

SYLLABUS

Course Number and Title: M2794.008500 Cryogenic Engineering (저온공학)							
Credit	Provided by	Professor					
		Title		Name		e-mail	
3	Dept. of Mechanical and Aerospace Eng.			KIM, Min Soo		minskim@snu.ac.kr	
Attachment (Korean)				Attachment (English)			
Prerequisite Course							
1. Purpose of Course	This course will examine the basic theories and applications of cryogenic systems. We will have an overview of cryogenic system design and analysis techniques based on our general understanding of the fundamental principles of thermodynamics, fluid mechanics and heat transfer. Topics that will be covered are as follows; the components of cryogenic systems and their performance, the diverse examples of cryogenic systems, several cryogenic refrigeration systems, liquefaction systems, storage/tranfer systems, etc.						
2. Materials and Reference	Cryogenic Systems, 2nd Ed, Randall F. Barron, Oxford (1985)						
3. Evaluation Method	Attendance(%)	Task(%)	Fianl Exam.(%)	Random Evaluation(%)	Attitude(%)	Other(%)	Total(%)
	0%	10%	40%	0%	0%	10%	100%
	Other Remarks :						
4. Lecture Plan	(English)	[1 Week] Low temperature material properties [2 Week] Production of low temperatures [3 Week] Gas-liquefaction systems [4 Week] Components of liquefaction systems [5 Week] Properties of Mixtures [6 Week] Properties of Mixtures [7 Week] Mid-term examination [8 Week] Cryogenic refrigeration systems (Ideal system, Joule-Thomson system) [9 Week] Cryogenic refrigeration systems (Stirling, VM, GM system) [10 Week] Measurement systems for low T [11 Week] Cryogenic fluid storage/transfer system [12 Week] Vacuum technology [13 Week] Presentation of term projects [14 Week] Presentation of term projects [15 Week] Low temperature material properties					
5 .References to Course Registration							