business scenarios and contemporary issues into problems, investigate, understand and propose integrated solutions using emerging technologies.
- PO5** : Graduates will be able to use the techniques, skills and modern hardware and software tools necessary for innovative software solutions.
- PO6** : Graduates will possess leadership and managerial skills with best professional ethical practices and social concern.
- PO7** : Graduates will recognize the need for self-motivation to engage in lifelong learning.
- PO8** : Graduates will be able to master fundamental project management skills, concepts and techniques, set attainable objectives and ensure positive results, meeting scope, time and budget constraints.
- PO9** : Graduates will be able to communicate technical information effectively, both orally and in writing
- PO10** : Graduates will be able to recognize the social, professional, cultural, and ethical issues involved in the use of computer technology and give them due consideration in developing software systems.
- PO11** : Graduates will be able to work collaboratively as a member or leader in multidisciplinary teams.
- PO12** : Graduates will be able to assess the need for innovation and initiate the process through entrepreneurship or otherwise.

COIMBATORE INSTITUTE OF TECHNOLOGY

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VISION AND MISSION OF THE INSTITUTE

VISION

The Institute strives to "inculcate a sound knowledge in engineering along with realized social responsibilities to enable its students to combat the current and impending challenges faced by our country and to extend their expertise to the global arena".

MISSION

The mission of CIT is to "impart high quality education and training to its students to make them world - class engineers with a foresight to the changes and problems, and pioneers to offer innovative solutions to benefit the nation and the world at large".

COIMBATORE INSTITUTE OF TECHNOLOGY

(Government Aided Autonomous Institution Affiliated to Anna University, Chennai)

DEPARTMENT OF MANAGEMENT STUDIES (MBA)

VISION AND MISSION OF DEPARTMENT OF MANAGEMENT STUDIES (MBA)

VISION

To be a School of Management Studies with Global Mindset and bring out highly capable, engaged and ethical leaders who will create positive changes in the world of Business & Society.

MISSION

To develop MBA graduates with Self - Awareness, Self - Reflection, Responsible Leadership and Techno- Managerial Skills.

OBJECTIVES

To teach students the foundations of general management and develop skills in problem solving and decision making in a business environment along with honing their skills in leveraging technology for disruptive innovation/entrepreneurship.

COIMBATORE INSTITUTE OF TECHNOLOGY

(Government Aided Autonomous Institution Affiliated to Anna University, Chennai)

DEPARTMENT OF MANAGEMENT STUDIES (MBA)

MASTER OF BUSINESS ADMINISTRATION REGULATIONS - 2021

CHOICE BASED CREDIT SYSTEM

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs) :

MBA programme curriculum is designed to prepare the post graduate students

- I. To have a thorough understanding of the core aspects of the business.
- II. To provide the learners with the management tools to identify, analyze and create business opportunities as well as solve business problems.
- III. To prepare them to have a holistic approach towards management functions.
- IV. To motivate them for continuous learning.
- V. To inspire and make them practice ethical standards in business.

PROGRAMME OUTCOMES (POs) :

On successful completion of the programme,

1. Ability to apply the business acumen gained in practice.
2. Ability to understand and solve managerial issues.
3. Ability to communicate and negotiate effectively, to achieve organizational and individual goals.
4. Ability to upgrade their professional and managerial skills in their workplace.
5. Ability to explore and reflect about managerial challenges, develop informed managerial decisions in a dynamically unstable environment.
6. Ability to take up challenging assignments.
7. Ability to understand one's own ability to set achievable targets and complete them.
8. Ability to pursue life long learning.
9. To have a fulfilling business career.
10. Ability to have financial literacy.
11. Ability to fulfill social out reach
12. Ability to understand business analytics

MAPPING OF PEOS WITH POS :

Programme Educational Objectives	Programme Outcomes											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
I	3	3	2	1	3	3	1	2	1	1	1	3
II	1	3	1	2	3	1	3	2	1	3	1	3
III	3	3	2	3	3	2	3	3	3	1	2	3
IV	2	1	2	3	3	1	3	3	3	1	2	1
V	1	3	3	2	2	3	1	2	3	1	3	1

COIMBATORE INSTITUTE OF TECHNOLOGY

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VISION AND MISSION OF THE INSTITUTE

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DEPARTMENT OF COMPUTING COIMBATORE INSTITUTE OF TECHNOLOGY

VISION AND MISSION OF DEPARTMENT OF COMPUTING

VISION

Department of Computing endeavors to make the students, world class software engineers, data scientists and decision makers with prudence of pioneering the solutions to the challenges of the nation and the world.

