### For entrants in FY 2023

Appended Form 1

#### Specifications for Major Program

Name of School (Program) [School of Pharmaceutical Sciences (Program of Pharmaceutical Sciences)]

Program name (Japanese)	薬学プログラム
(English)	Program of Pharmaceutical Sciences

1. Degree to be obtained: Bachelor of Pharmaceutical Science

#### 2. Overview

The Program of Pharmaceutical Sciences aims to foster students who are able to develop a new field of knowledge and contribute to local/global communities having a rich humanity by reinventing themselves looking ahead the future society based on the tradition of the pharmaceutical sciences. Specifically, this program provides students education to allow them to acquire 1) the fundamental knowledge and skills required to become pharmacists who are capable of understanding and diagnosing a patient's condition, of judging and suggesting prescriptions, and of taking responsibility for appropriate use of medicines and medical supplies; 2) the advanced skills required for exercising their creative thinking abilities to try to solve new problems actively and autonomously, as well as the opportunity to exercising those skills experimentally; 3) the advanced medical knowledge required to foster skills as pharmacists who have a high level of expertise and are capable of taking part in discussion in team medical care from a scientific point of view; 4) the ethics and improved communication skills required of a clinical pharmacist; and 5) the research abilities to orient them toward the world-leading researches in the pharmaceutical sciences and to enable them to contribute to the development of new drug therapy.

This program is highly systematically designed to foster students who will advance to graduate school and to acquire advanced knowledge and skills as expert pharmacists and ethics as medical staff while expecting them to become practical pharmacists in a medical institution, or to work as researchers engaged in such fields as the development of new medicine in a pharmaceutical company or experts who work in public offices related to welfare and healthcare, including school pharmacists who are trusted by the community.

#### 3. Diploma policy (policy for awarding degrees and goal of the program)

The Program of Pharmaceutical Sciences will approve the graduation of, and award the degree bachelor of pharmaceutical science to, students who have acquired the capabilities described below, and earned the required credits defined for the educational course:

- 1) The fundamental skills and wide-ranging intelligence required for studying pharmaceutical sciences, such as those related to physics, chemistry, biology, mathematics, and psychology for medical staff;
- 2) The fundamental knowledge and skills regarding such things as major reactions, separation methods, and structure determination methods, that are required for understanding the properties of chemical substances including medicines and biological materials, and the ability to explain and exercise that knowledge and those skills;
- 3) The fundamental knowledge and skills regarding the structure and mechanisms of function coordination in living bodies that are required for understanding the constitution of the living body at various levels, such as the individual body, an organ in the body, and a cell in the organ, and ability to explain and exercise that knowledge and those skills;
- 4) The fundamental knowledge, skills, and attitude regarding such matters as the effect of a medicine on a disease,

mechanisms of action, and metabolic end result that are required for understanding the processes of the pharmacological action of medicines, and the ability to explain and exercise that knowledge, those skills, and that attitude;

- 5) The capability to understand basic and applied knowledge of drug therapy, and to explain the standard methods of drug therapy for major diseases of every organ;
- 6) Fundamental knowledge, skills, and attitude regarding the effect of medicines and chemical substances on a human being and the effect of living environment and global ecosystem on human health, and the ability to explain and exercise that knowledge, those skills, and that attitude;
- 7) The fundamental knowledge, skills, and attitude regarding pharmacy itself, laws and institutions related to medicines, and economics and pharmacy businesses that are required for understanding the responsibilities and duties of pharmacists in society, and the ability to explain and exercise that knowledge, those skills, and that attitude;
- 8) The fundamental knowledge, skills, and attitude for the dispensing, formulation, explanation of medicine instructions and assistance for prescription designing required for working as a member of a medical team, and the ability to explain and exercise that knowledge, those skills, and that attitude;
- 9) The ability to identify problems, and to indicate a way of solving them, to work as pharmacists who can flexibly cope with various needs of medical workers;
- 10) The fundamental capability to identify new information and knowledge, and to autonomously improve one's ability, in order to keep up with progress in pharmaceutical and other sciences and medicine;
- 11) An understanding of the importance of development of juniors medical staff, and the ability to contribute to it by educating the pharmacists of the next generation.
- 4. Curriculum policy (policy for arranging and implementing the curriculum)

#### Program of Pharmaceutical Sciences

#### Policy for design, education and learning method of curriculum

In the Program of Pharmaceutical Sciences, the curriculum (educational course) is arranged according to the policies described below in order to develop medical staff who have abilities mentioned in the diploma policy and have deep humanity and wide-ranging intelligence.

- 1) To allow students to acquire fundamental knowledge such as physics, biology, mathematics and "Psychology for Medical Care Workers" as well as basic study ability in a wide variety of areas, the curriculum provides the peace study subjects, fundamental subjects for university education, disciplinary subjects, foreign language subjects, information and data science subjects, health and sports subjects, society-related subjects, and fundamental subjects, structured in such a way as to provide those subjects to the whole university in the 1<sup>st</sup> and 2<sup>nd</sup> year;
- 2) To allow students to understand the fundamental characteristics on medicines and chemical substances including biological materials, and to learn the fundamental knowledge about typical reactions, separation methods, configuration determination methods, etc., the curriculum provides subjects on the structure and characteristics of materials besides natural medicine resources such as Organic Chemistry and Analytical Chemistry. After learning lectures about these subjects, the curriculum also provides the practical training subjects;
- 3) To allow students to understand structures of living organisms at the level of individuals, organs and cells, and to learn the fundamental knowledge on the structures and functional regulations of living organisms, the curriculum provides subjects related to the structures and functions of living organisms such as Biochemistry as the Basic

- Specialized Subjects in the 1<sup>st</sup> and 2<sup>nd</sup> year, and subjects including more advanced contents like Physiological Chemistry and Cellular Biology as Specialized Subjects in the 3<sup>rd</sup> year. After taking lectures on these subjects, the practical training subjects are prepared for the fall semester in the 2<sup>nd</sup> year and the spring semester in the 3<sup>rd</sup> year in order to acquire the technical skills based on knowledge;
- 4) To allow students to understand the process of pharmacological actions of medicines, and to get the fundamental knowledge about the medicine's actions to diseases, the action mechanism and in vivo fate, the curriculum provides subjects related to the actions and the in vivo fate of medicines such as Pharmacology and Biopharmaceutics as the Basic Specialized Subjects in the 1<sup>st</sup> and 2<sup>nd</sup> year, and subjects including more advanced contents like Pharmacokinetics as the Specialized Subjects in the 3<sup>rd</sup> year. After taking lectures on these subjects, the practical training subjects are prepared for the fall semester in the 2<sup>nd</sup> year and the spring semester in the 3<sup>rd</sup> year in order to acquire the technical skills based on knowledge;
- 5) To allow students to understand the basic and advanced knowledge about the pharmacotherapy, and to learn the knowledge enough to explain the pharmacotherapy to major diseases regarding all organs, the curriculum provides the lecture subjects related to the diseases and the conditions such as Clinical Pharmacy and Pharmacotherapy in the 4<sup>th</sup> year, and group learning subjects as Program-based Learning like Clinical Pharmacology in the 5<sup>th</sup> and 6<sup>th</sup> year. The Pharmacy Practice is prepared for the fall semester in the 4<sup>th</sup> year while the Clerkships in Clinical Pharmacy are provided in the 5<sup>th</sup> year. In order to cultivate these abilities, a Seminar Subject (Japanese Pharmacopoeia) is given in the 6<sup>th</sup> year;
- 6) To allow students to learn the fundamental knowledge about effects of medicine and chemical substance to the human as well as the human health with the living environments and/or global ecosystem, the curriculum provides Lecture Subjects related to the health and the environment such as Public Health Chemistry in the 2<sup>nd</sup> and 3<sup>rd</sup> year. The practical training subjects are prepared for the 3<sup>rd</sup> year in order to acquire the technical skills and the attitudes based on knowledge;
- 7) To allow students to understand the social responsibilities and duties of pharmacists, and to learn the fundamental knowledge about laws, systems and economies regarding pharmacy and drugs as well as services at pharmacies, the curriculum provides Lecture Subjects related to the pharmacist services and the pharmaceutical affairs law such as Pharmaceutical Affairs Related Laws and Pharmacoeconomics in the 4<sup>th</sup> year. The Pharmacy Practice is prepared for the fall semester in the 4<sup>th</sup> year, and the Clerkships in Clinical Pharmacy are given in the 5<sup>th</sup> year in order to acquire more practical skills and the attitudes;
- 8) To allow students to learn the fundamental knowledge required to the pharmacist services such as drug dispensing, formulation and medication counseling in order to participate in the medical care as a team member, the curriculum provides Lecture Subjects related to the formulation adjustment and the drug management like Industrial Pharmaceutics and Drug Informatics in the 3<sup>rd</sup> and 4<sup>th</sup> year. The Pharmacy Practice is prepared for the fall semester in the 4<sup>th</sup> year, and the Clerkships in Clinical Pharmacy are given in the 5<sup>th</sup> year in order to acquire more practical skills and the attitudes;
- 9) To allow students to acquire the essential abilities to find and solve problems to be active as a pharmacist who can deal flexibly with the multiple needs required as a provider of medical care, the curriculum provides Seminar Subjects: Research Practices for the fall semester in the 3<sup>rd</sup> year, subjects including basic contents: Special laboratory Works in Pharmaceutical Sciences I -II for the fall semester in the 3<sup>rd</sup> year and in the whole 4<sup>th</sup> year, and subjects including more advanced contents: Special laboratory Works in Clinical Pharmacy I III as the Specialized Study for

