

**Nagasaki University Priority Graduate Programs (NUPGP)
for Foreign Students in Biomedical Sciences
(Master Course)**

Syllabus

April, 2017 ~ March, 2018

Nagasaki University Graduate School of Biomedical Sciences

Contents

Subject	Credit	page
Lecture		
Molecular Biology of Neurodegenerative II	1	1-2
Bioorganic Chemistry II	1	3-4
Pharmacology and Drug Discovery II	1	5
Natural Product Chemistry II	1	6
Analytical Chemistry II	1	7
Molecular Biology of Infectious Agents I	1	8
Inorganic Chemistry I	1	9
Synthesis of Drugs I	1	10-11
Cell Biology for Health Science I	1	12
Pharmaceutical Organic Chemistry I	1	13
Resources of Marine Natural Medicines	0.5	14-15
Resources of Natural Medicines	0.5	16
Exercise and Experiment		
Exercise Biomedical Sciences (Cell Regulation)	4	18
Experiment Biomedical Sciences (Cell Regulation)	16	19
Exercise Biomedical Sciences (Pharmacology and Therapeutic Innovation)	4	20
Experiment Biomedical Sciences (Pharmacology and Therapeutic Innovation)	16	21
Exercise Biomedical Sciences (Pharmaceutical Chemistry)	4	22-23
Experiment Biomedical Sciences (Pharmaceutical Chemistry)	16	24
Exercise Biomedical Sciences (Pharmaceutical Organic Chemistry)	4	25
Experiment Biomedical Sciences (Pharmaceutical Organic Chemistry)	16	26-27
Exercise Biomedical Sciences (Chemistry for Pharmaceuticals)	4	28-29
Experiment Biomedical Sciences (Chemistry for Pharmaceuticals)	16	30-31
Exercise Biomedical Sciences (Genome-based Drug Discovery)	4	32-33
Experiment Biomedical Sciences (Genome-based Drug Discovery)	16	34-35
Exercise Biomedical Sciences (Molecular Pharmacology of infectious Agents)	4	36
Experiment Biomedical Sciences (Molecular Pharmacology of infectious Agents)	16	37
Exercise Biomedical Sciences (Natural Product Chemistry)	4	38
Experiment Biomedical Sciences (Natural Product Chemistry)	16	39
Exercise Biomedical Sciences (Medicinal Plant Biochemistry)	4	40-41
Experiment Biomedical Sciences (Medicinal Plant Biochemistry)	16	42-43
Exercise Biomedical Sciences (Structure Analysis for Chemicals)	4	44-45
Experiment Biomedical Sciences (Structure Analysis for Chemicals)	16	46
Exercise Biomedical Sciences (Hygienic Chemistry)	4	47
Experiment Biomedical Sciences (Hygienic Chemistry)	16	48
Exercise Biomedical Sciences (Analytical Chemistry)	4	49
Experiment Biomedical Sciences (Analytical Chemistry)	16	50
Exercise Biomedical Sciences (Pharmacotherapeutics)	4	51
Experiment Biomedical Sciences (Pharmacotherapeutics)	16	52-53
Exercise Biomedical Sciences (Pharmaceutical Informatics)	4	54
Experiment Biomedical Sciences (Pharmaceutical Informatics)	16	55-56
Exercise Biomedical Sciences (Pharmaceutics)	4	57-58
Experiment Biomedical Sciences (Pharmaceutics)	16	59-60

学期 / Semester	2017年度 / Academic Year 1クオ ーター / First Quarter	曜日・校時 / Day・Period	月 / Mon 2
開講期間 / Class period	2017/04/01 ~ 2017/06/07		
必修選択 / Required/Elective class	選択 / elective	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//1.0
時間割コード / Time schedule code	20175503151106	科目番号 / Subject code	55031511
科目ナンバリングコード / Numbering Code	BMMP 51642_783		
授業科目名 / Subject	Molecular Biology of Neurodegenerative / Molecular Biology of Neurodegenerative Diseases		
編集担当教員 / Professor in charge of putting together the course syllabus	岩田 修永 / Iwata Nobuhisa, 城谷 圭朗 / Shirovani Keiro, 浅井 将 / Asai Masashi		
授業担当教員名 (科目責任者) / Professor in charge of the subject	岩田 修永 / Iwata Nobuhisa		
授業担当教員名 (オムニバス科目等) / Professor(s)	岩田 修永 / Iwata Nobuhisa, 城谷 圭朗 / Shirovani Keiro, 浅井 将 / Asai Masashi		
科目分類 / Class type	特別コースの授業科目 / NUPGP		
対象年次 / Year	1, 2	講義形態 / Class Form	講義 / Lecture
教室 / Class room	〔薬学〕本館2階セミナー室 / Pharmaceutical School 2nd floor seminar room		
対象学生 (クラス等) / Object Student	iwata-n@nagasaki-u.ac.jp		
担当教員Eメールアドレス / E-mail address	iwata-n@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Gene-based Drug Discovery		
担当教員TEL / Tel	095-819-2435		
担当教員オフィスアワー / Office hours	Mon-Fri. 13:00-17:00		
授業の概要及び位置づけ / Course Outline and Objectives	Better understanding of molecular mechanisms of dementia and neurodegenerative diseases in addition to their clinical symptom and pathological features is requisite for development of more effective and safer medication. This class focuses on dementia and neurodegenerative diseases, such as Alzheimer's disease, and provides you with detailed molecular mechanisms and recent topics of the disease researches. A common keyword to the diseases is "proteases", which play critical roles in the disease onsets and developments. At the end of this class, you will be aware that down-regulation or up-regulation of the proteases responsible for metabolism of pathogenic peptides would be promising avenues for medication. This class also provides much knowledge and information how we can utilize biotechnological techniques for development of new drugs.		
授業到達目標 / Goal	To understand and to be able to summarize molecular mechanisms of the diseases and potential of biotechnology against the diseases.		
授業方法 (学習指導法) / Method	Lecture using PC-based slide-show presentation and printed materials.		
授業内容 / Class outline / Con	<p>Basics of enzymology, such as classification of enzymes, pathophysiological functions of some enzymes, in addition to the clinical symptoms, the pathological features and molecular mechanisms of the diseases, will be reviewed. The lecture also includes essences to understand future drug developments and early diagnostic method based on the genomic drug discovery concept, and proteomic analysis.</p> <p>1st: The clinical symptoms and the pathological features of neurodegenerative diseases [Iwata] 2nd: The causal genes responsible for Alzheimer's disease pathogenesis and their functions [Shirovani] 3rd: Molecular mechanism of the pathogenesis of Alzheimer's disease (1) [Asai] 4th: Molecular mechanism of the pathogenesis of Alzheimer's disease (2) [Asai] 5th: In vivo analysis of pathogenic mechanism of Alzheimer's disease using animal models (1) [Iwata] 6th: In vivo analysis of pathogenic mechanism of Alzheimer's disease using animal models (2) [Iwata] 7th: Current status of biomarkers and disease-modifying drugs for Alzheimer's disease [Shirovani] 8th: Recent advances of Alzheimer's disease research</p>		
事前、事後学習の内容 / Preparation & Review	<p>Preparation: It is necessary to get a better understanding by reading references and related review articles in the paper you selected.</p> <p>Review: Re-examine something pointed out by lecturers or raised by discussion, and make sure your understanding.</p>		
キーワード / Key word	dementia, neurodegenerative diseases, Alzheimer's disease, neuropathologies, animal models, proteases, drug discovery, clinical biomarker		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	A handout of selected PowerPoint slides used in each lecture.		
成績評価の方法・基準等 / Evaluation	Active participation 40%, brief examination after the class 30% and report 30%		
受講要件 (履修条件) / Requirements	To whom take this class must have fundamental knowledge on neurobiology and molecular biology.		

アクセシビリティ/Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp
備考 (URL) /Remarks(URL)	http://www.alzforum.org/
学生へのメッセージ/Message for students	In most cases this research field is different from yours, but I hope you learn how to go ahead with disease researches.
授業計画詳細 / Course Schedule	
回(日時) / Time(date and time)	授業内容 / Contents
1st	The clinical symptoms and the pathological features of neurodegenerative diseases [Iwata]
2nd	The causal genes responsible for Alzheimer's disease pathogenesis and their functions [Shirotani]
3rd	Molecular mechanism of the pathogenesis of Alzheimer's disease (1) [Asai]
4th	Molecular mechanism of the pathogenesis of Alzheimer's disease (2) [Asai]
5th	In vivo analysis of pathogenic mechanism of Alzheimer's disease using animal models (1) [Iwata]
6th	In vivo analysis of pathogenic mechanism of Alzheimer's disease using animal models (2) [Iwata]
7th	Current status of biomarkers and disease-modifying drugs for Alzheimer's disease [Shirotani]
8th	Recent advances of Alzheimer's disease research

学期 / Semester	2017年度 / Academic Year 1クオ ーター / First Quarter	曜日・校時 / Day・Period	火 / Tue 3
開講期間 / Class period	2017/04/01 ~ 2017/06/07		
必修選択 / Required/Elective class	選択 / elective	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//1.0
時間割コード / Time schedule code	20175503121002	科目番号 / Subject code	55031210
科目ナンバリングコード / Numbering Code	BMMP 51342_781		
授業科目名 / Subject	Bioorganic Chemistry / Bioorganic Chemistry for Environmental Science		
編集担当教員 / Professor in charge of putting together the course syllabus	田中 正一 / Tanaka Masakazu, 大庭 誠 / Oba Makoto, 上田 篤志 / Ueda Atsushi		
授業担当教員名 (科目責任者) / Professor in charge of the subject	田中 正一 / Tanaka Masakazu		
授業担当教員名 (オムニバス科目等) / Professor(s)	田中 正一 / Tanaka Masakazu, 大庭 誠 / Oba Makoto, 上田 篤志 / Ueda Atsushi		
科目分類 / Class type	講義科目 (区分D), 特別コースの授業科目 / NUPGP		
対象年次 / Year	1, 2	講義形態 / Class Form	講義 / Lecture
教室 / Class room	〔薬学〕本館3階セミナー室 / Pharmaceutical School 3rd floor seminar room		
対象学生 (クラス等) / Object Student	Master course		
担当教員Eメールアドレス / E-mail address	matanaka@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Pharmaceutical Chemistry		
担当教員TEL / Tel	095-819-2423		
担当教員オフィスアワー / Office hours	Tuesday 16:00-18:00		
授業の概要及び位置づけ / Course Outline and Objectives	To provide the students with fundamental knowledge of principles and methods in bioorganic chemistry.		
授業到達目標 / Goal	To understand the three-dimensional structures of bioorganic molecules (small molecules, oligopeptides, and nano-molecules), how the weak interactions can be harnessed to program complex molecular behaviors, and method how to design and synthesize bioorganic molecules and biomaterials.		
授業方法 (学習指導法) / Method	Lecture using PowerPoint slides and printed documents.		
授業内容 / Class outline / Con	This course will cover amino acids, peptides, and the structures of foldamers as bioorganic molecules, and deal with their secondary structures and their functions. Also, the course will cover the basic issues of non-covalent interactions, reversible bindings, nanotechnology, biomaterials, and molecular design.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	amino acid, oligomer, secondary structure, molecular recognition, catalysis, nanomedicine, nanotechnology, biomaterials		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	PowerPoint slides & Printed documents		
成績評価の方法・基準等 / Evaluation	Contribution in group discussion (50%), and completion of assignments (50%)		
受講要件 (履修条件) / Requirements			
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考 (URL) / Remarks (URL)			
学生へのメッセージ / Message for students			
授業計画詳細 / Course Schedule			
回 (日時) / Time (date and time)	授業内容 / Contents		
1st	Introduction: natural amino acids and peptides [M. Tanaka]		
2nd	Non-proteinogenic amino acids and their peptides, and their secondary structures [M. Tanaka]		
3rd	Foldamers, and alpha, alpha-disubstituted amino acids [M. Tanaka]		
4th	Chiral cyclic amino acids and their peptides [M. Tanaka]		
5th	Design of chiral peptide catalysts [M. Tanaka]		
6th	Nanotechnology and biomaterials [Oba]		

7th	Nanomedicine and NanoDDS [Oba]
8th	Gene therapy by nanotechnology [Oba]

学期 / Semester	2017年度 / Academic Year 1ク ォーター / First Quarter	曜日・校時 / Day・Period	水 / Wed 2
開講期間 / Class period	2017/04/01 ~ 2017/06/07		
必修選択 / Required/Elective class	選択 / elective	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//1.0
時間割コード / Time schedule code	20175503172109	科目番号 / Subject code	55031721
科目ナンバリングコード / Numbering Code	BMMP 51242_784		
授業科目名 / Subject	Pharmacology and Drug Discovery / Pharmacology and Drug Discovery		
編集担当教員 / Professor in charge of putting together the course syllabus	植田 弘師 / Ueda Hiroshi, 塚原 完 / Tsukahara Tamotsu		
授業担当教員名 (科目責任者) / Professor in charge of the subject	植田 弘師 / Ueda Hiroshi		
授業担当教員名 (オムニバス科目等) / Professor(s)	植田 弘師 / Ueda Hiroshi, 塚原 完 / Tsukahara Tamotsu		
科目分類 / Class type	特別コースの授業科目 / NUPGP		
対象年次 / Year	1, 2	講義形態 / Class Form	講義 / Lecture
教室 / Class room	〔薬学〕本館4階セミナー室 / Pharmaceutical School 4th floor seminar room		
対象学生 (クラス等) / Object Student	1, 2		
担当教員Eメールアドレス / E-mail address	ttamotsu@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Pharmacology and Therapeutic Innovation		
担当教員TEL / Tel	095-819-2473		
担当教員オフィスアワー / Office hours	Accept any question by e-mail		
授業の概要及び位置づけ / Course Outline and Objectives	Aim/ To teach the new approaches of drug discovery against some topics Goal/ To understand and to be able to summarize the mechanisms underlying pain and the therapeutic innovation in drug discovery		
授業到達目標 / Goal	The scope of therapeutic innovation reaches beyond the focus of pharmaceuticals, and its research and development, to include innovations in drugs, devices, and diagnostics, as well as global regulatory issues.		
授業方法 (学習指導法) / Method	Lecture using power-point slides and printed documents		
授業内容 / Class outline / Con	1st: Mechanisms of acute and chronic pain (Tsukahara) 2nd: Epigenomic regulation of chronic pain-related genes (Tsukahara) 3rd: Lipid mediators as key molecules for chronic pain (Tsukahara) 4th: Recent topics on neurogenesis (Tsukahara) 5th: New approaches for the drug discovery against stroke (Tsukahara) 6th: New approaches for the drug discovery against infectious diseases (Tsukahara) 7th: New approaches for the drug discovery against cancer (Tsukahara) 8th: Introduction of medicinal chemistry (Tsukahara)		
事前、事後学習の内容 / Preparation & Review	Difficult to keep up with the class without studying the material in advance and doing the reviews. Preparation and review is very important.		
キーワード / Key word	Chronic pain, Stroke, Infectious disease, Cancer, Medicinal chemistry, Nano Material, Lifestyle disease		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	None		
成績評価の方法・基準等 / Evaluation	Active commitment (50%) to the lecture and examination (50%) on each topic		
受講要件 (履修条件) / Requirements	None		
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL)095-819-2006 (FAX)095-819-2948 (E- MAIL)support@m1.nagasaki-u.ac.jp		
備考 (URL) / Remarks (URL)	None		
学生へのメッセージ / Message for students	None		

