Tamkang University Academic Year 113, 2nd Semester Course Syllabus

Course Title	SEMINAR (I)	Instructor	HSI-AN PAN
Course Class	TSPXM1A MASTER'S PROGRAM, DEPARTMENT OF PHYSICS, 1A	Details	◆ General Course ◆ Required ◆ 2nd Semester ◆ 2 Credits
Relevance to SDGs	SDG4 Quality education		

Departmental Aim of Education

Ⅰ. Conveying professional knowledge: Teach the students to learn the core knowledge of physics, to obtain the basic skills needed for physics research, and to apply the professional knowledge to physics related technologies.

Ⅱ. Analyzing and solving problems: Guide the students to analyze problems, and to acquire the mathematical ability to quantify conceptual models and also the capability needed to think and to innovate in solving various scientific and engineering problems.

Ⅲ. Training for experimental techniques: Teach the students on how to carry out and to verify various experiments, and at the same time to have the mentality of working cautiously and the awareness in operating safely.

Ⅳ. Expressing personal characteristics: Help the students to use their personal characteristics, like resolution, sincerity, and concentration, plus their professional skills to gain recognition among the executives and their peers.

Ⅴ. Cultivating team spirit: Train the students to have the organizational ability and the communicational skills to let them have the adaptability to integrate into a professional team, and to obtain the ability to bring out and to put to use the strength of the team to solve professional problems.

Ⅵ. Building international views: Comply to the trends of globalization to build an international learning environment and opportunities in order to educate the students to continue in their self-advancements, to absorb new worldwide knowledge, and to become a professional with international views in their future perspective careers.

Subject Departmental core competences

A. To acquire the core basic knowledge in the field of physics.(ratio:10.00)

B. To understand the overall features of specific fields of physics.(ratio:20.00)

C. To obtain the mathematical ability to quantify concepts, models, and practical problems. (ratio:10.00)

D. To cultivate the basic ability to discover, to analyze, and to solve problems.(ratio:20.00)

E. To practice the actual handling of physics problems, and to have the ability to analyze and to interpret experimental data.(ratio:5.00)

F. To have the mentality to work cautiously and the awareness to operate safely.(ratio:5.00)

G. To comprehend the trend of technological development and to acquire the knowledge and skills of other fields needed in their professional career.(ratio:25.00)

H. To have the spirit and capability in team cooperation.(ratio:5.00)

Subject Schoolwide essential virtues
1. A global perspective. (ratio:10.00)
2. Information literacy. (ratio:20.00)
3. A vision for the future. (ratio:20.00)
4. Moral integrity. (ratio:5.00)
5. Independent thinking. (ratio:20.00)
6. A cheerful attitude and healthy lifestyle. (ratio:5.00)
7. A spirit of teamwork and dedication. (ratio:10.00)
8. A sense of aesthetic appreciation. (ratio:10.00)

Course Introduction	For students to gain broad understanding of knowledge and cutting-edge research in physics, experts in different fields of physics, either from our university or other university/institute, will be invited to give a presentation on their research in the lecture. Students will also have to present their own research and practice the presentation, communication, and conflict-handling skills in the lecture.

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	1. To learn the cutting-edge research in physics. To be able to digest professional information/knowledge within a relatively short time. 2. To be able to present own research in a logical way. 3. To gain presentation, communication, and conflict-handling skills.	Cognitive

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	ABCDEFGH	12345678	Lecture, Discussion	Discussion(including classroom and online), Report(including oral and written), Activity Participation

Course Schedule

Week	Date	Course Contents	Note
1	114/02/17 ~ 114/02/23	Introduction of the course/Laboratory Safety and Security	
2	114/02/24 ~ 114/03/02	Presentation on Research in Physics by Researcher or Students	
3	114/03/03 ~ 114/03/09	Presentation on Research in Physics by Researcher or Students	
4	114/03/10 ~ 114/03/16	Presentation on Research in Physics by Researcher or Students	
5	114/03/17 ~ 114/03/23	Presentation on Research in Physics by Researcher or Students	
6	114/03/24 ~ 114/03/30	Presentation on Research in Physics by Researcher or Students	
7	114/03/31 ~ 114/04/06	Presentation on Research in Physics by Researcher or Students	
8	114/04/07 ~ 114/04/13	Presentation on Research in Physics by Researcher or Students	
9	114/04/14 ~ 114/04/20	Midterm Exam	
10	114/04/21 ~ 114/04/27	Presentation on Research in Physics by Researcher or Students	
11	114/04/28 ~ 114/05/04	Presentation on Research in Physics by Researcher or Students	
12	114/05/05 ~ 114/05/11	Presentation on Research in Physics by Researcher or Students	

13	114/05/12～ 114/05/18	Presentation on Research in Physics by Researcher or Students	
14	114/05/19～ 114/05/25	Presentation on Research in Physics by Researcher or Students	
15	114/05/26～ 114/06/01	Presentation on Research in Physics by Researcher or Students	
16	114/06/02～ 114/06/08	Presentation on Research in Physics by Researcher or Students	
17	114/06/09～ 114/06/15	Final Exam	
18	114/06/16～ 114/06/22	Presentation on Research in Physics by Researcher or Students	

Key capabilities	
Interdisciplinary	
Distinctive teaching	
Course Content	Logical Thinking
Requirement	Students should be an active and engaged participant by attending the lecture, asking questions, evaluating information presented in the talk, and presenting their own research.
Textbooks and Teaching Materials	Self-made teaching materials:Presentations
References	
Grading Policy	◆ Attendance： 50.0 % ◆ Mark of Usual： % ◆ Midterm Exam： % ◆ Final Exam： % ◆ Other〈Course Engagement〉：50.0 %

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.**