



EXCEL ENGINEERING COLLEGE

(Autonomous)

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai
Accredited by NBA (AERO, CSE, ECE, MECH), NAAC with "A*" and Recognised by UGC (2f & 12B)
KOMARAPALAYAM – 637303

DEPARTMENT OF CIVIL ENGINEERING

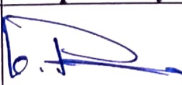
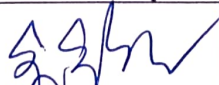
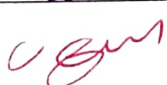
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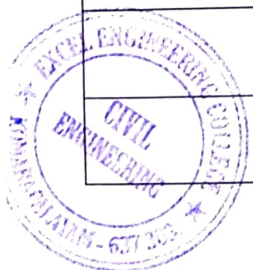
Classification /Mapping of course with their societal needs

Course code and Names	Local Needs	Regional Needs	National Needs	Global Needs
BE-CIVIL-REGULATIONS-2020				
First year				
20MA102 -Mathematics - I for Building Sciences	✓	✓	✓	✓
20CE101-Basics of Civil Engineering	✓	✓	✓	✓
20ENE01- Communicative English	✓		✓	✓
20CH102- Chemistry for Building Sciences		✓	✓	✓
20ME101 Engineering Graphics		✓	✓	✓
20CE102 Civil Engineering Practices Laboratory	✓	✓	✓	✓
20MC101 Induction Programme			✓	✓
20MA202 Mathematics - II for Building Sciences	✓		✓	✓
20ME201- Engineering Mechanics	✓	✓	✓	✓
20ENE02-Advanced Communicative English	✓		✓	✓
20PH202- Physics for Building Sciences	✓		✓	✓
20CS201- Problem Solving using Python	✓		✓	✓
20CE201 -Computer Aided Building Drawing Laboratory	✓	✓	✓	✓
20MC201-Environmental Sciences	✓			✓
Second Year				
20MA301 -Transforms and Boundary Value Problems	✓		✓	✓
20CE301 -Mechanics of Solids I	✓	✓	✓	✓
20CE302- Fluid Mechanics	✓	✓	✓	✓
20CE303- Engineering Geology	✓	✓	✓	✓
20CE304 -Surveying I	✓	✓	✓	✓
20CE305- Construction Materials	✓	✓	✓	✓
20MC301- Interpersonnal Skills	✓		✓	✓
20MA401 -Numerical Analysis and Statistics	✓		✓	✓
20CE401- Concrete Technology	✓	✓	✓	✓
20CE402 -Geotechnical Engineering I		✓	✓	✓
20CE403- Mechanics of Solids II		✓	✓	✓
20CE404- Surveying II	✓	✓	✓	✓
20CE406 -Strength of Materials Laboratory	✓	✓	✓	✓

20MC401 -Soft Skills	✓		✓	✓
Third Year				
20CE501 Design of Reinforced Cement Concrete Elements	✓	✓	✓	✓
20CE502- Structural Analysis I	✓	✓	✓	✓
20CE503- Environmental Engineering I	✓	✓	✓	✓
20CE504 -Geotechnical Engineering II	✓	✓	✓	✓
20CE505 -Survey Camp	✓		✓	✓
20CE601- Design of Steel Structural Elements	✓	✓	✓	✓
20CE602 -Structural Analysis II	✓	✓	✓	✓
20CE603 -Environmental Engineering II	✓	✓	✓	✓
20CE604- Highway Engineering	✓	✓	✓	✓
Fourth Year				
20CE701 -Structural Dynamics and Earthquake Engineering	✓	✓	✓	✓
20CE702 -Estimation Costing and Valuation Engineering	✓	✓	✓	✓
20CE703 -Water Resource and Irrigation Engineering	✓	✓	✓	✓
20CE704 Computer Aided Design and Drawing Laboratory(Concrete and Steel)	✓	✓	✓	✓
PROFESSIONAL ELECTIVES (PE)				
20CEE01- Hydrology	✓	✓	✓	✓
20CEE02- Ground Water Engineering	✓	✓	✓	✓
20CEE03-Air Pollution and Control Engineering	✓	✓	✓	✓
20CEE04- Water Resources Systems Analysis	✓	✓	✓	✓
20CEE05 -Integrated Water Resources Management	✓	✓	✓	✓
20CEE06 -Hospital Waste Management	✓	✓	✓	✓
20CEE07 -Municipal Solid Waste Management	✓	✓	✓	✓
20CEE08 -Participatory Water Resources Management	✓	✓	✓	✓
20CEE09 -Air Pollution Management	✓	✓	✓	✓
20CEE10- Industrial Waste Management	✓	✓	✓	✓
20CEE11 -Environmental and Social Impact Assessment	✓	✓	✓	✓
20CEE12 Geo- Environmental Engineering	✓	✓	✓	✓
20CEE21- Building Services	✓	✓	✓	✓
20CEE22- Disaster Management	✓	✓	✓	✓
20CEE23- Industrial Structures	✓	✓	✓	✓
20CEE24 -Maintenance, Repair and Rehabilitation of Structures	✓	✓	✓	✓
20CEE25- Design of Prestressed Concrete Structures	✓	✓	✓	✓
20CEE26- Experimental Analysis of Stress	✓	✓	✓	✓
20CEE27 -Bridge Structures	✓	✓	✓	✓
20CEE28- Storage Structures	✓	✓	✓	✓
20CEE29- Ground Improvement Techniques	✓	✓	✓	✓
20CEE30 -Cost Effective Construction and Green Building	✓	✓	✓	✓