Graduation, well-instructing students individually;

- 10) To allow students to acquire the fundamental abilities required to keep improving themselves grasping the new information and knowledge in order to deal with progresses of pharmacy, sciences and medical cares, the curriculum provides a more professional foreign language subject: Practical English for Pharmaceutical Students in the 2<sup>nd</sup> year in addition to the Foreign Languages Subjects in the 1<sup>st</sup> and 2<sup>nd</sup> year. Besides, The Specialized Study for Graduation Subjects: Special laboratory Works in Pharmaceutical Sciences I II and Special laboratory Works in Clinical Pharmacy I III are provided from the fall semester in the 3<sup>rd</sup> year, well-instructing individually;
- 11) To allow students to understand the importance of teaching younger people and to acquire the abilities to carry it out in order to foster the next-generation pharmacists, the curriculum creates an environment in which students support the Specialized Study for Graduation of younger members in the same laboratory;

#### **Evaluation Policy for Learning Achievements**

The learning achievements are evaluated by the suitable ways to each learning method of the curriculum based on the above Curriculum policy 1) to 11), and the program aims to achieve the Diploma policy. Basically, the Lecture Subjects are evaluated by written-examinations or written-examinations besides report assignments. The Practice Subjects are evaluated comprehensively by report assignments, practice notes, etc. The participatory learning subjects are evaluated by report assignments and presentation. The Seminar Subjects are evaluated by written-examinations, report assignments or presentation. The Pharmacy Practice is evaluated by written and practical skills examination. The Clerkships in Clinical Pharmacy are evaluated by practice notes and presentation. The Specialized Study for Graduation Subjects are evaluated by a rubric determined separately.

Besides these evaluations, students are appraised by their attainment of the goals set by the Program of Pharmaceutical Sciences.

To promote the systematic learning, the program sets a certain standard for the assignment to laboratories. To take the Clerkships in Clinical Pharmacy, the Common Achievement Test which is also set a certain standard is assigned.

- Start time and acceptance conditionsStudents select (start) this program in the first year.
- 6. Obtainable qualifications
  - a) Qualification for national examination for pharmacists
- b) Technical supervisor in the office for the manufacture, import, and sale of medical devices, technical manager in a waste disposal plant, pollution control manager related to noise, dust, and vibration pollution, technical manager of environmental sanitation for buildings, and technical administrator for waterworks
- 7. Class subjects and their contents
  For class subjects, refer to the subject table in Sheet 1. (The subject table is to be attached.)
  For the details of the class subjects, refer to the syllabus that is published each academic year.

#### 8. Academic achievement

The evaluation criteria are specified for each evaluation item for academic achievement, and the achievement level against these criteria is designated for each academic year.

The academic achievement, from when the student enters our university to the end of the last semester, is represented based on the average of evaluation scores for each evaluation item. The evaluation score for each subject is converted to

a numerical value (S = 4, A = 3, B = 2, and C = 1) and the evaluation standard for the academic achievement is determined using these values while applying weightings.

Achievement evaluation	Numerical conversion
S (Excellent:90 or more points)	4
A (Very good: 80 - 89 points)	3
B (Good: 70 - 79 points)	2
C (Passed: 60 - 69 points)	1
Academic achievement	Evaluation standard
Excellent	3.00 - 4.00
Very Good	2.00 - 2.99
Good	1.00 - 1.99

<sup>\*</sup> Refer to the relationship between evaluation items and evaluation criteria described in Sheet 2.

9. Graduation thesis (graduation research) (meaning, student allocation, timing, etc.
---

Purpose

To enable students, through a topic of research, to acquire the capabilities for identifying something new, and solving problems based on a scientific point of view, required for comprehensively understanding pharmaceutical knowledge and contributing to the medical realm, as well as the attitude to endeavor to improve their capabilities throughout their lives.

Students present the results of their research at the graduation thesis presentation assembly that is held in the middle of December in the sixth year.

#### Overview

1. Attitude required for research activity

Students are expected to understand the basic philosophy and attitude required for joining in research activities in the future.

2. Studying research activity

Students are expected to experience a series of research processes to achieve the aims of the research, and to acquire the basic knowledge, skills, and attitude required for research activities, in order to become capable of performing research by themselves in the future.

3. Encounter with undiscovered things

Students are expected to experience pleasure in research activities that consists of the joy of invention and discovery in their own research.

Student allocation timing and method

Students are allocated to the laboratory in the second semester of the third year. The allocation method and requirements are defined separately.

#### 10. Responsibility

- (1) Responsibility for PDCA (plan, do, check, and act) cycle
- The faculty committee of the Program of Pharmaceutical Sciences (head: Takuya Kumamoto (who is in charge of educational affairs) is engaged in the processes of "plan" and "do."

<sup>\*</sup> Refer to the relationship between evaluation items and class subjects described in Sheet 3.

<sup>\*</sup> Refer to the curriculum map in Sheet 4.

- For the processes of "check" and "act", the dean of the school consults with the responsible committee and carries out the required actions while taking the results of consultations into consideration.
  - (2) Evaluation of the program
  - Perspectives for evaluation of the program

This program is evaluated from the perspectives of "educational effectiveness" and "social effectiveness." The "educational effectiveness" is evaluated by the effects of implementation of the program on the educational achievement of students, based on such things as evaluation scores, evaluation of achievement, and GPA. The "social effectiveness" is evaluated by the social effectiveness of the program.

• Evaluation method (also describes relation to class evaluation)

In this program, achievement in the program is evaluated from the perspectives described above for students in the second semester of the sixth year. Also, it is evaluated for each year, taking evaluation by students into consideration by conducting questionnaires for students to evaluate the program each semester.

The "educational effectiveness" is comprehensively evaluated based on such things as the evaluation scores, evaluation of achievement, and GPA of the students who took the program.

The "social effectiveness" is evaluated based on such things as the rate of employment in hospitals, pharmacies, corporations (such as pharmaceutical companies) and public offices that have a close connection with the contents of this program. We regularly request a member of human resources staff in an organization that employs mainly students of this program to evaluate the program. In addition, we request graduates of this program to evaluate their own achievement and that of the program.

· Policy and method for feedback to students

The committee responsible regularly conducts inquiries and interviews of students in order to review and evaluate the program, submits the improvement plans for the program to the education evaluation committee, and reports the results of the plan to the bachelor course committee. Also, individual class subjects are reviewed and evaluated based on such things as evaluation of lectures by students, and the results of program evaluation, in order to improve the program. Results of the processes described above are fed back to students via the MOMIJI service. For comments provided by students in questionnaires for the evaluation of lectures, feedback is provided via the class improvement questionnaire in MOMIJI.

#### Table of Registration Standards for Liberal Arts Education Subjects

#### Program of Pharmaceutical Sciences

					Required		No. of	Type of course							Ē	tis		-		
Type			Subject	type	No. of credits	Class subjects, etc.	credits	registratio n						_		grade		_		_
	D,	0000	Saiona	e Courses	2		2	Required	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall
	ii .	T T			_				(		)									$\vdash$
	ses in ity on	Intr	oduction to	University Education	2	Introduction to University Education	2	Required	0											Ш
	Basic Courses University Education	Intro	ductory Seminar	for First-Year Students	2	Introductory Seminar for First-Year Students	2	Required	0											
	Basi U	Adv	anced Se	eminar	0	Advanced Seminar	2	Free elective	0	0										
		Are	ea Course	es	4	Courses in Arts and Humanities/SocialSciences	2	Elective/required	$\circ$	0										
				(Note 10)	4	Courses in Natural Sciences	2	Elective/required		0										
			3)	Communication Seminar	2	Communication Seminar I	1	Required	0											
			е 2,	Communication Seminar	2	Communication Seminar II	1	Kequirea		0										
S		S	(Note	Communication I	2	CommunicationIA	1	Required	0											
ect		Languages	) ų	Communication 1	2	Communication IB	1	Kequirea	0											
iub j	ects	angı	English	Communication II	2	Communication IIA	1	Required		0										
on S	ubje		Εng	Communication ii	2	Communication IIB	1	Kequirea		0										
ati	n s	eign	_	_		Basic Foreign Language I	1		$\circ$											
Arts Education Subjects	Common subjects	For			0	Basic Foreign Language II	1	Free elective	0											
ts I	ŭ					Basic Foreign Language III	1	rree elective		0										
Ar			Non-English Foreign Languages (Select one languag from German, French and Chinese) (note 4,5)	nese) (note		Basic Foreign Language IV	1			0										
ral		T 0	from German, French and Chinese) (note 4,5)		2	Introduction to Information and Data Sciences (Note 6)	2	Required	0											П
Liberal		Info	rmation and l	Data Science Courses	2	Information and Data Science Courses	2	Elective/required		0										П
Г		Неа	nformation and Data Science Course	Sports Courses	2		1or2	Elective/required	$\circ$	0										П
		Soc	ial Coope	eration Courses	0		1or2	Free elective	0	0										П
					4	Psychology for Medical Care Workers(Note 7)	2	D		0										
			cial Cooperation Course		4	Statistics	2	Required		0										
					2	Foundation physics for life science(Note 8)	2	Elective/required	0											
		Four	ndotion	Courage	2	Foundation biology for life science(Note 9)	2	Elective/lequired	0											
		rou	nua t 1011	Courses		Species Biology	2		0											
			ndation Courses		4	Basic Calculus	2	Elective/required	0											
			ndation Courses		4	Basic Linear Algebra	2			0										
						2 subjects from the three s	subjects	above												
Tota	al(Liber	Foundation Courses	cation Subjects)	36																