学期 / Semester	2017年度 / Academic Year 1ク ォーター / First Quarter	曜日・校時 / Day・Period	金 / Fri 2
開講期間 / Class period	2017/04/01 ~ 2017/06/07		
必修選択 / Required/Elective class	選択 / elective	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//1.0
時間割コード / Time schedule code	20175503161007	科目番号 / Subject code	55031610
科目ナンバリングコード / Numbering Code	BMMP 52142_785		
授業科目名 / Subject	Natural Product Chemistry / Natural Product Chemistry for Infectious Diseases		
編集担当教員 / Professor in charge of putting together the course syllabus	田中 隆 / Tanaka Takashi, 松尾 洋介 / Matsuo Yosuke, 齋藤 義紀 / Saito Yoshinori		
授業担当教員名 (科目責任者) / Professor in charge of the subject	田中 隆 / Tanaka Takashi		
授業担当教員名 (オムニバス科目等) / Professor(s)	田中 隆 / Tanaka Takashi, 松尾 洋介 / Matsuo Yosuke, 齋藤 義紀 / Saito Yoshinori		
科目分類 / Class type	講義科目 (区分D), 特別コースの授業科目 / NUPGP		
対象年次 / Year	1, 2	講義形態 / Class Form	講義 / Lecture
教室 / Class room	〔薬学〕本館3階セミナー室 / Pharmaceutical School 3rd floor seminar room		
対象学生 (クラス等) / Object Student	NUPGP		
担当教員Eメールアドレス / E-mail address	t-tanaka@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Natural Product Chemistry		
担当教員TEL / Tel	095-819-2432		
担当教員オフィスアワー / Office hours	Accepted by e-mail		
授業の概要及び位置づけ / Course Outline and Objectives	Master the biosynthesis pathway of natural products, separation, structure elucidation.		
授業到達目標 / Goal	To explain the methods in natural product chemistry and classifying the natural products		
授業方法 (学習指導法) / Method	Lecture (with Power Point presentation)		
授業内容 / Class outline / Con			
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	biosynthesis, natural products, secondary metabolites, polyphenol		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	reference book: Dewick, Medicinal Natural Product Chemistry		
成績評価の方法・基準等 / Evaluation	report (20%), attendance (80%)		
受講要件 (履修条件) / Requirements			
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考 (URL) / Remarks (URL)	http://www.ph.nagasaki-u.ac.jp/lab/natpro/index-j.html		
学生へのメッセージ / Message for students			
授業計画詳細 / Course Schedule			
回 (日時) / Time (date and time)	授業内容 / Contents		
1st	Extraction and separation of Natural Products.		
2nd	Structure determination by spectroscopic and chemical method		
3rd	Biosynthetic pathway for Natural compounds		
4th	How to determine the Absolute Configuration		
5th	Chemical Ecology (Chemical interaction between plants and animals)		
6th	Chemistry of Plant defense and Development of new Medicine		
7th	Chemical constituents of Vegetables and Fruits and their Health Benefits		
8th	Biomimetic synthesis of plant polyphenols		

学期 / Semester	2017年度 / Academic Year 2ク ォーター / Second Quarter	曜日・校時 / Day・Period	月 / Mon 2
開講期間 / Class period	2017/06/08 ~ 2017/09/30		
必修選択 / Required/Elective class	選択 / elective	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//1.0
時間割コード / Time schedule code	20175503101001	科目番号 / Subject code	55031010
科目ナンバリングコード / Numbering Code	BMMP 53342_782		
授業科目名 / Subject	Analytical Chemistry / Analytical Chemistry in Health and Environmental Sciences		
編集担当教員 / Professor in charge of putting together the course syllabus	黒田 直敬 / Naotaka Kuroda, 岸川 直哉 / Kishikawa Naoya		
授業担当教員名 (科目責任者) / Professor in charge of the subject	黒田 直敬 / Naotaka Kuroda		
授業担当教員名 (オムニバス科目等) / Professor(s)	黒田 直敬 / Naotaka Kuroda, 岸川 直哉 / Kishikawa Naoya		
科目分類 / Class type	講義科目 (区分D), 特別コースの授業科目 / NUPGP		
対象年次 / Year	1, 2	講義形態 / Class Form	講義 / Lecture
教室 / Class room	〔薬学〕本館5階リフレッシュルーム / Pharmaceutical School 5th floor refresh room		
対象学生 (クラス等) / Object Student	Master course		
担当教員Eメールアドレス / E-mail address	n-kuro@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Analytical Chemistry		
担当教員TEL / Tel	095-819-2894		
担当教員オフィスアワー / Office hours	Mon. ~ Fri. 13:30-17:00		
授業の概要及び位置づけ / Course Outline and Objectives	Understanding of (1) the concepts and principles underlying the chromatographic, electrophoretic and other separation techniques used in analytical procedures, and (2) their typical application to biomedical and environmental analysis.		
授業到達目標 / Goal	1) Learn and understand the theories on which the principles of various analytical techniques are based, and 2) become familiar with the important details of specific methods for biomedical analysis.		
授業方法 (学習指導法) / Method	For the lecture, audio-visual equipments will be employed for a better understanding.		
授業内容 / Class outline / Con	Study of the fundamental principles of separation techniques for biomedical and environmental analysis, and their applications.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	HPLC, CE, CEC, FIA, SIA		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Reference Book: Handbook of Analytical Separations, Vol. 4, Bioanalytical Separations, Edited by Ian D. Wilson 2003, Elsevier, Modern Derivatization Methods for Separation Sciences, Edited by T. Toyo'oka, 1999, John Wiley & Sons Ltd.		
成績評価の方法・基準等 / Evaluation	Your performance will be evaluated by active participation (30%) and reports (70%). Students whose unexcused absences exceed 30% of the class will receive an automatic D for the course.		
受講要件 (履修条件) / Requirements	None		
アクセシビリティ / Accessibility			
備考 (URL) / Remarks (URL)			
学生へのメッセージ / Message for students	None		
授業計画詳細 / Course Schedule			
回 (日時) / Time (date and time)	授業内容 / Contents		
1st	1st: June 12, Introduction to separation techniques for biomedical and environmental analysis (Kuroda)		
2nd	2nd: June 19, Basics of analytical separations (Kuroda)		
3rd	3rd: June 26, Basics and applications of liquid chromatography (Kishikawa)		
4th	4th: July 3, Latest technologies of liquid chromatography (Todoroki)		
5th	5th: July 10, Basics and applications of capillary electrophoresis and capillary electrochromatography (Kishikawa)		
6th	6th: July 24, Application of analytical separations to environmental analysis (Kishikawa)		
7th	7th: July 31, Application of analytical separations to biomedical analysis (2) (Kuroda)		
8th	8th: August 7, General overview and preparing of a report (Kishikawa)		

学期 / Semester	2017年度 / Academic Year 2ク ォーター / Second Quarter	曜日・校時 / Day・Period	金 / Fri 2
開講期間 / Class period	2017/06/08 ~ 2017/09/30		
必修選択 / Required/Elective class	選択 / elective	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//1.0
時間割コード / Time schedule code	20175503150005	科目番号 / Subject code	55031500
科目ナンバリングコード / Numbering Code	BMMP 55132_783		
授業科目名 / Subject	Molecular Biology of Infectious Agents I / Molecular Biology of Infectious Agents I		
編集担当教員 / Professor in charge of putting together the course syllabus	北里 海雄 / Kitazato Kaio		
授業担当教員名 (科目責任者) / Professor in charge of the subject	北里 海雄 / Kitazato Kaio		
授業担当教員名 (オムニバス科目等) / Professor(s)	北里 海雄 / Kitazato Kaio		
科目分類 / Class type	講義科目 (区分D), 特別コースの授業科目 / NUPGP		
対象年次 / Year	1, 2	講義形態 / Class Form	講義 / Lecture
教室 / Class room	〔薬学〕本館2階セミナー室 / Pharmaceutical School 2nd floor seminar room		
対象学生 (クラス等) / Object Student	master course		
担当教員Eメールアドレス/E-mail address	kkholi@nagasaki-u.ac.jp		
担当教員研究室/Laboratory	Lab of Molecular Pharmacology of infectious agents		
担当教員TEL/Tel	095-819-2457		
担当教員オフィスアワー/Office hours	Email anytime is OK, meeting time 5:00-6:00pm		
授業の概要及び位置づけ/Course Outline and Objectives	Aim: To teach the topics of emerging infectious diseases		
授業到達目標/Goal	Goal: To understand and to be able to summarize the emerging infectious diseases and current antiviral therapy for viral diseases.		
授業方法 (学習指導法) /Method	Method: Lecture and seminar using PowerPoint slides or printed documents		
授業内容/Class outline/Con	Class outline/ Emerging infectious diseases are an important topics in terms of social issues and science. The study of replication of infectious agents and their interaction with host factors leads to a better understanding of infectious diseases and to help to develop new drugs of anti-infectious agents.		
事前、事後学習の内容/Preparation & Review			
キーワード/Key word	virus diseases, antivirals, vaccine development		
教科書・教材・参考書/Textbook, Teaching material, and Reference book	Articles and reviews for virus diseases from top journals		
成績評価の方法・基準等/Evaluation			
受講要件 (履修条件) /Requirements	Method of achievement evaluation/ attendance (50%) and report (50%)		
アクセシビリティ/Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948		
備考 (URL) /Remarks(URL)			
学生へのメッセージ/Message for students			
授業計画詳細 / Course Schedule			
回(日時) / Time(date and time)	授業内容 / Contents		
1	1. Introduction to virus diseases		
2	Current topics in emerging virus diseases I		
3	Current topics in emerging virus diseases II		
4	Current topics in emerging virus diseases III		
5	Antiviral strategies.		
6	Antiviral drug development		
7	Vaccine development		
8	Perspective in viral therapy		

学期 / Semester	2017年度 / Academic Year 3ク ォーター / Third Quarter	曜日・校時 / Day・Period	火 / Tue 3
開講期間 / Class period	2017/10/01 ~ 2017/12/04		
必修選択 / Required/Elective class	選択 / elective	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//1.0
時間割コード / Time schedule code	20175503140004	科目番号 / Subject code	55031400
科目ナンバリングコード / Numbering Code	BMMP 53232_787		
授業科目名 / Subject	Inorganic Chemistry I / Inorganic Chemistry in Health and Environmental Sciences I		
編集担当教員 / Professor in charge of putting together the course syllabus	中山 守雄 / Nakayama Morio, 麓 伸太郎 / Fumoto Shintaro, 大山 要 / Ohyama Kaname, 西田 孝洋 / Nishida Koyo		
授業担当教員名 (科目責任者) / Professor in charge of the subject	中山 守雄 / Nakayama Morio		
授業担当教員名 (オムニバス科目等) / Professor(s)	中山 守雄 / Nakayama Morio, 麓 伸太郎 / Fumoto Shintaro, 西田 孝洋 / Nishida Koyo		
科目分類 / Class type	講義科目 (区分D), 特別コースの授業科目 / NUPGP		
対象年次 / Year	1, 2	講義形態 / Class Form	講義 / Lecture
教室 / Class room	〔薬学〕本館5階リフレッシュルーム / Pharmaceutical School 5th floor refresh room		
対象学生 (クラス等) / Object Student	Master course		
担当教員Eメールアドレス / E-mail address	morio@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Hygienic Chemistry		
担当教員TEL / Tel	095-819-2441		
担当教員オフィスアワー / Office hours	Monday - Friday 0:20 - 0:50 p.m. or by appointment		
授業の概要及び位置づけ / Course Outline and Objectives	The aims of this subject are a) to be aware of what metal and metalloid elements are important in biology and medicine, and b) to give you state-of-the-art knowledge of the biological inorganic chemistry and nuclear medicine.		
授業到達目標 / Goal	The goals of this subject are a) a broad understanding of metal and metalloid elements in biological systems and medicine, b) to understand what essential trace elements are and explain the biological functions of essential trace elements with showing an example, and c) to understand what radiopharmaceuticals are and explain one of their applications in medicine.		
授業方法 (学習指導法) / Method	PowerPoint slides, Video, Printed matters (Scientific magazines, Newspapers, etc)		
授業内容 / Class outline / Con	This is an advanced class on biological inorganic chemistry with emphasis to biologically important and medically useful metal and metalloid elements. Issues of particular interest are biological functions of essential trace elements, such as iron, zinc, copper, selenium, etc., and the concept of metal-containing radiopharmaceuticals for diagnosis. This lecture is not intended to describe or explain everything you will learn in the biological inorganic chemistry; rather, it will indicate important topics to study and will give you an opportunity to think about these topics.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	Metal, Metalloid, Essential element, Radiopharmaceutical, Nuclear Medicine, Diagnosis, DDS		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Textbook, Teaching Material, and Reference Book / Textbook and reference materials are not specified.		
成績評価の方法・基準等 / Evaluation	Grading will be based on midterm and/or final exam (80%) and report (20%). (NOTICE : On-time regular attendance is required throughout the class.)		
受講要件 (履修条件) / Requirements	Nothing		
アクセシビリティ / Accessibility			
備考 (URL) / Remarks (URL)			
学生へのメッセージ / Message for students	Basically, the instructors will give handout s of selected PowerPoint slides to be used in each lecture out to the attendees.		
授業計画詳細 / Course Schedule			
回 (日時) / Time (date and time)	授業内容 / Contents		
1st	Overview: Metal and Metalloid Elements in Biology, Medicine and Environment (Nakayama)		
2nd	Radiopharmaceuticals in Nuclear Medicine (I) (Nakayama)		
3rd	Radiopharmaceuticals in Nuclear Medicine (II) (Nakayama)		
4th	Radiopharmaceuticals in Nuclear Medicine (II) (Fuchigami)		
5th	Proteomic Analysis in Animal Model and Human I (Ohyama)		
6th	Essential Trace Elements in Biological Systems (I) (Nakayama)		
7th	Drug Delivery Systems (Nishida and Fumoto)		
8th	Review		

学期 / Semester	2017年度 / Academic Year 3クオ ーター / Third Quarter	曜日・校時 / Day・Period	水 / Wed 3
開講期間 / Class period	2017/10/01 ~ 2017/12/04		
必修選択 / Required/Elective class	選択 / elective	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//1.0
時間割コード / Time schedule code	20175503190012	科目番号 / Subject code	55031900
科目ナンバリングコード / Numbering Code	BMMP 51532_781		
授業科目名 / Subject	Synthesis of Drugs I / Synthesis of Drugs for Infectious Diseases I		
編集担当教員 / Professor in charge of putting together the course syllabus	尾野村 治 / Onomura Osamu, 栗山 正巳 / Kuriyama Masami		
授業担当教員名 (科目責任者) / Professor in charge of the subject	尾野村 治 / Onomura Osamu		
授業担当教員名 (オムニバス科目等) / Professor(s)	尾野村 治 / Onomura Osamu, 栗山 正巳 / Kuriyama Masami		
科目分類 / Class type	講義科目 (区分D), 特別コースの授業科目 / NUPGP		
対象年次 / Year	1, 2	講義形態 / Class Form	講義 / Lecture
教室 / Class room	〔薬学〕本館3階セミナー室 / Pharmaceutical School 3rd floor seminar room		
対象学生 (クラス等) / Object Student	1st, 2nd, 3rd		
担当教員Eメールアドレス / E-mail address	onomura@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Synthetic Chemistry for Pharmaceuticals		
担当教員TEL / Tel	095-819-2429		
担当教員オフィスアワー / Office hours	Mon. - Fri. 10:30 - 18:00		
授業の概要及び位置づけ / Course Outline and Objectives	You learn systematically enantioselective reactions which synthesize chiral organic molecules and are necessary for development of new drugs.		
授業到達目標 / Goal	(1) You can explain representative asymmetric reactions. (2) You can get practical knowledge necessary for invention of new drugs.		
授業方法 (学習指導法) / Method	Lectures concerning about development of asymmetric reactions, which are extracted from new literatures and patents, are given by utilizing prints and slide-projector. Exercises are timely carried out.		
授業内容 / Class outline / Con	You can learn highly selective reactions for development of new drugs, for examples, selective organic synthesis utilizing the characteristics of nitrogen atom, synthesis of optically active cyclic amino compounds, and so on.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	None		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Documents prepared from recent literatures are distributed.		
成績評価の方法・基準等 / Evaluation	Exercise (30%), Test (30%), Report (40%)		
受講要件 (履修条件) / Requirements	None		
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考 (URL) / Remarks (URL)			
学生へのメッセージ / Message for students	In advance, master basic knowledge of organic chemistry.		
授業計画詳細 / Course Schedule			
回 (日時) / Time (date and time)	授業内容 / Contents		
1	Selective organic synthesis utilizing the characteristics of nitrogen I (Onomura)		
2	Selective organic synthesis utilizing the characteristics of nitrogen II (Onomura)		
3	Selective organic synthesis utilizing the characteristics of nitrogen III (Onomura)		
4	Synthesis of optically active cyclic amino compounds (Onomura)		

5	Selective organic synthesis utilizing the characteristics of silicon (Kuriyama)
6	Selective organic synthesis utilizing the characteristics of borone (Kuriyama)
7	Selective organic synthesis utilizing the characteristics of fluorine (Kuriyama)
8	Synthesis of sugars (Kuriyama)

