

Syllabus [2025Year 1 Term]

Course Information

Course Title	Innovations in Society	Credits	3
Course Code	562180-1	Required/Elective (For Undergraduate Courses)	
Department or Major	Department of Bio and Material Engineering	Language	English
Methods of Teaching		Lecture Room	목5,6,7,8,9,10(국제 506)
Time Allotment	Lecture(3) Experiments(0) Trainging & Practice(0) Performance(0) Designing & Planning(0)	Cyber Lectures	
Course Type	offline		

Lecturer

Lecturer	Name	COPELAND CHARLES SANDERS	Rank	Foreign Language Teaching Assistant Professor	Final Academic Degree	학사
	Department & college	College of Liberal Arts		Office	Humanities Hall 310	
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	Field of Interest					

Course Summary

Course Description	This course will explore how different innovations become diffused throughout society and the driving forces that aid this process. The first half of the class will explore the innovation process from the generation of innovations through the process of making decisions related to innovation to the possible consequences that can arise. Adopters and networks that drive innovation will also be discussed in this section of the course. The second half of the course explores the different driving forces that have moved innovation into full adoption.
Description Related Courses	
Course Goals	At the end of the course, students will be able to: 1. Understand the different forces that drive innovation. 2. Understand the roles and timing of agents within the diffusion and innovation process. 3. Understand the different theories that underly the diffusion and innovation process.

	4. Debate the potential of new innovations using scientific theory. 5. Apply the innovation and diffusion process to new technologies to determine their possible future acceptance path. 6. Apply McLuhan's Law of Media and other theories to the innovation process. 7. Apply the different driving forces to innovations to develop an estimate the potential. 8. Analyze science fiction movies for possible future innovations.
Projected Results	By the end of the course students will be able to understand the process of innovation in society, develop a sense of scientific futurist thought, analyze the different factors and forces that are related to innovation, and apply these theories, and forces to make realistic predictions about the future of innovations.
Percentage of the original language classes(%)	

Syllabus

Times	Lecture Topic	Lecture Goals	Lecture Methods	Assignments
1	Syllabus / Introduce Subject	Introduce the course to the subject of Innovation in Society and talk about how innovation impacts students' lives. Finally, the session will end with an icebreaker to allow students to get to know each other.	강의, 토의토론수업,	
2	Elements of Diffusion of Innovation	This class will delve into some of the key factors that are tied with the diffusion of innovation including a definition of innovation, communication channels, the time necessary for innovations to spread through society, and the social systems that lead to adoption.	강의, 토의토론수업,	Case Study
3	Generation of Innovations	This class will explore the innovation development process. The process consists of six stages: Recognition of a problem, research, development, commercialization, diffusion and adoption, and consequences.	강의, 토의토론수업,	Case Study

Times	Lecture Topic	Lecture Goals	Lecture Methods	Assignments
4	The Innovation Decision Processes	This session will go through the five steps of the innovation decision process: Knowledge, persuasion, decision, implementation, confirmation.	강의, 토의토론수업,	Case Study, Debate
5	Innovativeness and Adopter Categories	This session will teach about different categories of adopters, the ideal adopter, and the characteristics of adopters.	강의, 토의토론수업,	Case Study
6	Diffusion Networks	This class will explore the networks necessary to have innovations gain traction and become mainstream. The models of flow, homophily and heterophily, opinion leaders, networks and critical mass will all be discussed.	강의, 토의토론수업,	Case Study, Project
7	Consequences of Innovations / Review for the Midterm	This class will investigate possible consequences to society that arise from innovation. The midterm examination will also be reviewed.	강의, 토의토론수업,	Case Study
8	Midterm Examination (중간고사)	Midterm Examination (중간고사)	강의,	Midterm Examination (중간고사)
9	Overview of the Driving Forces of Innovation	This class will first review the midterm exam and then preview the concept of driving forces of innovation.	강의, 토의토론수업,	
10	Driving Forces: McLuhan's Law of Media	McLuhan's Law of Media is a method for people to tie present technologies and innovations into their ancestors, and make predictions about what might come from the future.	강의, 토의토론수업,	McLuhan's Tetrad Project
11	Driving Forces: Red Queens, Butterflies, and Strange Attraction	This session will discuss three driving	강의, 토의토론수업,	Science Fiction Project

Times	Lecture Topic	Lecture Goals	Lecture Methods	Assignments
	s	forces of innovation and try to apply the m to innovations that have been generally adopted (for example, smartphone producers Apple and Samsung driving development through competition is an example of Red Queens).		
12	Driving Forces: Science Fiction	This class will explore how science fiction has predicted and also influenced innovation. Clips from science fiction movies will be watched and students will discuss what technologies are already available, might be available in the future, and seemingly impossible.	강의, 토의토론수업,	
13	Driving Forces: Evolutionary Technologies	The final driving force of technology are innovations that follow an evolutionary path (like electric lights going from incandescent to fluorescent to LED).	강의, 토의토론수업,	
14	Driving Forces: Increasing Returns / Review for Final	This class will look at how some technologies get ahead not on the merit of being the best, but rather for some other reason. The class will then review for the final examination.	강의, 토의토론수업,	Final Project
15	Final Examination (기말고사)	Final Examination (기말고사)	강의,	Final Examination (기말고사)

Methods of Grading

sequence	Description	Percentage	Details
1	Mid-term Exam	20%	
All		100%	

sequence	Description	Percentage	Details
2	Final-exam	30%	
3	Pop Quizzes	0%	
4	Assignments	30%	
5	Reports	0%	
6	Presentations & Discussions	10%	
7	Attendance	10%	
8		0%	
9	Others	0%	
All		100%	

Core of Value

핵심가치	핵심역량	하위역량	역량정의	역량구분	값(%)
혁신 (Discovery)	문제해결 (Deliberation)	분석력 창의력 종합적 사고력	문제상황을 명확하게 이해하고 체계적으로 분석하여 창의적으로 해결할 수 있는 능력	주역량	0%
혁신 (Discovery)	전문지식 (Knowledge)	탐구능력 논리적 사고력 전문지식/기술	전공분야 지식과 기술, 그리고 관련된 다양한 정보를 활용하여 논리적으로 사고하고 탐구하는 역량	부역량	0%
헌신 (Dedication)	세계시민 (Universal value)	외국어능력 다문화 수용능력 공감능력	세계 각지의 다양한 언어, 문화, 역사에 대한 이해를 바탕으로 글로벌 이슈에 대응할 수 있는 능력	부역량	0%
헌신 (Dedication)	협력.헌신 (Dedication)	대인관계능력 협업 능력 공동체의식	공통의 목적과 가치를 위해 개방적인 태도와 균형 잡힌 시간으로 서로 돕고 헌신할 수 있는 능력		0%
능동 (self-Determination)	자기주도 (maNagement)	독립성 성찰 능력 자기개발능력	자기 스스로 목표를 세우고 목표를 달성하기 위해 주체적으로 실천할 수 있는 능력		0%

핵심가치	핵심역량	하위역량	역량정의	역량구분	값(%)
능동 (self-Determination)	의사소통 (Articulation)	표현력 이해력 조정력	언어 또는 다양한 매체를 활용하여 다른 사람들과 효과적으로 상호작용할 수 있는 능력		0%

Textbook(s) & References

Description	Title	Author	Publisher
References	Diffusion of Innovations	Everett M. Rogers	Free Press

Memo