

교과목번호 Course No.	465.420	강좌번호	-	Title	지오메카닉스 원론 Fundamentals of Geomechanics	credit	3
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담당교수 Instructor	Name: Min, Ki-Bok	Homepage : <a href="http://rockeng.snu.ac.kr">http://rockeng.snu.ac.kr</a>
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	Office Hours : Through prior appointment	

강의목표 Objective	<ul style="list-style-type: none"> <li>- This course deals with fundamentals of geomechanics with emphasis on both classical theory and state-of-the-art applications.</li> <li>- The subjects that will be covered in this course are; in situ rock stress, failure theory of rock and rock mass, rock anisotropy, coupled thermo-hydro-mechanical behavior, stress redistribution by drilling, excavation and concentrated load, hydraulic fracturing and numerical applications for geomechanics.</li> <li>- Various applications of geomechanics to Enhanced Geothermal System, CO2 geosequestration, geological repository of nuclear waste, mining/petroleum and underground engineering are introduced.</li> </ul>
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교재 Textbook and references	<ul style="list-style-type: none"> <li>- Jaeger, Cook and Zimmerman, 2007, Fundamentals of Rock Mechanics, 4<sup>th</sup> Edition, Blackwell publishing</li> <li>- Brady and Brown, 2004, Rock Mechanics for underground mining, 3<sup>rd</sup> edition, Kluwer Academic Publishers</li> <li>- Goodman RE, 1989, Introduction to Rock Mechanics, 2<sup>nd</sup> Edition, Wiley</li> <li>- Wang HF, 2000, Theory of Linear Poroelasticity with Applications to Geomechanics and Hydrogeology, Princeton University Press</li> <li>- Zoback MD, 2007, Reservoir Geomechanics, Cambridge University Press</li> </ul>
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평가방법 Evaluation	Participation	Homework	Final Exam	term-paper
	10 %	30 %	30 %	30 %
	비고	Term paper is evaluated on a group basis. A group comprised of ~3 students.		

수강생 참고사항 Note to the students	<ul style="list-style-type: none"> <li>- The graduate course is open for 4th-year students with permission from the instructor.</li> <li>- Lecture will be given in English with some explanations in Korean from time to time.</li> <li>- This course will be recorded and will be available online after the course.</li> <li>- Students are expected to submit summaries of classical and recent papers as well as hands-on analysis related to the subjects.</li> <li>- Terms papers can be a literature reviews or an analysis by students.</li> <li>- Teaching Assistant: xxx (38-324), tel. 880-7232,</li> </ul> <p style="text-align: right;">Syllabus last updated: 2 Jul 2017 (Course schedule is subject to change)</p>
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부정행위자에 대한 처리 Note about Plagiarism	<ul style="list-style-type: none"> <li>- Plagiarism is strictly prohibited.</li> <li>- Home assignments and term papers must include 'statement of originality'.</li> </ul>
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**강의  
계획  
Schedule**

주(기간)	강의내용
week 1 9/5	- Introduction of the course and overview of Geomechanics (Lecture 1) - Fundamentals of elasticity (with geomechanical focus) (Lecture 2)
week 2 9/12	- Fundamentals of elasticity (with geomechanical focus) (Lecture 2)
week 3 9/19	- Deformation and Failure of Rock (Lecture 3 & Lecture 4)
week 4 9/26	- No Lecture (sickness)
week 5 10/3	- No Lecture (public holiday)
week 6 10/10	- Deformation and Failure of Rock (Lecture 3 & Lecture 4)
week 7 10/17	- No lecture (Business trip)
week 8 10/24	- Anisotropic Rock Mechanics (Lecture 5 & Lecture 6)
week 9 10/31	- Anisotropic Rock Mechanics (Lecture 5 & Lecture 6)
week 10 11/7	- Rock Mass Properties (Lecture 7)
week 11 11/14	- In situ Stress and its Measurement (Lecture 8 & Lecture 9)
week 12 11/21	- In situ Stress and its Measurement (Lecture 8 & Lecture 9)
week 13 11/28	- Fractured Rock Hydraulics (Lecture 10)
week 14 12/5	- Student Conference (Presentation of Term Papers).
week 15 12/12	- Final Exam