学期 / Semester	2017年度 / Academic Year 3クオ ーター / Third Quarter	曜日・校時 / Day・Period	木 / Thu 2
開講期間 / Class period	2017/10/01 ~ 2017/12/04		
必修選択 / Required/Elective class	選択 / elective	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//1.0
時間割コード / Time schedule code	20175503130003	科目番号 / Subject code	55031300
科目ナンバリングコード / Numbering Code	BMMP 51132_783		
授業科目名 / Subject	Cell Biology for Health Science I / Cell Biology for Health Science I		
編集担当教員 / Professor in charge of putting together the course syllabus	武田 弘資 / Takeda Kohsuke, 谷村 進 / Tanimura Susumu		
授業担当教員名 (科目責任者) / Professor in charge of the subject	武田 弘資 / Takeda Kohsuke		
授業担当教員名 (オムニバス科目等) / Professor(s)	武田 弘資 / Takeda Kohsuke, 谷村 進 / Tanimura Susumu		
科目分類 / Class type	講義科目 (区分D), 特別コースの授業科目 / NUPGP		
対象年次 / Year	1, 2	講義形態 / Class Form	講義 / Lecture
教室 / Class room	〔薬学〕本館4階セミナー室 / Pharmaceutical School 4th floor seminar room		
対象学生 (クラス等) / Object Student	Master course		
担当教員Eメールアドレス / E-mail address	takeda-k@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Cell Regulation		
担当教員TEL / Tel	095-819-2417		
担当教員オフィスアワー / Office hours	At any time by e-mail		
授業の概要及び位置づけ / Course Outline and Objectives	To learn the mechanisms and significance of intracellular signal transduction regulating various cellular functions.		
授業到達目標 / Goal	To understand the mechanisms of intracellular signal transduction and their dysregulation in various diseases.		
授業方法 (学習指導法) / Method	Lecture using PowerPoint slides and printed documents.		
授業内容 / Class outline / Con	Regarding the following respective topics, latest research achievements and perspectives, as well as basic findings, will be provided.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	signal transduction, cell motility, stress response, cancer, inflammation, metabolism, mitochondria		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Reference book: Molecular Biology of the Cell 5th Edition		
成績評価の方法・基準等 / Evaluation	Attendance (40%), Report (60%)		
受講要件 (履修条件) / Requirements	Those who take this class must have fundamental knowledge on cell biology and molecular biology.		
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考 (URL) / Remarks (URL)			
学生へのメッセージ / Message for students			
授業計画詳細 / Course Schedule			
回 (日時) / Time (date and time)	授業内容 / Contents		
1st: Oct 6	Overview [Takeda]		
2nd: Oct 13	Mechanisms of signal transduction-1 [Takeda]		
3rd: Oct 20	Mechanisms of signal transduction-2 [Takeda]		
4th: Oct 27	Dysregulation of RNA processing and diseases [Takeda]		
5th: Nov 10	Forefront of mitochondrial research (1) [Takeda]		
6th: Nov 17	Forefront of mitochondrial research (2) [Takeda]		
7th: Nov 24	Forefront of mitochondrial research (3) [Takeda]		
8th: Dec 1	Regulation of cell motility [Tanimura]		

学期 / Semester	2017年度 / Academic Year 3クオ ーター / Third Quarter	曜日・校時 / Day・Period	金 / Fri 2
開講期間 / Class period	2017/10/01 ~ 2017/12/04		
必修選択 / Required/Elective class	選択 / elective	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//1.0
時間割コード / Time schedule code	20175503170008	科目番号 / Subject code	55031700
科目ナンバリングコード / Numbering Code	BMMP 51432_781		
授業科目名 / Subject	Pharmaceutical Organic Chemistry I / Pharmaceutical Organic Chemistry for Infectious Diseases I		
編集担当教員 / Professor in charge of putting together the course syllabus	石原 淳 / Ishihara Jun		
授業担当教員名(科目責任者) / Professor in charge of the subject	石原 淳 / Ishihara Jun		
授業担当教員名(オムニバス科目等) / Professor(s)	石原 淳 / Ishihara Jun		
科目分類 / Class type	講義科目(区分D), 特別コースの授業科目 / NUPGP		
対象年次 / Year	1, 2	講義形態 / Class Form	講義 / Lecture
教室 / Class room	〔薬学〕本館3階セミナー室 / Pharmaceutical School 3rd floor seminar room		
対象学生(クラス等) / Object Student	Master course		
担当教員Eメールアドレス / E-mail address	jishi@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Pharmaceutical Organic Chemistry		
担当教員TEL / Tel	819-2426		
担当教員オフィスアワー / Office hours	Mon-Fri 13:00-18:00		
授業の概要及び位置づけ / Course Outline and Objectives	To attain the ability to properly access the databases and read journals and books to get the information required for the synthetic studies.		
授業到達目標 / Goal	(1) Be able to get the proper journals and books from databases. (2) Be able to understand the contents of the journals and books. (3) Be able to discuss the chemistry described in the journals and books.		
授業方法(学習指導法) / Method	The students select the subjects on synthetic chemistry from the up-to-date journals and books and present succinctly the topics in the class.		
授業内容 / Class outline / Con	Class outline/ The students select the subjects on synthetic chemistry from the up-to-date journals and books and discuss the topics in the class.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word			
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Journals (JACS, JOC, OL, TL, Angew.Chem.Int.Ed., Chem.Commun, etc)		
成績評価の方法・基準等 / Evaluation	Understanding (100%)		
受講要件(履修条件) / Requirements			
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考(URL) / Remarks(URL)			
学生へのメッセージ / Message for students			
授業計画詳細 / Course Schedule			
回(日時) / Time(date and time)	授業内容 / Contents		
1st	Learn how to get proper journals and books using databases.		
2nd	Learn how to utilize the information obtained for carrying out the synthetic studies.		
3rd	Present the subjects on synthetic chemistry from the up-to-date journals and books and discuss the topics in the class. Contents above (1st-3rd) are repeated.		

学期 / Semester	2017年度 / Academic Year 4ク ォーター / Fourth Quarter	曜日・校時 / Day・Period	金 / Fri 2
開講期間 / Class period	2017/12/05 ~ 2018/03/31		
必修選択 / Required/Elective class	選択 / elective	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//0.5
時間割コード / Time schedule code	20175503180010	科目番号 / Subject code	55031800
科目ナンバリングコード / Numbering Code	BMMP 52222_785		
授業科目名 / Subject	Resources of Marine Natural Medicines / Resources of Marine Natural Medicines for Infectious Diseases		
編集担当教員 / Professor in charge of putting together the course syllabus	山田 耕史 / Yamada Koji		
授業担当教員名 (科目責任者) / Professor in charge of the subject	山田 耕史 / Yamada Koji		
授業担当教員名 (オムニバス科目等) / Professor(s)	山田 耕史 / Yamada Koji		
科目分類 / Class type	講義科目 (区分D), 特別コースの授業科目 / NUPGP		
対象年次 / Year	1, 2	講義形態 / Class Form	講義 / Lecture
教室 / Class room	薬用植物園 2階セミナー室 / Medical Plants Garden 2nd floor seminar room		
対象学生 (クラス等) / Object Student	Master course		
担当教員Eメールアドレス / E-mail address	kyamada@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Medicinal Plant Biochemistry		
担当教員TEL / Tel	095-819-2462		
担当教員オフィスアワー / Office hours	Monday 13:00-14:00		
授業の概要及び位置づけ / Course Outline and Objectives	To teach the marine natural medicines for infectious diseases		
授業到達目標 / Goal	To understand and to be able to summarize underlying marine natural medicines		
授業方法 (学習指導法) / Method	Lecture using power point slides and printed documents		
授業内容 / Class outline / Con	The marine environment has proven to be a very rich source of extremely potent compounds that have demonstrated significant activities in antimicrobial, antitumor, anti-inflammatory, analgesia, immunomodulation, allergy, and anti-viral assay. There are now significant numbers of very interesting molecules that have come from marine sources, or have been synthesized as a result of knowledge gained from a prototypical compounds, that are either in or approaching Phase II/III clinical trials in infectious, cancer, analgesia, allergy, and cognitive diseases. A substantial number of other potential agents are following in their wake in preclinical trials in these and in other diseases. In this lecture, it introduces mainly the latest research on the marine organism, and they are reviewed from the aspect of the medicine resource.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	Marine Natural Products, antimicrobial, antitumor, anti-inflammatory, analgesia, immunomodulation, allergy, anti-viral, antiplasmodial agents		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	none		
成績評価の方法・基準等 / Evaluation	The achievement level of the above-mentioned target is evaluated by following standards. Report (80%) and Approach attitude to the problem of class (20%)		
受講要件 (履修条件) / Requirements	It is desirable to have learned the foundation of organic chemistry.		
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考 (URL) / Remarks (URL)			
学生へのメッセージ / Message for students	Since this lecture is based on marine natural products chemistry, to often review is required. The newest literature of a related field is read.		
授業計画詳細 / Course Schedule			
回 (日時) / Time (date and time)	授業内容 / Contents		
1	The possibilities of marine organisms for the medicinal sources (Yamada)		

2	Materials for development of the medicine I Antimicrobial and anticancer drugs in clinical and preclinical trials (Yamada)
3	Materials for development of the medicine II Antiplasmodial marine natural products (Yamada)
4	Marine natural products for the tool of pharmacological studies (Yamada)

学期 / Semester	2017年度 / Academic Year 4ク ォーター / Fourth Quarter	曜日・校時 / Day・Period	金 / Fri 2
開講期間 / Class period	2017/12/05 ~ 2018/03/31		
必修選択 / Required/Elective class	選択 / elective	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//0.5
時間割コード / Time schedule code	20175503181011	科目番号 / Subject code	55031810
科目ナンバリングコード / Numbering Code	BMMP 52322_785		
授業科目名 / Subject	Resources of Natural Medicines / Resources of Natural Medicines for Infectious Diseases		
編集担当教員 / Professor in charge of putting together the course syllabus	真木 俊英 / Maki Toshihide		
授業担当教員名 (科目責任者) / Professor in charge of the subject	真木 俊英 / Maki Toshihide		
授業担当教員名 (オムニバス科目等) / Professor(s)	真木 俊英 / Maki Toshihide		
科目分類 / Class type	講義科目 (区分D), 特別コースの授業科目 / NUPGP		
対象年次 / Year	1, 2	講義形態 / Class Form	講義 / Lecture
教室 / Class room	〔薬学〕本館5階リフレッシュルーム / Pharmaceutical School 5th floor refresh room		
対象学生 (クラス等) / Object Student	1st and 2nd		
担当教員Eメールアドレス / E-mail address	maki@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Structure analysis for chemicals		
担当教員TEL / Tel	095-819-2465		
担当教員オフィスアワー / Office hours	Please make an appointment.		
授業の概要及び位置づけ / Course Outline and Objectives	Nuclear magnetic resonance (NMR) spectroscopy and Mass spectrometry are overviewed with some exercises and discuss about how to approach unknown phenomena.		
授業到達目標 / Goal	Understand important techniques for structure analysis with some important experimental parameters.		
授業方法 (学習指導法) / Method	Lecture with visualized materials. Exercise with some examples. Discussions		
授業内容 / Class outline / Con	1. 1D and 2D NMR basics with vector models 2. Nuclear Overhauser effect (NOE) and current topics 3. Mass spectrometry overview: Ionization methods and detection of m/z. 4. Hyphenation of HPLC to mass spectrometric detector with related techniques to improve sensitivity.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	nmr, mass spectrimety, instrumental analysis, organic chemistry		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book			
成績評価の方法・基準等 / Evaluation	Report (30%), activity in the class (30%), exercise (20%)		
受講要件 (履修条件) / Requirements			
アクセシビリティ / Accessibility			
備考 (URL) / Remarks (URL)			
学生へのメッセージ / Message for students	Find out available resources for research.		

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//4.0
時間割コード / Time schedule code	201755082000A0	科目番号 / Subject code	55082000
科目ナンバリングコード / Numbering Code	BMMP 66812_796		
授業科目名 / Subject	Exercise Biomedical Sciences(Cell Regulation) / Exercise Biomedical Sciences(Cell Regulation)		
編集担当教員 / Professor in charge of putting together the course syllabus	武田 弘資 / Takeda Kohsuke, 谷村 進 / Tanimura Susumu		
授業担当教員名(科目責任者) / Professor in charge of the subject	武田 弘資 / Takeda Kohsuke		
授業担当教員名(オムニバス科目等) / Professor(s)	武田 弘資 / Takeda Kohsuke, 谷村 進 / Tanimura Susumu		
科目分類 / Class type	Exercise Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	演習 / Seminar
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生(クラス等) / Object Student	Master course		
担当教員Eメールアドレス / E-mail address	takeda-k@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Cell Regulation		
担当教員TEL / Tel	095-819-2417		
担当教員オフィスアワー / Office hours	At any time by e-mail		
授業の概要及び位置づけ / Course Outline and Objectives	To learn the approaches to elucidate the mechanisms of intracellular signal transduction regulating various cellular functions.		
授業到達目標 / Goal	To understand research articles in English and to acquire how to present and discuss scientific data.		
授業方法(学習指導法) / Method	Seminar		
授業内容 / Class outline / Con	Present and discuss selected research articles on the following subject. 1. Novel mechanisms and significance of intracellular signaling. 2. Signal transduction regulating cellular stress response. 3. Cell signaling and various diseases. 4. Mitochondrial functions in cell signaling.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	signal transduction, cell signaling, stress response, cancer, metabolism, mitochondria		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Scientific journals		
成績評価の方法・基準等 / Evaluation	Presentation and discussion skills.		
受講要件(履修条件) / Requirements	None		
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考(URL) / Remarks(URL)			
学生へのメッセージ / Message for students			

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//16.0
時間割コード / Time schedule code	201755082010C0	科目番号 / Subject code	55082010
科目ナンバリングコード / Numbering Code	BMMP 66912_796		
授業科目名 / Subject	Experiment Biomedical Sciences(Cell Regulation) / Experiment Biomedical Sciences(Cell Regulation)		
編集担当教員 / Professor in charge of putting together the course syllabus	武田 弘資 / Takeda Kohsuke, 谷村 進 / Tanimura Susumu		
授業担当教員名(科目責任者) / Professor in charge of the subject	武田 弘資 / Takeda Kohsuke		
授業担当教員名(オムニバス科目等) / Professor(s)	武田 弘資 / Takeda Kohsuke, 谷村 進 / Tanimura Susumu		
科目分類 / Class type	Experiment Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	実験 / Experiment
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生(クラス等) / Object Student	Master course		
担当教員Eメールアドレス / E-mail address	takeda-k@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Cell Regulation		
担当教員TEL / Tel	095-819-2417		
担当教員オフィスアワー / Office hours	At any time by e-mail		
授業の概要及び位置づけ / Course Outline and Objectives	To learn the approaches to elucidate the mechanisms of intracellular signal transduction regulating various cellular functions.		
授業到達目標 / Goal	To plan and perform appropriate experiments independently to obtain data for publication in scientific journals.		
授業方法(学習指導法) / Method	Experiments		
授業内容 / Class outline/Con	Plan and perform experiments for each research project and discuss the resulting data with instructors and laboratory members.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	signal transduction, cell signaling, stress response, cancer, metabolism, mitochondria		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book			
成績評価の方法・基準等 / Evaluation	Technical and scientific achievements.		
受講要件(履修条件) / Requirements	None		
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考(URL) / Remarks(URL)			
学生へのメッセージ / Message for students			

