Course : M2794.008500 Cryogenic Engineering

Credits	Department	Representative Instructor		
		Position	Name	Email
3	Mechanical Engineering Major	Professor	Kim, Min Soo	minskim@snu.ac.kr

Attachment(Korean)	Attachment(English)

Prerequisite Course	
Consult Time	After the class, at lecture room
1. Goals	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. Texts and References	

3. Evaluation

Attendance(%)	Task(%)	Medium(%)	Final(%)	Random Evaluation(%)	Attitude(%)	Others(%)	Total(%)
0%	10%	40%	40%	0%	0%	10%	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]
Introduction to cryogenic systems
[2 Week]
Production of low tempeartures
[3 Week]
Thremal conductivity for cryogenic system
[4 Week]
Gas-liquefaction systems
[5 Week]
Components of liquefaction system
[6 Week]
Mid-term examination
[7 Week]
Properties of Mixtures
[8 Week]
Rectification column
[9 Week]
Cryogenic refrigeration systems (Ideal system, Joule-Thomson system)
[10 Week]
Cryogenic refrigeration systems (Stirling, VM, GM system)
[11 Week]
Measurement systems for low T
[12 Week]
Cryogenic fluid storage/transfer system
[13 Week]
Vacuum technology
[14 Week]
Low temperature material properties
[15 Week]
Final examination

5. Guideline for Students	

6. Support Services for Students with Disabilities

For Lectures	○ Visual Impairment: Make textbooks(digital textbook, braille textbook, enlarged textbook etc.), Allow ○ 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
For Assignments & Evaluations	○ 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	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, Min Soo(02-880-8362) or Support Center for Students with Disabilities (02-880-8787).