

Elective Course Description (2. Spring Semester)

Subject (English)	Science, Technology and Industry of Japan		Semester	Spring	Day/Slot	
科目名 (日本語)	日本の科学技術					
Course Code		Course Numbering	UJY-SOT101E		Period	Apr. – Aug.
Instructor (Post)	Emeritus Professor Yoshihito SHIGENO				Campus	
					Building	
Faculty	Institute for Excellence in Higher Education		Credits	2	Class Room	
Class subject		Contemporary Engineering Industries in Japan				
Object and summary of class						
This course aims at providing knowledge on the distinctive features of traditional and contemporary Japanese industries. By comparing these industries, you could reconsider and more deeply understand the Japanese society from the view of science.						
Keywords		-				
Goal of study						
Students learn the basis of science and technology through the simple problems provided for each topic. The relation to our society is also to be learned.						
Contents and progress schedule of class						
<ul style="list-style-type: none"> ● <Electric vehicle and fuel cell vehicle>: The development of the electric vehicle and the fuel cell vehicle will be discussed in connection with the environmental issues. Other new technologies like a hybrid vehicle and an ultra-capacitors are to be discussed. ● <Advanced steel>: The super steel having the possibility of the revolutionary impact to the infrastructures will be discussed. ● <Super conductivity-magnet levitation train>: The unique technology of the high speed train levitated by the superconductivity magnet being developed in Japan will be discussed. The effect to the future traffic system will be also discussed. ● <Katana (Japanese sword)>: Traditional Japanese technology of producing Katana will be introduced and its metallurgical aspects are to be discussed. ● <Robot (humanoid)>: Human like robots (humanoid) are being studied widely in Japan. The principle of walking and running with two legs and the effect of the humanoid to the society will be discussed. ● <Semiconductor>: The process of the innovative invention of the “blue laser diode” will be discussed. The new –type LED (light emitted diode) created by using the nanotechnology that is developed in this university is introduced as well. <ol style="list-style-type: none"> 1. Guidance 2. Electric vehicle and Fuel cell vehicle I 3. Electric vehicle and Fuel cell vehicle II 4. Electric vehicle and Fuel cell vehicle III 5. Advanced steel I 6. Advanced steel II 7. Super conductivity-magnet levitation train I 8. Super conductivity-magnet levitation train II 9. Katana (Japanese Sword) I 10. Robot (Humanoid) I 11. Robot (Humanoid) II 12. Robot (Humanoid) III 13. Semiconductor I 14. Semiconductor II 15. Exam 						
Preparation		-				
Record and evaluation method			Evaluation will be based on class participation, homework assignment and the final examination			
Textbook and references			Some lecture materials are to be provided in advance of the class. VTR will be often used for better understanding of the lectures.			
Self study		-				
In addition		-				