- Note 1: The indicated semester represents that in which students typically take the subject. If they have failed to earn the credit in the semester, it is allowed to take the subject after the semester. It is required to confirm the semester in which the subject is provided in the class schedule for liberal arts education subjects that is published every academic year, because some subjects might be provided in a semester other than that which is shown in this document.
- Note 2: The 6 credits for English subjects esential for the graduation could be replaced with the credits of the subjects those language of instruction in the syllabuses are "E:English". For the details, refer to pages of the liberal arts education in the Students Handbook.
- Note 3: The credits for "Field Research in the English-speaking World" that are earned through such activities as a short-term study abroad, and those for "Online English Seminar A" and "Online English Seminar B" that are earned through a program of self-study, are accepted as the credit for English required for graduation (6 credits). Achievement in a foreign language skill test and language training might be accepted as credit. For the details, refer to the description regarding English subjects in the liberal arts education and the item "Credit based on Achievement in Foreign Language Skill Test" in the Students Handbook.
- Note 4: Although 4 credits of "Basic Foreign Language" are not included as those required for graduation, it is recommended to earn those credits.
- Note 5: Achievement in a foreign language skill test and language training might be accepted as credit. For the details, refer to the description regarding foreign language subjects in the liberal arts education and the item "Credit based on Achievement in Foreign Language Skill Test" in the Students Handbook.
- Note 6: It is required to take the subject "Introduction to Information and Data Sciences" that is provided in the first year.

  Only when failing to earn the credit for "Introduction to Information and Data Sciences" is the credit for the subject

  "Exercise in Information Literacy" accepted as that for the information and data science subjects required for graduation
  (2 credits).
- Note 7: It is required to take the subject "Psychology for Medical Care Workers" that is provided in the first year. Only when failing to earn the credit for "Psychology for Medical Care Workers" is the credit for the subject "Psychology A" or "Psychology B" accepted as that for the information subjects required for graduation (2 credits).
- Note 8: Students who did not take the subject "Physics" in the Common Test for University Admissions are required to take the subject "Foundation physics for life science."
- Note 9: Students who did not take the subject "Biology" in the Common Test for University Admissions are required to take the subject "Foundation biology for life science."
- Note 10: Of the 4 credits required for the disciplinary subjects (Courses in Arts and Humanities/SocialSciences), 2 credits are required to be earned for the subject "Ethics."

## Table of Registration Standards for Liberal Arts Education Subjects

#### Program of Pharmaceutical Sciences

_	type	tyle	Required		NT - "	Tuna : f			_		_		_		is t			
lype	Subject type	Lesson Style	No. of credits	Class subjects, etc.		Type of course registration	1st	grade	2nd	grade	3rd	grade	4th	grade	5th	grade	6th	gr
	Sub	Les					Spring	Fal1	Spring	Fa11	Spring	Fa11	Spring	Fa11	Spring	Fa11	Spring	F
				Practical English for Pharmaceutical Students	2					2								
				Introduction to Pharmaceutical Sciences	2			2										
				General Chemistry	2		2											Ī
				Pharmaceutical Analysis	2			2										Ī
				Nuclear Pharmacy	2				2									Ī
				Organic Chemistry IA	1		1											Ī
				Organic Chemistry IB	1		1											Ť
				Biochemistry I	2			2										Ī
				Biochemistry II	2			2										Ī
	ts			Biological Chemistry III	2				2									Ī
	Specialized Subjects			Public Health Chemistry I	2				2									Ť
	Suk	, e		Basic Kampo Medicine	2					2								Ť
	ized	Lecture	45	Microbiology	2	Required				2								t
	iali	Le		Public Health Chemistry II	2				2									t
	Spec			Pharmaceutical Physical Chemistry	2				2									İ
				Bio-Analytical Science	2				2									t
	Basic			Natural Products Chemistry	2				2									t
				Biological Chemistry IV	2				2									t
				Biopharmaceutics	2					2								t
				Biochemistry V	2					2								t
				Organic Chemistry II A	1			1										t
				Organic Chemistry II B	1			1										t
				Pharmacology I	2					2								t
				Functional Morphology	2				2									t
				Outline of Pathology	1								1					İ
				Total(Basic Specialized Subjects)	45		4	10	18	12			1					Ť
Ī				Japanese Pharmacopoeia	2												2	•
		ır	4	Research PracticeA	1	Required					1							I
		Seminar		Research PracticeB	1							1						Ī
		Sel	(2)	Practice for clinical food science	2	Free elective							2					Ī
١				Total (Seminar)	6						1	1	2				2	
			(2)	Clinical food science	2	Free elective							2					Ī
				Herbal medicine & Kampo medicine	2						2							Ī
				Pharmacokinetics	2						2							Ī
				Biochemistry VI	2					2								İ
				Biophysical Chemistry	2						2							İ
	ro.			Antibiotics and Drug resistance	2						2							Ì
	ect.			Physiological Chemistry	2						2							Ť
	Subjects			Organic Chemistry III	2				2									İ
				Medicinal Organic Chemistry	2						2							Ī
	Specialized			Pharmacology II	2					2								Ī
	)eci	ure		Industrial Pharmaceutics	2							2						Ī
	Sı	Lecture	62	Cell Motility	2	Required						2						Ī
				Genetic Engineering	2							2						Ī
				Organic Chemistry IV	2					2								Ī
				Public Health Chemistry III	2							2						Ī
				Biological Statistics	2							2						J
				Pharmacology III	2						2							Ī
				Pharmacology IV	2							2						İ
				Clinical Pharmacy	2								2					Ť
				Clinical Medicine and Pharmacotherapy I	2								2					İ
				Pharmacotherapy A	2								2					t
		Ī	I	AnOutline of Immunology	2								2	<del>                                     </del>			$\vdash$	+

	cype	Style	Required						Year	in	whicl	h the	sub	ject	is t	aken		
Type	Subject type	Lesson S	No. of credits	Class subjects, etc.	No. of credits	Type of course registration	1st	grade	2nd	grade	3rd	grade	4th	grade	5th	grade	6th	grade
	qnS	Tes					Spring	Fall	Spring	Fa11	Spring	Fa11	Spring	Fa11	Spring	Fa11	Spring	Fall
				Clinical Medicine and Pharmacotherapy II	2									2				
				Pharmaceutical Affairs Related Laws	2								2					
				Clinical Pharmacology A	2									2				
				Pharmacotherapy B	2								2					
		Le Le	62	Drug Informatics	2	Required								2				
		Lecture	02	Clinical Medicine and Pharmacotherapy III	2	Kequirea								2				
		Ге		Clinical Pharmacology B	2											2		
				Clinical Pharmacology C	2											2		
				Pharmacoeconomics	2								2					
				Clinical Evaluation	2									2				
				Total (Lecture)	64				2	6	14	12	16	10			4	
				Experiments in Analytical Chemistry	1					1								
ts				Training of Physical Chemistry	1					1								
bjec	ts			Experiments in Organic Chemistry	1					1								
ı Su	b je			Experiments of Cellular and Molecular Biology	1					1								
tion	d Su			Experiments of Biological Chemistry	1					1								
luca	ize			Experiments of Pharmacognosy	1						1							
d Ec	Specialized Subjects	tice	33	Experiments of Microbial Chemistry	1	Required					1							
Specialized Education Subjects	Spe	Practice		Pharmacology Practice	1						1							
cia]		Ь		Practice of Pharmaceutics	1						1							
Spe				Experiments of Public health Chemistry	1						1							
				Pharmacy Practice	3									3				
				Clerkship in Clinical PharmacyA	10										(1	.0		
				Clerkship in Clinical PharmacyB	10										(1	.0		
				Total (Practice)	33					5	5			3	2	0		
		ion		Special laboratory Works in Pharmaceutical Sciences I	2								2					
		Graduation		Special laboratory Works in Pharmaceutical SciencesII	2								2					
		for Gr	10	Special laboratory Works in Clinical Pharmacy I	2	Required										(	2	
		Study f		Special laboratory Works in Clinical Pharmacy II	2											(	2	
				Special laboratory Works in Clinical PharmacyIII	2	<b>—</b>										(	2	
		Special		Total(Special Study for Graduation)	10								4				6	
				Total(Specialized Subjects)	113				2	11	20		48			3	32	
			154	Total(Specialized Education Subjects)	158													

 $\ensuremath{\mathsf{NOTE}}\xspace$  The number enclosed in a circle indicates a required subject.

