	HASAN KALYONCU UNIVERSITY **Civil Engineering Department** **CE 499 Project Proposal Form**

Part I.   Project Proposer

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Part II.   Project Information

Starting Term	2 0 2 0 / 2 0 2 1
Title of the Project	Design of four story building using SAP2000

Project Description

In this project, students will study and design a residential concrete building, it consist of 4 floors. During the period of this project, students will use computer aids such as (AutoCad and SAP2000) to draw the idealized model of a selected building as a structural model and will define all types of loads effect on this buliding such as dead loads, live loads, and wind loads. Then, students will study and design the main structural elements of this building according to building standards. Deesign calculations for sellescted elements such as shear walls, slabs, beams, columns and foundations will be prepared by using suitable methods and procedures with respect to students background in structural analysis, reinforced concrete theory, and reinforced concrete structure elements courses. At the end of this project, students will draw all required srtuctural drawings to introduce the final results of this project.

Project Justification

Novelty

New aspects	In this project, the student will be able to deal with an integrated structural system including the main elements of R. C. Building in case of high-rise concrete tower. The methods and techniques, which are required to connect between the architectural drawings and the flow chart of different types of loads, will be introduced through this project reaching the final structural drawings of selected elements including its cross-section dimensions and reinforcement details.

Complexity

Challenging problem and issues	The main challenge in this project could be addressed as how to make the student able to contact between his theoretical background, according to his previous undergraduate courses, and this practical project. The student should improve his skills to know how to use computer aids, and how to collect all required information from separated resources, then how to use it in the process of study and design in case of an integrated High-Rise Concrete Building as an integrated structural system.
Related civil engineering science fields and subfields	Structural Analysis, Reinforced Concrete Design, Civil Engineering Drawing, Computer Applications in Civil Engineering, Materials Science, Strength of Materials, Statics, Soil Mechanics.
Tools	SAP2000

Risk involved

Potential problems and alternative solutions	The availability of computer programs. Alternatively, hand methods and Excel sheets will be applied using equations according to building standards such as TS-500, ACI-318
Minimum work required	☐ Sufficient knowledge and skills related to Structural Analysis, Reinforced Concrete Design methods, and Building Standards. Therefore, to accept a student in this project, he should be passed in: Structural Analysis, Reinforced Concrete Theory and Reinforced Concrete Structure Elements. ☐ 1-4 Students can be accepted in this project.