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//4.0
時間割コード / Time schedule code	201755082000A1	科目番号 / Subject code	55082000
科目ナンバリングコード / Numbering Code	BMMP 66812_796		
授業科目名 / Subject	Exercise Biomedical Sciences(Pharmacology and Therapeutic Innovation) / Exercise Biomedical Sciences(Pharmacology and Therapeutic Innovation)		
編集担当教員 / Professor in charge of putting together the course syllabus	植田 弘師 / Ueda Hiroshi, 塚原 完 / Tsukahara Tamotsu		
授業担当教員名 (科目責任者) / Professor in charge of the subject	植田 弘師 / Ueda Hiroshi		
授業担当教員名 (オムニバス科目等) / Professor(s)	植田 弘師 / Ueda Hiroshi, 塚原 完 / Tsukahara Tamotsu		
科目分類 / Class type	Exercise Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	演習 / Seminar
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生 (クラス等) / Object Student	1, 2		
担当教員Eメールアドレス / E-mail address	ttamotsu@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Pharmacology and Therapeutic Innovation		
担当教員TEL / Tel	095-819-2473		
担当教員オフィスアワー / Office hours	Accept any question by e-mail		
授業の概要及び位置づけ / Course Outline and Objectives	Students comprehend original and review articles in molecular pharmacology area, and present the contents such as introduction, methods, results and discussion using PowerPoint slides. They discuss about the significance or controversial points in the report as well as authors' views. Audience including undergraduate, postgraduate and professors make comments and ask questions about the points, which are not clear.		
授業到達目標 / Goal	Students can gain the skills to choose good reports of interest from databases. Students can appropriately explain the report written in English. Students can discuss the significance of the report and related works.		
授業方法 (学習指導法) / Method	Seminar style		
授業内容 / Class outline/Contents	<p>Class outline/ Through the introduction and discussion about the good reports, students learn the technology of presentation and knowledge of the advanced research.</p> <p>Contents/ By listening to the seminar given by elder students and professors, students learn the technology about the presentation and discussion skills. Regarding presentation, the choice of topics for good reports and power-point slide production. Regarding discussion, they learn the logic and ability to talk.</p> <p>The preparation of seminar starts with the choosing the report from the database using PubMed and online journals. Students decide the report for presentation through a discussion with senior students and professors. After intensive reading the report and related references, they produce the original figures and tables to make audience easily understand the contents. Using the figures and tables in the report and original ones, students explain the content of the report and discuss the importance of the paper taking the comments by audience.</p>		
事前、事後学習の内容 / Preparation & Review	Difficult to keep up with the class without studying the material in advance and doing the reviews. Preparation and review is very important.		
キーワード / Key word	None		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Research Journals (Nature, Nature Medicine, Nature Neuroscience, Science, Cell, PNAS, J.Neuroscience, etc)		
成績評価の方法・基準等 / Evaluation	Logical explanation and discussion (100%)		
受講要件 (履修条件) / Requirements	None		
アクセシビリティ / Accessibility	<p>In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office.</p> <p>Student Accessibility Office contact information (TEL)095-819-2006 (FAX)095-819-2948 (E-MAIL)support@ml.nagasaki-u.ac.jp</p>		
備考 (URL) / Remarks(URL)	None		
学生へのメッセージ / Message for students	None		

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//16.0
時間割コード / Time schedule code	201755082010C1	科目番号 / Subject code	55082010
科目ナンバリングコード / Numbering Code	BMMP 66912_796		
授業科目名 / Subject	Experiment Biomedical Sciences(Pharmacology and Therapeutic Innovation) / Experiment Biomedical Sciences(Pharmacology and Therapeutic Innovation)		
編集担当教員 / Professor in charge of putting together the course syllabus	植田 弘師 / Ueda Hiroshi, 塚原 完 / Tsukahara Tamotsu		
授業担当教員名 (科目責任者) / Professor in charge of the subject	植田 弘師 / Ueda Hiroshi		
授業担当教員名 (オムニバス科目等) / Professor(s)	植田 弘師 / Ueda Hiroshi, 塚原 完 / Tsukahara Tamotsu		
科目分類 / Class type	Experiment Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	実験 / Experiment
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生 (クラス等) / Object Student	1, 2		
担当教員Eメールアドレス / E-mail address	ttamotsu@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Pharmacology and Therapeutic Innovation		
担当教員TEL / Tel	095-819-2473		
担当教員オフィスアワー / Office hours	Accept any question by e-mail		
授業の概要及び位置づけ / Course Outline and Objectives	Students comprehend original and review articles in molecular pharmacology area, and present the contents such as introduction, methods, results and discussion using PowerPoint slides. They discuss about the significance or controversial points in the report as well as authors' views. Audience including undergraduate, postgraduate and professors make comments and ask questions about the points, which are not clear.		
授業到達目標 / Goal	Students can gain the skills to choose good reports of interest from databases. Students can appropriately explain the report written in English. Students can discuss the significance of the report and related works.		
授業方法 (学習指導法) / Method	Seminar style		
授業内容 / Class outline/Contents	Class outline/ Through the introduction and discussion about the good reports, students learn the technology of presentation and knowledge of the advanced research. Contents/ By listening to the seminar given by elder students and professors, students learn the technology about the presentation and discussion skills. Regarding presentation, the choice of topics for good reports and power-point slide production. Regarding discussion, they learn the logic and ability to talk. The preparation of seminar starts with the choosing the report from the database using PubMed and online journals. Students decide the report for presentation through a discussion with senior students and professors. After intensive reading the report and related references, they produce the original figures and tables to make audience easily understand the contents. Using the figures and tables in the report and original ones, students explain the content of the report and discuss the importance of the paper taking the comments by audience.		
事前、事後学習の内容 / Preparation & Review	Difficult to keep up with the class without studying the material in advance and doing the reviews. Preparation and review is very important.		
キーワード / Key word	None		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Research Journals (Nature, Nature Medicine, Nature Neuroscience, Science, Cell, PNAS, material, J.Neuroscience, etc)		
成績評価の方法・基準等 / Evaluation	Logical explanation and discussion (100%)		
受講要件 (履修条件) / Requirements	None		
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL)095-819-2006 (FAX)095-819-2948 (E-MAIL)support@m1.nagasaki-u.ac.jp		
備考 (URL) / Remarks(URL)	None		
学生へのメッセージ / Message for students	None		

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//4.0
時間割コード / Time schedule code	201755082000A2	科目番号 / Subject code	55082000
科目ナンバリングコード / Numbering Code	BMMP 66812_796		
授業科目名 / Subject	Exercise Biomedical Sciences(Pharmaceutical Chemistry) / Exercise Biomedical Sciences(Pharmaceutical Chemistry)		
編集担当教員 / Professor in charge of putting together the course syllabus	田中 正一 / Tanaka Masakazu, 大庭 誠 / Oba Makoto, 上田 篤志 / Ueda Atsushi		
授業担当教員名 (科目責任者) / Professor in charge of the subject	田中 正一 / Tanaka Masakazu		
授業担当教員名 (オムニバス科目等) / Professor(s)	田中 正一 / Tanaka Masakazu, 大庭 誠 / Oba Makoto, 上田 篤志 / Ueda Atsushi		
科目分類 / Class type	Exercise Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	演習 / Seminar
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生 (クラス等) / Object Student	Master course		
担当教員Eメールアドレス / E-mail address	matanaka@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Pharmaceutical Chemistry		
担当教員TEL / Tel	095-819-2423		
担当教員オフィスアワー / Office hours	Tuesday 16:00-18:00		
授業の概要及び位置づけ / Course Outline and Objectives	To profound the specialized knowledge and follow the frontier of relevant research field through literature reading and presentation at the group meeting.		
授業到達目標 / Goal	To master the skill of literature searching, and to develop the ability to exactly understanding the key points of the charged literature articles and presentation skill.		
授業方法 (学習指導法) / Method	seminar		
授業内容 / Class outline / Con	<p>The student should select one or more original research papers each time that seem to be interesting to most of the group members from the main international journals, read carefully, try the best to understand the contexts, and present the reported research work before the group members.</p> <p>1st & 2nd Introduction on literature searching 3rd -30th Present original research literature papers relating to the research topic of him/herself and discuss</p>		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	literature, presentation		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Scientific journals in English		
成績評価の方法・基準等 / Evaluation	Reading ability and presentation skill (100%)		
受講要件 (履修条件) / Requirements			
アクセシビリティ / Accessibility	<p>In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office.</p> <p>Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp</p>		
備考 (URL) / Remarks (URL)			
学生へのメッセージ / Message for students	Not only understanding the content of journal, but also presentation skill are important.		
授業計画詳細 / Course Schedule			
回 (日時) / Time (date and time)	授業内容 / Contents		
1	Introduction on literature searching.		
2	Lecture how to search scientific articles.		
3	Lecture how to search scientific articles.		
4	How to search synthesis of target molecules.		
5	How to search synthesis of target molecules.		

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//16.0
時間割コード / Time schedule code	201755082010C2	科目番号 / Subject code	55082010
科目ナンバリングコード / Numbering Code	BMMP 66912_796		
授業科目名 / Subject	Experiment Biomedical Sciences(Pharmaceutical Chemistry) / Experiment Biomedical Sciences(Pharmaceutical Chemistry)		
編集担当教員 / Professor in charge of putting together the course syllabus	田中 正一 / Tanaka Masakazu, 大庭 誠 / Oba Makoto, 上田 篤志 / Ueda Atsushi		
授業担当教員名 (科目責任者) / Professor in charge of the subject	田中 正一 / Tanaka Masakazu		
授業担当教員名 (オムニバス科目等) / Professor(s)	田中 正一 / Tanaka Masakazu, 大庭 誠 / Oba Makoto, 上田 篤志 / Ueda Atsushi		
科目分類 / Class type	Experiment Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	実験 / Experiment
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生 (クラス等) / Object Student	Master course		
担当教員Eメールアドレス / E-mail address	matanaka@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Pharmaceutical Chemistry		
担当教員TEL / Tel	095-819-2423		
担当教員オフィスアワー / Office hours	Tuesday 16:00-18:00		
授業の概要及び位置づけ / Course Outline and Objectives	To learn the fundamental experimental manipulations and techniques.		
授業到達目標 / Goal	Can carry out the routine experiments independently, and can summarize and present the experimental results.		
授業方法 (学習指導法) / Method	Seminar.		
授業内容 / Class outline / Con	A research subject will be assigned to each student, which is followed by an experimental training. During this period, the students are required to master the fundamental techniques for doing synthetic organic experiments. After that the students should work on their own research plan. Research results should be summarized and presented at the group meeting periodically.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word			
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Scientific journals		
成績評価の方法・基準等 / Evaluation			
受講要件 (履修条件) / Requirements			
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考 (URL) / Remarks (URL)			
学生へのメッセージ / Message for students	Discussions on experimental results are important.		

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//4.0
時間割コード / Time schedule code	201755082000A3	科目番号 / Subject code	55082000
科目ナンバリングコード / Numbering Code	BMMP 66812_796		
授業科目名 / Subject	Exercise Biomedical Sciences(Pharmaceutical Organic Chemistry) / Exercise Biomedical Sciences(Pharmaceutical Organic Chemistry)		
編集担当教員 / Professor in charge of putting together the course syllabus	石原 淳 / Ishihara Jun		
授業担当教員名(科目責任者) / Professor in charge of the subject	石原 淳 / Ishihara Jun		
授業担当教員名(オムニバス科目等) / Professor(s)	石原 淳 / Ishihara Jun		
科目分類 / Class type	Exercise Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	演習 / Seminar
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生(クラス等) / Object Student	Master course		
担当教員Eメールアドレス / E-mail address	jishi@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Pharmaceutical Organic Chemistry		
担当教員TEL / Tel	819-2426		
担当教員オフィスアワー / Office hours	Mon-Fri 13:00-18:00		
授業の概要及び位置づけ / Course Outline and Objectives	To attain the ability to properly access the databases and read journals and books to get the information required for the synthetic studies.		
授業到達目標 / Goal	(1) Be able to get the proper journals and books from databases. (2) Be able to understand the contents of the journals and books. (3) Be able to discuss the chemistry described in the journals and books.		
授業方法(学習指導法) / Method	The students select the subjects on synthetic chemistry from the up-to-date journals and books and present succinctly the topics in the class.		
授業内容 / Class outline / Con	Class outline/ The students select the subjects on synthetic chemistry from the up-to-date journals and books and discuss the topics in the class.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word			
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Journals (JACS, JOC, OL, TL, Angew.Chem.Int.Ed., Chem.Commun, etc)		
成績評価の方法・基準等 / Evaluation	Understanding (100%)		
受講要件(履修条件) / Requirements			
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考(URL) / Remarks(URL)			
学生へのメッセージ / Message for students			
授業計画詳細 / Course Schedule			
回(日時) / Time(date and time)	授業内容 / Contents		
1st	Learn how to get proper journals and books using databases.		
2nd	Learn how to utilize the information obtained for carrying out the synthetic studies.		
3rd	Present the subjects on synthetic chemistry from the up-to-date journals and books and discuss the topics in the class. Contents above (1st-3rd) are repeated.		

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//16.0
時間割コード / Time schedule code	201755082010C3	科目番号 / Subject code	55082010
科目ナンバリングコード / Numbering Code	BMMP 66912_796		
授業科目名 / Subject	Experiment Biomedical Sciences(Pharmaceutical Organic Chemistry) / Experiment Biomedical Sciences(Pharmaceutical Organic Chemistry)		
編集担当教員 / Professor in charge of putting together the course syllabus	石原 淳 / Ishihara Jun		
授業担当教員名(科目責任者) / Professor in charge of the subject	石原 淳 / Ishihara Jun		
授業担当教員名(オムニバス科目等) / Professor(s)	石原 淳 / Ishihara Jun		
科目分類 / Class type	Experiment Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	実験 / Experiment
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生(クラス等) / Object Student	Master course		
担当教員Eメールアドレス / E-mail address	jishi@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Pharmaceutical Organic Chemistry		
担当教員TEL / Tel	819-2426		
担当教員オフィスアワー / Office hours	Mon-Fri 13:00-18:00		
授業の概要及び位置づけ / Course Outline and Objectives	To attain the ability to construct the target molecules.		
授業到達目標 / Goal	(1) Be able to make a reasonable synthetic plan for the construction of the target molecule. (2) Be able to carry out the reactions to construct the target molecule. (3) Be able to purify the products and determine their structures by spectroscopic analyses.		
授業方法(学習指導法) / Method	The students carry out the experiments in the synthesis of the structurally and biologically intriguing natural products.		
授業内容 / Class outline / Con	Class outline/ The synthesis of biologically active natural products.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	organic chemistry, organic synthesis, natural product		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Journals (JACS, JOC, OL, TL, Angew.Chem.Int.Ed., Chem.Commun, etc)		
成績評価の方法・基準等 / Evaluation	Thesis (100%)		
受講要件(履修条件) / Requirements			
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考 (URL) / Remarks(URL)			
学生へのメッセージ / Message for students			
授業計画詳細 / Course Schedule			
回(日時) / Time(date and time)	授業内容 / Contents		
1st	Collect the information concerning the target molecule by searching the databases and reading journals, and then make synthetic plans.		
2nd	Determine one synthetic route by the evaluation of the above-mentioned synthetic plans.		
3rd	Construct the required key intermediates.		
4th	Present the progress report in the group seminar and discuss the results.		
5th	Combine the intermediates prepared together to get the advanced intermediates.		
6th	Achieve the synthesis of the target molecule and confirm the structure by spectroscopic analyses.		
7th	Present the final report in the group seminar and discuss the results.		

8th	Prepare a manuscript of the synthetic work for publication.
9th	Prepare a thesis on the synthetic work.

