

## Tamkang University Academic Year 113, 2nd Semester Course Syllabus

Course Title	REVIEW OF LITERATURE ON CHEMICAL AND MATERIALS ENGINEERING	Instructor	
Course Class	TEDXM1A MASTER'S PROGRAM, DEPARTMENT OF CHEMICAL AND MATERIALS ENGINEERING, 1A	Details	♦ General Course ♦ Selective ♦ One Semester ♦ 2 Credits
Relevance to SDGs	SDG4 Quality education SDG8 Decent work and economic growth SDG9 Industry, Innovation, and Infrastructure SDG17 Partnerships for the goals		
D e p a r t m e n t a l   A i m   o f   E d u c a t i o n			
Education Objectives: Cultivation of chemical/materials engineering experts with professional knowledge and high research-and-development capability.			
Subject Departmental core competences			
A. Possess the advanced knowledge of chemical/material engineering and to be able to use it. (ratio:5.00) B. Capable to plan and execute the chemical/material engineering projects.(ratio:5.00) C. Capable of writing professional papers.(ratio:35.00) D. Capable of creative thinking and solving problem independently.(ratio:5.00) E. Capable to coordinate and integrate interdisciplinary cooperation.(ratio:5.00) F. Possess global vision.(ratio:35.00) G. Qualified capability for leadership, management and planning.(ratio:5.00) H. Capable of self-learning and self-growth.(ratio:5.00)			
Subject Schoolwide essential virtues			
1. A global perspective. (ratio:10.00) 2. Information literacy. (ratio:15.00) 3. A vision for the future. (ratio:10.00) 4. Moral integrity. (ratio:10.00) 5. Independent thinking. (ratio:30.00) 6. A cheerful attitude and healthy lifestyle. (ratio:10.00) 7. A spirit of teamwork and dedication. (ratio:10.00) 8. A sense of aesthetic appreciation. (ratio:5.00)			

Course Introduction	Explains the fundamental structure of academic papers, introduces commonly used academic databases in the research field, and incorporates generative AI tools to assist in reading and organizing literature, ultimately guiding students to independently complete a basic academic essay.			
<p><b>The correspondences between the course's instructional objectives and the cognitive, affective, and psychomotor objectives.</b></p> <p>Differentiate the various objective methods among the cognitive, affective and psychomotor domains of the course's instructional objectives.</p> <p>I. Cognitive : Emphasis upon the study of various kinds of knowledge in the cognition of the course's veracity, conception, procedures, outcomes, etc.</p> <p>II.Affective : Emphasis upon the study of various kinds of knowledge in the course's appeal, morals, attitude, conviction, values, etc.</p> <p>III.Psychomotor: Emphasis upon the study of the course's physical activity and technical manipulation.</p>				
No.	Teaching Objectives			objective methods
1	Literature Survey & Paper Reading			Cognitive
2	Paper Writing & Revision			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	Study Assignments, Discussion(including classroom and online), Report(including oral and written), Activity Participation
2	ABCDEFGH	12345678	Lecture, Discussion	Study Assignments, 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		

2	114/02/24 ~ 114/03/02	Journal Introduction	
3	114/03/03 ~ 114/03/09	Journal Introduction	
4	114/03/10 ~ 114/03/16	Paper Survey (I)	
5	114/03/17 ~ 114/03/23	Paper Survey (II)	
6	114/03/24 ~ 114/03/30	Endnote	
7	114/03/31 ~ 114/04/06	Tomb Sweeping Day (National Holiday)	Holiday
8	114/04/07 ~ 114/04/13	How to apply the generative AI tools in the paper writing (I)	
9	114/04/14 ~ 114/04/20	How to apply the generative AI tools in the paper writing (II)	
10	114/04/21 ~ 114/04/27	Paper Reading (I)	
11	114/04/28 ~ 114/05/04	Paper Reading (II)	
12	114/05/05 ~ 114/05/11	Paper Writing Skills (I)	
13	114/05/12 ~ 114/05/18	Paper Writing Skills (II)	
14	114/05/19 ~ 114/05/25	Paper Writing Skills (III)	
15	114/05/26 ~ 114/06/01	Paper Submission Process	
16	114/06/02 ~ 114/06/08	Report (I)	
17	114/06/09 ~ 114/06/15	Final Examination	
18	114/06/16 ~ 114/06/22	Report (II)	
Key capabilities		self-directed learning International mobility Information Technology Problem solving Interdisciplinary	
Interdisciplinary		STEAM course (S:Science, T:Technology, E:Engineering, M:Math, A field:Integration of Art and Humanist)	
Distinctive teaching			

Course Content	Intellectual Property (learning intellectual property) Logical Thinking Environmental Safety Green Energy AI application
Requirement	1. The final exam covers fundamental concepts of paper writing, examples of paper revisions, and the course questionnaire. 2. Students are required to write an essay showcasing the skills learned during the course and deliver a concise presentation within 10 minutes.
Textbooks and Teaching Materials	Self-made teaching materials:Presentations Using teaching materials from other writers:Textbooks, Online database Name of teaching materials: Textbook (I): Alan Meyers, Gateways to Academic Writing, 1st Ed., Pearson Education Inc., 2004.
References	1. Alan Meyers, Gateways to Academic Writing, 1st Ed., Pearson Education Inc., 2004. 2. R.R. Jordan, Academic Writing Course, 3th Ed., Pearson Education Limited, 1999. 3. WALLACE academic writing blog, <a href="https://www.editing.tw/blog">https://www.editing.tw/blog</a>
Grading Policy	◆ Attendance : 10.0 %    ◆ Mark of Usual : 10.0 %    ◆ Midterm Exam : % ◆ Final Exam : 20.0 % ◆ Other 〈Report or Essay〉 : 60.0 %
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>