

# MS ARCHITECTURAL ENGINEERING

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## Program Learning Objectives

- a. Formulate and solve advanced structural engineering problems.
- b. Analyze and model non-linear building response.
- c. Design a building system, component, or process to meet desired needs within realistic constraints such as regulatory, economic, environmental and constructability.
- d. Function in interdisciplinary teams for the design and construction of buildings.
- e. Communicate effectively.

### Required Courses

|  |   |           |
|--|---|-----------|
| ARCE 501   | Advanced Structural Mechanics                   | 3         |
| ARCE 502   | Nonlinear Structural Behavior I                 | 3         |
| ARCE 503   | Nonlinear Structural Behavior II                | 3         |
| ARCE 504   | Finite Element Method for Building Structures   | 3         |
| ARCE 511   | Structural Systems Behavior                     | 3         |
| ARCH 551   | Architectural Design (5, 5) <sup>1</sup>        | 10        |
| Select from the following: <sup>2</sup>  |   | 9         |
| ARCE 598   | Structural Engineering Design Project (3, 3, 3) |           |
| or 9 units of approved elective courses in a student's Formal Study Plan and a comprehensive examination |   |           |
| <b>Approved Electives</b> <sup>2</sup>   |   |           |
| Electives  |   | 11        |
| <b>Total units</b>   |   | <b>45</b> |

<sup>1</sup> 5 units of ARCH 551 may be replaced with 5 units of approved elective courses for students to collaborate with faculty on teaching-scholar research, to pursue electives focused on their masters project, or to broaden their masters coursework where appropriate.

<sup>2</sup> At least 7 units of Approved Elective courses must be at 500 level.