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//4.0
時間割コード / Time schedule code	201755082000A4	科目番号 / Subject code	55082000
科目ナンバリングコード / Numbering Code	BMMP 66812_796		
授業科目名 / Subject	Exercise Biomedical Sciences(Chemistry for Pharmaceuticals) / Exercise Biomedical Sciences(Chemistry for Pharmaceuticals)		
編集担当教員 / Professor in charge of putting together the course syllabus	尾野村 治 / Onomura Osamu, 栗山 正巳 / Kuriyama Masami		
授業担当教員名 (科目責任者) / Professor in charge of the subject	尾野村 治 / Onomura Osamu		
授業担当教員名 (オムニバス科目等) / Professor(s)	尾野村 治 / Onomura Osamu, 栗山 正巳 / Kuriyama Masami		
科目分類 / Class type	Exercise Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	演習 / Seminar
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生 (クラス等) / Object Student	st, 2nd		
担当教員Eメールアドレス / E-mail address	onomura@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Synthetic Chemistry for Pharmaceuticals		
担当教員TEL / Tel	095-819-2429		
担当教員オフィスアワー / Office hours	Mon. - Fri. 10:30 - 18:00		
授業の概要及び位置づけ / Course Outline and Objectives	A major object is to stimulate you by learning what subjects are now current important topics in the field of synthetic organic chemistry directed toward medicinal chemistry through identifying some important literatures in a variety of related academic articles followed by brief description of the contents and discussions.		
授業到達目標 / Goal	You can extract useful research articles by data bases and get necessary original papers. Furthermore, you can understand the contents of the literatures.		
授業方法 (学習指導法) / Method	Educational training for presentation and discussion concerning about your research are carried out.		
授業内容 / Class outline / Con	You read original articles written in English. By selection of research articles related to your research and brief summary of the contents, you get new information and presentation skills.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	Search for academic literatures, Summarization of literatures, Presentation		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Academic journals (JACS, JOC, OL, Tetrahedron Letters, Angew. Chem. Int. Ed., Chem. Commun. Etc.)		
成績評価の方法・基準等 / Evaluation	Understanding of research articles (100%)		
受講要件 (履修条件) / Requirements	None		
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考 (URL) / Remarks (URL)			
学生へのメッセージ / Message for students	In advance, read carefully more than three original papers.		
授業計画詳細 / Course Schedule			
回 (日時) / Time (date and time)	授業内容 / Contents		
1	Lecture on search skills of data bases (Scifinder, Beilstein). (Onomura & Kuriyama)		
2	Lecture about methods to get original articles. (O & K)		
3	Introducing one original literature related to your research, and discussion of the content (1) (O & K)		
4	Introducing one original literature related to your research, and discussion of the content (2) (O & K)		
5	Introducing one original literature related to your research, and discussion of the content (3) (O & K)		
6	Introducing one original literature related to your research, and discussion of the content (4) (O & K)		

7	Introducing one original literature related to your research, and discussion of the content (5) (O & K)
8	Introducing one original literature related to your research, and discussion of the content (6) (O & K)
9	Introducing one original literature related to your research, and discussion of the content (7) (O & K)
10	Introducing one original literature related to your research, and discussion of the content (8) (O & K)
11	Introducing one original literature related to your research, and discussion of the content (9) (O & K)
12	Introducing one original literature related to your research, and discussion of the content (10) (O & K)
13	Introducing one original literature related to your research, and discussion of the content (11) (O & K)
14	Introducing one original literature related to your research, and discussion of the content (12) (O & K)
15	Introducing one original literature related to your research, and discussion of the content (13) (O & K)

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//16.0
時間割コード / Time schedule code	201755082010C4	科目番号 / Subject code	55082010
科目ナンバリングコード / Numbering Code	BMMP 66912_796		
授業科目名 / Subject	Experiment Biomedical Sciences(Chemistry for Pharmaceuticals) / Experiment Biomedical Sciences(Chemistry for Pharmaceuticals)		
編集担当教員 / Professor in charge of putting together the course syllabus	尾野村 治 / Onomura Osamu, 栗山 正巳 / Kuriyama Masami		
授業担当教員名 (科目責任者) / Professor in charge of the subject	尾野村 治 / Onomura Osamu		
授業担当教員名 (オムニバス科目等) / Professor(s)	尾野村 治 / Onomura Osamu, 栗山 正巳 / Kuriyama Masami		
科目分類 / Class type	Experiment Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	実験 / Experiment
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生 (クラス等) / Object Student	1st, 2nd		
担当教員Eメールアドレス / E-mail address	onomura@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Synthetic Chemistry for Pharmaceuticals		
担当教員TEL / Tel	095-819-2429		
担当教員オフィスアワー / Office hours	Mon. - Fri. 10:30 - 18:00		
授業の概要及び位置づけ / Course Outline and Objectives	You learn how to do experiment to get new and fruitful results in synthetic organic chemistry directed toward medicinal chemistry.		
授業到達目標 / Goal	Planning rational synthetic routes to target molecules. The ability to carry out basic reactions necessary for preparation of complicated molecules. The skills to isolate desired products from reaction mixtures. The ability to prepare manuscripts to control.		
授業方法 (学習指導法) / Method	Educational training for searching, planning, experimental, and presentation skills related to your research subject.		
授業内容 / Class outline / Con	You read original literatures written in English. By selection of research articles related to your research project and presentation of the contents, you get new information and presentation skills.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	Synthetic methods, Analysis of reaction mechanism, Comparison of experimental results		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Academic journals (JACS, JOC, OL, Tetrahedron Letters, Angew. Chem. Int. Ed., Chem. Commun. etc.), Data bases (Scifinder, Beilstein)		
成績評価の方法・基準等 / Evaluation	Completion of research articles (100%).		
受講要件 (履修条件) / Requirements	None		
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考 (URL) / Remarks (URL)			
学生へのメッセージ / Message for students	In advance, master basic knowledge of organic chemistry.		
授業計画詳細 / Course Schedule			
回 (日時) / Time (date and time)	授業内容 / Contents		
1	Search data bases to extract academic articles, and Read the articles to get information for preparation of target molecules.		
2	Design new synthetic routes and plan synthetic experiment. (0 & K)		
3	Search and read academic articles related to the new routes. (0 & K)		
4	Analysis of obtained information and determination of reasonable 3 synthetic routes. (0 & K)		
5	Experiment of the 1st synthetic route. (0 & K)		
6	Experiment of the 2nd synthetic route. (0 & K)		

7	Experiment of the 3rd synthetic route. (O & K)
8	Comparison of experimental results by methods 1-3 (O & K)
9	Presentation of research results to select the best method. (O & K)
10	Generality of selected synthetic method. (O & K)
11	Measurement of physical data. (O & K)
12	Experiments for analysis of reaction mechanism. (O & K)
13	Summarization of research results for presentation in a symposium. (O & K)
14	Presentation of research results in a symposium. (O & K)
15	Preparation of a manuscript to contribute to a journal. (O & K)

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//4.0
時間割コード / Time schedule code	201755082000A5	科目番号 / Subject code	55082000
科目ナンバリングコード / Numbering Code	BMMP 66812_796		
授業科目名 / Subject	Exercise Biomedical Sciences(Genome-based Drug Discovery) / Exercise Biomedical Sciences(Genome-based Drug Discovery)		
編集担当教員 / Professor in charge of putting together the course syllabus	岩田 修永 / Iwata Nobuhisa, 城谷 圭朗 / Shirodani Keiro, 浅井 将 / Asai Masashi		
授業担当教員名(科目責任者) / Professor in charge of the subject	岩田 修永 / Iwata Nobuhisa		
授業担当教員名(オムニバス科目等) / Professor(s)	岩田 修永 / Iwata Nobuhisa, 城谷 圭朗 / Shirodani Keiro, 浅井 将 / Asai Masashi		
科目分類 / Class type	Exercise Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	演習 / Seminar
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生(クラス等) / Object Student	1,2		
担当教員Eメールアドレス / E-mail address	iwata-n@nagasaki-u.ac.jp, keiroshiro@nagasaki-u.ac.jp, asai@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Gene-based Drug Discovery		
担当教員TEL/Tel	095-819-2435 (Iwata), 095-819-2436 (Shirodani), 095-819-2437 (Asai)		
担当教員オフィスアワー / Office hours	Mon-Fri. 13:00-17:00		
授業の概要及び位置づけ / Course Outline and Objectives	Training search, selection and evaluation of information, and enhancing own problem-solving abilities		
授業到達目標 / Goal	At the end of this class, the students should be able to: Select appropriate information necessary for own research theme from overflowing information. Find out fundamental problem in own research field, and discuss it. Find appropriate avenues to resolve.		
授業方法(学習指導法) / Method	Presentation using slides and discussion in a small group		
授業内容 / Class outline/Con	Cultivate ability to find out fundamental problem in own research field and solve the problem by oneself. 1st: Search appropriate information necessary for own research theme using PubMed and so on. 2nd: Select appropriate information from overflowing ones. 3rd: Peruse papers published in scientific journals 4th: Find out fundamental problem in own research field, and discuss it with instructors.		
事前、事後学習の内容 / Preparation & Review	Preparation: It is necessary to get a better understanding by reading references and related review articles in the paper you selected. Review: Re-examine something pointed out by lecturers or raised by discussion, and make sure your understanding.		
キーワード / Key word	Alzheimer's disease, pathogenesis, enzyme, recombinant DNA technology, animal model, drug discovery, development of early diagnostic method		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Journals (J Biol Chem, J Neurosci, Neuron, Nature & its sister journals, Science, Cell & its sister journals, etc.), Alzheimer Forum (http://www.alzforum.org/)		
成績評価の方法・基準等 / Evaluation	Active participation 80%, and achievement 20%		
受講要件(履修条件) / Requirements	None		
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考 (URL) / Remarks(URL)			
学生へのメッセージ / Message for students	professional training		
授業計画詳細 / Course Schedule			
回(日時) / Time(date and time)	授業内容 / Contents		
1	Search appropriate information necessary for own research theme using PubMed and so on.		
2	Select appropriate information from overflowing ones.		

3	Peruse papers published in scientific journals.
4	Find out fundamental problem in own research field, and discuss it with instructors.
5	Find appropriate avenues to resolve the facing problem.
6	Search appropriate information necessary for own research theme using PubMed and so on.
7	Select appropriate information from overflowing ones.
8	Peruse papers published in scientific journals.
9	Find out fundamental problem in own research field, and discuss it with instructors.
10	Find appropriate avenues to resolve the facing problem.
11	Search appropriate information necessary for own research theme using PubMed and so on.
12	Select appropriate information from overflowing ones.
13	Peruse papers published in scientific journals.
14	Find out fundamental problem in own research field, and discuss it with instructors.
15	Find appropriate avenues to resolve the facing problem.
16	Search appropriate information necessary for own research theme using PubMed and so on.
17	Select appropriate information from overflowing ones.
18	Peruse papers published in scientific journals.
19	Find out fundamental problem in own research field, and discuss it with instructors.
20	Find appropriate avenues to resolve the facing problem.
21	Search appropriate information necessary for own research theme using PubMed and so on.
22	Select appropriate information from overflowing ones.
23	Peruse papers published in scientific journals.
24	Find out fundamental problem in own research field, and discuss it with instructors.
25	Find appropriate avenues to resolve the facing problem.
26	Search appropriate information necessary for own research theme using PubMed and so on.
27	Select appropriate information from overflowing ones.
28	Peruse papers published in scientific journals.
29	Find out fundamental problem in own research field, and discuss it with instructors.
30	Find appropriate avenues to resolve the facing problem.
31	general overview 1
32	general overview 2

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//16.0
時間割コード / Time schedule code	201755082010C5	科目番号 / Subject code	55082010
科目ナンバリングコード / Numbering Code	BMMP 66912_796		
授業科目名 / Subject	Experiment Biomedical Sciences(Genome-based Drug Discovery) / Experiment Biomedical Sciences(Genome-based Drug Discovery)		
編集担当教員 / Professor in charge of putting together the course syllabus	岩田 修永 / Iwata Nobuhisa, 城谷 圭朗 / Shirovani Keiro, 浅井 将 / Asai Masashi		
授業担当教員名 (科目責任者) / Professor in charge of the subject	岩田 修永 / Iwata Nobuhisa		
授業担当教員名 (オムニバス科目等) / Professor(s)	岩田 修永 / Iwata Nobuhisa, 城谷 圭朗 / Shirovani Keiro, 浅井 将 / Asai Masashi		
科目分類 / Class type	Experiment Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	実験 / Experiment
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生 (クラス等) / Object Student	1,2		
担当教員Eメールアドレス / E-mail address	iwata-n@nagasaki-u.ac.jp, keiroshiro@nagasaki-u.ac.jp, asai@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Gene-based Drug Discovery		
担当教員TEL/Tel	095-819-2435 (Iwata), 095-819-2436 (Shirovani), 095-819-2437 (Asai)		
担当教員オフィスアワー / Office hours	Mon-Fri. 13:00-17:00		
授業の概要及び位置づけ / Course Outline and Objectives	Designing an experimental plan to solve the problems, training experimental techniques, and evaluating obtained results.		
授業到達目標 / Goal	At the end of this class, the students should be able to: Fulfill the experiments using appropriate methods and trained techniques according to the experimental plan, and make a paper to publish in scientific journals.		
授業方法 (学習指導法) / Method	Practice a research according to instructors' direction.		
授業内容 / Class outline / Con	Molecular biology of neurodegenerative diseases. 1st: molecular biological experiments 2nd: cell biological experiments 3rd: biochemical & enzymological experiments 4th: histochemical experiments 5th: animal experiments		
事前、事後学習の内容 / Preparation & Review	Preparation: It is necessary to read papers, textbooks and operating manuals for instruments and construct your working hypothesis and prepare detailed experimental protocol. Review: Evaluate and discuss the data you obtained. Make a thorough review of the points put forth by instructors.		
キーワード / Key word	Alzheimer's disease, pathogenesis, enzyme, recombinant DNA technology, animal model, drug discovery, development of early diagnostic method		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Journals (JBC, J Neurosci, Neuron, Nature & its sister journals, Science, Cell & its sister journals, etc.) and Alzheimer Forum (http://www.alzforum.org/).		
成績評価の方法・基準等 / Evaluation	Active participation 80%, and achievement 20%		
受講要件 (履修条件) / Requirements	None		
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考 (URL) / Remarks (URL)			
学生へのメッセージ / Message for students	Professional training		
授業計画詳細 / Course Schedule			
回 (日時) / Time (date and time)	授業内容 / Contents		
1-20	molecular biological experiments		
21-40	cell biological experiments		
41-60	biochemical & enzymological experiments		
61-80	histochemical experiments		
81-108	animal experiments		

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//4.0
時間割コード / Time schedule code	201755082000A6	科目番号 / Subject code	55082000
科目ナンバリングコード / Numbering Code	BMMP 66812_796		
授業科目名 / Subject	Exercise Biomedical Sciences(Molecular Pharmacology of infectious Agents) / Exercise Biomedical Sciences(Molecular Pharmacology of infectious Agents)		
編集担当教員 / Professor in charge of putting together the course syllabus	北里 海雄 / Kitazato Kaio, 春山 貴弘 / Haruyama Takahiro		
授業担当教員名(科目責任者) / Professor in charge of the subject	北里 海雄 / Kitazato Kaio		
授業担当教員名(オムニバス科目等) / Professor(s)	北里 海雄 / Kitazato Kaio, 春山 貴弘 / Haruyama Takahiro		
科目分類 / Class type	Exercise Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	演習 / Seminar
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生(クラス等) / Object Student	Master course		
担当教員Eメールアドレス / E-mail address	kkholi@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Molecular Pharmacology of infectious Agents		
担当教員TEL / Tel	095-819-2457		
担当教員オフィスアワー / Office hours	Any time but need apointment		
授業の概要及び位置づけ / Course Outline and Objectives	To learn the nature of infectious agents		
授業到達目標 / Goal	Be able to understand English articles and recognize nature of infectious agents.		
授業方法(学習指導法) / Method	Use selected articles published in medical journals.		
授業内容 / Class outline / Con	Read medical articles published in English and understand the contents. Contents/ 1st - 10th : Basic Bacteriology. 11th - 20th : Basic Virology. 21st - 30th : Infectious Diseases.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	Bacteria, Virus, Infectious Diseases		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book			
成績評価の方法・基準等 / Evaluation	Report		
受講要件(履修条件) / Requirements			
アクセシビリティ / Accessibility			
備考 (URL) / Remarks(URL)			
学生へのメッセージ / Message for students			

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//16.0
時間割コード / Time schedule code	201755082010C6	科目番号 / Subject code	55082010
科目ナンバリングコード / Numbering Code	BMMP 66912_796		
授業科目名 / Subject	Experiment Biomedical Sciences(Molecular Pharmacology of infectious Agents) / Experiment Biomedical Sciences(Molecular Pharmacology of infectious Agents)		
編集担当教員 / Professor in charge of putting together the course syllabus	北里 海雄 / Kitazato Kaio, 春山 貴弘 / Haruyama Takahiro		
授業担当教員名(科目責任者) / Professor in charge of the subject	北里 海雄 / Kitazato Kaio		
授業担当教員名(オムニバス科目等) / Professor(s)	北里 海雄 / Kitazato Kaio, 春山 貴弘 / Haruyama Takahiro		
科目分類 / Class type	Experiment Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	実験 / Experiment
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生(クラス等) / Object Student	Master course		
担当教員Eメールアドレス / E-mail address	kkholi@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Molecular Pharmacology of infectious Agents		
担当教員TEL / Tel	095-819-2457		
担当教員オフィスアワー / Office hours	Any time but need apointment		
授業の概要及び位置づけ / Course Outline and Objectives	To learn the nature of infectious agents.		
授業到達目標 / Goal	Be able to understand English articles and recognize nature of infectious agents.		
授業方法(学習指導法) / Method	Use selected articles published in medical journals.		
授業内容 / Class outline / Con	Read medical articles published in English and understand the contents. Contents/ 1st - 10th : Basic Bacteriology. 11th - 20th : Basic Virology. 21st - 30th : Infectious Diseases.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	Bacteria, Virus, Infectious Diseases		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book			
成績評価の方法・基準等 / Evaluation	Report		
受講要件(履修条件) / Requirements			
アクセシビリティ / Accessibility			
備考(URL) / Remarks(URL)			
学生へのメッセージ / Message for students			
授業計画詳細 / Course Schedule			
回(日時) / Time(date and time)	授業内容 / Contents		
1st	Social problems of emerging infectious diseases		
2nd	Characterization of infectious agents		
3rd	Molecular therapy of Infectious agents		
4th	Molecular mechanism of replication of infectious agents		
5th	Strategy for drug development of anti-infectious agents		
6th	Strategy for vaccine development of infectious agents		
7th	Application of virus as vectors on human gene therapy		