Graduation requirement	Required No. of credits
Liberal Arts Education Subjects	36
Specialized Education Subjects	154
Basic Specialized Subjects	45
Required Subjects	45
Specialized Subjects	109
Required Subjects (Seminar)	4
Free elective subjects (Seminar)	(2)
Free elective subjects (Lecture)	(2)
Required Subjects (Lecture)	62
Required Subjects (Practice)	33
Required Subjects (Special Study for Graduation)	10
Total	190

# Academic achievements of Pharmaceutical Sciences Program Relationships between the evaluation items and evaluation criteria

		Academic achievements		Evaluation criteria	
		Evaluation items	Excellent	Very Good	Good
	(1)	To have a wide range of knowledge of liberal arts as well as basic understanding and knowledge of natural science and social science.	2. The learning attainment level is calculated as an average evaluation of grades based on designated	<ol> <li>Being able to clearly explain about general education subjects along with natural science and social science.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.</li> </ol>	<ol> <li>Being able to explain about general education subjects along with natural science and social science.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.</li> </ol>
	(2)	The basic knowledge and understanding of basic structures, physical characters and reaction of medicine and other inorganic and organic compounds.  • quality 5	characteristics and reaction of medicine and inorganic and organic compounds.  2. The learning attainment level is calculated as an	1. Being able to explain clearly about the basic structure, physical characteristics and reaction of medicine and inorganic and organic compounds.  2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.	<ol> <li>Being able to explain about the basic structure, physical characteristics and reaction of medicine and inorganic and organic compounds.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.</li> </ol>
anding	(3)	Knowledge and understanding of the biological maintenance system of homeostasis and the ability to adjust to the environment.  ●quality ⑤	homeostasis and dynamic adjustment.  2. The learning attainment level is calculated as an average evaluation of grades based on designated	<ol> <li>Being able to clearly explain about maintenance mechanism of ecosystem homeostasis and dynamic adjustment.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.</li> </ol>	<ol> <li>Being able to explain about maintenance mechanism of ecosystem homeostasis and dynamic adjustment.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.</li> </ol>
dge and Understanding	(4)	Fundamental knowledge • understanding about proper drug treatment for major diseases related to various organ.  • quality 6	organs from medical point of view.  2. The learning attainment level is calculated as an average evaluation of grades based on designated	<ol> <li>Being able to comprehensively explain appropriate medication to major diseases relating to various organs.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.</li> </ol>	<ol> <li>Being able to explain appropriate medication to major diseases relating to various organs.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.</li> </ol>
Knowledge	(5)	environment, causes of environmental pollutants, and their influences on	human effects.  2. The learning attainment level is calculated as an	environmental contamination, and human effects.  2. The learning attainment level is calculated as an	1. Being able to explain from about ecosystem, preservation of living environment, components of environmental contamination, and human effects.  2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.
	(6)	Knowledge and understanding about rational analyses of pharmacokinetics in order to to understand quantitatively madicinal effects or side effects.  • quality 6	side effects quantitatively.	1. Being able to comprehensively explain the logical analysis of pharmacokinetics to understand medical effects and side effects quantitatively.  2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.	1. Being able to explain the logical analysis of pharmacokinetics to understand medical effects and side effects quantitatively.  2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.
	(7)	The knowledge and understanding of communication with medical teams relating to medication.  • quality ③ ④	team. 2. The learning attainment level is calculated as an	<ol> <li>Being able to make communication with other medical staff on medication.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.</li> </ol>	<ol> <li>Being able to explain to other medical staff on medication.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.</li> </ol>

		Academic achievements		Evaluation criteria	
		Evaluation items	Excellent	Very Good	Good
nding		Improving English comprehension to acquire capacity of medical or chemical English.	formula that includes the average points calculated based on the student's TOEIC score and an	The level of achievement will be assessed based on a formula that includes the average points calculated based on the student's TOEIC score and an evaluation in class. 70% is minimum.	The level of achievement will be assessed based on a formula that includes the average points calculated based on the student's TOEIC score and an evaluation in class. 60% is minimum
e and Understanding	(9)	The ability of considering basic pharmacological effects of medicine to chemical structure.  ● quality ⑤	2. The learning attainment level is calculated as an average evaluation of grades based on designated	<ol> <li>Being able to enumerate and explain basic medical effects and chemical structures of medicine.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.</li> </ol>	<ol> <li>Being able to explain basic medical effects and chemical structures of medicine.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.</li> </ol>
Knowledge	(10)	Abilities *skills of citing speculated major diseases from aberration of clinical test values.  • quality 6	2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 80%.	<ol> <li>Being able to enumerate and explain basic points of major diseases assumed from abnormal clinical scores.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.</li> </ol>	<ol> <li>Being able to explain basic points of major diseases assumed from abnormal clinical scores.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.</li> </ol>
	(1)	Abilities of collecting necessary information of drug treatment her/him self.  • quality 6	2. The learning attainment level is calculated as an average evaluation of grades based on designated	<ol> <li>Being able to enumerate and explain basic points necessary for medication.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.</li> </ol>	<ol> <li>Being able to explain basic points necessary for medication.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.</li> </ol>
	(2)	Being able to search for toxic doses, targeted organs, symptoms of poisoning, emergency procedure and detoxication of chemical substances.  • quality 7	emergency treatments and detoxification of chemical substances. 2. The learning attainment level is calculated as an	1. Being able to search for measures on poisoning, targeted organs, poisoning symptoms, emergency treatments and detoxification of chemical substances.  2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.	1. Being able to explain search measures on poisoning, targeted organs, poisoning symptoms, emergency treatments and detoxification of chemical substances.  2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.
Abilities and Skills	(3)	Abilities *skills of thinking ways of coping to reduce harmful effects(side effects) of madicine.  • quality 5	medicine and conduct ways of solution.  2.The learning attainment level is calculated as an average evaluation of grades based on designated		<ol> <li>Being able to enumerate basic matters relating to measures to decrease harmful effects (side effects) of medicine and explain them.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.</li> </ol>
A	(4)	To be able to handle major analysis methods written in the Japanese Pharmacopoeia.  ● quality ⑤	Pharmacopoeia.  2.The learning attainment level is calculated as an	1. Being able to analyze representative official medicine of Japanese Pharmacopoeia. 2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.	1. Being able to analyze representative official medicine of Japanese Pharmacopoeia. 2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.
	(5)	To be able to handle quality control based on major testing methodology related to pharmaceutical formulations stipulated in the Japanese Pharmacopoeia.  ● quality ⑤	drug formulation of Japanese Pharmacopoeia and conduct them.  2. The learning attainment level is calculated as an average evaluation of grades based on designated	<ol> <li>Being able to construct ways of experiments on representative testing and organize the quality management on drug formulation of Japanese Pharmacopoeia.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.</li> </ol>	<ol> <li>Being able to construct ways of experiments on representative testing on drug formulation of Japanese Pharmacopoeia.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.</li> </ol>

		Academic achievements		Evaluation criteria	
		Evaluation items	Excellent	Very Good	Good
	(6)	Using available compounds as starting materials, to be able to handle organic synthesis in order to chemically transform medicine into a target substance.  • quality 5	1. Being able to plan organic synthesis to have chemical conversion into desired compounds including medicine from compounds hard to get and synthesize them.  2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 80%.	1. Being able to conduct organic synthesis to have chemical conversion into desired compounds including medicine from compounds hard to get.  2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.	1. Being able to use basic techniques of organic synthesis to have chemical conversion into desired compounds including medicine from compounds hard to get.  2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.
and Skills	(7)	Ability and skills to measure drug blood level concerning major drugs.  ■ quality ⑥	2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 80%.	<ol> <li>Being able to measure representative drug blood level.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.</li> </ol>	<ol> <li>Being able to conduct basic techniques to measure representative drug blood level.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.</li> </ol>
Abilities	(8)	The ability and skills of communication with medical teams relating to medication.  ● quality ③ ④	<ol> <li>Being able to make communication with other medical staff on medication as a member of medical team.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 80%.</li> </ol>	<ol> <li>Being able to make communication with other medical staff on medication.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.</li> </ol>	<ol> <li>Being able to explain to other medical staff on medication.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.</li> </ol>
	(9)	The ability and skills to appropriately deal with contraindication or inappropriate treatments of medicine.  • quality 6	<ol> <li>Being able to appropriately deal with contraindications or inappropriate prescription of medicine by themselves.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 80%.</li> </ol>	<ol> <li>Being able to appropriately deal with contraindications or inappropriate prescription of medicine.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.</li> </ol>	<ol> <li>Being able to explain appropriate measures to contraindications or inappropriate prescription of medicine.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.</li> </ol>
Attitudes	(1)	Self-betterment of character formation as a medical professional: the appropriate action and attitude being aware of that a pharmacist is a professional relating to human life. The knowledge and understanding to have communication not only with ailing people but with other medical staff in a medical team.  • quality ① ② ③ ④ ⑨	to take the appropriate mind and make appropriate communication not only with ailing people but with	1. Being aware that a pharmacist is a professional relating to human life, Being able to have an attitude to take the appropriate mind and make communication not only with ailing people but with patients and other medical staff as a member of a medical team.  2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.	1. Being aware that a pharmacist is a professional relating to human life, having had an attitude to take the appropriate mind and make communication not only with ailing people but with patients and other medical staff as a member of a medical team.  2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.
A A	(2)	Ability to be a pharmacist who is relied on not only by a medical team but also by citizens; the ability to be considerate of patients.  • quality ① ② ④	national people.	1. Being able to always keep the existence of patients and try to take action to become a reliable pharmacist not only from medical teams but also from national people.  2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.	1. Being able to always keep the existence of patients and explain necessary matters to become a reliable pharmacist not only from medical teams but also from national people.  2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.

