Ramaiah Institute of Technology | DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING

Certificate Course on "Engineering Education"
Course Contents

		Curriculum development
	1	Introduction to engineering education paradigms
	2	Regulatory mechanisms for engineering education in India
	3	IEEE & ACM Computer Science Body of Knowledge
	4	AICTE Model Computer Science Curriculum
	5	Model Curriculum for Allied domains - Information Science, Information Technology, Management Information Systems
	6	Model Curriculum for Emerging Domains - Data Science, Artificial Intelligence, Machine Learning, Cyber Security
	7	ABET Graduate Outcomes
	8	Curriculum Development processes and mapping them to Program Outcomes
	9	Activity - Development of new curriculum for undergraduate programs
	10	Activity - Development of new curriculum for postgraduate programs
		Course design
	11	Cognitive levels and Blooms taxonomy
	12	Writing Objectives & Outcomes for a course
	13	Development of course contents & selection of reference materials
	14	Mapping course contents to Course Outcomes
	15	Delivery methods for the course
	16	Evaluation methods for the course
	17	Digital tools for course development process
	18	Activity - Designing a new theory course with tutorials
	19	Activity - Designing a new laboratory course
	20	Activity - Designing project works
		Pedagogical approaches for effective content delivery
	21	Developing effective instruction delivery techniques by mapping them to Course Outcomes
	22	Project based learning methods
	23	Active learning methods

24	Group learning methods
25	Digital pedagogy
26	Blended models & flipped classrooms
27	Adaptive teaching through continuous stakeholder feedback
28	Activity - Designing the delivery methods for theory course
29	Activity - Designing the delivery methods for tutorials
30	Activity - Designing the delivery methods for laboratory course
	Assessment and evaluation techniques
31	Mapping assessment and evaluation items to Course Outcomes
32	Formative assessment methods
33	Summative assessment methods
34	Criterion assessment methods
35	Norm referenced assessment methods
36	Measuring Course Outcomes
37	Measuring Program Outcomes
38	Activity - Designing the assessment and evaluation methods for a theory course with tutorials
39	Activity - Designing the assessment and evaluation methods for a laboratory course
40	Activity - Designing the assessment and evaluation methods for project work
	Advanced topics in engineering education
41	Adaptive models in engineering education
42	Integrating ethics and environmental issues in courses
43	Inculcating societal responsibilities among engineering graduates
44	Designing group learning activities
45	Activities for developing lifelong learning skills
46	Emerging topics in engineering education
47	Research avenues in engineering education
48	Case studies in engineering education
49	Activity - Personality development for engineering educators
50	Activity - Personality development for engineering educators