

2021 Seoul National University Online ISP – Course Syllabus: Advanced Bridge Engineering (Wind Engineering and Wind Energy)
(Graduate Level)

교과목 번호 (Course Code)	명칭 (Title)	국문	고급교량공학(부제: 풍공학과 바람에너지)			
457.664	영문	Advanced Bridge Engineering (Wind Engineering and Wind Energy)				
학과(부)(전공) (Department)	공과대학 건설환경공학부 (Dept. of Civil and Environmental Engineering, College of Engineering)		과정 및 학년 (Level)	대학원 (Graduate)	학점구조 (Credit-Structure)	3-3-0
교과구분 (Classification)	전공선택 (Elective Subject for Major)		성적부여 (Grading)	A-F	수강정원 (Quota)	30
담당교원 (Instructor)	정성문 JUNG, Sungmoon / sjung@eng.famu.fsu.edu , https://www.wiselab.info/ , 1-850-410-6386					
수업기간 (Course Dates)	22 June – 30 July, 2021		강의시간 (Timetable)	Tue, Wed, Thu, Fri (9:00~11:00)		
운영방식 (Mode of Teaching)	실시간 온라인 강의 + 녹화강의 (Synchronous + Recorded Lectures)					

Prerequisite Course	N/A							
Course Objectives	<p>At the end of this course, you should be able to achieve the following learning outcomes:</p> <ol style="list-style-type: none"> 1. Estimate annual energy production of the given site and wind turbine 2. Understand basics of wind turbine aerodynamics and design loads 3. Understand electrical, economical, and environmental aspects of wind turbines 4. Explain how to design and construct small wind turbines for homes 5. Explain how to design and construct large scale wind farms 							
Course Materials and References	Wind Energy Explained, Author: J. F. Manwell, J.G. McGowan and A. L. Rogers, Publisher: Wiley, Edition: 2nd (ISBN: 9780470015001)							
Evaluation (%)	Attendance	Assignment	Midterm	Final	Additional Evaluation	Attitude	Other	Sum
		20					80	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.)					
Other Remarks :		N/A						
Lecture Plan	<p>Week 1</p> <ul style="list-style-type: none"> • State of energy production in the world • Basic wind characteristics and wind resource <p>Week 2</p> <ul style="list-style-type: none"> • Wind turbine aerodynamics and power production • Blade selection and tower design <p>Week 3</p> <ul style="list-style-type: none"> • Estimation of annual energy production • Electrical and economical aspects of small turbines • Small turbine project — report and presentation 							

		<p>Week 4</p> <ul style="list-style-type: none"> • Wind farm site selection • Blade and tower selection/design for the wind farm <p>Week 5</p> <ul style="list-style-type: none"> • Electrical aspects, grid connection, and environmental aspect • Wind farm design • Economical aspects <p>Week 6</p> <ul style="list-style-type: none"> • Wind farm project — report and presentation <p>-----</p> <p>In-person teaching plan</p> <ul style="list-style-type: none"> • This course is heavily based on the project, and therefore, it is important to assist the students on the project work. In the first 4 weeks, the instructor will offer in-person or online meetings to discuss the project. • Depending on the Covid-19 situation, the instructor can also offer some lectures in the class, if student survey shows interest in in-class lectures. If in-person lectures are offered, these lectures will also be broadcasted real-time so that students who do not feel comfortable attending in-person can participate online.
Additional Notes for Students		<p>Depending on the Covid-19 situation, the instructor can also offer some lectures in the class, if student survey shows interest in in-class lectures. If in-person lectures are offered, these lectures will also be broadcasted real-time so that students who do not feel comfortable attending in-person can participate online.</p>
Assistance for Students with Disabilities	Class	<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
	Assignment & Evaluation	<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 *** (Contact Information) or Support Center for Students with Disabilities (02-880-8787).</p>