	Academic achievements		Evaluation criteria	
	Evaluation items	Excellent	Very Good	Good
ies	Comprehensive problem-solving ability and educational ability: Concerning the influences caused by numerous chemical substances existing on the earth, to be able to analyze and argue about the survival of the human race. Also, to have the ability and skills to give instruction to youth.  • quality 5 • •	substances on earth to humans, generally estimate ways of survival of humans, actively try to find the solution of the issues and advise the next generation.  2. The learning attainment level is calculated as an average evaluation of grades based on designated	1. Being able as a pharmacist or medical researcher to analyze effects of various kinds of chemical substances on earth to humans and try to find solution for survival of humans, and advise the next generation.  2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.	1. Having acquired an attitude as a pharmacist or medical researcher to analyze effects of various kinds of chemical substances on earth to humans and try to find solution for survival of humans, and being able to advise the next generation.  2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.
Comprehensive Abilities	Self-betterment of character formation as a medical professional: the appropriate action and attitude being aware of that a pharmacist is a professional relating to human life.  (2) The knowledge and understanding to have communication not only with ailing people but with other medical staff in a medical team.  • quality ① ② ③ ④ ⑨	communication not only with ailing people but with patients and other medical staff as a member of a medical team.  2. The learning attainment level is calculated as an average evaluation of grades based on designated	1. Being aware that a pharmacist is a professional relating to human life, being able to have an attitude to take the appropriate mind and make communication not only with ailing people but with patients and other medical staff as a member of a medical team.  2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.	1. Being aware that a pharmacist is a professional relating to human life, having had an attitude to take the appropriate mind and make communication not only with ailing people but with patients and other medical staff as a member of a medical team.  2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.
	The research ability: the ability to select issues to be solved in the professional field of pharmacist and carry out measures and research to solve the issues.  • quality (8)	solution by themselves and conduct the research.  2. The learning attainment level is calculated as an average evaluation of grades based on designated	1. Being able to select issues to be solved in the professional area of pharmacist and conduct ways or research to solve the issues.  2. The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 70%.	<ol> <li>Being able to conduct measures or research to solve issues to be solved in the professional area of pharmacist.</li> <li>The learning attainment level is calculated as an average evaluation of grades based on designated formulae. The standard is more than 60%.</li> </ol>

### Role of liberal arts education in this major program

The liberal arts education in this program aims to build the academic foundation required for the specialized education, foster the ethics required by medical staff, and develop the linguistic ability required for coping with globalization and having a concern for peace. Also, students are expected to develop their scientific intelligence and capabilities for problem solving based on their ability to collect, analyze, and criticize information through the liberal arts education in this program. Through this education, students are enabled to foster a deep humanity and wide-ranging intelligence.

- Fundamental qualities required for pharmacists
- ① Attitude as a pharmacist
- 2 Viewpoint oriented to patients and ordinary citizens
- ③ Communication skills
- 4 Participation in team medical care
- 5 Basic scientific knowledge and skills
- 6 Practical capabilities regarding pharmacotherapy
- 7 Practical capabilities for health and medical care in the local community
- Research ability
- Self-improvement
- 10 Educational skills

Kelationship	s between the	e evaiu	ation	items	and	ciass su	bjects(	Progra		Pnarma ———	aceutica	il Scie	nces)						_	_																									
											Knowl	adae end	d Unders	tandin-									]	Evaluatio	n items			Abilitia	s and Skill	 le							Λ++;-	tudes		1	Comr	rehensiv	ο Δhilit	100	Total
		Т	ype of		(1	.)	(2)	(3	3)	(4)		(5)	(6	)	(7)		(8)	(9	,	(10)		(1)		(2)	(3)		(4)		(5)	(6)		(7)	3)		(9)		(1)		(2)	(1	.)	(2)		(3)	weight
Subject Classification	Subject Name	Credits re	ourse gistrati	Grade	Weighted values of evaluation	Weighted Weight values of values evaluation evaluation			Weighted V values of v	Weighted Wei	ghted Weighted values of luation evaluatio	values of	values of v	values of val	eighted Weighte ues of values of aluation evaluati	f values of	values of	values of	values of va	eighted Weigh lues of value valuation evalue	of values o	ed Weighted of values of ion evaluatio	of values of	values of v	Veighted Weigralues of value evaluation evalu	es of values	hted Weighte es of values o action evaluation	of values o	of values of values	alues of va	eighted Weightlues of values valuation evaluation	of values of	values of	Weighted Weigh values of values evaluation evalua	hted Weighted s of values of ation evaluatio	of values of	values of	Weighted values of evaluation	values of	values of	values of v	values of valu	ues of value	ies of Ivalues of	ed
			on		items in ithe subject	items items i the sub	in items	items in the subject		tems in item	items in the subje	items	items in ithe subject	tems ite	ms in items	items in the subject	items	items in the subject	items ite	ems in items e subject		items		items it	tems in items the subject	s items	s in items ubject	items in the subj	items it	ems in ite	ems items the su	n items	items in the subject	tems items the su	in items	items in the subject	items	items in the subject	items		items i	items in item the subject	ms items	ns in items subject	the subjec
																																													Bubjee
Liberal Arts Education Pea	ace Science Courses	2 Re	quired	3-2T	100	1																																							100
Liberal Arts Education Intro		2 Re	-	1-1T	50	1							$\sqcup$																							10	1	10		10	1	10	_	10 1	100
Liberal Arts Education Introd		_		1-1T																																20	1	20	1	20	1	20	1 5	20 1	100
Liberal Arts Education Are		0 D	. ,	1~2 1−1T	100	1										80	1																00	1											100
Liberal Arts Education Co.  Liberal Arts Education Co.		_	quirea	2-3T									$\vdash$			80																	20	1											100
Liberal Arts Education Co			quired quired	2												70																	30	1											100
Liberal Arts Education Non			-	1~2												100																													10
Liberal Arts Education Inform		2 Elec	Required tive/required	1~2																	40	1														10	1	10	1			20	1	20 1	100
Liberal Arts Education Hea	alth and Sports Courses	2 Elec	ive/required	1~2																																50	1	50	1						100
Liberal Arts Education Soc	cial Cooperation Courses	0 Fre	e elective	1~2																																20	1	20	1	20	1	20	1	20 1	100
Liberal Arts Education For	undation Courses	10 Elec	ive/required	1~2		50	0 1	50	1																																				100
Specialized Education Practi	ical English for Pharmaceutical Students	2 Re	quired	4-3T												80	1																20	1											100
Specialized Education Introd		2 Re		2-3T	10	1							$\sqcup$		10 1						10	1			10	1							10	1		10	1	10	1	10	1	10	1	10 1	100
Specialized Education Ge		2 Re		1-2T	50	1 50	0 1																																						100
Specialized Education Pha		0 -		2-4T																						10	00 1																		100
Specialized Education Nu				3-1T		70							$\vdash$													2	20 1			50	1													10 1	100
	ganic Chemistry IA ganic Chemistry IB			1-1T 1-2T		50 50							+																	50	1							-							100
Specialized Education Bio				2-3T		50	1	100	1				+ +																	JU	1														100
Specialized Education Bio				2-4T				100	1																																				10
Specialized Education Bio				3-1T				100	1																																				10
Specialized Education Pub				3-1T							100	1																																	10
Specialized Education Bas	sic Kampo Medicine	2 Re	quired	4-4T		20	0 1	20	1	20	1		20	1				20	1															20	0 1										12'
Specialized Education Mic	crobiology	2 Re	quired	4-4T				90	1												10	1																							100
Specialized Education Pub	olic Health Chemistry II	2 Re	quired	3-2T							100	1																																	100
Specialized Education Phar	rmaceutical Physical Chemistry	2 Re		3-1T		100	00 1						$\sqcup$																									_							100
	o-Analytical Science	2 Re		3-2T		50							$\vdash$													5	50 1			_								-					$\bot$		100
Specialized Education Nat		0 -		3-1T		100	00 1																																						100
Specialized Education Bio		0 -	quired	3-2T 4-3T				100	1				50	1											50	1												-							100
Specialized Education Bio			quired	4-3T				100	2				50	1											50	1																			100
	ganic Chemistry II A			2-3T		50	0 1	100																						50	1														10
	ganic Chemistry II B	4 -		2-4T		50	0 1																							50	1														10
Specialized Education Pha	armacology I	2 Re	quired	4-3T				30	1				20	1				15	1		20	1	15	1																					10'
Specialized Education Fu	nctional Morphology	2 Re	quired	3-2T						100	1																																		10'
Specialized Education Ou	ıtline of Pathology	2 Re	quired	7				50	1	50	1																																		10
Specialized Education Jap	oanese Pharmacopoeia	2 Re	quired	12-3T		20	0 1	20	1				$\sqcup$					20	1	20						1	10 1	10	1									_							100
Specialized Education Res		1 Re	quired	5		10							10	1				10	1		10	1								10	1 1	1						_		20	1			20 1	100
Specialized Education Res			quired	6		10	0 1						10	1				10	1	40	10	1	_							10	1 1	1						-		20	1			20 1	10
Specialized Education Prac	ctice for clinical food science		e elective e elective	7				50	1									-		40			20	1																					100
Specialized Education CII  Specialized Education Herb				7 5-1T		100	00 1	50	1											JU																		-							100
Specialized Education Ph						100	. 5						50	1											50	1																			10
Specialized Education Bio								100	2				+ +																																10
Specialized Education Bio				5-2T		100	00 1																																						10
Specialized Education Anti				5-2T				20	1									50	1		10	1			20	1																			10
Specialized Education Phy	ysiological Chemistry	2 Re	quired	5-2T				100	1																																				10
Specialized Education Or	ganic Chemistry III	2 Re	quired	3-1T		50	0 1																							50	1														10
	dicinal Organic Chemistry	2 Re	-	5-2T		100	00 1						$\sqcup$																																10
Specialized Education Pha				4-4T									25	1				25	1		25	1			25	1																			10
	lustrial Pharmaceutics	2 Re				100	00 1																																						100
Specialized Education Ce				6-4T				100	2				$\vdash$																																10
Specialized Education Ge Specialized Education Or				6-3T 4-3T		50	0 1	100	1																					50	1														10
	ganic Chemistry IV  blic Health Chemistry III			4-31 6-3T		50							100	1																JU	1														10
Specialized Education Pub  Specialized Education Bio		_	quired	6									80	1											20	1																			10
Specialized Education Phase				5-1T		30	0 1			15	1					10	1	15	1	15	15	1																							100
Specialized Education Pha				6-3T		30	0 1			15	1					10	1	15	1	15	15	1																							100
Specialized Education Cli				7-2T				10	1	10	1		10	1	10 1			10	1	10											1	) 1	10	1 10	0 1	5	1	5	1						100
	-																																												

