

Tamkang University Academic Year 106, 2nd Semester Course Syllabus

Course Title	HISTORY OF MACHINES	Instructor	YANG LUNG-JIEH
Course Class	TNUZB0A GLOBAL TECHNOLOGY REVOLUTION, 0A	Details	◆ Required ◆ One Semester ◆ 2 Credits
Academic Aim of Education			
Students will understand recent development of modern science and technology and its impact on human society and global environment. Through the design of course students will also be familiar with broadly-based fundamental technical knowledge and improve.			
Schoolwide essential virtues			
A. A global perspective. B. Information literacy. C. A vision for the future. D. Moral integrity. E. Independent thinking. F. A cheerful attitude and healthy lifestyle. G. A spirit of teamwork and dedication. H. A sense of aesthetic appreciation.			
Course Introduction	This course is to introduce the trends of machines and manufacture technology. So in this fast changing world, our students can think ahead and act positively to take advantage of all breakthrough and innovation on our living. Meanwhile, they will be asked to make a micro film to show what they have learnt in this semester.		

The Relevance among Teaching Objectives, Objective Levels and Schoolwide essential virtues

I.Objective Levels (select applicable ones) :

- (i) Cognitive Domain : C1-Remembering, C2-Understanding, C3-Applying,
C4-Analyzing, C5-Evaluating, C6-Creating
- (ii) Psychomotor Domain : P1-Imitation, P2-Mechanism, P3-Independent Operation,
P4-Linked Operation, P5-Automation, P6-Origination
- (iii) Affective Domain : A1-Receiving, A2-Responding, A3-Valuing,
A4-Organizing, A5-Characterizing, A6-Implementing

II.The Relevance among Teaching Objectives, Objective Levels and Schoolwide essential virtues :

- (i) Determine the objective level(s) in any one of the three learning domains (cognitive, psychomotor, and affective) corresponding to the teaching objective. Each objective should correspond to the objective level(s) of ONLY ONE of the three domains.
- (ii) If more than one objective levels are applicable for each learning domain, select the highest one only. (For example, if the objective levels for Cognitive Domain include C3,C5,and C6, select C6 only and fill it in the boxes below. The same rule applies to Psychomotor Domain and Affective Domain.)
- (iii) Determine the Schoolwide essential virtues that correspond to each teaching objective. Each objective may correspond to one or more Schoolwide essential virtues at a time. (For example, if one objective corresponds to three Schoolwide essential virtues: A,AD, and BEF, list all of the three in the box.)

No.	Teaching Objectives	Relevance	
		Objective Levels	Schoolwide essential virtues
1	The students will be able to understand the historical background, basic concepts, principles of application and future perspectives of machines.	C2	ABC
2	The students shall be aware of the development, status and future trends of machines.	C4	ABC
3	The students shall be able to recognize that many of the social and environmental changes are due to the evolution of machines; then, they may reasonably address kinds of issues, either occurring or potential, in social, ethical, environmental or energy, etc. aspects.	A1	ABC

Teaching Objectives, Teaching Methods and Assessment

No.	Teaching Objectives	Teaching Methods	Assessment
1	The students will be able to understand the historical background, basic concepts, principles of application and future perspectives of machines.	Lecture, Discussion	Written test, Report, Participation
2	The students shall be aware of the development, status and future trends of machines.	Lecture, Discussion	Written test, Report, Participation

3	The students shall be able to recognize that many of the social and environmental changes are due to the evolution of machines; then, they may reasonably address kinds of issues, either occurring or potential, in social, ethical, environmental or energy, etc. aspects.	Lecture, Discussion	Written test, Report, Participation
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Course Schedule			
Week	Date	Subject/Topics	Note
1	107/02/26 ~ 107/03/04	228 Peace Memorial Day	no class
2	107/03/05 ~ 107/03/11	Anonomous development-I	
3	107/03/12 ~ 107/03/18	Anonomous development-II	03/14,3h class, makeup for 03/21
4	107/03/19 ~ 107/03/25	Chinese old machines-I	03/21,no class, Prof. Yang goes abroad
5	107/03/26 ~ 107/04/01	Chinese old machines-II	03/28,3h class, makeup for 03/21
6	107/04/02 ~ 107/04/08	Spring vacation.	
7	107/04/09 ~ 107/04/15	Water-powered machines-I	
8	107/04/16 ~ 107/04/22	Water-powered machines-II	
9	107/04/23 ~ 107/04/29	Water-powered machines-II	
10	107/04/30 ~ 107/05/06	Midterm Exam Week	
11	107/05/07 ~ 107/05/13	Industrial revolution-I	
12	107/05/14 ~ 107/05/20	Industrial revolution-II	
13	107/05/21 ~ 107/05/27	Wnen can we make engines by ourselves?	
14	107/05/28 ~ 107/06/03	Semiconductor industry and small technology	
15	107/06/04 ~ 107/06/10	AI and robotics	
16	107/06/11 ~ 107/06/17	Demo of micro films (1)	
17	107/06/18 ~ 107/06/24	Demo of micro films (2)	
18	107/06/25 ~ 107/07/01	Final Exam Week	

Requirement	<p>1. According to the rule of Tamkang, one who is absent beyond 1/3 of the whole class time is not allowed for attending the final exam. One time of absence at any roll call will lose you 2 scores.</p> <p>2. All students in this class are divided into several groups. Each group of 3-4 people is asked to make a micro film of 4-5 minutes and they should hand in one integrated report. The title and the content of the presentation should be relevant to this course. The presentation score of each group is determined by the audience and Prof. Yang by 50%-50% weighting ratio. Additionally, each student should clearly mention his/her contribution to the his/her group in the report.</p> <p>3. The demo dates of the micro films are the class time of the last two weeks before the final exam.</p>
Teaching Facility	Computer, Projector
Textbook(s)	Teaching materials (a booklet) prepared by Prof. Yang.
Reference(s)	A History of the Machine, Sigvard Strandh, A&W Publishers, Inc., New York, 1979; or Arrow Books, 1984. (You can buy this book from Abebooks and Amazon)
Number of Assignment(s)	(Filled in by assignment instructor only)
Grading Policy	<p>◆ Attendance : 10.0 % ◆ Mark of Usual : % ◆ Midterm Exam : 30.0 %</p> <p>◆ Final Exam : 30.0 %</p> <p>◆ Other <micro film> : 30.0 %</p>
Note	<p>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.</p> <p>※ Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.</p>