

| Course Information                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Course title                                                                                                               | Seismic Design of Steel Structures                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Semester                                                                                                                   | 114-2                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Designated for                                                                                                             | COLLEGE OF ENGINEERING GRADUATE INSTITUTE OF CIVIL ENGINEERING, STRUCTURAL ENGINEERING DIVISION                                                                                                                                                                                                                                                                                                                                                          |
| Instructor                                                                                                                 | <a href="#">Chung-Che Chou</a>                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Curriculum Number                                                                                                          | CIE7131                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Curriculum Identity Number                                                                                                 | 521EM7180                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Class                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Credits                                                                                                                    | 3.0                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Full/Half Yr.                                                                                                              | Half                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Required/ Elective                                                                                                         | Elective                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Time                                                                                                                       | Monday 7,8,9(14:20~17:20)                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Remarks                                                                                                                    | Restriction: MA students and beyond<br>The upper limit of the number of students: 34.                                                                                                                                                                                                                                                                                                                                                                    |
| Course introduction video                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Table of Core Capabilities and Curriculum Planning                                                                         | <a href="#">Table of Core Capabilities and Curriculum Planning</a>                                                                                                                                                                                                                                                                                                                                                                                       |
| Course Syllabus                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Please respect the intellectual property rights of others and do not copy any of the course information without permission |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Course Description                                                                                                         | <ol style="list-style-type: none"> <li>1. Loading and resistance</li> <li>2. Seismic load and structural ductility</li> <li>3. Basic concepts on seismic design of steel building systems</li> <li>4. Special moment resisting frame (SMRF)</li> <li>5. Special concentrically braced frame (SCBF)</li> <li>6. Eccentrically braced frame (EBF)</li> <li>7. Buckling restrained braced frame (BRBF)</li> <li>8. Steel panel shear wall (SPSW)</li> </ol> |

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|                                                                             | 9. Steel and concrete composite beam<br>10. Elastic and inelastic static/dynamic response analysis of seismic steel building structures                                                                                                                                                                                                                                                                                                                                              |       |
| Course Objective                                                            | Understand the basic behavior of various seismic resisting steel members and systems. Discuss the core concepts and the implementation of the latest seismic steel building codes. Exercise the seismic design and nonlinear response analysis of seismic steel building                                                                                                                                                                                                             |       |
| Course Requirement                                                          | Pre-requisite: strength of material, theory of structures, design of steel structures, structural dynamics                                                                                                                                                                                                                                                                                                                                                                           |       |
| Student Workload<br>(Expected weekly study hours before and/or after class) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |
| Office Hours                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |
| Designated reading                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |
| References                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |
| Grading                                                                     | <div>1. NTU has not set an upper limit on the percentage of A+ grades.</div> <div>2. NTU uses a letter grade system for assessment. The grade percentage ranges and the single-subject grade conversion table in the NATIONAL TAIWAN UNIVERSITY Regulations Governing Academic Grading are for reference only. Instructors may adjust the percentage ranges according to the grade definitions. For more information, see <a href="#">the Assessment for Learning Section</a>.</div> |       |
| Progress                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |
| Week                                                                        | Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Topic |
| No data                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |