		NEAR EAST U	NIVERSITY – FACULTY O			NOINEEKING							
				ent of Civil Engin ation Sheet & Co									
Course CIV528		Course Name Forecasting, Modellin	g and Statistical Analysis o		Credit 3		ECTS 7.5						
		Atmospheric Data											
Pre-req	uisite: ige: English		Course Type: Elective				Som	ester: 2					
Weekly	0 0	Class Hours	Laboratory	Practicum		Learning		lester. 2					
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Learnin	ng	After the complet	ion of this course, the stude	ent will be able to									
Outcom	-	 know how to co know how to see estimates of uncer know the streng know how to fo know how to co know how to do 	After the completion of this course, the student will be able to know how to compute and assess basic statistical properties of a data set know how to select and apply appropriate statistical models to infer properties about a population, including estimates of uncertainty, based on a sample of data know the strengths and limitations of different methods of analysis commonly applied to geophysical problems know how to forecast the weather parameters know how to compute correlations and regressions between time series know how to deduce the spatial structure of data										
Course Descrip		This course intro clouds, precipitati thunderstorms, to	▶ knows how to synthesize and present the results of the analysis in a scientific report This course introduces the physical processes in the atmosphere-heat and energy, temperature, pressure, wind, clouds, precipitation, and stability. These concepts provide the basis for understanding weather systems, such as thunderstorms, tornadoes, and hurricanes. These processes are also applied to climatic patterns and the impacts of										
Course Objectives		5 The course provid incorporation into describing weather prescribed extrem variables in applie that weather and of	human activity on weather and climate, such as air pollution and climate change. The course provides a practical guidance in the quantitative analysis of large weather and climate datasets for incorporation into a data analytics system. Also, it provides how to compute descriptive measures and produce figures describing weather and climate datasets; formulate and perform hypothesis testing to determine the significance of a prescribed extreme weather event; visualize, quantify, and model the relationship between observed and forecast variables in applied problems such as weather-marketplace interactions; and demonstrate an appreciation for the role that weather and climate information plays in decision-making processes over a wide range of business and										
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Referen	oks and/or Ices		1 Wallace, J. M., & Hobbs, P. V. (2006). Atmospheric science: an introductory survey (Vol. 92). Elsevier.										
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			Mills, G., Christen, A., &					Press.					
			I. (2022). Climate change: V										
Course	Content		er forecasting, climate predi	ction, data assimil	lation, verificati	on and ensemb	le predictio						
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				•	Artificial Intelligence	e and Machine Learning Applications			
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