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//4.0
時間割コード / Time schedule code	201755082000A7	科目番号 / Subject code	55082000
科目ナンバリングコード / Numbering Code	BMMP 66812_796		
授業科目名 / Subject	Exercise Biomedical Sciences(Natural Product Chemistry) / Exercise Biomedical Sciences(Natural Product Chemistry)		
編集担当教員 / Professor in charge of putting together the course syllabus	田中 隆 / Tanaka Takashi, 松尾 洋介 / Matsuo Yosuke, 齋藤 義紀 / Saito Yoshinori		
授業担当教員名 (科目責任者) / Professor in charge of the subject	田中 隆 / Tanaka Takashi		
授業担当教員名 (オムニバス科目等) / Professor(s)	田中 隆 / Tanaka Takashi, 松尾 洋介 / Matsuo Yosuke, 齋藤 義紀 / Saito Yoshinori		
科目分類 / Class type	Exercise Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	演習 / Seminar
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生 (クラス等) / Object Student	NUPGP		
担当教員Eメールアドレス / E-mail address	t-tanaka@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Natural Product Chemistry		
担当教員TEL / Tel	095-819-2432		
担当教員オフィスアワー / Office hours	Accepted by e-mail		
授業の概要及び位置づけ / Course Outline and Objectives	The aim is to understand biosynthesis, classification, separation, structure determination, functions and biological activities, and practical application of natural products.		
授業到達目標 / Goal	To explain the biosynthesis and functions of typical Natural Products.		
授業方法 (学習指導法) / Method	Lecture by Powerpoint		
授業内容 / Class outline / Con	The methods used in phytochemistry are explained with various examples in the lectures.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	separation of natural products, secondary metabolites, polyphenols, spectroscopic methods		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	reference book: Dewick, Medicinal Natural Product Chemistry		
成績評価の方法・基準等 / Evaluation	report(20%), attendance(80%)		
受講要件 (履修条件) / Requirements			
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考 (URL) / Remarks(URL)	http://www.ph.nagasaki-u.ac.jp/lab/natpro/index-j.html		
学生へのメッセージ / Message for students			
授業計画詳細 / Course Schedule			
回(日時) / Time(date and time)	授業内容 / Contents		
1st	Biosynthesis of natural products		
2nd	Separation and structure determination		
3rd	Structures and functions of polyphenols		
4th	Reactions and synthesis of polyphenols		
5th	Medicines derived from natural products		
6th	Tea chemistry		
7th	Structure and reactions of flavonoids		
8th	Structure and functions of various pigments		

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//16.0
時間割コード / Time schedule code	201755082010C7	科目番号 / Subject code	55082010
科目ナンバリングコード / Numbering Code	BMMP 66912_796		
授業科目名 / Subject	Experiment Biomedical Sciences(Natural Product Chemistry) / Experiment Biomedical Sciences(Natural Product Chemistry)		
編集担当教員 / Professor in charge of putting together the course syllabus	田中 隆 / Tanaka Takashi, 松尾 洋介 / Matsuo Yosuke, 齋藤 義紀 / Saito Yoshinori		
授業担当教員名 (科目責任者) / Professor in charge of the subject	田中 隆 / Tanaka Takashi		
授業担当教員名 (オムニバス科目等) / Professor(s)	田中 隆 / Tanaka Takashi, 松尾 洋介 / Matsuo Yosuke, 齋藤 義紀 / Saito Yoshinori		
科目分類 / Class type	Experiment Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	実験 / Experiment
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生 (クラス等) / Object Student	NUPGP		
担当教員Eメールアドレス / E-mail address	t-tanaka@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Natural Product Chemistry		
担当教員TEL / Tel	095-819-2432		
担当教員オフィスアワー / Office hours	Accepted by E-mail		
授業の概要及び位置づけ / Course Outline and Objectives	To learn the fundamental experimental techniques for natural product chemistry.		
授業到達目標 / Goal	Can carry out the routine experiments independently, and can summarize and present the experimental results.		
授業方法 (学習指導法) / Method	Seminar and experiment		
授業内容 / Class outline / Con	A research subject will be assigned to each student, which is followed by an experimental training. The students are required to master the fundamental techniques for extraction and separation of natural products from plants. The compounds isolated from the plants are examined spectroscopically and determined the structures. The results should be summarized and presented at the group meeting periodically.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	Extraction, chromatography, spectroscopy, NMR, MS.		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Scientific journals		
成績評価の方法・基準等 / Evaluation	Presentation		
受講要件 (履修条件) / Requirements			
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考 (URL) / Remarks (URL)	http://www.ph.nagasaki-u.ac.jp/lab/natpro/index-j.html		
学生へのメッセージ / Message for students			
授業計画詳細 / Course Schedule			
回 (日時) / Time (date and time)	授業内容 / Contents		
1st	Literature search about the target plants		
2nd	Extraction and chromatographic separation.		
3rd	Structure determination of the isolated compounds		
4th	Presentation		

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//4.0
時間割コード / Time schedule code	201755082000A8	科目番号 / Subject code	55082000
科目ナンバリングコード / Numbering Code	BMMP 66812_796		
授業科目名 / Subject	Exercise Biomedical Sciences(Medicinal Plant Biochemistry) / Exercise Biomedical Sciences(Medicinal Plant Biochemistry)		
編集担当教員 / Professor in charge of putting together the course syllabus	山田 耕史 / Yamada Koji		
授業担当教員名 (科目責任者) / Professor in charge of the subject	山田 耕史 / Yamada Koji		
授業担当教員名 (オムニバス科目等) / Professor(s)	山田 耕史 / Yamada Koji		
科目分類 / Class type	Exercise Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	演習 / Seminar
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生 (クラス等) / Object Student	Master course		
担当教員Eメールアドレス / E-mail address	kyamada@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Medicinal Plant Biochemistry		
担当教員TEL / Tel	095-819-2462		
担当教員オフィスアワー / Office hours	Monday 13:00-14:00		
授業の概要及び位置づけ / Course Outline and Objectives	It is aimed to acquire the writing ability of English article for the publishing of the experimental papers as a scientific researcher.		
授業到達目標 / Goal	It is the goal to write logically the scientific articles without grammatical errors.		
授業方法 (学習指導法) / Method	Oral presentation with academic documents and discussions		
授業内容 / Class outline / Con	In this seminar, students must read the scientific English papers for your research themes, and your research data should be summarized in English.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	Article search, English paper, Presentation		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	English journals, JACS, JOC, JNP etc		
成績評価の方法・基準等 / Evaluation	Understanding ability of English paper 50%, writing ability of English paper 50%		
受講要件 (履修条件) / Requirements	none		
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考 (URL) / Remarks (URL)			
学生へのメッセージ / Message for students	Specialized instruction. Editing and logical consideration of the data, and in advance planning of the research experiment.		
授業計画詳細 / Course Schedule			
回(日時) / Time(date and time)	授業内容 / Contents		
1st	Lecture how to write an English paper.		
2nd	Lecture how to write an English paper.		
3rd	Explain one English paper related to your research, and discuss on their data.		
4th	Explain one English paper related to your research, and discuss on their data.		
5th	Explain one English paper related to your research, and discuss on their data.		
6th	Explain one English paper related to your research, and discuss on their data.		
7th	Explain one English paper related to your research, and discuss on their data.		
8th	Explain one English paper related to your research, and discuss on their data.		
pth	Explain one English paper related to your research, and discuss on their data.		
10th	Explain one English paper related to your research, and discuss on their data.		

11th	Explain one English paper related to your research, and discuss on their data.
12th	Explain one English paper related to your research, and discuss on their data.
13th	Explain one English paper related to your research, and discuss on their data.
14th	Explain one English paper related to your research, and discuss on their data.
15th	Explain one English paper related to your research, and discuss on their data.

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//16.0
時間割コード / Time schedule code	201755082010C8	科目番号 / Subject code	55082010
科目ナンバリングコード / Numbering Code	BMMP 66912_796		
授業科目名 / Subject	Experiment Biomedical Sciences(Medicinal Plant Biochemistry) / Experiment Biomedical Sciences(Medicinal Plant Biochemistry)		
編集担当教員 / Professor in charge of putting together the course syllabus	山田 耕史 / Yamada Koji		
授業担当教員名(科目責任者) / Professor in charge of the subject	山田 耕史 / Yamada Koji		
授業担当教員名(オムニバス科目等) / Professor(s)	山田 耕史 / Yamada Koji		
科目分類 / Class type	Experiment Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	実験 / Experiment
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生(クラス等) / Object Student	Master course		
担当教員Eメールアドレス / E-mail address	kyamada@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Medicinal Plant Biochemistry		
担当教員TEL / Tel	095-819-2462		
担当教員オフィスアワー / Office hours	Monday 13:00-14:00		
授業の概要及び位置づけ / Course Outline and Objectives	It is aimed to study how to perform the experiments of scientific theme, and to make the scientific paper in English		
授業到達目標 / Goal	It is the goal to independently make the experiment plan for the research, and to publish the research data into an academic journal.		
授業方法(学習指導法) / Method	Carrying out individual experiments, getting the personal direction on each theme, and discussion about the data.		
授業内容 / Class outline / Con	The bioactive constituents obtained from marine organisms are isolated, and those structures are elucidated, and detailed bioactivities are studied, to develop the new medicine material of the marine origin. In this Experiment, the research on bioactive constituent is done for that.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	Article, scientific English paper, Presentation		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Scientific journals: ACS, JOC, JNP etc, Database: SciFinder Scholar		
成績評価の方法・基準等 / Evaluation	Complete English paper and its thesis 100%		
受講要件(履修条件) / Requirements	none		
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考(URL) / Remarks(URL)			
学生へのメッセージ / Message for students	Specialized instruction. Editing and logical consideration of the data, and in advance planning of the research experiment.		
授業計画詳細 / Course Schedule			
回(日時) / Time(date and time)	授業内容 / Contents		
1st	Make the strategy for the research based on the aim		
2nd	Do the experiments		
3rd	Do the experiments		
4th	Do the experiments		
5th	Do the experiments		
6th	Analyze the experimental results, and solve problems.		
7th	Do the experiments.		
8th	Do the experiments.		

9th	Do the experiments.
10th	Do the experiments.
11th	Do the experiments.
12th	Do the experiments.
13th	Summarize experimental results, report, and discuss.
14th	Present the research data at an academic meeting.
15th	Publish the research results in a scientific English journal.

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//4.0
時間割コード / Time schedule code	201755082000A9	科目番号 / Subject code	55082000
科目ナンバリングコード / Numbering Code	BMMP 66812_796		
授業科目名 / Subject	Exercise Biomedical Sciences(Structure Analysis for Chemicals) / Exercise Biomedical Sciences(Structure Analysis for Chemicals)		
編集担当教員 / Professor in charge of putting together the course syllabus	真木 俊英 / Maki Toshihide		
授業担当教員名 (科目責任者) / Professor in charge of the subject	真木 俊英 / Maki Toshihide		
授業担当教員名 (オムニバス科目等) / Professor(s)	真木 俊英 / Maki Toshihide		
科目分類 / Class type	Exercise Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	演習 / Seminar
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生 (クラス等) / Object Student	1st and 2nd		
担当教員Eメールアドレス / E-mail address	maki@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Structure Analysis for Chemicals		
担当教員TEL / Tel	095-819-2465		
担当教員オフィスアワー / Office hours	Please make an appointment.		
授業の概要及び位置づけ / Course Outline and Objectives	You read original articles written in English. By selection of research articles related to your research and brief summary of the contents, you get new information and presentation skills.		
授業到達目標 / Goal	You can extract useful research articles by data bases and get necessary original papers. Furthermore, you can understand the contents of the literatures.		
授業方法 (学習指導法) / Method	A major object is to stimulate you by learning what subjects are now current important topics in the field of structure analysis for chemicals directed toward medicinal chemistry through identifying some important literatures in a variety of related academic articles followed by brief description of the contents and discussions.		
授業内容 / Class outline / Con	Lecture on search skills of data bases (Scifinder, SCOPUS, etc). Lecture about methods to get original articles. Introducing one original literature related to your research, and discussion of the content (1) Introducing one original literature related to your research, and discussion of the content (2) Introducing one original literature related to your research, and discussion of the content (3) Introducing one original literature related to your research, and discussion of the content (4) Introducing one original literature related to your research, and discussion of the content (5) Introducing one original literature related to your research, and discussion of the content (6) Introducing one original literature related to your research, and discussion of the content (7) Introducing one original literature related to your research, and discussion of the content (8) Introducing one original literature related to your research, and discussion of the content (9) Introducing one original literature related to your research, and discussion of the content (1 0) Introducing one original literature related to your research, and discussion of the content (1 1) Introducing one original literature related to your research, and discussion of the content (1 2) Introducing one original literature related to your research, and discussion of the content (1 3)		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	Search for academic literatures, Summarization of literatures, Presentation		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Academic journals (JACS, JOC, OL, Tetrahedron Letters, Angew. Chem. Int. Ed., Chem. Commun. Etc.)		
成績評価の方法・基準等 / Evaluation	Understanding of research articles (100%)		
受講要件 (履修条件) / Requirements			
アクセシビリティ / Accessibility			

備考 (URL) /Remarks(URL)	
学生へのメッセージ/Message for students	Let's do chemistry!

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//16.0
時間割コード / Time schedule code	201755082010C9	科目番号 / Subject code	55082010
科目ナンバリングコード / Numbering Code	BMMP 66912_796		
授業科目名 / Subject	Experiment Biomedical Sciences(Structure Analysis for Chemicals) / Experiment Biomedical Sciences(Structure Analysis for Chemicals)		
編集担当教員 / Professor in charge of putting together the course syllabus	真木 俊英 / Maki Toshihide		
授業担当教員名 (科目責任者) / Professor in charge of the subject	真木 俊英 / Maki Toshihide		
授業担当教員名 (オムニバス科目等) / Professor(s)	真木 俊英 / Maki Toshihide		
科目分類 / Class type	Experiment Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	実験 / Experiment
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生 (クラス等) / Object Student	1st, 2nd grade		
担当教員Eメールアドレス / E-mail address	maki@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Structure Analysis for Chemicals		
担当教員TEL/Tel	095-819-2465		
担当教員オフィスアワー / Office hours	Please make an appointment.		
授業の概要及び位置づけ / Course Outline and Objectives	You will design and synthesize new functional molecules which can be a tool for screening of biomedical molecules. New screening method will be constructed with the devices to analyze interesting reactions which are important to exploit pharmaceuticals.		
授業到達目標 / Goal	The ability to design and synthesis of target molecules with rational synthetic routes. The skills to carry out reaction and isolate desired products from reaction mixtures. The skills to structure analysis with NMR, Mass spectrometry. The ability to prepare manuscripts to contribute to first-class journals as original papers.		
授業方法 (学習指導法) / Method	Educational training for searching, planning, experimental, and presentation skills related to your research subject.		
授業内容 / Class outline / Con	Search data bases to extract academic articles which are related to your research subjects. Read the articles to get information for preparation of target molecules. Design synthetic routes and plan synthetic experiment. Experiment of the synthesis of the target molecules. Experiment of isolation of the target molecules form reaction mixture. Experiment of structure analysis of the molecule with instrumental analysis. Analysis of spectra and physical data of the molecule. Presentation of research results to select the best method. Logical consideration of structure function relationship. Preparation of analogs to search superior molecules. Assessment of the new functional molecule. Construction of screening methods with prepared device molecule. Summarization of research results for presentation in a symposium. Presentation of research results in a symposium. Preparation of a manuscript to contributable to a journal.		
事前、事後学習の内容 / Preparation & Review	You need to read related papers to know recent development in your research area. You should to join academic meetings for discussion and presentation.		
キーワード / Key word	Synthetic methods, Analysis of reaction mechanism, Comparison of experimental results		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Academic journals (JACS, JOC, OL, Tetrahedron Letters, Angew. Chem. Int. Ed., Chem. Commun. etc.), Data bases (Scifinder, Beilstein)		
成績評価の方法・基準等 / Evaluation	Completion of research articles (100%).		
受講要件 (履修条件) / Requirements			
アクセシビリティ / Accessibility			
備考 (URL) / Remarks (URL)			
学生へのメッセージ / Message for students	Let's enjoy chemistry!		

