

Attachment Form 1

Description of Major Program

Name of Faculty (Department) [School of Applied Biological Science (Department of Applied Biological Science)]

Name of Program	Food Science Program
1. Degree to be obtained: Bachelor of Agriculture	
<p>2. Overview</p> <p>The School of Applied Biological Science aims to educate students to acquire a wide range of knowledge and understanding in the realms of the natural and applied biology. Specifically, we provide knowledge regarding food production, biotic resources, and understand bioethics and engineering ethics, and gain data processing.</p> <p>and conducts research activities in wide ranges regarding food and distribution, manufacture and processing, food safety, nutrition, characteristics, and new effective use. Students are allowed to study experiencing the cutting edge of findings through this program.</p> <p>aims to provide general education regarding the fundamental management and distribution of food, function evaluation and development of safe food with high quality and functionality to tion of rich and healthy dietary life from a wide point of view.</p> <p>rt who have acquired higher level of expertise in the graduate specialist with an international point of view in such as a public s related to agriculture, foods, and chemical and pharmaceutical</p>	

3. Diploma policy (policy for degree conferment and target to be achieved in the program)

The Food Science Program aims to provide general education regarding the fundamental knowledge and technologies related to the production management and distribution of food, function evaluation and advanced use of food material, and production and development of safe food with high quality and functionality to develop human resources who can be engaged in the creation of rich and healthy dietary life from a wide point of view. Therefore, in this program, the degree of Bachelor of Agriculture will be awarded to students who acquire the capabilities described below, earn the required credits and to satisfy the specified achievement level, and pass the examination that is administered by the School of Applied Biological Science.

Through liberal arts education subjects:

- (1) The ability to study autonomously; the ability to collect, analyze, and criticize data; and putting these abilities into practice;
- (2) Insight, from a broad perspective, into the essentials and

and concern about peace which are required for a citizen of the world;

- (3) The ability to identify a problem based on broad knowledge, integrate findings to establish a "knowledge system" that is really useful for problem solving, and examine phenomena from a top-down perspective based on this integrated knowledge; and
- (4) General and basic knowledge of science that enables the student to develop the knowledge and skills required for application in any of the specialty fields of applied biological science.

Through the specialized fundamental subjects for specialized education, the student is required to acquire:

- (5) The ability to understand cutting-edge topics, as well as the basic ideas related to organisms and the biosphere;
- (6) The ability to understand the value orientation and relevance to a globalized society of applied biology, and the importance of communication and consensus building in relation to the application of scientific results; and
- (7) Understanding of problems regarding research misconduct and the importance of research and engineering ethics.

Through the specialized education in this program, the student is required to acquire:

- (8) Has acquired professional knowledge regarding production management and distribution of food and be capable of generally considering measures for ensuring stable supply of safe food.
- (9) Has acquired professional knowledge and general skills regarding manufacture and processing of food and be capable of understanding practical measures for converting food material to safe food with high quality and functionality.
- (10) Has acquired basic and professional knowledge and skills regarding evaluation and regulation of safety, nutrition, palatability, living body control function, and physical characteristics and new effective use and be capable of exercising them.
- (11) Has comprehensively learned the flow from the production of food to the consumption by consumers to understand it as a unified system. The student is also acquired to become capable of applying such as the knowledge, skills, and attitude that he/she has obtained in an integrated manner to solve problems that he/she identifies and logically present the conclusion orally or in writing and discuss with other persons.

#### 4. Curriculum policy (policy for arranging and executing the educational courses)

To enable students to achieve the targets that are defined for the Food Science Program, the educational courses are organized and executed according to the following policies:

- (1) Courses in the liberal arts education aim to develop a wide-ranging and in-depth education and general intelligence, and to foster in students a depth of humanity and desire for peace. They also aim to develop practical foreign language abilities, an international perspective, the ability to understand different cultures, and the ability to utilize information and communication. In addition to this, courses in fundamental subjects are incorporated into the liberal arts education in order to develop professionals with the basic scientific knowledge and skills required for application in any of the specialty fields of applied biological science.
- (2) Courses in special education develop basic capabilities related to biology and the biosphere through the "specialized fundamental subjects" that are common for all courses at the School of Applied Biological Science. The courses include exercises abroad, internships, field exercises, and lectures regarding scientific and engineering ethics in order to develop the ability to make a hypothesis and basic, practical capabilities required for activities undertaken in leading positions in the international and/or local community. The courses also aim to develop the ability to understand problems regarding research misconduct and the importance of research and engineering ethics.

(3) The courses in the specialized education for this program provide the "specialized subjects" related to such as production management and distribution of food, function evaluation and advanced use of food material, and manufacture and development of safe food with high functionality to enable students to acquire capability of systematically and hierarchically understanding the food science from the basics to application. Also the courses of "exercise" and "experiment & practice" for the related area are provided for students to acquire skills and attitudes to practically apply and use the results. In addition to that, students develop general capabilities for problem solving including skills for communication, presentation, and practical foreign language capability while preparing his/her "graduation thesis."

