



**Vidya Vikas Education Trust's**  
**Universal College of Engineering, Kaman Road, Vasai-401208**

**DEPARTMENT OF CIVIL ENGINEERING**

**COURSE OUTCOMES**

**Year/Class/ Semester: S.E./CE/ IV**

<b>Subject Code</b>	<b>Subject Name</b>	<b>CO's</b>
CE-C401	Applied Mathematics IV	At the end of the course student will be able to: CO1- Use matrix algebra with its specific rules to solve the system of linear equations. CO2- Understand and apply the concept of probability distribution and sampling theory to engineering problems. CO3- Apply principles of vector differential and integral calculus to the analysis of engineering problems. CO4- Identify, formulate and solve engineering problems CO5- Illustrate basic theory of correlations and regression
CE-C402	Surveying II	At the end of the course student will be able to: CO1- Operate Total Station & GPS for desired accuracy in surveying and establish survey control of determined accuracy using Total Station, GPS, GIS and remote sensing. CO2- Set out various types of curves by linear and angular methods. CO3- Compute setting out data from survey and design information. CO4- Generate and manipulate field survey data and incorporate design data using specialised software's. CO5- Appreciate the role of various governmental authorities in maintaining cadastral survey records.
CE-C403	Structural Analysis – I	At the end of the course student will be able to: CO1- Understand the behavior of various statically determinate structures including compound structures having an internal hinge for various loadings. CO2- Analyze these structures to find out the internal forces such as axial force, shear force, bending moment, twisting moments, etc. CO3- Evaluate the displacements / deflections in beams and frames under the action of loads. They will be able to obtain the response of the beams under the action of moving loads. CO4- Analyze the structures such as arches and suspension bridges and study the behavior of eccentrically loaded columns. CO5- Analyze the section with respect to unsymmetrical bending and shear center. CO6- Demonstrate the ability to extend the knowledge gained in this subject in the subjects Structural Analysis-II and elective subjects such as Advanced Structural Analysis and Advanced



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		Structural Mechanics in the higher years of their UG programme where they will be dealing with the indeterminate structures. The knowledge gained in this subject shall also be useful for application in the structural design in later years.
CE-C404	Building Design And Drawing	At the end of the course student will be able to: CO1- List down the types of structures and its various components (for eg. doors, windows, staircase, foundations etc.). CO2- Explain various concepts pertaining to building design and drawing (for eg, principles of planning, architectural planning, green buildings etc.) CO3- Apply principles of planning, architectural planning and building bye laws while designing and preparing building drawings. CO4- Calculate and analyze various technical details of a building (for eg. Carpet area, FSI etc.) from its drawings. CO5- Design various components of buildings (for eg. staircases etc.) as well as buildings as a whole, given the requirements of the building owner and local D.C. laws. CO6- Prepare drawings (for eg. plans, elevation, perspective views etc.) of the designed components of buildings as well as buildings as a whole.
CE-C405	Building Materials and Construction Technology	At the end of the course student will be able to: CO1- Identify and list the various building materials, their properties and symbols. CO2- Identify the properties of ingredients of concrete, interpret and design concrete mix for various grades. CO3- Explain and interpret manufacturing process of basic construction materials and understand various masonry construction and finishes. CO4- Perform tests on various materials..
CE-C406	Fluid Mechanics - II	At the end of the course student will be able to: CO1- Understand various losses through pipe.and power transmission through nozzle. CO2- Distinguish types of compressible flow and also understand concept of boundary layer theory. CO3- Evaluate pressure drop in pipe.. CO4- Understand concept of smooth and rough boundaries.