

Osaka University International Certificate Program Details

since 2020

Course Name	Nanoscience and Nanotechnology as Manufacturing Core		
Course Affiliation	R ³ Institute for Newly-Emerging Science Design		
Course Manager	Prof.Fujiwara Yasufumi, R ³ Institute for Newly-Emerging Science Design		
Cooperative Schools	Graduate School of Science, Graduate School of Pharmaceutical Sciences, Graduate School of Engineering, Graduate School of Engineering Science, Center for Global Initiatives		
Eligibility	Graduate students of Joint Campus counterpart universities, and working people who have received at least a bachelor's degree are eligible		
Requirements for completion	6 to 8 credits	Capacity	15
Course Objective	<p>To gain broad knowledge about nanoscience and nanoengineering in various fields such as physics, chemistry, biology, electronics, mechanics ,and measuring and analytical techniques</p> <p>To nurture the basic research ability in the various fields of nanoscience and nanotechnology ,and develop practical skills of nanotechnology for manufacturing industry</p> <p>To develop human resources who can produce added value as a researcher or developer by applying nanoscience and nanoengineering</p>		
Learning Goals	<p>To understand the importance of contribution to basic science and technology by nanoscience and nanoengineering</p> <p>To understand the role of nanoscience and nanotechnology in physics, chemistry and biology</p> <p>To understand the relationship between nanoscience and nanotechnology ,and manufacturing science and technology</p> <p>To understand the application of nanotechnology to electronics, mechanics and measuring and analytical techniques</p> <p>To understand the relationship between nanotechnology and industrial technology innovation</p> <p>To understand the relationship between nanoscience and nanoengineering, and modern society</p> <p>To understand the relationship between nanoscience and nanoengineering, and SDGs</p>		
Components	<p>【Required Subjects】 Common Subject (Fall, Winter Term) : "OUICP-Nanoscience / Nanotechnology" Common Subject (Summer Term) : "SDGs and Asia-Pacific Region II" Practical Study Abroad (PSA) Subjects: "Laboratory Study I , II", "Internship I" 【Elective Subjects】 "International Exchange Lectures on Nanoscience and Nanotechnology A (with University of Groningen)" "International Exchange Lectures on Nanoscience and Nanotechnology B, C (INSD Summer School)" "Topics in Quantum Simulations", "Tutorials on Computational Nano-Materials Design I"</p>		
Special Note	All the courses in this program will be given in English.		

Components

Course Numbering Code	Course Name	Credits		Course Term	Study Hours	Course Affiliation	Special Note
		Required	Elective				
88B010	OUICP-Nanoscience / Nanotechnology	1		Winter	15	International Exchange Subjects (GI)	
88A046	SDGs in Asia Pacific Region II	1		Spring, Summer	15	International Exchange Subjects (GI)	
88A026	(PSA) Laboratory study I	1*		Spring, Summer, Winter	45	International Exchange Subjects (GI)	
88A027	(PSA) Laboratory study II	1*		Spring, Summer, Winter	45	International Exchange Subjects (GI)	
88A028	(PSA) Laboratory study III	1*		Spring, Summer, Winter	45	International Exchange Subjects (GI)	
88A032	(PSA) Internship I	1*		Spring, Summer, Winter	45	International Exchange Subjects (GI)	
290735	International Exchange Lectures on Nanoscience and Nanotechnology A with University of Groningen (UG)		1	Winter	15	Graduate School of Engineering Science	
290740	International Exchange Lectures on Nanoscience and Nanotechnology B (INSD Summer School)		1	Summer	15	Graduate School of Engineering Science	
290741	International Exchange Lectures on Nanoscience and Nanotechnology C (INSD Summer School)		1	Summer	15	Graduate School of Engineering Science	
281559	Topics in Quantum Simulations		1	Spring	15	Graduate School of Engineering	
281503	Tutorials on Computational Nano-Materials Design I		1	Winter	15	Graduate School of Engineering	
88A038	Industry and development in the modernization of Japan: university-industry collaboration		1	Winter	15	International Exchange Subjects (GI)	

*Participants have to choose two or three PSA courses