

Course : M1586.002700 Advanced Dynamics of Structures									
Credits	Department Civil and Environmental Engineering Major Attachment(Korean)				Representative Instructor				
					Position	Name	Email		
3					Professor	Kim, Ho-Kyung	hokyungk@snu.ac.kr		
					Attachment(English)				
Prerequisite Course									
Consult Time									
35-404									
This course provides advanced as well as fundamental wind engineering theory and technology for the design of long-span bridges. The course covers: - Boundary layer wind properties - Estimation of design wind speed - Fundamentals of structural dynamics - Wind loads - Wind-induced vibration (VIV, Buffeting, Flutter) - Aeroelastic and aerodynamic analysis - Wind tunnel tests - Field monitoring of the wind-induced vibration									
1. Goals									
2. Texts and References									
Materials-Theory of Bridge Aerodynamics-Einar Strommen-Springer-2010- Auxiliary Materials-Wind Effects on Structures: Modern Structural Design for Wind-Simiu and Yeo-Wiley-2019									
3. Evaluation									
Attendance(%)		Task(%)		Medium(%)		Final(%)		Random Evaluation(%)	
10%		30%		30%		30%		0%	
0%		0%		0%		0%		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.)									
Remark of Others :									
4. Lecture Plan									
[1 Week] - State-of-the-arts technology in bridge wind engineering [2 Week] - Wind tunnel tests in 3D large wind tunnel [3 Week] - Boundary layer wind properties [4 Week] - Boundary layer wind properties [5 Week] - Estimation of design wind speed [6 Week] - Estimation of design wind speed [7 Week] - Fundamentals of structural dynamics [8 Week] - Wind loads [9 Week] - Wind tunnel tests: Measurement of force components [10 Week] - Wind-induced vibration (VIV, Buffeting, Flutter) [11 Week] - Wind tunnel tests: VIV, buffeting and flutter [12 Week] - Aeroelastic and aerodynamic analysis [13 Week] - Wind tunnel tests: Identification of flutter derivatives [14 Week] - Field monitoring of the wind-induced vibration [15 Week] - Presentation and final discussions									
5. Guideline for Students									
6. Support Services for Students with Disabilities									
For Lectures		<ul style="list-style-type: none"> o Visual Impairment: Make textbooks(digital textbook, braille textbook, enlarged textbook etc.), Allow note takers o Physical Disability: Make textbooks (digital textbook), Allow note takers and assistants o Hearing Impairment: Allow note takers and translators, Allow lecture recording o Health Impairment: Excuse absence due to health problems, Allow note takers o Learning Disability: Allow note takers o Intellectual Disability / Autism Spectrum Disorder: Allow note takers and mentors 							
For Assignments & Evaluations		<ul style="list-style-type: none"> o 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 o Intellectual Disability / Autism Spectrum Disorder: Offer individualized assignments and alternative evaluations 							
Others		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 Kim, Ho-Kyung(02-880-7365) or Support Center for Students with Disabilities (02-880-8787).							