

## Tamkang University Academic Year 111, 1st Semester Course Syllabus

Course Title	LINEAR ALGEBRA	Instructor	WANG WEN-YEN
Course Class	TLSXB2A DEPARTMENT OF STATISTICS, 2A	Details	<ul style="list-style-type: none"> <li>◆ General Course</li> <li>◆ Required</li> <li>◆ 1st Semester</li> </ul>
Relevance to SDGs	SDG4 Quality education		
<b>Departmental Aim of Education</b>			
<ul style="list-style-type: none"> <li>I. Cultivate students with knowledge of basic statistical theory.</li> <li>II. Cultivate students with data analysis skills.</li> <li>III. Cultivate students to become statistical professionals with management capabilities.</li> </ul>			
<b>Subject Departmental core competences</b>			
<ul style="list-style-type: none"> <li>A. Knowledge of basic statistical theory.(ratio:5.00)</li> <li>B. Logical reasoning in mathematics.(ratio:80.00)</li> <li>C. Data analysis skills.(ratio:5.00)</li> <li>D. Application of profession knowledge.(ratio:10.00)</li> </ul>			
<b>Subject Schoolwide essential virtues</b>			
<ul style="list-style-type: none"> <li>1. A global perspective. (ratio:10.00)</li> <li>2. Information literacy. (ratio:20.00)</li> <li>3. A vision for the future. (ratio:10.00)</li> <li>4. Moral integrity. (ratio:10.00)</li> <li>5. Independent thinking. (ratio:30.00)</li> <li>6. A cheerful attitude and healthy lifestyle. (ratio:10.00)</li> <li>7. A spirit of teamwork and dedication. (ratio:5.00)</li> <li>8. A sense of aesthetic appreciation. (ratio:5.00)</li> </ul>			

Course Introduction	The purpose of this course is to help students grasp concepts of the vector and matrix theory. We need the knowledge of matrix theory to work in statistical areas such as regression and multivariate statistics.
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**The correspondences between the course's instructional objectives and the cognitive, affective, and psychomotor objectives.**

Differentiate the various objective methods among the cognitive, affective and psychomotor domains of the course's instructional objectives.

- I. Cognitive : Emphasis upon the study of various kinds of knowledge in the cognition of the course's veracity, conception, procedures, outcomes, etc.
- II. Affective : Emphasis upon the study of various kinds of knowledge in the course's appeal, morals, attitude, conviction, values, etc.
- III. Psychomotor: Emphasis upon the study of the course's physical activity and technical manipulation.

No.	Teaching Objectives	objective methods
1	To grasp concepts of the vector and matrix.	Affective

The correspondences of teaching objectives : core competences, essential virtues, teaching methods, and assessment

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	ABCD	12345678	Lecture	Testing, Study Assignments

**Course Schedule**

Week	Date	Course Contents	Note
1	111/09/05 ~ 111/09/11	Chapter 1 Systems of linear equations and matrices	
2	111/09/12 ~ 111/09/18	Chapter 1 Systems of linear equations and matrices	
3	111/09/19 ~ 111/09/25	Chapter 1 Systems of linear equations and matrices	
4	111/09/26 ~ 111/10/02	Chapter 1 Systems of linear equations and matrices	
5	111/10/03 ~ 111/10/09	Chapter 1 Systems of linear equations and matrices	
6	111/10/10 ~ 111/10/16	Chapter 1 Systems of linear equations and matrices	

7	111/10/17 ~ 111/10/23	Chapter 1 Systems of linear equations and matrices	
8	111/10/24 ~ 111/10/30	Chapter 1 Systems of linear equations and matrices	
9	111/10/31 ~ 111/11/06	Chapter 1 Systems of linear equations and matrices	
10	111/11/07 ~ 111/11/13	Midterm Exam Week	
11	111/11/14 ~ 111/11/20	Chapter 2 Linear combinations and Linear independence	
12	111/11/21 ~ 111/11/27	Chapter 2 Linear combinations and Linear independence	
13	111/11/28 ~ 111/12/04	Chapter 2 Linear combinations and Linear independence	
14	111/12/05 ~ 111/12/11	Chapter 3 vector space	
15	111/12/12 ~ 111/12/18	Chapter 3 vector space	
16	111/12/19 ~ 111/12/25	Chapter 3 vector space	
17	111/12/26 ~ 112/01/01	Chapter 3 vector space	
18	112/01/02 ~ 112/01/08	Final Exam Week	
Requirement	請勿任意缺課		
Teaching Facility	(None)		
Textbooks and Teaching Materials	Linear Algebra Jim DeFranza & Daniel Gagliardi		
References			
Number of Assignment(s)	(Filled in by assignment instructor only)		
Grading Policy	◆ Attendance : 10.0 %   ◆ Mark of Usual :   %   ◆ Midterm Exam : 30.0 % ◆ Final Exam : 40.0 % ◆ Other 〈實習課〉 : 20.0 %		
Note	This syllabus may be uploaded at the website of Course Syllabus Management System at <a href="http://info.ais.tku.edu.tw/csp">http://info.ais.tku.edu.tw/csp</a> or through the link of Course Syllabus Upload posted on the home page of TKU Office of Academic Affairs at <a href="http://www.acad.tku.edu.tw/CS/main.php">http://www.acad.tku.edu.tw/CS/main.php</a> . <b>※ Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.</b>		