

**Services Science, Management, Engineering and Design (SSMED)**

服務科學管理與工程(2011)

**Professor:** Soe-Tsyr Yuan    **Class Hours:** 9:10pm-12:00pm Wednesday

**Office Hours:** 2:00pm-4:00pm Thursday

**Aims**

SSMED is the study of innovated service systems, and it aims at improving service systems (particularly those involved in complex, IT-enabled services) in terms of the application of scientific, management, engineering, and design disciplines. SSMED has the goal of making productivity, quality, performance, compliance, growth, and innovation more predictable in work-sharing and risk-sharing (co-production) relationships. This introduction course aims to make students understand the core components of SSMED and explore service innovation through the multi-disciplinary lenses.

**Approach:**

The course will be taught through a combination of lectures, case discussion, student presentations, group discussion, and group projects. Lectures will focus on providing frameworks for analyzing and recognizing service innovation opportunities and issues resulting from the application of the relevant SSMED principles. The course will involve a significant amount of readings, discussion, and project development. SSMED is a very dynamic and fast growing area, and in keeping with the course's focus, many reading assignments will be provided from the e-learn platform.

**Subject outline**

Date	Topic
1	<b>Introduction</b>
2	<b>Fundamental of Services</b> What are Services Existing Classification Schemes of Service Sectors
3	<b>System Thinking of Services</b> Service Systems System Views Typology of Services
4	<b>Service Strategy &amp; Service Profit Chain</b> Service Strategy Service Profit Chain Productivity and Innovation Service Innovation Calculus Service Business Models
5	<b>New Service Development &amp; Service Blueprinting</b> New Service Development Service Blueprinting
	<b>Service Engineering Technologies</b> SOA & Web Service Basic Standards (WS Structure, SOAP, WSDL, UDDI) Intelligent Agents Semantic Web
	<b>Group service project midterm</b>
6	<b>Services Theories</b> SERVQUAL Customer Experience Theory Kano's Theory Self-Service
7	<b>Service Design Methods</b> TRIZ Method IDEO Method Fraunhofer Method QFD HBS Designing sustainable service models
8	<b>Group service project final</b>

**Grading Policy**

%

Class presentations -----	30%
Class assignments -----	20%
Classroom discussion -----	10%
Group service project -----	40%

Total

100%

**References**

- Service Management (Operations, Strategy, Information Technology), James A. Fitzsimmons and Mona J. Fitzsimmons, 6th Edition, ISBN 007-12440-9, McGraw Hill, 2008.
- Service Is Front Stage: Positioning Services for Value Advantage, James Teboul, ISBN 230-00660-4, Palgrave Macmillan, 2006.
- IBM SSME site: <http://www.ibm.com/developerworks/spaces/ssme>
- Service-Oriented Computing (Semantics, Processes, Agents), Singh, Munindar and Huhns, Michael N., 1. Edition -2005, ISBN 0-470-09148-7 - John Wiley & Sons
- Harvard Business School Cases and Review articles
- Journal papers (JSR, IJSIM, JOM, etc.)
- All of the course materials are available at the NCCU elearn platform (<http://elearn.cc.nccu.edu.tw>)