

GCOE Mechanical Systems Innovation PhD Educational Program

		Program Name	Prerequisite or corequisite	Years available	Primary Instructor(s)	Description / Overview
Graduate courses	General courses	Mechanical Systems Innovation 1 (2 cr.)	none	D1, D2	Prof. Kaneko (Mech.), Prof. Y. Suzuki (Mech.), Prof. Yokono	Course is centered around Project Based Learning topic.
		Mechanical Systems Innovation 2 (2 cr.)	none	D1~D3		Summer Camp
		Mechanical Systems Innovation 3 (2 cr.)	none	D1~D3		Investigation of at least one topic through collaborative research or a domestic/international internship.
	Advanced topics	Fundamental Theory of Extended Nanospace (2 cr.)	none	D1~D3	Prof. Maruyama (Mech.)	Molecular dynamics and fundamental theory of the extended nanospace
		Nano/Micro Devices (2 cr.)		D1~D3	Prof. Kitamori (Appl. Chem.)	Realization of devices based on fundamentals of extended nanospace
		Nano/Micro Mechanical Systems (2 cr.)		D1~D3	Prof. Takamasu (Precision)	Synthesis of innovative mechanical systems through integration of nano/micro devices, with real-world examples
		Nano/Micro Medical Systems (2 cr.)		D1~D3	Prof. Matsumoto and Prof. Mitsuishi (Mech.)	Gene therapy, ultrasonic diagnostics and treatment, etc. Fundamentals and realization of nano/micro systems.
		Nano/Micro Energy Systems (2 cr.)		D1~D3	Prof. Kasagi, Prof. Y. Suzuki (Mech.)	Study of the fundamentals of microscale thermal hydraulics, micro energy conversion systems, etc. and their implementation.
	Collaborative research & internships	Summer Camp	Mechanical Systems	D1~D3	Prof. Watanabe (Mater.)	English-only camp where Japanese and international participants discuss and exchange ideas on various engineering-related research
Domestic Internship		Mechanical Systems Innovation 3	D1~D3	Prof. Yamaguchi (Chem. Synth.)	Approximately 2-6 month internship at a domestic company or research laboratory.	
International Internship			D1~D3	Prof. Suga (Precision)	Approximately 2-6 month internship at an overseas company or research laboratory.	
International Research Collaboration			D1~D3	Prof. Takamasu (Precision)	Approximately 2-6 month collaborative research project at one of GMSI's overseas bases (Cambridge, MIT, ETH, etc.)	
Seminars, symposia, etc.	Evening Seminar	none	D1~D3	Prof. Sakai (Mech.)	Approx. once a month, a speaker will be invited to give an evening seminar. Some seminars will be followed by an informal discussion.	
	Open Seminar	none	D1~D3	Prof. Takeda (Front. Sci.)	A public seminar given by an expert invited from outside the university.	
	Workshop	none	D1~D3	Prof. Yokono (GMSI)	Discussion on various topics, such as a PhD's career path, involving educators both within and from outside the university.	
	Domestic Symposium	none	D1~D3	Prof. Matsumoto (Mech.)	Symposia on GMSI-related topics involving both GMSI program members and their domestic collaborators.	
	International Symposium	none	D1~D3	Prof. Matsumoto (Mech.)	Symposia on GMSI-related topics involving both GMSI program members and their international collaborators.	
	PhD Human Resource Development Conference	none	D1~D3	Prof. Yokono (GMSI)	Discussions including educators and members of industry on the role of PhD students and their future career paths.	

2010/04.12

Points Minimum
10-20 (A=20, B=15, C=10)
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5-15 (A=15, B=10, C=5)
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maximum of 20
maximum of 20
maximum of 20
maximum of 20
4 per seminar
2 per seminar
5-10 per workshop
5-10 per workshop
5-10 per workshop
3 per conference