20CEE32- Prefabricated Structures	✓	✓	✓	✓
20CEE33- Rock Mechanics	✓	✓	✓	✓
20CEE34- Reinforced Soil Structure	✓	✓	✓	✓
20CEE35 -Geotechnical Exploration and Instrumentation	✓	✓	✓	✓
20CEE36- Design of Masonry, Timber & Steel Elements	✓	✓	✓	✓
20CEE41 -Construction Planning and Scheduling	✓	✓	✓	✓
20CEE42 -Modern Construction Materials	✓	✓	✓	✓
20CEE43-Housing Planning and Management	✓	✓	✓	✓
20CEE44 -Construction Project Management	✓	✓	✓	✓
20CEE45 -Economic and Finance Management in Construction	✓	✓	✓	✓
20CEE46 -System Integration in Construction	✓	✓	✓	✓
20CEE47- Contract Laws and Regulation	✓	✓	✓	✓
20CEE48- Resource Management and Control in Construction	✓	✓	✓	✓
20CEE49- Quality Control and Assurance in Construction	✓	✓	✓	✓
20CEE50-Design of Energy Efficient Building	✓	✓	✓	✓
20CEE51 - Project Formulation and Appraisal		✓	✓	✓
20CEE52- Project Safety Management		✓	✓	✓
20CEE53- Railway, Airport, Docks and Harbor Engineering	✓	✓	✓	✓
OPEN ELECTIVE COURSES (For Other Branches)				
20CEO01-EnergyConservation and Management	✓	✓	✓	✓
20CEO02 -Environment and Agriculture	✓	✓	✓	✓
20CEO03 -Renewable Energy Sources	✓	✓	✓	✓
20CEO04 -Vibration and Noise Control	✓	✓	✓	✓
20CEO05- Climate Change and its Impacts	✓	✓	✓	✓
20CEO06 -Green Building Design		✓	✓	✓
20CEO07 -Selection of Materials	✓	✓	✓	✓
20CEO08 -Testing of Materials	✓	✓	✓	✓
BE-CIVIL-REGULATIONS-2017				
FOURTH YEAR				
CE8701 –Estimation ,Costing and Valuation Engineering	✓	✓	✓	✓
CE8702 -Railways, Airports, Docks and Harbor Engineering	✓	✓	✓	✓
CE8703- Structural Design and Drawing	✓	✓	✓	✓
CE8711 -Creative and Innovative Project	✓	✓	✓	✓
CE8712 -Industrial Training	✓	✓	✓	✓
ELECTIVES				
CE8006 -Pavement Engineering	✓	✓	✓	✓
CE8007 -Traffic Engineering and	✓	✓	✓	✓

