Master's Program Subject and Completion Requirements 2023

Department of Pure and Applied Mathematics

Code	Classification	A completion requirements item name and subject name	Instructor	Unit	1st.Grade Spring and Summer Terms	1st.Grade Fall and Winter Terms	2nd.Grade Spring and Summer Terms	2nd.Grade Fall and Winter Terms	Unit multiplication method	Necessary lower limit units	Upper limit units
		Total							1+2	30	
		1.Advanced Liberal Arts Educational subjects (select from the attached list "「高度教養教育科目リスト(情報基礎数学専攻)」")								2	
		2.Major Subjects・Advanced Global Literacy Educational subjects							(1)+(2)	28	
		(1)Core Subjects							(1,1)+(1,2)	22	
		(1,1)Core Subjects（Required）							Σ	9	
331136	M	Research on Pure and Applied Mathematics Ia	All Staff	4	12						
331137	M	Research on Pure and Applied Mathematics Ib	All Staff	4		12					
331152	G	Study of Literature on Pure and Applied Mathematics	All Staff	1	2 (Spring)						
		(1,2)Core Subjects（Elective）							Σ	0	
331121	M	Pure and Applied Algebra		2							
331122	M	Pure and Applied Geometry		2							
331123	M	Pure and Applied Analysis	Makoto Nakamura	2		2					
331124	M	Combinatorics		2							
331125	M	Geometric Structure		2							
331126	M	Discrete Structure		2							
331127	M	Applied Analysis	Tsuyoshi Chawanya	2	2						
331128	M	Mathematical Science		2							
331129	M	Computer Assisted Mathematics	Yuto Miyatake	2	2						
331130	M	Computational Mathematics I	Daisuke Furihata	2	2						
331131	M	Computational Mathematics II	Tsuyoshi Chawanya	2		2					
331132	M	Applied Mathematics	Yoshie Sugiyama	2	2						
331133	M	Review on Pure and Applied Mathematics I	(Not decided)	2	2						
331134	M	Review on Pure and Applied Mathematics II	Takehiko Morita	2	2						
331135	M	Topics in Frontiers of Mathematics	Kouichi Yasui	2		2					
331138	M	Research on Pure and Applied Mathematics IIa	All Staff	4			12				
331139	M	Research on Pure and Applied Mathematics IIb	All Staff	4				12			
331140	M	Frontiers of Pure and Applied Mathematics M(A)		1							
331141	M	Frontiers of Pure and Applied Mathematics M(B)		1							
331142	M	Frontiers of Pure and Applied Mathematics M(C)		1							
331143	M	Frontiers of Pure and Applied Mathematics M(D)	(Atsuhira Nagano)	1		1					
331144	M	Frontiers of Pure and Applied Mathematics M(E)	(Shuhei Tsujie)	1		1					
331145	M	Frontiers of Pure and Applied Mathematics M(F)		1							
331146	M	Frontiers of Pure and Applied Mathematics M(G)	(Hiroshi Iriyeh)	1		1					
331147	M	Frontiers of Pure and Applied Mathematics M(H)	(Kouki Taniyama)	1	1						
331148	M	Frontiers of Pure and Applied Mathematics M(I)	(Ryoko Tomiyasu)	1		1					
331149	M	Frontiers of Pure and Applied Mathematics M(J)	(Kenta Hayano)	1		1					
331150	M	Frontiers of Pure and Applied Mathematics M(K)		1							
331151	M	Frontiers of Pure and Applied Mathematics M(L)	(Jun-ichi Segata)	1	1						
331153	M	Frontiers of Pure and Applied Mathematics M(M)	(Akihiko Miyachi)	1	1						
331154	M	Frontiers of Pure and Applied Mathematics M(N)	(Hisamitsu Maeda)	1		1					
331155	M	Frontiers of Pure and Applied Mathematics M(O)	(Shun'ichi Yokoyama)	1	1						
331156	M	Frontiers of Pure and Applied Mathematics M(P)	(Atsushi Yagi)	1	2						
		(2)Elective subject							(2,1)+(2,2)+(2,3)	0	
		(2,1)Inter-disciplinary Subjects							Σ	0	
331005	M	Information Technology and Ethics	Staffs of dept. of Information Systems Engineering Staffs of dept. of Multimedia Engineering (Michio Nakanishi)	2	2						
331006	G・M	English Presentation Skills	Bettina Wutzl	2	*2	*2					
331014	M	The Foundation of Intellectual Property (Focusing on Computer Science)	(Shuichi Mukai) (Tsuyoshi Masuda) & Other	2		2					
331030	M	Innovation Management	Minoru Eto Yuko Sasahara	2	2						
331226	M	Introduction to Smart Contracts	Jyun Tanida Kenji Taima Hiroshi Noguchi Kayo Yoshimoto	2	2						
331428	M	Advanced Computing Systems	Noriyuki Miura Jun Shiomi	2	2						
331429	M	Advanced Information Systems		2							
331511	M	Economics of Information Network	Hirozumi Yamaguchi Akira Uchiyama (Keita Arai)	2	2						
331525	M	Advanced Introduction to Information Networking	All staff of dept. of Information Networking	2		2					
331621	M	Informartion Security	Atsuo Inomata Naoto Yanai	2							
331622	M	Content Security		2							
331639	G・M	Studies on International Integrated Sciences	Leibnitz Kenji Ferdinand Peper	2	2						
331720	M	Bio-network Engineering		2							
331724	M	Introduction to Bioinformatic Engineering	All staff of dept. of Bioinformatic Engineering	2	2						
		(2,2)Others								0	
		(2,3)Academic Internship Abroad							MAX{(2,3,1),(2,3,2)}	0	
		(2,3,1)S								0	
331025	G・M	Academic Internship Abroad M(S)	All Staff	4	6	6	(6)				
		(2,3,2)L								0	
331027	G・M	Academic Internship Abroad M(L)	All Staff	8	12	12	(12)				

Note)

1. Σ= Integrate the total number of credits for subjects with a slant line directly below.

2. MAX= Integrate only one subject with the maximum number of credits.

3. The class with * is held twice a year. However, registration is limited according to the department.

4. The class is not offered this year when the instructor's name field is blank.

5. Requirements for Completion; Students must receive 30 credits or more from this table, and pass a final evaluation of their master's thesis. In the 30 credits, students must include 22 credits of Major subjects, 1 credit of Advanced Global Literacy Educational subjects, and 2 credits of Advanced Liberal Arts Educational subjects.

6. M1 students can register Academic Internship AbroadM(S),M(L) from "fall and winter terms" through "spring and summer terms".

7. "M" in the classification column represents Major subjects, "G" represents Advanced Global Literacy Educational subjects, and "G・M" represents subjects with both Advanced Global Literacy Educational and Major subjects' characteristics.

8. If you have acquired subjects with both Advanced Global Literacy Educational and Major subjects' characteristics, the credits will be included preferentially for Advanced Global Literacy Educational subjects. If 1 credit of Advanced Global Literacy Educational subjects is already fulfilled, the credits will be included for Major subjects.

9. With regard to Advanced Liberal Arts Educational subjects and Advanced Global Literacy Educational subjects offered by other graduates schools (or other institutions) in Osaka university, the subjects approved by Department of Pure and Applied Mathematics can be included for Requirements for Completion up to 2 credits for Advanced Liberal Arts Educational subjects and up to 1 credit for Advanced Global Literacy Educational subjects.
For details, please refer the attached "「高度教養教育科目リスト(情報基礎数学専攻)」"「高度国際性涵養教育科目リスト(情報基礎数学専攻)」".