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//4.0
時間割コード / Time schedule code	201755082000B0	科目番号 / Subject code	55082000
科目ナンバリングコード / Numbering Code	BMMP 66812_796		
授業科目名 / Subject	Exercise Biomedical Sciences(Hygienic Chemistry) / Exercise Biomedical Sciences(Hygienic Chemistry)		
編集担当教員 / Professor in charge of putting together the course syllabus	中山 守雄 / Nakayama Morio, 淵上 剛志 / Fuchigami Takeshi, 吉田 さくら / Yoshida Sakura		
授業担当教員名(科目責任者) / Professor in charge of the subject	中山 守雄 / Nakayama Morio		
授業担当教員名(オムニバス科目等) / Professor(s)	中山 守雄 / Nakayama Morio, 淵上 剛志 / Fuchigami Takeshi, 吉田 さくら / Yoshida Sakura		
科目分類 / Class type	Exercise Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	演習 / Seminar
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生(クラス等) / Object Student	Master course		
担当教員Eメールアドレス / E-mail address	morio@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Hygienic Chemistry		
担当教員TEL / Tel	095-819-2441		
担当教員オフィスアワー / Office hours	Monday - Friday 0:20 - 0:50 p.m. or by appointment		
授業の概要及び位置づけ / Course Outline and Objectives	It is aimed to acquire the writing ability of English article for the publishing of the experimental papers as a scientific researcher		
授業到達目標 / Goal	It is the goal to write logically the scientific articles without grammatical errors		
授業方法(学習指導法) / Method	Oral presentation with academic documents and discussions		
授業内容 / Class outline / Con	In this seminar, students must read the scientific English papers for your research themes, and your research data should be summarized in English.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	Article search, English paper, Presentation.		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	English journals, English-Japanese and Japanese-English dictionaries, Biochemical encyclopedia, Scientific and Chemical encyclopedia, Handbook of Analytical Chemistry, Handbook of Chemistry.		
成績評価の方法・基準等 / Evaluation	Understanding ability of English paper 50%, writing ability of English paper 50%		
受講要件(履修条件) / Requirements	Nothing		
アクセシビリティ / Accessibility			
備考(URL) / Remarks(URL)			
学生へのメッセージ / Message for students	Preparation of the English paper is required in advance.		
授業計画詳細 / Course Schedule			
回(日時) / Time(date and time)	授業内容 / Contents		
1st	Lecture how to write an English paper.		
2nd	Lecture how to write an English paper.		
3rd	Lecture how to write an English paper.		
4th	Lecture how to write an English paper.		
5th	Lecture how to write an English paper.		
6th	Lecture how to write an English paper.		
7th	Lecture how to write an English paper.		
8th	Lecture how to write an English paper.		
9th	Make a plan to write an English paper : Arrangement of whole contents.		
10th	Write the English article of the 'Introduction' and 'Materials and Methods'.		
11th	Write the English article of the 'Results' and making the Figures and Tables.		
12th	Write the English article of the 'Results'.		
13th	Write the English article of the 'Discussion'.		
14th	Write the English article of the 'Discussion'.		
15th	Write the complete English article with the references.		
16th			

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//16.0
時間割コード / Time schedule code	201755082010D0	科目番号 / Subject code	55082010
科目ナンバリングコード / Numbering Code	BMMP 66912_796		
授業科目名 / Subject	Experiment Biomedical Sciences(Hygienic Chemistry) / Experiment Biomedical Sciences(Hygienic Chemistry)		
編集担当教員 / Professor in charge of putting together the course syllabus	中山 守雄 / Nakayama Morio, 淵上 剛志 / Fuchigami Takeshi, 吉田 さくら / Yoshida Sakura		
授業担当教員名(科目責任者) / Professor in charge of the subject	中山 守雄 / Nakayama Morio		
授業担当教員名(オムニバス科目等) / Professor(s)	中山 守雄 / Nakayama Morio, 淵上 剛志 / Fuchigami Takeshi, 吉田 さくら / Yoshida Sakura		
科目分類 / Class type	Experiment Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	実験 / Experiment
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生(クラス等) / Object Student	Master course		
担当教員Eメールアドレス / E-mail address	morio@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Hygienic Chemistry		
担当教員TEL / Tel	095-819-2441		
担当教員オフィスアワー / Office hours	Monday - Friday 0:20 - 0:50 p.m. or by appointment		
授業の概要及び位置づけ / Course Outline and Objectives	It is aimed to study how to perform the experiments of scientific theme.		
授業到達目標 / Goal	It is the goal to independently make the experiment plan for the research		
授業方法(学習指導法) / Method	Carrying out individual experiments, getting the personal direction on each theme, and discussion about the data.		
授業内容 / Class outline / Con	Research one of the following scientific subjects: 1) trace essential elements in biological system, 2) selenium as nutrient, 3) biomembrane mimetic materials, 4) 99mTc radiopharmaceuticals, and 5) amyloid imaging probe		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	Strategy, Research, Presentation.		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Scientific journals, Database		
成績評価の方法・基準等 / Evaluation	Laboratory work (50%), Presentation and communication skill (50%),		
受講要件(履修条件) / Requirements	Nothing		
アクセシビリティ / Accessibility			
備考(URL) / Remarks(URL)			
学生へのメッセージ / Message for students	Editing and logical consideration of the data, and in advance planning of the research experiment		
授業計画詳細 / Course Schedule			
回(日時) / Time(date and time)	授業内容 / Contents		
1st	Make the strategy for the research.		
2nd	Do the experiments		
3rd	Analyze the experimental results, and solve problems.		
4th	Summarize experimental results, report, and discuss.		
5th	Present the research data at an academic meeting		

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//4.0
時間割コード / Time schedule code	201755082000B1	科目番号 / Subject code	55082000
科目ナンバリングコード / Numbering Code	BMMP 66812_796		
授業科目名 / Subject	Exercise Biomedical Sciences(Analytical Chemistry) / Exercise Biomedical Sciences(Analytical Chemistry)		
編集担当教員 / Professor in charge of putting together the course syllabus	黒田 直敬 / Naotaka Kuroda, 岸川 直哉 / Kishikawa Naoya		
授業担当教員名 (科目責任者) / Professor in charge of the subject	黒田 直敬 / Naotaka Kuroda		
授業担当教員名 (オムニバス科目等) / Professor(s)	黒田 直敬 / Naotaka Kuroda, 岸川 直哉 / Kishikawa Naoya		
科目分類 / Class type	Exercise Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	演習 / Seminar
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生 (クラス等) / Object Student	1, 2 and 3 year		
担当教員Eメールアドレス / E-mail address	n-kuro@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Analytical Chemistry, 5th floor		
担当教員TEL / Tel	Ext. 2894		
担当教員オフィスアワー / Office hours	AM 10:30-PM 18:00		
授業の概要及び位置づけ / Course Outline and Objectives	This course provides instruction and experience in organizing and presenting oral presentations on a particular topic of interest regarding individual research project from literature search.		
授業到達目標 / Goal	Student will develop skills in scientific literature retrieval and oral presentation of scientific information from literature search.		
授業方法 (学習指導法) / Method	Student will summarize the contents of the literatures that relate to the individual research project, explain, ask and answer the questions.		
授業内容 / Class outline / Con	<p>This course will provide how to do a literature search, to evaluate scientific information, to summarize the appropriate information, to develop and propose a novel research idea, to convey that information in an oral presentation, and to further develop scientific writing skills.</p> <ol style="list-style-type: none"> 1. Effective use of the library and other information resources including Internet 2. Finding appropriate information utilizing the primary literature. 3. Finding and evaluating information utilizing secondary sources such as the Internet including SciFinder Scholar and Medline 4. Preparing PowerPoint slides using effective information 5. Oral presentation of appropriate information from literature search, and ask and answer the questions 6. Discussions of the contents of oral presentation with faculty members in laboratory and students 		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word			
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Appropriate literature from the journals of analytical chemistry		
成績評価の方法・基準等 / Evaluation	Method of achievement evaluation/active participation (60%), presentation skill (20%), ask and answer the questions (20%)		
受講要件 (履修条件) / Requirements			
アクセシビリティ / Accessibility	<p>In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office.</p> <p>Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp</p>		
備考 (URL) / Remarks (URL)			
学生へのメッセージ / Message for students			

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//16.0
時間割コード / Time schedule code	201755082010D1	科目番号 / Subject code	55082010
科目ナンバリングコード / Numbering Code	BMMP 66912_796		
授業科目名 / Subject	Experiment Biomedical Sciences(Analytical Chemistry) / Experiment Biomedical Sciences(Analytical Chemistry)		
編集担当教員 / Professor in charge of putting together the course syllabus	黒田 直敬 / Naotaka Kuroda, 岸川 直哉 / Kishikawa Naoya		
授業担当教員名(科目責任者) / Professor in charge of the subject	黒田 直敬 / Naotaka Kuroda		
授業担当教員名(オムニバス科目等) / Professor(s)	黒田 直敬 / Naotaka Kuroda, 岸川 直哉 / Kishikawa Naoya		
科目分類 / Class type	Experiment Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	実験 / Experiment
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生(クラス等) / Object Student	1, 2 and 3 years		
担当教員Eメールアドレス / E-mail address	n-kuro@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Analytical Chemistry, 5th floor		
担当教員TEL / Tel	Ext. 2894		
担当教員オフィスアワー / Office hours	AM 10:30-PM 18:00		
授業の概要及び位置づけ / Course Outline and Objectives	To learn experimental methods and skills used by analytical chemists, and to learn how to effectively present scientific results and to further develop scientific writing skills.		
授業到達目標 / Goal	Student will develop skills in 1) planning investigations, 2) operation of analytical equipments, 3) collection and treatment of experimental data, 4) oral presentation of scientific research, 5) writing scientific reports, 6) developing scientific thinking and problem-solving techniques.		
授業方法(学習指導法) / Method	Student will acquire knowledge and skills on experiments relating to analytical chemistry through laboratory work and report writing skills.		
授業内容 / Class outline / Con	To accomplish the goals, experiments have been designed to covers literature search, proper and safe operation of laboratory equipment, data collecting and report writing. 1. Scientific literature retrieval on individual research project 2. Understanding of special techniques and instruments for individual research project 3. Planning and conducting experiments 4. Records and treatment of data obtained from the experimental protocols 5. Using a computer as a tool in writing, drawing chemical structures and data analysis to communicate scientific information 6. Communicating effectively the results of experimental results with faculty members in laboratory and students 7. Presentation of research results at appropriate academic conference 8. Writing scientific reports		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word			
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Appropriate literature on individual research project		
成績評価の方法・基準等 / Evaluation	Laboratory work (50%), presentation and communication skill (10%), reports (30%), presentation at academic conference (10%)		
受講要件(履修条件) / Requirements			
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考(URL) / Remarks(URL)			
学生へのメッセージ / Message for students			

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//4.0
時間割コード / Time schedule code	201755082000B2	科目番号 / Subject code	55082000
科目ナンバリングコード / Numbering Code	BMMP 66812_796		
授業科目名 / Subject	Exercise Biomedical Sciences(Pharmacotherapeutics) / Exercise Biomedical Sciences(Pharmacotherapeutics)		
編集担当教員 / Professor in charge of putting together the course syllabus	塚元 和弘 / Tsukamoto Kazuhiro, 近藤 新二 / Kondo Shinji, 稲嶺 達夫 / Inamine Tatuo		
授業担当教員名 (科目責任者) / Professor in charge of the subject	塚元 和弘 / Tsukamoto Kazuhiro		
授業担当教員名 (オムニバス科目等) / Professor(s)	塚元 和弘 / Tsukamoto Kazuhiro, 近藤 新二 / Kondo Shinji, 稲嶺 達夫 / Inamine Tatuo		
科目分類 / Class type	Exercise Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	演習 / Seminar
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生 (クラス等) / Object Student	Master course		
担当教員Eメールアドレス / E-mail address	ktsuka@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Department of Pharmacotherapeutics		
担当教員TEL / Tel	095-819-8573		
担当教員オフィスアワー / Office hours	Monday-Friday 9:00-17:00		
授業の概要及び位置づけ / Course Outline and Objectives	To teach clinical and molecular genetics		
授業到達目標 / Goal	To understand the methods to identify the disease-susceptible and drug-responsible genes for multifactorial disorders, and an application to nucleic acids-based diagnosis		
授業方法 (学習指導法) / Method	Lecture using PowerPoint slides and printed documents		
授業内容 / Class outline / Con	The personalized medicine composes the nucleic acids-based diagnosis and genome-based gene discovery including the susceptible genes for diseases and the drug-responsible genes. The association study using genetic polymorphic markers is a strong tool to identify the disease-susceptible and drug-responsible genes for multifactorial disorders.		
事前、事後学習の内容 / Preparation & Review	Review what you learned.		
キーワード / Key word	genetic polymorphisms, association study, multifactorial disorders, nucleic acids-based diagnosis		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	none		
成績評価の方法・基準等 / Evaluation	brief examination at each class (40%) and report (60%)		
受講要件 (履修条件) / Requirements			
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考 (URL) / Remarks (URL)			
学生へのメッセージ / Message for students			
授業計画詳細 / Course Schedule			
回 (日時) / Time (date and time)	授業内容 / Contents		
1st	Clinical human genetics I		
2nd	Clinical human genetics II		
3rd	Molecular human genetics I		
4th	Molecular human genetics II		
5th	Genetic polymorphisms and detecting techniques		
6th	Multifactorial disorders and association study		
7th	Identification of disorder-susceptible and drug-responsible genes		
8th	Nucleic acids-based diagnosis		

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//16.0
時間割コード / Time schedule code	201755082010D2	科目番号 / Subject code	55082010
科目ナンバリングコード / Numbering Code	BMMP 66912_796		
授業科目名 / Subject	Experiment Biomedical Sciences(Pharmacotherapeutics) / Experiment Biomedical Sciences(Pharmacotherapeutics)		
編集担当教員 / Professor in charge of putting together the course syllabus	塚元 和弘 / Tsukamoto Kazuhiro, 近藤 新二 / Kondo Shinji, 稲嶺 達夫 / Inamine Tatuo		
授業担当教員名(科目責任者) / Professor in charge of the subject	塚元 和弘 / Tsukamoto Kazuhiro		
授業担当教員名(オムニバス科目等) / Professor(s)	塚元 和弘 / Tsukamoto Kazuhiro, 近藤 新二 / Kondo Shinji, 稲嶺 達夫 / Inamine Tatuo		
科目分類 / Class type	Experiment Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	実験 / Experiment
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生(クラス等) / Object Student	Master course		
担当教員Eメールアドレス / E-mail address	ktsuka@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Department of Pharmacotherapeutics		
担当教員TEL / Tel	095-819-8573		
担当教員オフィスアワー / Office hours	Monday-Friday 9:00-17:00		
授業の概要及び位置づけ / Course Outline and Objectives	To identify the disease-susceptible genes or drug-responsible genes by candidate gene-based association study		
授業到達目標 / Goal	To learn molecular genetics techniques and skills in both bioinformatics and statistical analyses, as well as to understand the concept of methodology on association study, especially case-control study		
授業方法(学習指導法) / Method	Performance of molecular genetics, bioinformatics, pharmacogenomics, and case-control study		
授業内容 / Class outline / Con	The personalized medicine composes the nucleic acids-based diagnosis and genome-based gene discovery including the susceptible genes for diseases and the drug-responsible genes. The association study using genetic polymorphic markers is a strong tool to identify the disease-susceptible and drug-responsible genes for multifactorial disorders.		
事前、事後学習の内容 / Preparation & Review	Review what you learned.		
キーワード / Key word	genetic polymorphisms, bioinformatics, association study, disease-susceptibility, drug responsibility		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	None		
成績評価の方法・基準等 / Evaluation	Master's dissertation (100%)		
受講要件(履修条件) / Requirements			
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考(URL) / Remarks(URL)			
学生へのメッセージ / Message for students			
授業計画詳細 / Course Schedule			
回(日時) / Time(date and time)	授業内容 / Contents		
1st	DNA and RNA extraction		
2nd	Selection of candidate genes for the disease-susceptibility or drug responsibility		
3rd	Getting information on genetic polymorphisms of candidate genes from genome database (bioinformatics)		
4th	Analyses of genetic polymorphisms of candidate genes (1)		
5th	Analyses of genetic polymorphisms of candidate genes (2)		
6th	Analyses of genetic polymorphisms of candidate genes (3)		
7th	Statistical analyses		