																										Eva	luation	items																							Т
												Knowle	dge and	d Under	standir	ng															Abi	ilities an	d Skills									A	Attitude	S		Со	mprehe	ensive A	bilities		Total
			Type of		(1)		(2)		(3)		(4)	(	5)	,	6)	,	7)	\	(8)		(9)		.0)	(1)		(2)		(3)		(4	.)	(5)		(6)		(7)		(8)		(9)		(1)		(2)		(1)		(2)		(3)	weighted values of
Subject Classification	Subject Name	Credits	course registrati on	Weighte values o evaluati items in the subj	f values of on evaluatio items		items	values of	values of evaluation items	Weighted values of evaluation items in the subject	items	Weighted values of evaluation items in the subject	values of evaluation items	values of	values of evaluation items	Weighted values of evaluation items in the subject	values of evaluation items	Weighted values of evaluation items in the subject	values of evaluation items	Weighted values of evaluation items in the subjec	evaluation items	Weighted values of evaluation items in the subject	values of evaluation items	values of very evaluation e	valuation e tems in	values of valuevaluation eva	ghted Weig es of value uation evalue is items the s	es of valuation eva	lues of valuation evaluation ite	alues of	values of veraluation etems		luation evalu ns items	hted Weights of values ation evaluation items	ation evaluat	of values o cion evaluation items	of values of	cion evaluation items	f values of	f values of evaluation items	f values o	of value ion evalu items	chted Weight values ation evaluation items the su	of values ation evaluation items	item		of values of	of values of ion evaluation items	d Weighted f values of on evaluation items in the subject	values of n evaluation items	evaluatio n items ir the subject
Specialized Education Clinica	al Medicine and Pharmacotherapy I	2	Required 7-	1T				10	1	10	1			10	1	10	1			10	1	10	1												10	1	10	1	10	1	5		1 5	5 1	1						100
Specialized Education Pha	armacotherapy A	2	Required 7-	1T						20	1											20	1			20	1 2	20	1										20	1											100
Specialized Education And	Outline of Immunology	y 2	Required 7-	2T				50	1	50	1																																								100
Specialized Education Clinical	al Medicine and Pharmacotherapy II	2	Required 8-	ЗТ				10	1	10	1			10	1	10	1			10	1	10	1												10	1	10	1	10	1	5		1 5	5	1						100
Specialized Education Pharm	naceutical Affairs Related Laws	s 2	Required 7-	2T		20	1					20	1	20	1	10	1													10	1	10	1								10		1								100
Specialized Education Clir	nical Pharmacology A	A 2	Required 8-	ЗТ				10	1	10	1			10	1	10	1			10	1	10	1												10	1	10	1	10	1	5		1 5	5 1	1						100
Specialized Education Pha	armacotherapy B	2	Required 7-	1T				10	1	10	1			10	1	10	1			10	1	10	1												10	1	10	1	10	1	5		1 5	5 1	1						100
Specialized Education Dru	ıg Informatics	2	Required 8-	3T										25	1	25	1	25	1					25	1																										100
Specialized Education Clinica	al Medicine and Pharmacotherapy III	2	Required 8-	3T				10	1	10	1			10	1	10	1			10	1	10	1												10	1	10	1	10	1	5		1 5	5 ]	1						100
Specialized Education Clir	nical Pharmacology B	3 2	Required 11-	·1T				10	1	10	1			10	1	10	1			10	1	10	1												10	1	10	1	10	1	5		1 5	5 ]	1						100
Specialized Education Clir	nical Pharmacology C	2	Required 11-	·1T				10	1	10	1			10	1	10	1			10	1	10	1												10	1	10	1	10	1	5		1 5	5 ]	1						100
Specialized Education Pha	armacoeconomics	2	Required 7-	1T										50	1									50	1																										100
Specialized Education Clin	nical Evaluation	2	Required 8-	3T																				100	1																										100
Specialized Education Exper	riments in Analytical Chemistry	у 1	Required 4	Ł																100	1																														100
Specialized Education Train	ning of Physical Chemistr	y 1	Required 4	50	1	50	1																																												100
Specialized Education Expe	riments in Organic Chemistry	1	Required 4	ł		50	1																										5	50	l																100
Specialized Education Experim	ments of Cellular and Molecular Biolog	gy 1	Required 4	ł																																													100	2	100
Specialized Education Exper	riments of Biological Chemistry	y 1	Required 4	Ł																										100	1																				100
Specialized Education Expe	eriments of Pharmacognosy	у 1	Required 5	j																										100	1																				100
Specialized Education Exper	riments of Microbial Chemistry	1	Required 5	5				30	1											30	1									20	1																		20	1	100
Specialized Education Pha	armacology Practice	e 1	Required 5	5																															100	) 1															100
Specialized Education Prac	ctice of Pharmaceutics	s 1	Required 5	j																															100	) 1															100
Specialized Education Exper	iments of Public health Chemistry	1	Required 5	5																																													100	1	100
Specialized Education Pha	armacy Practice	3	Required 8	3						10	1													10	1							10	1				10	1	10	1	20		1 2	0 1	1		10	1			100
Specialized Education Clerk	kship in Clinical PharmacyA	10	Required 9~	10																																			20	3	20		3 2	0 3	3		40	3			100
Specialized Education Clerk	kship in Clinical PharmacyE	3 10	Required 9~	10																																			20	3	20		3 2	0 3	3		40	3			100
Specialized Education Special	laboratory Works in Pharmaceutical Sciences I	2	Required 6	-8		10	1											5	1					10	1								1	.0	10	1										25 1			30	1	100
Specialized Education Special I	laboratory Works in Pharmaceutical Sciences II	2	Required 6	-8		10	1											5	1					10	1								1	.0	10	1										25 1			30	1	100
Specialized Education Special	laboratory Works in Clinical Pharmacy I	2	Required 9~	12														5	1					15	1										15	1									:	30 1			35	1	100
Specialized Education Special	laboratory Works in Clinical Pharmacy II	2	Required 9~	12														5	1					15	1										15	1									:	30 1			35	1	100
Specialized Education Special	laboratory Works in Clinical PharmacyIII	2	Required 9~	12														5	1					15	1										15	1									:	30 1			35	1	100
	Total			360	6	1380	27	1430	31	360	16	220	3	540	20	125	11	480	13	390	19	240	14	415	19	55	3 1	.95	7	410	8	30	3 3	90 1	1 365	5 17	190	) 14	170	17	230	2	22 22	20 2	1 2	40 11	170	12	515	17	9120

