Linear Algebra 1

Course Name	Course type (credit/hours)	Required course(3/3)	Course code	F026
	Target students Division/major/grade	Department of Military Digital Convergence/Sophomore	Opening semester	2020 2ND SEMESTER
	Class time and classroom	Tue C()Fri C()	English Grade	A(100%English)
Reference to this course	Prerequisite courses			
	Related basic courses	공업수학		
	Recommended concurrent courses			
	Related advanced courses	UAV비행제어, 현대대수		

Instructor	Name (title/division)	Jongho Park(Assistant Professor, Department of Military Digital Convergence)				
	Office Room Number	연암관 616호	Office phone Number	3676	e-mail	
	Office hours	추후 공고		Homepage address		
Teaching Assistant	Name (title/division)					
	Office Room Number		Office phone Number		e-mail	

1. Introduction

2. Course Objectives

Linear system의 solution, matrix의 성질, subspace들간의 관계, determinant 및 inverse의 성질 등에 대한 이해를 목표로 한다.

3. Class types and activities

4. Teaching Method

- [V] lecture
- [ ] discussion and debate
- [ ] team project(presentation and case studies)
- [ ] experiments(role-playing,etc)
- [ ] designing and production
- [ ] on-site learning(on-site training)
- [ ] others

5. Support Systems in Use

- [V] AjouBb
- [ ] automatic recording system
- [ ] web-based assignment
- [ ] cyber lecture
- [ ] online content
- [ ] class behavior analyazing system
- [ ] others

6. Teaching Tools

- [V] PBL(Problem Based Learning)
- [ ] CBL(Case Based Learning)
- [ ] TBL(Team Based Learning)
- [ ] UR(Undergraduate Research)
- [ ] FL(Flipped Learning)
- [ ] DSAL(Data Science Active Learning)
- [ ] others

7. Knowledge and ability required for taking this course

기초 수리력

8. Method of Evaluation

Evaluation Item	The Number of Times	Evaluation Proportion	Remarks
Attendance		32%	결석 8회 이상: F 학점 자동 부과
midterm exam	1회	30%	
final exam	1회	30%	
quiz			
presentation			
discussion			
homework	2회	8%	
etc			
study hours			

9. Textbook and supplementary material

Main/Sub	Title (Web-site)	Writer	Publisher	Publication year
Main	Introduction to Linear Algebra, 5th Edition	Gilbert Strang	Cambridge press	2016

10. Class system and Class shedule

구체적인 체계는 다음과 같다.

(1) Matirx and its properties (including factorization)
(2) Geometry of linear equation and its solution
(3) Four fundamental subspaces
(4) Gram-Schmidt, Cramer's rule
(5) 응용: Projection, volume

< Class Schedule >

* language : K-korean, E-English

Weeks	Topics	language	Instructor	Teaching Method	Evaluation Method	Matter to be prepared
1	Introduction, geometry of linear equations	E	Jongho Park	강의		
2	Elimination with matrices	E	Jongho Park	강의		
3	Multiplication and inverse matrices	E	Jongho Park	강의		
4	Factorization into A=LU	E	Jongho Park	강의		
5	Spaces	E	Jongho Park	강의		

< Class Schedule >

* language : K-korean, E-English

Weeks	Topics	language	Instructor	Teaching Method	Evaluation Method	Matter to be prepared
6	Null space	E	Jongho Park	강의		
7	Complete solution to Ax=b	E	Jongho Park	강의		
8	- 중간고사 기간 -	E	Jongho Park	중간고사	지필평가	
9	Independence, basis, and dimension	E	Jongho Park	강의		
10	Four fundamental subspaces, matrix spaces	E	Jongho Park	강의		
11	Orthogonal vectors and subspaces	E	Jongho Park	강의		
12	Projections	E	Jongho Park	강의		
13	Orthonormal bases and Gram-Schmidt	E	Jongho Park	강의		
14	Determinant properties, formulas, and Cofactors	E	Jongho Park	강의		
15	Cramer's rule, inverses, and volume	E	Jongho Park	강의		
16	- 기말고사 기간 -	E	Jongho Park	기말고사	지필평가	

11. Other items of notification

- 출석, 시험, 과제 등에 대한 부정행위가 있을 경우, 경중에 따라 평가에 불이익을 주거나 상벌위원회에 회부할 수 있습니다.
- 과제 카피 시 제공자와 카피 당사자 모두 패널티 적용
- 부정행위를 발견한 사람은 누구든 신고 가능 (증거 제시)