Management				
CE8008 -Transport and Environment	✓	✓	✓	✓
CE8009- Industrial Structures	✓	✓	✓	✓
CE8010 -Environmental and Social Impact Assessment	✓	✓	✓	✓
CE8011- Design of Prestressed Concrete Structures	✓	✓	✓	✓
CE8012 -Construction Planning and Scheduling	✓	✓	✓	✓
EN8591- Municipal Solid Waste Management	✓	✓	✓	✓
GE8077 Total Quality Management	✓	✓	✓	✓
GE8072- Foundation Skills In Integrated Product Development	✓	✓	✓	✓
CE8013 -Coastal Engineering	✓	✓	✓	✓
CE8014 -Participatory Water Resources Management	✓	✓	✓	✓
CE8015 -Integrated Water Resources Management	✓	✓	✓	✓
CE8016 -Groundwater Engineering	✓	✓	✓	✓
CE8017 -Water Resources Systems Engineering	✓	✓	✓	✓
CE8018- Geo-Environmental Engineering	✓	✓	✓	✓
CE8091- Hydrology and Water Resources Engineering	✓	✓	✓	✓
GE8076 -Professional Ethics in Engineering	✓	✓	✓	✓
CE8019 -Computer Aided Design of Structures	✓	✓	✓	✓
CE8020 -Maintenance, Repair and Rehabilitation of Structures	✓	✓	✓	✓
CE8021 -Structural Dynamics and Earthquake Engineering	✓	✓	✓	✓
CE8022- Prefabricated Structures	✓	✓	✓	✓
CE8023- Bridge Engineering	✓	✓	✓	✓
GE8073- Fundamentals of Nano Science	✓	✓	✓	✓
ONE CREDIT COURSES				
20CEA01 -Drafting and Documentation of Construction Projects	✓	✓	✓	✓
20CEA02 -3D Modeling Techniques of BIM	✓	✓	✓	✓
20CEA03 -3DModelling of Buildings	✓	✓	✓	✓
20CEA04- Total Station Survey	✓	✓	✓	✓
20CEA05-Tekla	✓	✓	✓	✓
20CEA06- Vasthu	✓	✓	✓	✓
20CEA07- Pre-Engineered Building	✓	✓	✓	✓
	Prepared by	Reviewed by	Approved by	
SIGN				
NAME	B. DOORNIMA	S.M. SAKTHIVEL	Dr S. Shanmugasundaram	





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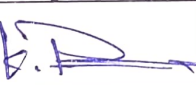


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1.1.1 Curriculum developed and implemented have relevance to the local, national, regional and global developmental needs which are reflected in Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) of the various Programmes offered by the Institution.

Classification /Mapping of course with their societal needs

Course code and Names	Local Needs	Regional Needs	National Needs	Global Needs
M.E ENVIRONMENTAL ENGINEERING-REGULATIONS-2022				
FIRST YEAR				
22PMA102- Statistical Methods for Engineers		✓	✓	✓
22PEE101 -Environmental Chemistry	✓	✓	✓	✓
22PEE102 -Environmental Microbiology	✓		✓	✓
22PEE103-Design of Physico-Chemical Treatment Systems		✓	✓	✓
22PEE104-Transport of Water and Wastewater		✓	✓	✓
22PEE105 -Environmental Chemistry Laboratory	✓	✓	✓	✓
22PEE106-Environmental Microbiology Laboratory			✓	✓
22PEE201-Design of Biological Treatment systems	✓		✓	✓
22PEE202-Industrial Wastewater Management	✓	✓	✓	✓
22PEE203-Air and Noise Pollution Control Engineering	✓		✓	✓
22PEE204-Environmental Process Monitoring Laboratory	✓		✓	✓
22PEE205 -Seminar	✓			
ELECTIVES (E)				
22PEEE01- Ecological Engineering	✓	✓	✓	✓
22PEEE02- Solid and Hazardous Waste Management	✓	✓	✓	✓
22PEEE03- Operation and Maintenance of Treatment Systems	✓	✓	✓	✓
22PEEE04 -Environmental Policy and Legislation	✓	✓	✓	✓
22PEEE05 -Environmental Quality Monitoring	✓	✓	✓	✓
22PEEE06 -Climate change	✓	✓	✓	✓