# Sheet 4

Academic achievements	1st	grade	2nd	grade	3rd	grade	4th	grade	5th g	grade	6th	grade
Evaluation items	Spring semester	Fall semester	Spring semester	Fall semester	Spring semester	Fall semester	Spring semester	Fall semester	Spring semester	Fall semester	Spring semester	Fall semeste
1. To have a wide range of knowledge of	Liberal Arts Education Subjects GPA	Liberal Arts Education Subjects GPA	Peace Science Courses (◎)	Training of Physical Chemistry (©)								
liberal arts as well as basic understanding and knowledge of natural science and	Introduction to University Education(©)	Area Courses(○)										
social science.	Area Courses(○)	Introduction to Pharmaceutical Sciences (③)										
	General Chemistry(⊚)											
2. The basic knowledge and	Foundation Courses (())	Foundation Courses(〇)	Pharmaceutical Physical Chemistry (©)	Basic Kampo Medicine(⊚)	Biophysical Chemistry (©)	Special laboratory	Works in Pharmaceut	ical Sciences I(©)				Japanese Pharmacopoe
understanding of basic structures, physical characters and reaction of	Organic Chemistry I A(©)	Organic Chemistry II A(⊚)	Nuclear Pharmacy(©)	Training of Physical Chemistry(©)	Medicinal Organic Chemistry (©)	Special laboratory '	Works in Pharmaceut	ical Sciences Ⅱ (◎)				
medicine and other inorganic and organic	Organic Chemistry I B(©)	Organic Chemistry II B (◎)	Bio-Analytical Science (◎)	Experiments in Organic Chemistry (©)	Research PracticeA(⊚)	Industrial Pharmaceutics (©)	Pharmaceutical Affairs Related Laws (©)					
compounds.	General Chemistry(⊚)		Natural Products Chemistry (©)	Organic Chemistry IV (©)	Herbal medicine & Kampo medicine (©)	Research PracticeB(©)						
• quality ⑤			Organic Chemistry Ⅲ (◎)		Pharmacology III(⊚)	Pharmacology IV(⊚)						
3. Knowledge and understanding of the	Foundation Courses (())	Foundation Courses $(\bigcirc)$	Biological Chemistry III(⊚)	Pharmacology I(⊚)	Physiological Chemistry (©)	Cell Motility(⊚)	AnOutline of Pathology (◎)	Clinical Pharmacology A(⊚)			Clinical Pharmacology B(©)	) Japanese Pharmacopo
biological maintenance system of homeostasis and the ability to adjust to		Biochemistry I(◎)	Biological Chemistry IV(⊚)	Biochemistry V(⊚)	Antibiotics and Drug resistance(©)	Genetic Engineering(⊚)	Research PracticePractice for clinical food science ( $\triangle$ )	Clinical Medicine and Pharmacotherapy III(◎)			Clinical Pharmacology C(⊚)	
the environment.		Biochemistry II(◎)		Microbiology(⊚)	Experiments of Microbial Chemistry(©)		Clinical food science $(\triangle)$	Clinical Medicine and Pharmacotherapy II(⊚)				
•quality 5				Basic Kampo Medicine(⊚)			Clinical Pharmacy(⊚)					
				Biochemistry VI(⊚)			Clinical Medicine and Pharmacotherapy I(⊚)					
							AnOutline of Immunology(⊚)					
							Pharmacotherapy B(⊚)					
4. Fundamental knowledge • understanding			Functional Morphology (©)	Basic Kampo Medicine(⊚)	Pharmacology III(⊚)	Pharmacology IV(⊚)	AnOutline of Pathology (◎)	Pharmacy Practice(◎)			Clinical Pharmacology B(©)	)
about proper drug treatment for major diseases related to various organ.							Pharmacotherapy A(⊚)	Clinical Pharmacology A(⊚)			Clinical Pharmacology C (  )	
• quality 6							Clinical Pharmacy(⊚)	Clinical Medicine and Pharmacotherapy III(©)				
							Clinical Medicine and Pharmacotherapy I(©)	Clinical Medicine and Pharmacotherapy II(⊚)				
							AnOutline of Immunology(◎)					
							Pharmacotherapy B(⊚)					
5. Understanding concerning preservation			Public Health Chemistry I(©)				Pharmaceutical Affairs Related Laws (©)					
of the eco system and life environment, causes of environmental pollutants, and			Public Health Chemistry II (©)									
their influences on humans.												
●quality ⑦												
6. Knowledge and understanding about				Pharmacology I(⊚)	Research PracticeA(⊚)	Research PracticeB(⊚)	Clinical Pharmacy(◎)	Drug Informatics(◎)			Clinical Pharmacology B(©)	)
rational analyses of pharmacokinetics in order to to understand quantitatively				Biopharmaceutics(⊚)	Pharmacokinetics(⊚)	Public Health Chemistry III (©)	Clinical Medicine and Pharmacotherapy I(©)	Clinical Pharmacology A(⊚)			Clinical Pharmacology C (  )	
madicinal effects or side effects.				Basic Kampo Medicine(⊚)		Biological Statistics (◎)	Pharmacotherapy B(⊚)	Clinical Medicine and Pharmacotherapy II(©)				
• quality 6				Pharmacology II(◎)			Pharmaceutical Affairs Related Laws (©)	Clinical Medicine and Pharmacotherapy III (③)				
							Pharmacoeconomics (◎)					
7. The knowledge and understanding of		Introduction to Pharmaceutical Sciences (③)					Clinical Pharmacy(◎)	Drug Informatics (◎)			Clinical Pharmacology B(©)	)
communication with medical teams relating to medication.							Clinical Medicine and Pharmacotherapy I(©)	Clinical Pharmacology A(⊚)			Clinical Pharmacology C (  )	
• quality 3 4							Pharmacotherapy B(⊚)	Clinical Medicine and Pharmacotherapy II(©)				
							Pharmaceutical Affairs Related Laws (©)	Clinical Medicine and Pharmacotherapy III (©)				
8. Improving English comprehension to	English subject GPA	English subject GPA	English subject GPA	English subject GPA	Pharmacology III(©)	Pharmacology IV(⊚)		Drug Informatics (◎)			TOEIC	
acquire capacity of medical or chemical English.	TOEIC	Communication Seminar(⊚)		Practical English for Pharmaceutical Students (③)		Special laboratory	Works in Pharmaceut	cical Sciences I(©)	Speci	al laboratory Works	in Clinical Pharmacy	I (©)
	Communication Seminar(©)	Communication II (⊚)				Special laboratory	Works in Pharmaceut	ical Sciences II (©)	Speci	al laboratory Works	in Clinical Pharmacy l	Ⅱ (◎)
	Communication I (©)	Non-English Foreign Languages(△)							Speci	al laboratory Works	in Clinical PharmacyI	II (◎)
	Non-English Foreign Languages ( $\triangle$ )											
9. The ability of considering basic				Pharmacology I(⊘)	Research PracticeA(©)	Research PracticeB(©)	Clinical Pharmacy(⊚)	Clinical Pharmacology A(⊚)			Clinical Pharmacology B(◎)	) Japanese Pharmacop
pharmacological effects of medicine to chemical structure.				Basic Kampo Medicine(⊚)	Antibiotics and Drug resistance (©)	Pharmacology IV(⊚)	Clinical Medicine and Pharmacotherapy I(©)	Clinical Medicine and Pharmacotherapy II(⊚)			Clinical Pharmacology C(©)	
• quality 5				Experiments in Analytical Chemistry(③)	Experiments of Microbial Chemistry(③)		Pharmacotherapy B(⊚)	Clinical Medicine and Pharmacotherapy III (③)				
				Pharmacology II(©)	Pharmacology III(©)							
10. Abilities · skills of citing speculated					Pharmacology III(©)	Pharmacology IV(©)	Pharmacotherapy A(©)	Clinical Pharmacology A(©)			Clinical Pharmacology B(©)	) Japanese Pharmacopo
major diseases from aberration of clinical test values.								Clinical Medicine and Pharmacotherapy II(⊚)			Clinical Pharmacology C(③)	
test values.  ●qualities⑥							Clinical food science $(\triangle)$	Clinical Medicine and Pharmacotherapy III (③)				
- 4		-					Clinical Pharmacy(©)					
			1			<u>-</u>	Clinical Medicine and Pharmacotherapy I(⊚)					
		÷	1	<del></del>	1	ā		E			Ì	<u>.</u>

