

Course No.	401.772	Lecture No.	001	Course Title (Subtitle)	Steel Structural Stability	Credit	3	
Instructor	Name	Prof. Cheol-Ho Lee			Homepage	https://snu-archisteel.com/		
	E-mail	ceholee@snu.ac.kr			Phone No.	02-880-7051		
	Interview Time/Place : Wednesday 1:00-2:00 PM/Room 423							
Prerequisite Course								
* Course keyword	Steel Structures, Stability Design, Structural Mechanics, Structural Analysis							
* 1. Course Description	This course presents a comprehensive treatment of the principles and theory of structural stability that form the basis for current steel design specifications and shows how the theoretical solutions are modified to solve complicated real world problems. Specifically, it tries to provide the necessary background to understand the stability design rules in current LRFD specifications. To proceed with this course successfully, sound knowledge on the basic differential calculus, mechanics of materials, and structural analysis is indispensable							
* 2. Textbook and References	<u>Textbook:</u> 1. Structural Stability: Theory and Implementation, W.F. Chen and E.M. Lui, Pretice Hall (1987) <u>References:</u> 1. Guide to Stability Design Criteria for Metal Structures, T.V. Galambos (editor), John Wiley & Sons, Inc. (1998) 2. An Introduction to the Elastic Stability of Structures, by, G.J. Simitses, Prentice Hall Inc. (1976) 3. Theory of Elastic Stability, S.P. Timoshenko and J.M. Gere, McGraw-Hill (1983) 4. AISC Engineering Journal Papers by J. Yura (leaning column and bracing issues) 5. Principles of Structural Stability Theory, A. Chajes, Prentice-Hall, (1974)							
* 3.Evaluation Criteria	Attendance	Homework	Mid exam	Final exam	Quiz	Attitude	Other	Total
		40%	30%	30%				100%
	Attendance Policy : Students who are absent for over 1/3 of the class will receive a grade of 'F' or 'U' for the course. (Exceptions can be made when the cause of absence is deemed unavoidable by the course instructor.)							
	Remarks : * All homework assignments should be submitted a week after the assignment.							
* 4.Lecture Plan (week)	<ul style="list-style-type: none">- This course will be taught non face-to-face using ZOOM.- Students will be able to access the class through online classroom in ETL.- However, mid and final exams will be implemented face-to-face. The date and place of the exams will be announced later on. <ol style="list-style-type: none">1. Review of theory of maxima and energy principles2. Design philosophies and probabilistic basis of LRFD code3. Types of stability, method of stability analysis, small and large deflection analysis4. Brief summary of column, beam-column, and frame stability5. Classical column theory6. Inelastic column theory and design curves for metal columns7. Mid exam8. Classical beam-column theory: slope deflection equation and stability function9. Inelastic beam-column and interaction equations10. Critical loads of frames11. Second order analysis and effective length factor12. Torsional behaviour of open sections and lateral buckling of beams13. Beams with various loading and support conditions. Inelastic beams and design curves for steel beams14. Energy and numerical methods15. Final exam							

5. Course Prerequisites and Download	<p>* Prerequisites:</p> <ol style="list-style-type: none"> 1. Mechanics of materials and structural analysis 2. Basic differential calculus and linear algebra <p>* Course supporting materials download: ftp://147.46.197.152;421/ (ID: steel & PW: steel)</p>	
<p>6. Support Services for Students with Disabilities</p> <p>※ You can modify these default contents.</p>	For Lectures	<ul style="list-style-type: none"> ○ Visual Impairment: Make textbooks(digital textbook, braille textbook, enlarged textbook etc.), Allow note takers ○ Physical Disability: Make textbooks (digital textbook), Allow note takers and assistants ○ Hearing Impairment: Allow note takers and translators, Allow lecture recording ○ Health Impairment: Excuse absence due to health problems, Allow note takers ○ Learning Disability: Allow note takers ○ Intellectual Disability / Autism Spectrum Disorder: Allow note takers and mentors
	For Assignments & Evaluations	<ul style="list-style-type: none"> ○ Visual Impairment / Physical Disability / Hearing Impairment / Health Impairment / Learning Disability: Extend assignment deadlines, Offer alternate assignment submission and response method, Extend testing period, Offer alternate testing method, Offer different testing room ○ Intellectual Disability / Autism Spectrum Disorder: Offer individualized assignments and alternative evaluations
	Others	<p>Students who take this course can get appropriate level of support service including the support listed above depending on the students' individual characteristics and needs through consultation with professors and the Support Center for Students with Disabilities. If you have any questions concerning support service for students with disabilities you can contact Professor *** (02-880-****) or Support Center for Students with Disabilities (02-880-8787).</p>