MISSION

The Mission of Department of Computing is

- M1** : To impart sound conceptual knowledge along with intensive practical training and real time industry/ research project exposure to the students.
- M2** : To provide a learning ambience to enhance innovations, problem solving skills, leadership qualities, team-spirit and ethical responsibilities.
- M3** : To establish Industry Institute Interaction program to provide exposure of latest tools and technologies used in the IT organizations and enhance the entrepreneurship skills.

**DEPARTMENT OF COMPUTING
COIMBATORE INSTITUTE OF TECHNOLOGY**

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

Our Graduates will :

- PEO1 Expertise in software solution** : Work productively as highly competent software professionals with the capability of investigating the problem, planning and developing the quality software solutions for various domains.
- PEO2 Research** : Promote research in the development of leading innovative products.
- PEO3 Leadership** : Inspire and guide the groups they work with in bringing their ideas to fruition, with managerial skills, self-assurance and integrity.
- PEO4 Social Responsibility** : commit to social ethical and professional responsibilities.
- PEO5 Life-long Learning** : Participate in life-long learning to enhance knowledge and skills necessary to contribute to the betterment of profession.
- PEO6 Entrepreneurship** : Become Successful entrepreneurs with the strong business managerial skills.

DEPARTMENT OF COMPUTING
COIMBATORE INSTITUTE OF TECHNOLOGY

PROGRAMME OUTCOMES (POs)

Students in the M.Sc.(Software Systems) should possess the following abilities :

- PO1** : Analyze a problem and design an efficient solution with the knowledge of Mathematics and Computing.
- PO2** : Plan, develop and manage software solutions that aid the industry or government to accomplish their set goals using state-of-the-art technology.
- PO3** : Design and develop the decision support system.
- PO4** : Design and develop internet based embedded software systems for real time environment.
- PO5** : Assess the quality standards of the development process and software solutions.
- PO6** : Communicate effectively with stakeholders and work as part of teams.
- PO7** : Work with professional, and ethical values.
- PO8** : Understand and solve legal and security issues of socio-economical applications.
- PO9** : Recognize the importance of research to develop leading innovative products in diversified fields of computer science.
- PO10** : Self learning and adaptation to the emerging technologies to address the challenging issues.
- PO11** : Apply the principles of management in defining, planning and tracking the projects.

COIMBATORE INSTITUTE OF TECHNOLOGY

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VISION AND MISSION OF THE INSTITUTE

VISION

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**DEPARTMENT OF COMPUTING
COIMBATORE INSTITUTE OF TECHNOLOGY**

VISION AND MISSION OF DEPARTMENT OF COMPUTING

VISION

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COIMBATORE INSTITUTE OF TECHNOLOGY

(Government Aided Autonomous Institution Affiliated to Anna University, Chennai)

DEPARTMENT OF COMPUTING

M.Sc. DECISION AND COMPUTING SCIENCES

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

- PEO1 Expertise in Decision Making** : Evolve as decision scientists with an in-depth knowledge of multiple business domains across all functional areas.
- PEO2 Expertise in Software Development** : Be competent to develop software products by strategic blending of computing technology and management expertise that facilitate informed decision making.
- PEO3 Leadership and Lifelong Learning** : Demonstrate leadership qualities through acquisition of intrapreneurship and entrepreneurship traits and engage in active contribution to society through innovative solutions of global impact.

COIMBATORE INSTITUTE OF TECHNOLOGY

(Government Aided Autonomous Institution Affiliated to Anna University, Chennai)

DEPARTMENT OF COMPUTING

M.Sc. DECISION AND COMPUTING SCIENCES

PROGRAMME OUTCOMES

- PO1** : Apply mathematical and statistical modelling for analysis of business problems that aid management to make data driven decisions.
- PO2** : Perform quantitative and qualitative data analytics in functional areas of business like marketing, human resource management, finance, etc.
- PO3** : Visualize and infer meaningful insights to facilitate strategic and operational decisions.
- PO4** : Apply foundations of business management blended with computing science to address issues in decision-making.
- PO5** : Develop smart enterprise applications applying software engineering principles and business domain knowledge.
- PO6** : Design and develop software products and services for strategic decision making, business analytics and intelligence.
- PO7** : Align and utilize information technology infrastructure, analytics and decision-making skills effectively to realize the organization's goals.
- PO8** : Contribute and collaborate effectively in any role in multi-disciplinary teams.
- PO9** : Recognize professional, social and ethical values imbibed in the business and technical environments.
- PO10** : Engage in lifelong learning to be empowered with management expertise and by structured adoption of technological advancements.
- PO11** : Aspire to be an intrapreneur/entrepreneur by transforming the idea into successful business venture with due consideration to financial, technical and management aspects.

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Department of Computing

M. Sc. DECISION AND COMPUTING SCIENCES

(Five year Integrated Programme)

Curriculum from the Academic Year 2022 – 2023 onwards

Semester I						
Course Code	Course Name	L	T	P	C	CAT
Theory						
22MDC11	Technical English	2	0	1	2	HS
22MDC12	Applied Algebra and Calculus	3	1	0	4	BS
22MDC13	Statistical Methods	3	0	0	3	BS
22MDC14	Principles of Management	3	0	0	3	PC
22MDC15	Problem Solving and Programming in C	3	0	0	3	PC
Practicals						
22MDC16	Mathematical and Statistical Computing Laboratory	0	0	4	2	PC
22MDC17	C Programming Laboratory	0	0	4	2	PC
22MDC18	Foundations of Computer Science Laboratory	0	0	4	2	PC
22MDC19	Employability Skills	0	0	2	1	EEC
	Total Credits				22	
Semester II						
Course Code	Course Name	L	T	P	C	CAT
Theory						
	Language Elective	2	0	1	2	HS
22MDC21	Probability Distributions and Applications	3	0	0	3	BS
22MDC22	Organisational Behavior	4	0	0	4	PC
22MDC23	Data Structures and Algorithms	3	0	0	3	PC
22MDC24	Computer Organization and Operating Systems	3	0	0	3	PC
Practicals						
22MDC25	Applied Probability Laboratory	0	0	4	2	PC
22MDC26	Data Structures and Algorithms Laboratory	0	0	4	2	PC
22MDC27	Python Programming Laboratory	0	0	4	2	PC
22MDC28	English for Employability	0	0	2	1	EEC
	Total Credits				22	

COIMBATORE INSTITUTE OF TECHNOLOGY

(Government Aided Autonomous Institution Affiliated to Anna University, Chennai)

VISION AND MISSION OF THE INSTITUTE

VISION

The Institute strives to inculcate a sound knowledge in Engineering along with realized social responsibilities to enable its students to combat the current and impending challenges faced by our country and to extend their expertise to the global arena.

MISSION

The Mission of Coimbatore Institute of Technology (CIT) is to impart high quality education and training to its students to make them World-Class Engineers with a foresight to the changes and problems, and pioneers to offer innovative solutions to benefit the nation and the world at large.

**DEPARTMENT OF COMPUTING - ARTIFICIAL INTELLIGENCE AND
MACHINE LEARNING
COIMBATORE INSTITUTE OF TECHNOLOGY**

VISION AND MISSION OF DEPARTMENT OF COMPUTING - AI & ML

VISION

Department of Computing-Artificial Intelligence and Machine Learning endeavours to make the students, world class software engineers, cutting edge researchers in Artificial Intelligence (AI) and Machine Learning (ML) and data engineers with prudence of pioneering solutions to challengers of the nation and the world.

MISSION

- M1** : To impart strong conceptual knowledge along with intensive practical training and real time industry/ research project exposure to the students.
- M2** : To provide a learning ambience to enhance innovations, problem solving skills, leadership qualities, team spirit and ethical responsibilities.
- M3** : To establish Industry Institute Interaction program to provide exposure to a) latest AI, ML tools and technologies used in the IT organizations and enhance the entrepreneurship skills b) domain specific problems that will benefit from AI, ML solutions.

COIMBATORE INSTITUTE OF TECHNOLOGY

(Government Aided Autonomous Institution Affiliated to Anna University, Chennai)

DEPARTMENT OF COMPUTING - ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

M.Sc. Artificial Intelligence and Machine Learning

(Five-Year Integrated Programme)

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

Our graduates will be able to :

- PEO1** : Develop software solutions demonstrating intelligent behaviour, handling uncertainty, constantly learning, and effectively using domain knowledge
- PEO2** : Promote research in intelligent technology and concepts
- PEO3** : Participate in life-long learning for effective professional growth and demonstrate leadership qualities to co-ordinate cooperative team in contributing for the betterment of the society.

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DEPARTMENT OF COMPUTING - ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

M.Sc. Artificial Intelligence and Machine Learning

(Five-Year Integrated Programme)

PROGRAMME SPECIFIC OUTCOMES (PSOs)

Our graduates will be able to :

- PSO1** : Review the various concepts of Statistics, Mathematics and Computing appropriate to the discipline and apply it in problem solving.
- PSO2** : Write optimized codes in languages such as Python, C and Java and use open source machine learning frameworks.
- PSO3** : Acquire knowledge and coding skills necessary to support their career in software development, web development, machine learning, artificial intelligence, computer vision and cyber security.
- PSO4** : Design and develop innovative computing solutions across domains and augment intelligence in the software.

