Osaka University International Certificate Program Details(Continuing)

28/03/2026

Course Name	Nanoscience and Nanotechnology as Manufacturing Core		
Course Affiliation	R^3 Institute for Newly-Emerging Science Design		
Course Manager	Prof. Yasuhiro Nakazawa, Graduate School of Science, Director of R^3 Institute for Newly-Emerging Science Design,		
Cooperative Schools	Graduate Schools of Science, Parmaceutical Sciences, Engineering and Engineering Science, Institute for International Initiatives		
Eligibility	・Graduate students of ASEAN Campus Partner Universities ・Working people who have received at least a bachelor's degree from the countries where ASEAN campuses are located.		
Requirements for completion	6 to 8 credits	Capacity	inbound and outbound 15, respectively
Course Objective	To study and understand the wide range of knowledge on nanoscience and nanoengineering in various fields, such as physics, chemistry, biology, electronics, machanics, measurement and analysis technology. To develop ability of basic research and also ability of practical application on manufacturing. As a result to foster human resourses of researchers and engineers both in academia and industry having excellent ability of producing additinal values by applying nanoscience and engineering.		
Learning Goals	1. To understand importance of conribution to basic science and technology in nano-science & engineering 2. To understand role of physics, chemistry and biology in nano-science & engineering 3. To understand relationship between nano-science & engieering and science & technology for manufacturing 4. To understand application of nanotechnology to electronics (incluing semiconductor), mechanics and measurement & alalysis technology 5. To understand industrial technologicalinnovation based on nanotechnology 6. To understand relationship between nanotechnology and real society 7. To understand relationship between nanotechnology and SDGs By understanding the above items, one can obtain ability of practical application to manufacturing core		
Components	【Required Subjects】 Common Subject ：Nanoscience and Nanotechnology, SDGs and Asia-Pacific Region Ⅱ Practical Study Abroad (PSA) Subjects: Laboratory Study Ⅰ and Ⅱ are required, but when an off-campus training is promised in advance, Internship Ⅰ is interchangeable to Laboratory Study Ⅱ. If PSA Laboratory StudyⅢ(semiconductor)is opened,it can be interchangeable to Laboratory StudyⅡ. 【Elective Subjects】 International Exchange Lecttures on Nanoscience and Nanotechnology A, B and C, Topics in Quantum Simulations Ⅰ, Tutorial on Computational Nano-material Design Ⅰ,and PSA Laboratory Study Ⅲ.		
Requirements	To have knowledge of physics or chemistry at the undergraduate level. Students will be selected after screening. We welcome students who are interested in basic and applied science and enginnering on the fields of nanoscience and nanoengineering.		
Prior knowledge	It is recommended that the students have a unergraduate level of knowledge regarding science and engineering in any fields.		
Special Note	All the courses in this program will be given in English.		

*ASEAN Campus Partner Universities
https://www.osaka-u.ac.jp/en/international/action/asean

Components

Course Numbering Code	対象	Course Name	Credits			Course Term	Study Hours	Course Affiliation	Notes
			Common	PSA	Elective				
88B010	common	Nanoscience and Nanotechnology	1			winter	15	Institute for International Initiatives	online course
88A085/88A022	common	SDGs and Asia-Pacific Region Ⅰ/Ⅱ	1			spring to summer	15	Institute for International Initiatives	
88A201	common	Laboratory Study Ⅰ (SS)		1		spring to summer	45	Institute for International Initiatives	intensive course
88A202	common	Laboratory Study Ⅱ (SS)		1		spring to summer	45	Institute for International Initiatives	intensive course
88A203	inbound	Laboratory Study Ⅲ (SS)		(1)		spring to summer	45	Institute for International Initiatives	intensive course When semiconductor training is promised,# interchangeable to Laboratory StudyⅡ.
88A213	inbound	Internship Ⅰ(SS)		(1)		spring to summer	45	Institute for International Initiatives	intensive course When off-campus training is promised, interchangeable to Laboratory StudyⅡ.
88A509	common	International Exchange Special Lecture 2 (International Exchange Lecture on Nanoscience and Nanoengineering A)			1	spring	15	Institute for International Initiatives	online and on-demand
88A510	common	International Exchange Special Lecture 2 (International Exchange Lecture on Nanoscience and Nanoengineering B)			1	summer	15	Institute for International Initiatives	intensive course
88A511	common	International Exchange Special Lecture 2 (International Exchange Lecture on Nanoscience and Nanoengineering C)			1	summer	15	Institute for International Initiatives	intensive course
281559	common	Topics in Quantum Simulations Ⅰ			1	spring	15	Graduate School of Engineering	online
281503	common	Tutorial on Computational Nano-material Design Ⅰ			1	winter	15	Graduate School of Engineering	intensive course online

＊Participants have to choose two or three PSA courses
Opening of Semiconductor Training will be decided around August, 2026.