22PEEE07- Marine Pollution and Control			✓	✓
M.E ENVIRONMENTAL ENGINEERING-REGULATIONS-2020				
SECOND YEAR				
20PEE301- Research Methodology and Intellectual Property Rights		✓	✓	✓
20PEE302- Project work (Phase I)	✓	✓	✓	✓
20PEE303 -Industrial Training	✓	✓	✓	✓
20PEE401- Project work (Phase II)	✓	✓	✓	✓
ELECTIVES (E)				
20PEEE11 -Air and Water Quality Modeling	✓	✓	✓	✓
20PEEE12-Membrane Separation for Water and Wastewater Treatment	✓	✓	✓	✓
20PEEE13- Computing Techniques in Environmental Engineering	✓	✓	✓	✓
20PEEE14 -Landfill Engineering and Remediation Technology	✓	✓	✓	✓
20PEEE15- Environmental Risk Assessment	✓	✓	✓	✓
20PEEE16-Remote Sensing and GIS Applications in Environmental Management	✓	✓	✓	✓
20PEEE17-Environmental Impact Assessment	✓	✓	✓	✓
	Prepared by	Reviewed by	Approved by	
SIGN				
NAME	K. POORNIMA	S.M. SAKTHIVEL	Dr S. Sharmugan	





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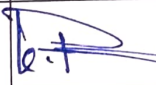


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Classification /Mapping of course with their societal needs .

Course code and Names	Local Needs	Regional Needs	National Needs	Global Needs
M.E STRUCTURAL ENGINEERING-REGULATIONS-2022				
First year				
22PMA101- Advanced Mathematical Methods	✓	✓	✓	✓
22PSE101-Advanced Concrete Structures	✓	✓	✓	✓
22PSE102- Structural Dynamics	✓		✓	✓
22PSE103-Theory of Elasticity and Plasticity		✓	✓	✓
22PSE201- Advanced Steel Structures		✓	✓	✓
22PSE202- Stability of Structures	✓	✓	✓	✓
22PSE203 -Experimental Techniques and Model Analysis			✓	✓
22PSE204- Finite Element Analysis	✓		✓	✓
22PSE205- Advanced Structural Engineering Laboratory	✓	✓	✓	✓
22PSE206 Industrial Training – I	✓		✓	✓
ELECTIVES (E)				
22PSEE01-Maintenance and Rehabilitation of Structures	✓	✓	✓	✓
22PSEE02 –Prefabricated Structures	✓	✓	✓	✓
22PSEE03 -Offshore Structures	✓	✓	✓	✓
22PSEE04 -Matrix Methods for Structural Analysis	✓	✓	✓	✓
M.E STRUCTURAL ENGINEERING-REGULATIONS-2020				
SECOND YEAR				
20PEE301 -Research Methodology and Intellectual Property Rights	✓	✓	✓	✓
20PSE301 -Project work	✓	✓	✓	✓

(Phase I)				
20PSE302- Industrial Training II	✓	✓	✓	✓
20PSE401- Project work (Phase II)	✓	✓	✓	✓
ELECTIVES (E)				
20PSEE11- Theory of Plates	✓	✓	✓	✓
20PSEE12 -Mechanics of Composite Materials	✓	✓	✓	✓
20PSEE13- Analysis and Design of Tall Buildings	✓	✓	✓	✓
20PSEE14- Industrial Structures	✓	✓	✓	✓
20PSEE15- Prestressed Concrete	✓	✓	✓	✓
20PSEE16- Wind and Cyclone Effects on Structures	✓	✓	✓	✓
20PSEE17 -Advanced Characterization of Construction Materials	✓	✓	✓	✓
20PSEE21-Nonlinear Analysis of Structures	✓	✓	✓	✓
20PSEE22- Design of Sub Structures	✓	✓	✓	✓
20PSEE23 -Optimization of Structures	✓	✓	✓	✓
20PSEE24 -Design of Steel Concrete Composite Structures	✓	✓	✓	✓
20PSEE25- Design of Bridges	✓	✓	✓	✓
20PSEE26- Design of Shell and Spatial Structures	✓	✓	✓	✓
20PSEE27- Computer Aided Analysis and Design	✓	✓	✓	✓
20PSEE28 -Design of Formwork	✓	✓	✓	✓
20PSEE29 -Earthquake analysis and design of structures	✓	✓	✓	✓
	Prepared by	Reviewed by	Approved by	
SIGN				
NAME	B. J. DORAI SWAMY	S. M. AKTHIVEL	Dr. S. Shanmugasundaram	