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DEPARTMENT OF COMPUTING - ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

M.Sc. Artificial Intelligence and Machine Learning

(Five-Year Integrated Programme)

PROGRAMME OUTCOMES (POs)

Graduates of the programme will be able to:

- PO1** : Apply skills and concepts of computer science to abstract, design and code computing models and software solutions, from requirements of a problem.
- PO2** : Analyze real world problems, customer requirements from the perspective of developing software of good quality.
- PO3** : Analyse, design, develop and implement software solutions that meet requirements and can evolve to meet changes in the requirements.
- PO4** : Apply mathematical and statistical models to explore and analyze the massive amount of data in various domains.
- PO5** : Use techniques, skills and tools of both hardware and software including (but not limited to) programming languages, operations research, data storage, decision theory, knowledge representation, visualization, privacy, security to develop scalable techniques for software programming, data analysis, and design.
- PO6** : Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.
- PO7** : Recognize the need for, and have the ability to engage in independent and life-long learning.
- PO8** : Design and develop Artificial Intelligence and Machine Learning systems for analysing the varied, voluminous data in fields of medicine, business, geosciences, legal, scientific research and other domains.
- PO9** : Recognize the importance of innovation and develop a critical and research thinking approach to develop leading innovative intelligent software products.
- PO10** : Recognize social, professional, cultural, humane and ethical values and issues involved in the use of software technology and consider these adequately in developing and deploying systems.
- PO11** : Communicate effectively, domain and technical information with decision makers and team members, to derive software systems of high quality.
- PO12** : Enhance self-learning as well as capability to adapt to emerging technologies and create innovative solutions for challenging issues of society, engineering and education as part of an organization or as an entrepreneur.

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VISION AND MISSION OF THE INSTITUTE

VISION

The Institute strives to inculcate a sound knowledge in Engineering along with realized social responsibilities to enable its students to combat the current and impending challenges faced by our country and to extend their expertise to the global arena.

MISSION

The Mission of CIT is to impart high quality education and training to its students to make them World-Class Engineers with a foresight to the changes and problems, and pioneers to offer innovative solutions to benefit the nation and the world at large.

DEPARTMENT OF COMPUTING
COIMBATORE INSTITUTE OF TECHNOLOGY

VISION AND MISSION

VISION

Department of Computing endeavours to make the students, world class software engineers, data scientists and decision makers with prudence of pioneering the solutions to the challengers of the nation and the world.

MISSION

The mission of Department of Computing is

- M1:** To impart sound conceptual knowledge along with intensive practical training and real time industry/research project exposure to the students
- M2:** To provide a learning ambience to enhance innovations, problem solving skills, leadership qualities, team-spirit and ethical responsibilities.
- M3:** To establish Industry Institute Interaction program to provide exposure of latest tools and technologies used in the IT organizations and enhance the entrepreneurship skills.

DEPARTMENT OF COMPUTING
FIVE YEAR INTEGRATED M.Sc. (DATA
SCIENCE) PROGRAMME OUTCOMES
(POS)

Students in the M.Sc.(Data Science) should possess the following abilities:

- PO1** : Develop mathematical models and their computational solutions to reason and interpret massive amount of data in wide range of domains.
- PO2** : Collect and Analyze large quantities of data to discover new knowledge pattern and facilitate decision making.
- PO3** : Apply techniques and tools of data science to design and develop the systems for analyzing the rapidly growing data in the fields of medicine, business, geosciences and scientific research.
- PO4** : Develop scalable techniques for data analysis and decision making in many areas, including machine learning, algorithms, statistics, operations research, databases, complexity analysis, visualization, and privacy and security.
- PO5** : Communicate effectively with decision makers to derive intelligent analytical systems.
- PO6** : Work with professional, and ethical values.
- PO7** : Understand and solve legal and security issues of analytical applications.
- PO8** : Recognize the importance of research to develop leading innovative analytical products.
- PO9** : Self learning and adaptation to the emerging technologies to address the challenging issues.

DEPARTMENT OF COMPUTING
FIVE YEAR INTEGRATED M.Sc. (DATA
SCIENCE) PROGRAMME EDUCATIONAL
OBJECTIVES (PEOs)

Our Graduates will:

- PEO 1 : Expertise in Analytical solution :** Be uniquely positioned to pioneer new developments in the data science field, and to be leaders in industry, the public sector, and academia
- PEO 2 : Research :** Promote research in the development of leading innovative products
- PEO 3 : Leadership :** Inspire and guide the groups they work with in bringing their ideas to fruition, with managerial skills, self-assurance and integrity
- PEO 4 : Social Responsibility :** commit to social ethical and professional responsibilities
- PEO 5 : Life-long Learning :** Participate in life-long learning to enhance knowledge and skills necessary to contribute to the betterment of profession
- PEO 6 : Entrepreneurship :** Become Successful entrepreneurs with the strong business managerial skills