

# Master's Program Subject and Completion Requirements 2020

## Department of Information and Physical Sciences

Code	Classification	A completion requirements item name and subject name	Instructor	Unit	School hour a week				Unit multiplication method	Necessary lower limit units	Necessary lower limit units			
					1st.Grade		2nd.Grade							
					Spring and Summer Terms	Fall and Winter Terms	Spring and Summer Terms	Fall and Winter Terms						
		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(情報数理学専攻)」								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	7				
331212	M	Exercises on Information and Physical Sciences I	All Staff	2	2	2								
331213	M	Exercises on Information and Physical Sciences II	All Staff	2	2	2								
331214	M	Research on Information and Physical Sciences I	All Staff	3	4.5	4.5								
		(1,2)Core Subjects(Elective)										Σ	0	
331203	M	Computational Informatics	Takayuki Wada	2		2								
331204	M	Mathematical Programming	Shunji Umetani	2	2									
331225	M	Topics on Nonlinear Phenomena	Hideyuki Suzuki	2		2								
331206	M	Nonlinear Analysis	Yoshitaka Yamamoto	2	2									
331207	M	Applied Information Analysis	Yasumasa Fujisaki	2	2									
331208	M	Advanced Statistical Analysis	Hiroshi Morita	2		2								
331210	G・M	Seminar on Information and Physical Sciences I	All Staff	2	1	1								
331211	G・M	Seminar on Information and Physical Sciences II	All Staff	2	1	1								
331215	M	Research on Information and Physical Sciences II	All Staff	3			4.5	4.5						
331216	M	Special Lectures on Information and Physical Sciences I	(Shinichi Shirakawa) (Hirohiko Niioka)	2	2									
331217	M	Special Lectures on Information and Physical Sciences II	(Undecided)	2		2								
331218	M	Information Physics I	Jun Tanida	2	2									
331219	M	Information Physics II	Yusuke Ogura	2		2								
331220	M	Intelligence and Learning	Masayuki Numao	2	2									
331224	M	Knowledge Informatics	Kenichi Fukui	2		2								
331222	M	Advanced Introduction to Information Physical Science	All Staff	2	2									
331223	M	Internship on Information and Physical Sciences	Yasumasa Fujisaki Jun Tanida Hiroshi Morita Masayuki Numao Hideyuki Suzuki	2	3	3								
		(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									
331130	M	Computational Mathematics I	Daisuke Furihata	2	2									
331131	M	Computational Mathematics II	Tsuyoshi Chawanya	2		2								
331132	M	Applied Mathematics	Takayuki Hibi	2	2									
331135	M	Topics in Frontiers of Mathematics	Masaaki Wada	2		2								
331325	M	Fundamentals of Computer Science	All staff of dept. of Computer Science	2	2									
331428	M	Advanced Computing Systems		2										
331429	M	Advanced Information Systems		2										
331525	M	Advanced Introduction to Information Networking	All staff of dept. of Information Networking	2		2								
331621	M	Informartion Security		2										
331639	G・M	Studies on International Integrated Sciences	Leibnitz Kenji Ferdinand Peper Cruz Jason Paul Miranda	2	2									
331426	M	Introduction to Exercises on Information Engineering for Interactive Creation A	Taro Maeda Haruo Takemura Toru Fujiwara Yuki Uranishi Susumu Date Yuichi Ito	4	4	4								
331702	M	Molecular Bio-information Analysis	Hideo Matsuda Shigeto Seno	2	2 (Spring)									
331720	M	Bio-network engineering	Naoki Wakamiya Masaki Ogura	2	2									
331724	M	Introduction to Bioinformatic Engineering	All staff of dept. of Bioinformatic Engineering	2	2									
331732	M	Introduction to Integrated Biological and Information Engineering	Hiroshi Shimizu Fumio Matsuda Yoshihiro Toya Nobuyuki Okahashi	2	2									

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331031	M	Humanware Fundamentals I M	Takahiro Hara Kazufumi Hosoda Satoru Iwasaki MAHZOON HAMED Yuichi Sudo	2	2						
331032	M	Humanware Fundamentals II M	Takahiro Hara Satoru Iwasaki Yusuke Ogura Ittetsu Taniguchi Shin-ichi Arakawa Kenji Yasunaga Nobuyuki Okahashi Yuichi Sudo Kazufumi Hosoda	2		2					
331033	M	Humanware Innovation Creation M	Masanori Hashimoto Takahiro Hara Kazufumi Hosoda	2		2					
331034	M	Humanware Seminar M	Hiroshi Shimizu MAHZOON HAMED Ittetsu Taniguchi Shin-ichi Arakawa Satoru Iwasaki Kazufumi Hosoda	2	1	1					
331035	M	Humanware Innovation Introduction M	Tatsuhiko Tsuchiya Naoki Wakamiya	2	1	1					
331036	M	Humanware Communication M	Yusuke Ogura Takahiro Hara Kazufumi Hosoda	2			1	1			
331037	M	Humanware Laboratory Rotation M	Fumihiko Ino Hiroshi Shimizu	2	1	1					
331038	M	Internship (Short Term) M	Naoki Wakamiya Kenji Yasunaga Satoru Iwasaki	2	3	3					
331039	M	Internship (Long Term) M	Naoki Wakamiya Kenji Yasunaga Satoru Iwasaki	4	6	6					
		(2,2)Others								0	
		(2,3)Academic Internship Abroad							MAX{(2,3,1),(2,3,2),(2,3,3)}	0	
		(2,3,1)								0	
331040	G・M	Overseas Internship (Short Term) M	Naoki Wakamiya Satoru Iwasaki	2	3	3					
		(2,3,2)									
331025	G・M	Academic Internship Abroad M(S)	All Staff	4	6	6	(※6)				
331041	G・M	Overseas Internship (Long Term) M	Naoki Wakamiya Satoru Iwasaki	4	6	6					
		(2,3,3)								0	
331027	G・M	Academic Internship Abroad M(L)	All Staff	8	12	12	(※12)				

- Note)
- Σ= Integrate the total number of credits for subjects with a slant line directly below.
  - MAX= Integrate only one subject with the maximum number of credits.
  - The class with \* is held twice a year. However, registration is limited according to the department.
  - The class is not offered this year when the instructor's name field is blank.
  - 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 27 credits of Major subjects, 1 credit of Advanced Global Literacy Educational subjects, and 2 credits of Advanced Liberal Arts Educational subjects.
  - M1 students can register Academic Internship AbroadM(S),M(L) from "fall and winter terms" through "spring and summer terms".
  - "M" in the classification column represents Major subjects, "G" represents Advanced Global Literacy Educational subjects, and "G・M" represents subjects with both Advanced Liberal Arts Educational and Major subjects' characteristics.
  - If you have acquired subjects with both Advanced Liberal Arts 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.
  - With regards to Advanced Liberal Arts Educational subjects offered by other graduates schools (or other institutions) in Osaka university, the subjects approved by Department of Information and Physical Sciences can be included for Requirements for Completion up to 2 credits.  
For details, please refer the attached "「高度教養教育科目リスト(情報数理学専攻)」".
  - Only Humanware Innovation Program students can register subjects from 331037 to 331041.