# Curriculum Map of Pharmaceutical Sciences Program

Academic achievements	1 ct .	grade	2nd	grade	2rd	grade	4+h	grade	5+h (	grade	6th g	rrado
		·		- i		<u> </u>		i		i	<del> </del>	
Evaluation items  1. Abilities of collecting necessary	Spring semester	Fall semester	Spring semester	Fall semester	Spring semester	Fall semester	Spring semester	Fall semester	Spring semester	Fall semester	Spring semester	Fall semester
information of drug treatment her/him	Information and Data Science Courses (◎○)	Information and Data Science Courses (  (  (  (  (  (  (  (  (  (  (  (  (			Research PracticeA(©)		Works in Pharmaceut				in Clinical Pharmacy I	
self.		Introduction to Pharmaceutical Sciences (③)		Microbiology (◎)		Special laboratory					in Clinical Pharmacy II	
• quality 6				Pharmacology II(©)	Pharmacology III (@)	Research PracticeB(©)	Pharmacoeconomics (②)		Speci	al laboratory Works 1	in Clinical Pharmacy III	I ((())
						Pharmacology IV(©)		Clinical Evaluation (©)			<u> </u>	
2. Being able to search for toxic doses,		<u> </u>		DI 1 (6)		<u> </u>		Pharmacy Practice(©)		<u>i</u>	ļ	
targeted organs, symptoms of poisoning,				Pharmacology I(©)			Research PracticePractice for clinical food science(△)					
emergency procedure and detoxication of							Pharmacotherapy A(©)				<u> </u>	
chemical substances.											<u> </u>	
• quality 7  3. Abilities • skills of thinking ways of		<u> </u>		D: 1 (0)	DI 11 (@)		D	<u> </u>		<u>i</u>		
		Introduction to Pharmaceutical Sciences (  )				Biological Statistics (©)	Pharmacotherapy A(@)				<u> </u>	
coping to reduce harmful effects(side effects) of madicine.				Pharmacology II(©)	Antibiotics and Drug resistance (⊚)						<u> </u>	
• quality ⑤											ļ	
4. To be able to handle major analysis		Pharmacoutical Analysis (A)	Nuclear Pharmagu(A)	Experiments of Rielegical Chemistry (((a))	Experiments of Phermacomean((A))		Pharmaceutical Affairs Related Laws (©)				-	Japanese Pharmacopoeia(©
methods written in the Japanese		r narmaceutical Analysis (@)	Nuclear Pharmacy(①) Bio-Analytical Science(②)	Experiments of biological Chemistry(©)	Experiments of Pharmacognosy (③)  Experiments of Microbial Chemistry (⑤)		i harmaceudeal Amairs Related Laws (©)			<u> </u>	-	<i>јаранеѕе гнагшасорое</i> ја (⊕
Pharmacopoeia.			Bio-Alialytical Science (©)		Experiments of viicrobial Chemistry (@)						<u> </u>	
•quality ⑤												
ω 5. Using available compounds as starting						<u> </u>	Dharmacoutical Affairs D. L. L. (2)	Dharman Duriti (6)		<u> </u>	-	Japanese Dharman
materials, to be able to handle organic							i narmaceuticai Amairs Related Laws(©)	Pharmacy Practice(⊚)			<u> </u>	Japanese Pharmacopoeia(©
synthesis in order to chemically transform											<u> </u>	
medicine into a target substance.  quality 5												
a duanty						<u> </u>					<u> </u>	
6. Using available compounds as starting		Organic Chemistry II A (©)	Organic Chemistry III (©)	D	D 1 D 1: A(@)	Crasial laborators	Wanta in Dhamasaan	ical Caianasa I(@)		<u>i</u>	-	
materials, to be able to handle organic	Organic Chemistry I A(©) Organic Chemistry I B(©)		Organic Chemistry III (@)	Organic Chemistry (((()))	Research PracticeA(©)		Works in Pharmaceut Works in Pharmaceut					
synthesis in order to chemically transform	Organic Chemistry I B ( )	Organic Chemistry II B (@)		Organic Chemistry ((())		4	Works in Fliarmaceut				<u> </u>	
medicine into a target substance.  • quality 5						Research PracticeB(©)					<u> </u>	
•quanty											-	
7. Ability and skills to measure drug					Research PracticeA(©)	Special laboratory	I Works in Pharmaceut	ical Sciences I((())	Speci	al laboratory Works i	I in Clinical Pharmacy I	((())
blood level concerning major drugs.						Special laboratory					in Clinical Pharmacy II	
•quality 6		<u> </u>				Research PracticeB(©)					in Clinical Pharmacy III	
					Tharmacology Tractice (@)	Research FlacticeD (@)	-	Clinical Medicine and Pharmacotherapy II(©)	Орест	ar laboratory works in	Clinical Pharmacology B(©)	1(@)
							Pharmacotherapy B(©)				Clinical Pharmacology C(©)	
8. The ability and skills of communication	Communication Seminar(©)	Communication Seminar(©)		Practical English for Pharmaceutical Students (◎)			Clinical Pharmacy(©)				Clinical Pharmacology B(©)	
with medical teams relating to medication.	Communication I (©)	Communication II (((a))					Clinical Medicine and Pharmacotherapy I(©)				Clinical Pharmacology C(©)	
•quality ③ ④		Introduction to Pharmaceutical Sciences (©)				<u> </u>	Pharmacotherapy B(©)				emmont marmacetes, 5 (C)	
							That macother apy $D(\otimes)$	Clinical Medicine and Pharmacotherapy III (  )			-	
9. The ability and skills to appropriately				Basic Kampo Medicine(◎)			Clinical Pharmacy(©)		Clerkship in Clinic	al PharmacvA(((())	Clinical Pharmacology B(©)	
deal with contraindication or inappropriate							Clinical Medicine and Pharmacotherapy I(©)		Clerkship in Clinic		Clinical Pharmacology C (  )	
treatments of medicine.  • quality 6			1				Pharmacotherapy B(©)	-			6, 1 (3)	
•quanty •							Pharmacotherapy A(©)	-			<u> </u>	
1. Self-betterment of character formation	Introductory Seminar for First-Year Students (©)	Health and Sports Courses(○)					Clinical Pharmacy(©)		Clerkship in Clinic	al PharmacvA(©)	Clinical Pharmacology B(⊚)	
as a medical professional: the appropriate		Information and Data Science Courses (◎○)					Clinical Medicine and Pharmacotherapy I(©)		Clerkship in Clinic		Clinical Pharmacology C(©)	
action and attitude being aware of that a pharmacist is a professional relating to	Health and Sports Courses (○)	Social Cooperation Courses(△)					Pharmacotherapy B(©)		p in omito		0, 1 (0)	
human life. The knowledge and	Introduction to University Education(©)					<u></u>		Clinical Medicine and Pharmacotherapy III(⊚)			<u> </u>	
understanding to have communication not											<u> </u>	
only with ailing people but with other medical staff in a medical team.			1									
medical staff in a medical team.  quality ① ② ③ ④ ⑨											<u> </u>	
Atti											<u> </u>	
2. Ability to be a pharmacist who is relied	Introductory Seminar for First-Year Students (©)	Health and Sports Courses(○)					Clinical Pharmacy(©)	Pharmacy Practice (©)	Clerkship in Clinic	al PharmacvA(©)	Clinical Pharmacology B(⊚)	
on not only by a medical team but also by	Information and Data Science Courses(⊚○)	Information and Data Science Courses (◎○)		<u> </u>			Clinical Medicine and Pharmacotherapy I(©)	1	Clerkship in Clinic		Clinical Pharmacology C(©)	
citizens; the ability to be considerate of patients.	Health and Sports Courses (○)			<u>:</u>			Pharmacotherapy B(©)		The state of the s			
of patients.  ■ quality ① ② ④	Introduction to University Education(©)	<del></del>				<u> </u>	222 22 24 25 25 25 25 25 25 25 25 25 25 25 25 25	Clinical Medicine and Pharmacotherapy III (③)			<u> </u>	
	Social Cooperation Courses (△)										1	
	1 : 21000 (21)	<b>1</b>	1	<u> </u>	I	<b>I</b>	I	Ē		<u>±</u>		

## Curriculum Map of Pharmaceutical Sciences Program

Academic achievements	1st <sub>{</sub>	grade	2nd g	rade	3rd ;	grade	4th	grade	5th §	grade	6th s	grade
Evaluation items	Spring semester	Fall semester	Spring semester	Fall semester	Spring semester	Fall semester	Spring semester	Fall semester	Spring semester	Fall semester	Spring semester	Fall semester
1. Comprehensive problem-solving ability	Introductory Seminar for First-Year Students (©)	Social Cooperation Courses $(\triangle)$			Research PracticeA(©)	Special laboratory '	Works in Pharmaceut	tical Sciences I(©)	Speci	al laboratory Works	in Clinical Pharmacy <b>I</b>	(⊚)
and educational ability: Concerning the influences caused by numerous chemical	Introduction to University Education(©)	Introduction to Pharmaceutical Sciences (  )				Special laboratory V	Vorks in Pharmaceut	ical Sciences II (⊚)	Speci	al laboratory Works	in Clinical Pharmacy I	[ (⊚)
substances existing on the earth, to be	Social Cooperation Courses(△)					Research PracticeB(⊚)			Speci	al laboratory Works	in Clinical Pharmacy <b>I</b> I	I (⊚)
able to analyze and argue about the												
survival of the human race. Also, to have the ability and skills to give instruction to												
youth.												
●quality ⑤ ⑩												
<sub>δ</sub>												
2. Self-betterment of character formation	Introductory Seminar for First-Year Students (©)	Social Cooperation Courses $(\triangle)$						Pharmacy Practice(⊚)	Clerkship in Clinic	al PharmacyA(⊚)		
as a medical professional: the appropriate action and attitude being aware of that a	Information and Data Science Courses (©○)	Information and Data Science Courses (©○)							Clerkship in Clinic	al PharmacyB(©)		
pharmacist is a professional relating to	Introduction to University Education(©)	Introduction to Pharmaceutical Sciences (©)										
human life. The knowledge and	Social Cooperation Courses(△)											
understanding to have communication not												
only with ailing people but with other medical staff in a medical team.												
• quality (1) (2) (3) (4) (9)												
3. The research ability: the ability to	Introductory Seminar for First-Year Students (©)	Social Cooperation Courses $(\triangle)$	Nuclear Pharmacy(©)	Experiments of Cellular and Molecular Biology (©)	Research PracticeA(©)	Special laboratory	Works in Pharmaceut	tical Sciences I(©)	Speci	al laboratory Works	in Clinical Pharmacy I	
select issues to be solved in the	Information and Data Science Courses (©○)	Information and Data Science Courses (©○)			Experiments of Public health Chemistry (③)	Special laboratory V	Vorks in Pharmaceut	ical Sciences II (©)	Speci	al laboratory Works	in Clinical Pharmacy I	[(②)
professional field of pharmacist and carry out measures and research to solve the	Introduction to University Education(©)	Introduction to Pharmaceutical Sciences (©)			Experiments of Microbial Chemistry (③)	Research PracticeB(©)			Speci	al laboratory Works	in Clinical Pharmacy <b>II</b>	I (©)
issues.	Social Cooperation Courses(△)											
• quality ®												
					Liberal Arts Education Subjects	Basic Specialized Subjects	Specialized Education Subjects	Graduation Thesis	Clerkship in Clinical Pharmacy	(⊚)Required ((	) Elective/required	(△) Free electiv

- Fundamental qualities required for pharmacists
  ① Attitude as a pharmacist
  ② Viewpoint oriented to patients and ordinary citizens
  ③ Communication skills
  ④ Participation in team medical care
  ⑤ Basic scientific knowledge and skills
  ⑥ Practical capabilities regarding pharmacotherapy
  ⑦ Practical capabilities for health and medical care in the local community
  ⑧ Research ability
  ⑨ Self-improvement
  ⑩ Educational skills