Course name:	Ocean Renewable Energy
Course organiser:	Tomoaki Utsunomiya, Kyushu University
Oct to Dec, 2024	
full	

course purpose (what do you expect from students when they finish this course?):

Ocean Renewable Energies, including Offshore Wind Energy, are promising sources of energy with their renewable and carbon-free nature. Also, the technologies are closely related to offshore engineering. In this course, a series of lectures on (1) General View on Ocean Renewable Energy, (2) Offshore Wind, (3) Tidal/Ocean Current, (4) Wave Energy, (5) Alternative Concepts, and (6) Ocean Thermal Energy, will be provided. This course is believed to provide a comprehensive view to students on Offshore Wind and Ocean Renewable Energy.

	date	day	start time			lecturer name	sub-title of lecture	lecture contents
			Japan	Brazil	Norway			
1	3/10	Thu	20:00	8:00	13:00	S.F. Estefen (UFRJ)	General View on Ocean Renewable Energy (1)	Ocean Energy in veiw of the IPCC Report
2	8/10	Tue	20:00	8:00	13:00	S.F. Estefen (UFRJ)	General View on Ocean Renewable Energy (2)	Activities on Ocean Energy in Brazil
3	10/10	Thu	20:00	8:00	13:00	T. Utsunomiya (Kyushu U)	Offshore Wind (1)	Introduction on Wind Energy
4	15/10	Tue	20:00	8:00	13:00	T. Utsunomiya (Kyushu U)	Offshore Wind (2)	Fundamentals on Wind Turbine Generators
5	17/10	Thu	20:00	8:00	13:00	T. Utsunomiya (Kyushu U)	Offshore Wind (3)	Wind Resource Estimation
6	22/10	Tue	20:00	8:00	13:00	T. Utsunomiya (Kyushu U)	Offshore Wind (4)	Design of Offshore Wind Turbine Structures (1)
7	24/10	Thu	20:00	8:00	13:00	T. Utsunomiya (Kyushu U)	Offshore Wind (5)	Design of Offshore Wind Turbine Structures (2)
8	29/10	Tue	20:00	8:00	13:00	T. Utsunomiya (Kyushu U)	Offshore Wind (6)	Installation of Offshore Wind Turbine Structures
9	31/10	Thu	20:00	8:00	13:00	T. Utsunomiya (Kyushu U)	Offshore Wind (7)	Design of Offshore Wind Turbine Structures (3)
10	5/11	Tue	20:00	8:00	13:00	T. Utsunomiya (Kyushu U)	Offshore Wind (8)	Design of Offshore Wind Turbine Structures (4)
	3/11	Thu	20:00	8:00	13:00	Japanese Holiday		
11	7/11	Tue	20:00	8:00	13:00	T. Utsunomiya (Kyushu U)	Offshore Wind (9)	Design & Installation of Floating Wind Turbine Structures
12	14/11	Thu	20:00	8:00	13:00	K. Takagi (U Tokyo)	Tidal/Ocean Current (1)	Introduction on Tidal/Ocean Current Energy
	15/11	Tue	20:00	8:00	13:00	Brazilian Holiday		
13	19/11	Thu	20:00	8:00	13:00	T. Utsunomiya (Kyushu U)	Offshore Wind (10)	Case Study (MoE Project on Hybrid-Spar at Nagasaki)
14	21/11	Tue	20:00	8:00	13:00	K. Takagi (U Tokyo)	Tidal/Ocean Current (2)	Tidal/Ocean Current Resource Estimation
15	24/11	Thu	20:00	8:00	13:00	K. Takagi (U Tokyo)	Tidal/Ocean Current (3)	Design of Tidal/Ocean Current Turbines
16	26/11	Tue	20:00	8:00	13:00	K. Takagi (U Tokyo)	Tidal/Ocean Current (4)	Case Study (Floating Ocean Current Turbine, Etc.)
17	28/11	Thu	20:00	8:00	13:00	T. Ikoma (Nihon U)	Wave Energy (1)	Introduction on Wave Energy
18	3/12	Tue	20:00	8:00	13:00	T. Ikoma (Nihon U)	Wave Energy (2)	Design of Wave Energy Converters
19	5/12	Thu	20:00	8:00	13:00	T. Ikoma (Nihon U)	Wave Energy (3)	Case Study (OWC Converter at Sakata Port, Etc.)
20	10/12	Tue	20:00	8:00	13:00	G.R.S. Assi (USP)	Alternative Concepts (1)	Offshore wind, Wave energy
21	12/12	Thu	20:00	8:00	13:00	G.R.S. Assi (USP)	Alternative Concepts (2)	Tidal and Ocean streams, Flow-Induced Vibration, Turbine blade design, Energy storage
22	17/12	Tue	20:00	8:00	13:00	Y. Ikegami (Saga U)	Ocean Thermal Energy (1)	Introduction on Ocean Thermal Energy
23	19/12	Thu	20:00	8:00	13:00	Y. Ikegami (Saga U)	Ocean Thermal Energy (2)	Case Study (Kumeshima OTEC Plant, Etc.)