8th	Discussion on the results
9th	Writing a manuscript
10th	Submission of a master ' s dissertation

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//4.0
時間割コード / Time schedule code	201755082000B3	科目番号 / Subject code	55082000
科目ナンバリングコード / Numbering Code	BMMP 66812_796		
授業科目名 / Subject	Exercise Biomedical Sciences(Pharmaceutical Informatics) / Exercise Biomedical Sciences(Pharmaceutical Informatics)		
編集担当教員 / Professor in charge of putting together the course syllabus	川上 茂 / Kawakami Shigeru, 淵上 由貴 / Fuchigami Yuki, 萩森 政頼 / Hagimori Masayori		
授業担当教員名 (科目責任者) / Professor in charge of the subject	川上 茂 / Kawakami Shigeru		
授業担当教員名 (オムニバス科目等) / Professor(s)	川上 茂 / Kawakami Shigeru, 淵上 由貴 / Fuchigami Yuki, 萩森 政頼 / Hagimori Masayori		
科目分類 / Class type	Exercise Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	演習 / Seminar
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生 (クラス等) / Object Student	1th, 2th		
担当教員Eメールアドレス / E-mail address	skawakam@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Pharmaceutical Informatics		
担当教員TEL/Tel	095-819-8563		
担当教員オフィスアワー / Office hours	9:00-17:00		
授業の概要及び位置づけ / Course Outline and Objectives	This course provides fundamental skills in organizing and presenting a document on a particular topic regarding pharmaceutical informatics from scientific papers. 【薬学教育モデル・コアカリキュラム一般目標】A 全学年を通して：ヒューマニズムについて学ぶ A(2)医療の担い手としてのこころ構え、C16 製剤化のサイエンス (3)DDS (Drug Delivery System: 薬物送達システム)、C17 医薬品の開発と生産(1)医薬品開発と生産の流れ、(3)バイオ医薬品とゲノム情報		
授業到達目標 / Goal	To understand the content of the scientific papers and find the relationship between scientific papers and own research. 薬学教育モデル・コアカリキュラム到達目標を含む項目：A-(2) 【研究活動に求められるこころ構え】、C16-(3) 【DDSの必要性】、【ターゲティング】、【その他のDDS】 C17-(1) 【医薬品市場と開発すべき医薬品】、C17-(3) 【遺伝子治療】		
授業方法 (学習指導法) / Method	Student summarizes the scientific papers, and discusses content with laboratory members.		
授業内容 / Class outline / Con	1st: Searching the scientific papers related to own research from Pubmed 2nd: Preparing a document for oral presentation 3rd: Oral presentation and discussion(1) 4th: Oral presentation and discussion(2) 5th: Oral presentation and discussion(3) 6th: Oral presentation and discussion(4) 7th: Oral presentation and discussion(5) 8th: Oral presentation and discussion(6) 9th: Oral presentation and discussion(7) 10th: Oral presentation and discussion(8) 11th: Oral presentation and discussion(9) 12th: Oral presentation and discussion(10) 13th: Oral presentation and discussion(11) 14th: Oral presentation and discussion(12) 15th: Oral presentation and discussion(13)		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	Pharmaceutical Informatics, Presentation Skill		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book			
成績評価の方法・基準等 / Evaluation	Ability of presentation (70%), Ability of discussion (30%)		
受講要件 (履修条件) / Requirements	None		
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-24948 (E-mail) support@ml.nagasaki-u.ac.jp		
備考 (URL) / Remarks (URL)			
学生へのメッセージ / Message for students	None		

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//16.0
時間割コード / Time schedule code	201755082010D3	科目番号 / Subject code	55082010
科目ナンバリングコード / Numbering Code	BMMP 66912_796		
授業科目名 / Subject	Experiment Biomedical Sciences(Pharmaceutical Informatics) / Experiment Biomedical Sciences(Pharmaceutical Informatics)		
編集担当教員 / Professor in charge of putting together the course syllabus	川上 茂 / Kawakami Shigeru, 淵上 由貴 / Fuchigami Yuki, 萩森 政頼 / Hagimori Masayori		
授業担当教員名 (科目責任者) / Professor in charge of the subject	川上 茂 / Kawakami Shigeru		
授業担当教員名 (オムニバス科目等) / Professor(s)	川上 茂 / Kawakami Shigeru, 淵上 由貴 / Fuchigami Yuki, 萩森 政頼 / Hagimori Masayori		
科目分類 / Class type	Experiment Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	実験 / Experiment
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生 (クラス等) / Object Student	1th, 2th		
担当教員Eメールアドレス / E-mail address	skawakam@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	Pharmaceutical Informatics		
担当教員TEL / Tel	095-819-8563		
担当教員オフィスアワー / Office hours	9:00-17:00		
授業の概要及び位置づけ / Course Outline and Objectives	Learning experimental methods used for research of pharmaceutical informatics. 【薬学教育モデル・コアカリキュラム一般目標】A 全学年を通して：ヒューマニズムについて学ぶ A(2)医療の担い手としてのこころ構え、C16 製剤化のサイエンス (3)DDS (Drug Delivery System: 薬物送達システム)、C17 医薬品の開発と生産(1)医薬品開発と生産の流れ、(3)バイオ医薬品とゲノム情報		
授業到達目標 / Goal	The goal of this class is i) laerning evaluation method using cultured cells and animals, ii) making a presentation document of own research, iii) preparing a scientific paper of own research 薬学教育モデル・コアカリキュラム到達目標を含む項目：A-(2)【研究活動に求められるこころ構え】、C16-(3)【DDSの必要性】、【ターゲティング】、【その他のDDS】 C17-(1)【医薬品市場と開発すべき医薬品】、C17-(3)【遺伝子治療】		
授業方法 (学習指導法) / Method	The method is separated two stages. i) To perform own experiment and its oral presentation ii) To write a scientific paper about own research		
授業内容 / Class outline / Con	1st: Study about formulation. 2nd: Study about evaluation method of physicochemical properties of formulation. 3rd: Study about evaluation method using cultured cells on cellular uptake (1). 4th: Study about evaluation method using cultured cells on cellular uptake (2). 5th: Study about evaluation method using cultured cells on pharamcological effect(1). 6th: Study about evaluation method using cultured cells on pharamcological effect(2). 7th: Study about evaluation method using rodents on pharmacokinetics (1). 8th: Study about evaluation method using rodents on pharmacokinetics (2). 9th: Study about evaluation method using rodents on pharamcological effect (1). 10th: Study about evaluation method using rodents on pharamcological effect (2). 11th: Discussion about obtained results. 12th: Preparation of presentation (1) 13th: Preparation of presentation (2) 14th: Preparation of scientific paper (1) 15th: Preparation of scientific paper (2)		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	Pharmceutical inforamtics, Targeting		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Scientific papers		
成績評価の方法・基準等 / Evaluation	Obtained paper 70%, Experimental skill and behavior 30%		
受講要件 (履修条件) / Requirements	None		
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommdations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-24948 (E-mail) support@ml.nagasaki-u.ac.jp		
備考 (URL) / Remarks(URL)			

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//4.0
時間割コード / Time schedule code	201755082000B4	科目番号 / Subject code	55082000
科目ナンバリングコード / Numbering Code	BMMP 66812_796		
授業科目名 / Subject	Exercise Biomedical Sciences(Pharmaceutics) / Exercise Biomedical Sciences(Pharmaceutics)		
編集担当教員 / Professor in charge of putting together the course syllabus	西田 孝洋 / Nishida Koyo, 麓 伸太郎 / Fumoto Shintaro, 宮元 敬天 / Hiroataka Miyamoto		
授業担当教員名(科目責任者) / Professor in charge of the subject	西田 孝洋 / Nishida Koyo		
授業担当教員名(オムニバス科目等) / Professor(s)	西田 孝洋 / Nishida Koyo, 麓 伸太郎 / Fumoto Shintaro, 宮元 敬天 / Hiroataka Miyamoto		
科目分類 / Class type	Exercise Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	演習 / Seminar
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生(クラス等) / Object Student	特別コース		
担当教員Eメールアドレス / E-mail address	koyo-n@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	歯学部本館7階 薬剤学教授室		
担当教員TEL / Tel	095-819-8566		
担当教員オフィスアワー / Office hours	火・金曜日 16:00-18:00 (LACSで予定を確認すること)、メールでも対応。		
授業の概要及び位置づけ / Course Outline and Objectives	Aim/ The aim of this subject is to acquire abilities to understand scientific paper(s), summarize background, method and results, and make a presentation of the paper(s).		
授業到達目標 / Goal	Goal/ To acquire abilities for objective critique and creative research, students should precisely understand positioning of findings in scientific papers at the area of relevant study, be able to point out problems to be elucidated, and consider concrete solution.		
授業方法(学習指導法) / Method	Method/ Searching and understanding scientific papers, questions and answers.		
授業内容 / Class outline / Con	Understanding scientific papers written in English. By making a presentation of the papers, students can obtain recent information and acquire the ability to use scientific terms.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	Searching scientific papers		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Scientific journals written in English		
成績評価の方法・基準等 / Evaluation	Ability to understand scientific papers 50% Ability for questions and answers 50%		
受講要件(履修条件) / Requirements	none		
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考(URL) / Remarks(URL)	http://www.ph.nagasaki-u.ac.jp/		
学生へのメッセージ / Message for students	Preparation studies for reading scientific papers and replying to questions are required.		
授業計画詳細 / Course Schedule			
回(日時) / Time(date and time)	授業内容 / Contents		
1st	Attending a lecture for database and searching method of scientific papers.		
2nd	Attending a lecture how to read experimental methods, results and discussion.		
3rd	Selecting a scientific paper, making a presentation of summary of the study, and replying to questions (1)		
4th	Selecting a scientific paper, making a presentation of summary of the study, and replying to questions (2)		

5th	Selecting a scientific paper, making a presentation of summary of the study, and replying to questions (3)
6th	Selecting a scientific paper, making a presentation of summary of the study, and replying to questions (4)
7th	Selecting a scientific paper, making a presentation of summary of the study, and replying to questions (5)
8th	Selecting a scientific paper, making a presentation of summary of the study, and replying to questions (6)
9th	Selecting a scientific paper, making a presentation of summary of the study, and replying to questions (7)
10th	Selecting a scientific paper, making a presentation of summary of the study, and replying to questions (8)
11th	Selecting a scientific paper, making a presentation of summary of the study, and replying to questions (9)
12th	Selecting a scientific paper, making a presentation of summary of the study, and replying to questions (10)
13th	Selecting a scientific paper, making a presentation of summary of the study, and replying to questions (11)
14th	Selecting a scientific paper, making a presentation of summary of the study, and replying to questions (12)
15th	Selecting a scientific paper, making a presentation of summary of the study, and replying to questions (13)

学期 / Semester	2017年度 / Academic Year 後期 / Second Semester	曜日・校時 / Day・Period	他 / Others 0
開講期間 / Class period	2017/10/01 ~ 2019/09/30		
必修選択 / Required/Elective class	必修 / required	単位数(一般/編入/留学) / Credits (general/admission/overseas)	//16.0
時間割コード / Time schedule code	201755082010D4	科目番号 / Subject code	55082010
科目ナンバリングコード / Numbering Code	BMMP 66912_796		
授業科目名 / Subject	Experiment Biomedical Sciences(Pharmaceutics) / Experiment Biomedical Sciences(Pharmaceutics)		
編集担当教員 / Professor in charge of putting together the course syllabus	西田 孝洋 / Nishida Koyo, 麓 伸太郎 / Fumoto Shintaro, 宮元 敬天 / Hiroataka Miyamoto		
授業担当教員名(科目責任者) / Professor in charge of the subject	西田 孝洋 / Nishida Koyo		
授業担当教員名(オムニバス科目等) / Professor(s)	西田 孝洋 / Nishida Koyo, 麓 伸太郎 / Fumoto Shintaro, 宮元 敬天 / Hiroataka Miyamoto		
科目分類 / Class type	Experiment Biomedical Sciences		
対象年次 / Year	1, 2	講義形態 / Class Form	実験 / Experiment
教室 / Class room	〔薬学〕各担当教員研究室 / Laboratory		
対象学生(クラス等) / Object Student	特別コース		
担当教員Eメールアドレス / E-mail address	koyo-n@nagasaki-u.ac.jp		
担当教員研究室 / Laboratory	歯学部本館7階 薬剤学教授室		
担当教員TEL / Tel	095-819-8566		
担当教員オフィスアワー / Office hours	火・金曜日 16:00-18:00 (LACSで予定を確認すること)、メールでも対応。		
授業の概要及び位置づけ / Course Outline and Objectives	Aim/ It is required for researchers in the clinical pharmacy to develop novel drug delivery system delivering drugs to specific target site. Researchers also should individually resolve problems of the research. The aim of this subject is to acquire these abilities through experiments and discussion.		
授業到達目標 / Goal	Goal/ The goal of this subject is to develop administration methods and formulations for delivering drugs to specific organ. Student will report findings in academic conference and write scientific paper(s) for submitting to journal.		
授業方法(学習指導法) / Method	Method/ Scheduling and performing experiments, Writing scientific papers.		
授業内容 / Class outline / Con	Students will experiment about drug delivery system delivering drugs to specific organ. For this purpose, absorption of drugs from organ surface, in vivo disposition of drugs, administration methods, administration preparations, species differences, animal scale-up, and formulations for future clinical application will be investigated.		
事前、事後学習の内容 / Preparation & Review			
キーワード / Key word	DDS		
教科書・教材・参考書 / Textbook, Teaching material, and Reference book	Scientific journals written in English		
成績評価の方法・基準等 / Evaluation	50% writing paper, 50% experiment		
受講要件(履修条件) / Requirements	Scientific English		
アクセシビリティ / Accessibility	In order to ensure equal educational opportunities for all students, Nagasaki University strives to remove societal barriers that may interfere with academic activities, and to provide reasonable accommodations as necessary and appropriate. If you have any questions or concerns regarding reasonable accommodations or other support in this class, please feel free to talk to the instructor (contact information above), or contact the Student Accessibility Office. Student Accessibility Office contact information (TEL) 095-819-2006 (FAX) 095-819-2948 (E-MAIL) support@ml.nagasaki-u.ac.jp		
備考(URL) / Remarks(URL)	http://www.ph.nagasaki-u.ac.jp/		
学生へのメッセージ / Message for students	none		
授業計画詳細 / Course Schedule			
回(日時) / Time(date and time)	授業内容 / Contents		
第1回	Study about recent researches in drug delivery system.		
第2回	Scheduling experiments. Comprehending unknown points by understanding published information.		
第3回	Deliberating administration methods for drug delivery system.		
第4回	Deliberating administration preparations for drug delivery system.		

第5回	Discussion of experimental plan on seminar of Department of Pharmaceutics.
第6回	Study about disposition of drugs after administration onto organ surface.
第7回	Study about experimental method utilizing glass-made cylindrical diffusion cell for investigation of absorption from organ surface.
第8回	Study about experimental condition (administration dose, volume) for organ surface application of drugs.
第9回	Study about formulations for administration of drugs onto organ surface.
第10回	Discussion of findings in midterm conference of Department of Pharmaceutics.
第11回	Study about formulations which are applicable for clinical use.
第12回	Study about species differences and animal scale-up.
第13回	Discussion of findings in final conference of Department of Pharmaceutics.
第14回	Writing draft in English.
第15回	Completing scientific paper and submitting it to a scientific journal.