Tamkang University Academic Year 110, 1st Semester Course Syllabus

Course Title	NUMERICAL ANALYSIS	Instructor	CHU, LIOU
Course Class	TEIDB3P DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION ENGINEERING (ENGLISH-TAUGHT PROGRAM)SCIENCE AND	Details	◆ General Course ◆ Selective ◆ One Semester
Relevance to SDGs	INFORMATION ENGINEERING, 3P SDG4 Quality education SDG9 Industry, Innovation, and Infrastructure		

Departmental Aim of Education

Ⅰ. Comprehend professional knowledge.

Ⅱ. Acquire mastery of Practical Skills.

Ⅲ. Establish creative achievement.

Subject Departmental core competences

B. Mathematical reasoning ability.(ratio:100.00)

Subject Schoolwide essential virtues

2. Information literacy. (ratio:70.00)

5. Independent thinking. (ratio:30.00)

Course Introduction	This course introduces the method of numerical analysis by using related computer software.

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	Understanding of numerical analysis, and related computer software.	Cognitive

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	B	25	Lecture, Discussion	Testing, Study Assignments, Discussion(including classroom and online)

Course Schedule

Week	Date	Course Contents	Note
1	110/09/22 ~ 110/09/28	Introduction	
2	110/09/29 ~ 110/10/05	Number system and errors	
3	110/10/06 ~ 110/10/12	Number system and errors	
4	110/10/13 ~ 110/10/19	Number system and errors	
5	110/10/20 ~ 110/10/26	Roots of equations	
6	110/10/27 ~ 110/11/02	Roots of equations	
7	110/11/03 ~ 110/11/09	System of linear equations	
8	110/11/10 ~ 110/11/16	System of linear equations	
9	110/11/17 ~ 110/11/23	Midterm Exam Week	
10	110/11/24 ~ 110/11/30	System of linear equations	
11	110/12/01 ~ 110/12/07	Interpolation	

12	110/12/08~ 110/12/14	Interpolation	
13	110/12/15~ 110/12/21	Numerical optimization	
14	110/12/22~ 110/12/28	Numerical optimization	
15	110/12/29~ 111/01/04	Numerical optimization	
16	111/01/05~ 111/01/11	Numerical optimization	
17	111/01/12~ 111/01/18	Final Exam Week	
18	111/01/19~ 111/01/25		

Requirement	
Teaching Facility	Computer, Projector
Textbooks and Teaching Materials	An Introduction to Numerical Methods A MATLAB Approach, Abdelwahab Kharab, Ronald B. Guenther, CRC Press. (ISBN: 9781439868997)
References	
Number of Assignment(s)	4　　(Filled in by assignment instructor only)
Grading Policy	◆ Attendance： 10.0 % ◆ Mark of Usual：40.0 % ◆ Midterm Exam： 20.0 % ◆ Final Exam： 20.0 % ◆ Other〈Performance〉：10.0 %
Note	This syllabus may be uploaded at the website of Course Syllabus Management System at http://info.ais.tku.edu.tw/csp or through the link of Course Syllabus Upload posted on the home page of TKU Office of Academic Affairs at http://www.acad.tku.edu.tw/CS/main.php . ※ **Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.**