Kalinga University
Technology
Master Of Technology In Civil Engineering (Structural Engineering)

PO

S. No.	Program Outcome (PO) Description
1	Acquire knowledge of structural engineering and be able to discriminate,evaluate, analyze and integrate existing and new knowledge
2	Be able to critically analyze and carry out independent research on complexproblems of structural engineering
3	Be able to conceptualize and design civil engineering structures consideringvarious socio-economic factors
4	Be able to carry out systematic research, design appropriate experiments andtools, and interpret experimental and analytical data for development oftechnological knowledge in structural engineering.
5	Be able to create, decide and judiciously apply appropriate resources, tools &techniques in handling various problems in structural engineering.
6	Be able to function productively with others as part of collaborative and multidisciplinaryteam
7	Be able to understand critical issues for professional practice such as detailingwork and the interaction with contractors during construction phase of a project.
8	Be able to communicate effectively with written, oral and visual means, thedesign and research outcomes to the stakeholders.
9	Be able to recognize state-of-the-art need and will be able to engage in lifelonglearning.
10	Be able to understand professional and ethical responsibility while carryout outresearch and design activities.
11	Be able to critically analyze, scrutinize and rectify one’s decisions and actionsand apply self-corrective measures.

PSO

S. No.	Program Specific Outcome (PSO) Description
1	Analyse and design reinforced concrete structures and steel structures as per the standard design of codes.
2	Address the societal needs by interdisciplinary approach through advanced courses and get exposed to the latest technologies to be industry ready or to pursue advanced research.
3	Independently carry out research / investigation to solve practical problems and write / present a substantial technical report / document.

CO

S.No.	Course Code	Course Name	Course Outcome (CO's) - Description
1	MTCSE101	Advanced Concrete Technology and Admixtures	**CO1:** The objective of this course is to make students to learn principles of Concrete mix design, To differentiate between different types of concrete. To characterize the high Performance concrete.
2	MTCSE102	Matrix Methods of Structural Analysis	**CO1:** The objective of this course is to make students to learn principles of Structural Analysis, To implement these principles through different methods and to analyse various types of structures. To evaluate the force and displacement parameters of the structures.
3	MTCSE103	Instrumentation and Experimental Techniques	**CO1:** The objectives of this course is to make students to learn principles of qualitative and quantitative analysis & study various spectro – scopic techniques and its instrumentation.
4	MTCSE104	Advanced Construction Management	**CO1:** The objectives of this course is to make students to learn principles of project management and cost control and learn about various techniques of project planning, scheduling and monitoring also understand the awareness of safety and quality control.
5	MTCSE105	Limit State Design of Steel Structures	**CO1:** The objective of this course is to make students to learn principle of steel structures & to know about shapes and grade of structural steel available. To understand the behavior of structural steel under tension, compression and flexure.
6	MTCSE105	Advanced Design of Steel Structures	**CO1:** The objective of this course is to make students to learn principle of steel structures & to know about shapes and grade of structural steel available. To understand the behavior and design of structural steel under tension, compression and flexure
7	MTCSE105	Theory of Elastic Stability	**CO1:** The main objective of this course is to make students learn the various principles of elastic stability for all the structural members.
8	MTCSE201	Advanced Design of Concrete Structures	**CO1:** To make students learn principles of structural design .To design deferent types of structures and to detail the structures also evaluate the performance of the structures.
9	MTCSE202	Earthquake Effects on Structures	**CO1:** The objective of this course is to make students to learn principles of engineering seismology, To design the reinforced concrete buildings for earthquake resistance. To evaluate the seismic response of the structures
10	MTCSE203	Finite Element Analysis of Structures	**CO1:** To make students to learn principles and analysis of stress and strain. To apply the finite element method for the analysis of 1D, 2D and 3 dimensional problems. Students will also study continuum of structures.

11	MTCSE204	Maintenance and Rehabilitation of Structures	**CO1:** The objective of this course is to make students to investigate the cause of deterioration of concrete structures, To strategize different repair and rehabilitation of structures. To evaluate the performance of the materials for repair
12	MTCSE205	Advance Fundamental Engineering	**CO1:** To learn about the stability of soils and its effects on interaction with structures. To evaluate the type of foundation required for the soil and its mechanism.
13	MTCSE205	Design of Industrial Structures	**CO1:** To understand and have the knowledge of various industial structures functions, designs and its mechanics.
14	MTCSE205	Fabrication and Erection of Structures	**CO1:** To ensure students about various methods of fabrication and erection methods. Students will understand various process involved in fabrication and erection of steel structures.
15	MTCSE301	Structural Dynamics	**CO1:** The objectives of this course is to make students to learn principles of structural dynamics to implement there principles through different methods and to apply the same for free and forced vibration of structures. To evaluate the dynamic characteristics of the structure
16	MTCSE302	Communication and Research Methodology	**CO1:** To make students aware about behavior science, communication skills, writing skills etc; students will be able to study various research methods and tools.
17	MTCSE303	Optimization Techniques	**CO1:** The main objective of this course is to understand the application of various optimization techniques and programming in civil Engineering.
18	MTCSE303	Theory of Plates and Shells	**CO1:** To have the theoretical knowledge of various kinds of Plates and Shells
19	MTCSE303	Pre-Stressed Concrete	**CO1:** The objective of this course is to make students to learn about various designs of pre-stressed elements and also understand the pre-stressed elements.