2019학년도 2학기 교수계획표

교과목명	융합나노 · 촉매화학	**교과목번호**	CH73967	**분반**	001
개설학과	화학전공	**개설학년**	전 학년	**학점-이론-실습**	3.0 - 3.0 - 0.0
강의시간 및 강의실	금 09:00-12:00 606-409				
담당교수	박강현	**연구실 (상담가능장소)**		**상담시간**	
		연락처		**이메일**	
수업방식					
평가방법	* 장애학생의 경우 시험시간의 연장이 가능하며, 대필이나 컴퓨터를 활용하여 시험에 응할 수 있습니다.				
선수과목 및 지식					
교수목표	This course is mainly designed for graduate students and seniors in Nano Science.This course will present an overview of the basic principles and recent advances in representative areas of nanoscience and nanocatalysis.				
강의개요	Catalysis is a central topic in chemical transformation and energy conversion. Thanks to the spectacular achievements of colloidal chemistry and the synthesis of nanomaterials over the last two decades, there have also been significant advances in nanoparticle catalysis. Metal Nanoparticles for Catalysis is a lecture on catalysis on nanoparticles, looking at both their synthesis and applications. Chapter topics include nanoreactor catalysis; Pd nanoparticles in C-C coupling reactions; metal salt-based gold nanocatalysts; theoretical insights into metal nanocatalysts; and nanoparticle mediated clock reaction, and others. * 장애학생의 경우 장애학습지원센터와 강의 및 과제에 대한 사전 협의가 가능합니다.				
교재 및 참고자료					
주교재	Metal Nanoparticles for Catalysis(Franklin Tao, RSC)				
참고자료					

주별 강의계획		
주차	강의 및 실험 실기 내용	과제 및 기타 참고사항
제1주	[표절, 시험 부정행위 예방교육 및 실험·실습 안전교육 실시] Introduction	
제2주	Chapter 1. Introduction: Synthesis and Catalysis on Metal Nanoparticles	
제3주	Chapter 2. Nanocatalysis: Definition and Case Studies	
제4주	Chapter 3. New Strategies to Fabricate Nanostructured Colloidal and Supported Metal Nanoparticles and their Efficient Catalytic Applications	
제5주	Chapter 4. Organometallic Approach for the Synthesis of Noble Metal Nanoparticles	
제6주	Chapter 5. Nickel Nanoparticles in the Transfer Hydrogenation of Functional Groups	
제7주	Chapter 6. Ammonium Surfactant-capped Rh(0) Nanoparticles for Biphasic Hyforgenation	
제8주	1st Exam	
제9주	Chapter 7. Pd Nanoparticls in C-C Coupling Reactions	
제10주	Chapter 8. Metal Salt-based Gold Nanocatalysts	
제11주	Chapter 9. Catalysis with Colloidal Metallic Hollow Nanostructures	
제12주	Chapter 10. Nanoreactor Catalysis	
제13주	Chapter 11. Nanoparticle Mediated Clock Reaction	
제14주	Chapter 12. Theoretical Insights into Metal Nanocatalysts	
제15주	Chapter 13. Porous Cryptomelane-type Manganese Oxide Octahedral Molecular Sieves	
제16주	Final Exam	
첨부파일		