

[SKKU Advanced Materials Science & Engineering] 신소재공학과 해외석학 집중특강

Lecturer	Dr. Jeehwan Kim (jeehwan@mit.edu)
Title	Nanomaterials and Innovations (English)
Course summary	<p>This is a course designed for graduate students who want to learn how to innovate in the field of nanomaterials and nanoengineering. The course will offer multitudes of examples for innovations in nanomaterials and explain how the basic textbook knowledge can be used for inventions. Students will then learn about underlying material science and engineering principles including thermodynamics, kinetics, and mechanics. Nanomaterials to be discussed in the course is graphene, 2D materials, CNT, nanowires, and epitaxial membranes. The course is aiming at encouraging students to have creative thinking by the lectures and open-discussions. Feedbacks for students' research will also be provided. The course will also systematically provide skills for shaping the scientific papers after creating ideas followed by implementations. Throughout 6 weeks, 4 hours-lectures will be provided per week. By the end of the lecture, students shall submit a term paper where they choose scientific papers and discuss about how basic Materials Science has been used for key innovations in the papers.</p>
Schedule	<p>The first lecture will start on 5/July/2019. Four-hours lecture per week provides background materials pertinent to the material innovations. Combining alternating lecture and discussions, students will have the opportunity to continually take concepts introduced in lecture to their research. The following schedule can be changed depending on lecturer's schedule and etc.</p> <ul style="list-style-type: none"> • 1st 5 July, 15:00 • 2nd 10 July, 14:00 18:00 • 3rd 17 July, 14:00 18:00 • 4th 24 July, 14:00 18:00 • 5th 31 July, 14:00 18:00 • 6th 7 Aug, 14:00 18:00 • 7th 14 Aug, Final test <p style="text-align: right;">room 26211, Engineering Building 2</p>
Course credit	<p>This course will be credited to the next semester (class title: 에너지변환재료학 특론, 3 credit).</p> <p>All graduate students to want to earn the credit should register this class in the next semester. Also, this class will be opened for all graduate students regardless of their major.</p> <p>During Fall semester, additional class will be shortly carried with the types of seminar or open course ware (OCW)</p>
Grading	<p>Class participation is particularly important. Especially, participating in discussion in the class is reflected in the final grade. 15-minutes seminar from students and the term paper will be graded for the final grade.</p> <p>Term paper : 50% / Participation : 25% / Seminar : 25%</p>