

## IEEM 5551 TRIZ Systematic Innovation Methods (萃智系統化創新方法)

## Course Schedule

Instructor: D. Daniel Sheu 許棟樑

Class meeting time: W 6:30PM-9:20PM. Room: 203 -&gt; 701, Engr. I

W	Date (T)	Topics	Reference	Remarks
1	14/09/17	Course Overview & Logistics/SI and TRIZ overview; Problem Statement (課程/系統化創新概觀; 專題選題組隊說明)	Handout S-I.01	HW0: Team forming reports + contact data Books & notes, Proj Proposal guidelines issued. HW 1 distributed. (在職生 linked team. Common discussion times.)
2	14/09/24	Function Attribute Analysis& SAS (功能/屬性分析 &加換減)	S-I.02 M.06	Submit personal data. Determine Team membership
3	14/10/01	Problem Statement Rev. (2min ea.) (專案題目討論) Levels of innovation (創新層次)	Handout	Rep: HW0: Problem Statement (Individual)
4	14/10/08	Function Analysis (功能分析) & SAS (功能/屬性分析)	S-I.02 M.06	Select primary projects (first 6 projects) hEx: FA
5	14/10/15	Contradiction Matrix & Inv. P. (衝突矩陣與發明原則)	S-I.04 M.11	TA. Instructor travels.
6	14/10/22	Cause Effect Contradiction Chain Analysis (因果衝突鏈分析)	S-I.03 M.16	Rep: HW1 (FA+ SAS @ 1 loc.)
7	14/10/29	CECCA (Cont'd)	S-I.03 M.16	hEx: CECCA
8	14/11/05	Physical Contra. & Separation P. (物理衝突與分離原則)	S-I.05 M.18	Rep. HW2: CECCA
9	14/11/12	Patent & Function-oriented Search & Knowledge Eff DB	S-I.07 M.12	Rep. HW3: CM/IP
10	14/11/19	University Sports meeting		全校運動大會 (停課)
11	14/11/26	Device Trimming (裝置削剪)[brief]	S-I.06 M.22	Rep. HW4: Solving PC
12	14/12/03	S-field Analysis & Inventive standards(物場分析與標準解)	S 中.10 M.13	Rep. HW5: Solv. PC
13	14/12/10	SFA Exercise(演練)	S 中.09 M.15	Rep HW6: Patent/Function Oriented Search
14	14/12/17	Algorithm of Inventive Problem Solving) ARIZ – Sec I-III (創新性問題解決演譯法- Part 1-III)	S 中.11 M.17	Rep: HW7ab: Trimming and/or SFA
15	14/12/24	ARIZ Exercise(演練)	S 中.11 M.17	
16	14/12/31	Trends Briefing (time permits)	Handout M.17	Rep: HW8: ARIZ part I-III
17	15/01/07	Summary & Project review		
18	15/01/14	Project final review (專題檢討)		
19	15/01/17	Conference Report @ NTUT	{Make-up}	Final Reports & findings due 6/29(Su) 10 PM

✓ Text:

- [1] Class Handout (講義) (課程講義印刷費: NT 300) (Required) [> 600 pg]
- [2] Conference participation report (2015/1/17) registration fee: {NT 1200 -> NT 500} (Required).
- [3] D. D. Sheu, Mastering TRIZ Innovation tools, Book 1 (In Chinese) ISBN 978-986-85795-2-1.  
許棟樑, “萃智創新工具精通: 上冊”, 亞卓國際顧問股份有限公司. 2014/9 三版, (NT 700->500)  
[S-I.xx XX being chapter number.] Highly recommended. (Main course contents)  
{ [1]+[2]+[3] => NT 1200.} Min. [1]+[2] => NT 800. TA to handle the materials.

Optional References:

- D. D. Sheu, Mastering TRIZ Innovation tools, Book 2 (In Chinese). 許棟樑, “萃智創新工具精通: 中冊”, 亞卓國際顧問股份有限公司, 2013/12, ISBN: 978-986-85795-6-9. (NT 700 -> 500) (partial course items)
- Darrell Mann, Hands-on Systematic Innovation, International Student Edition, IFR Press, ISBN 90-77071-02-4, 2007(Technical version NOT “For business” version.) 原價 NT 1600. 本課程協議特惠價 NT 1,200.
- (中譯) 萃智系統性創新上手 (譯自: Hands-on Systematic Innovation), ISBN 978-986-85795-0-7. 原價 NT 800. 本課程協議特惠價 NT 500.

✓ All: All teams to report project. (~20 min.)

Homework listing:

- HW0: Team membership & Personal data.
- HW1: Project Charter/Problem Statement (3-5 minutes each person) (Individual homework)
- HW2: FA + SAS @ 1 loc.
- HW3: CECCA
- HW4: CM/IP
- HW 5: Solve Physical Contradiction.
- HW6: Function oriented Search
- HW7ab: Trimming and/or SFA [7a&7b 都做: 選優者記 HW7 分數 & 總分 + 2 分]
- HW8: ARIZ Part I-III
- Final Project Report: Putting it all together in proper order.  
個人最終 HW 成績 = (本組所有 HW 報告的成績 + 本人所有 HW 報告的成績) / (本組所有 HW 報告次數 + 本人 HW 報告次數) + Floor(本人 HW 報告次數 - 本組每人平均報告次數)

Rules:

- HW & Project 要一齊討論
- Everyone reports at least once in the semester and try to be evenly. (每組每人要輪流報告. 每人至少報告 1 次. 以平均為原則.)
- [Optional] Homework exercise as honor card incentive.(有做 Ex 一題 (做完&交出 電子檔), 算一榮譽包. [個別繳交] 不予計分.