#### 5. Start time and acceptance conditions

The School of Applied Biological Science holds the entrance examination collectively for the Department of Applied Biological Science. Students mainly take the liberal arts curricula that are held for the whole of the university (seminar for developing intelligence, subject regarding peace, introduction to university education, foreign language study, data processing study, disciplinary subjects, and subject regarding health & sports) in the first and second semesters of the first year and the first semesters of the second year. Assignment of students to the Food Science Program is actually conducted in the second semester of the second year.

Students study the fundamental subjects for one year after entering the university to acquire the basic knowledge required for studying the expertise. Then they mainly study the specialized fundamental subjects common for the all students of School of Applied Biological Science in the second semester of the second year. Particularly, they take the subjects of Laboratory Work in General Chemistry, Laboratory Work in General Physics, and Laboratory Work in General Biology I & II (including computer exercise) as those regarding experiments that are common for all students of the School of Applied Biological Science that consist of to get basic training for experiments in a wide area that is commonly required for the students of the School of Applied Biological Science. Students acquire a wide range of intelligence, capability in foreign languages such as English, data processing skills, basic knowledge common for the students of the School of Applied Biological Science, understanding for bioethics and ethics of science by the first semester of the second year to allow themselves to understand the aim and characteristics of each major program and select the most appropriate program.

Students are allocated either of four major programs (Integrative Hydrospheric Science Program, Applied Animal & Plant Science Program, Food Science Program, and Molecular Agricultural Biology Program) based on his/her wish and achievement level in the second semester of the second year. Students who enter the university in the fiscal year are equally divided into four programs in principle. The digits after a decimal point are rounded up.

The student must meet the specified "requirements for allocation to the program" if he/she wishes to be allocated to the program.

#### 6. Available qualification

(1) Educational personnel certification: Type 1 License for High School Teacher (science)

(2) Curator License

(3) Appointment qualification for food sanitation supervisor and food sanitation inspector

\* For details of acquisition of those qualifications, refer to the "Students Handbook."

(4) Qualification for examination for Class A hazardous materials engineer

## 7. Class subjects and their contents

\* For the class subjects, refer to the subject table in Attachment 1.

\* For the details of the class subjects, refer to the syllabus that is published for each academic year.

Achievement evaluation	Numerical conversion	8. Academic achievement  The evaluation criteria are specified for each academic achievement evaluation item, and the achievement level against the criteria is determined at the end of the semester.  The evaluation score for each evaluation item is converted to a numerical value (S = 4, A = 3, B = 2, and C = 1), and the evaluation standard for academic achievement, from when the student entered the university to the end of the semester, is determined using these values while applying weightings. The evaluation standards consist of three levels, i.e. Excellent, Very Good, and Good.
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	

Study achievement	Evaluation standard
Excellent	3.00 - 4.00
Very Good	2.00 - 2.99
Good	1.00 - 1.99

\* Refer to the relationship between evaluation items and evaluation criteria described in Attachment 2.

\* Refer to the relationship between evaluation items and class subjects described in Attachment 3.

\* Refer to the curriculum map in Attachment 4.

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

### (1) Purpose

The graduation research in this program (Graduate Thesis) aims to allow the student to dedicate himself/herself to cutting-edge research in order to systematically gain understanding of problems and their background in the field of applied biological science, as well as to acquire comprehensive capabilities while analyzing and considering the obtained results and presenting the results in English both orally and in writing.

### (2) Overview and meaning

Students conduct the graduate research under the guidance of their supervisor. Through their graduation research, students engage with the process consisting of understanding the situation (comprehension ability and intelligence), identification of problems (analysis ability and insight), and presentation of the results (proposal and execution ability), and, by doing so, they acquire the capability and skills required to work as experts after their graduation.

Students learn the basic concepts and attitude fundamentally required for research activities, establish a plan for their research, study methods for the research and experiments, and carry out the research under the instruction of their supervisor. Furthermore, students review the results obtained in the research and define targets for the further research. Students experience a series of research processes in order to have the chance to observe research activities at the cutting edge. They prepare a graduation thesis based on the study results and submit it before the specified date.

Students are evaluated in the thesis examination.

(3) Timing and method for determining the supervisor

The supervisor is determined in the 2nd semester of the 3rd academic year.

The supervisor is determined under the guidance of the tutor. The tutor holds a guidance seminar for students to explain the specialties of each member of faculty. The tutor also instructs students to attend the presentation assembly for graduation theses and Masters theses in order to understand the details of research done by faculty members. Students visit a faculty member who he/she wants to choose as supervisor, and learn about the details of the graduation thesis and environment of the laboratory. Supervisors are designated after the tutor considers students' wishes and makes adjustments. Then the faculty committee of the program approves the designated supervisors.

10 Responsibility

(1) Responsibility for PDCA (plan, do, check, and act) cycle

The education affairs committee of school and the faculty members who provide the lectures are engaged in the processes of "plan" and "do"

The faculty committee of the program plans and executes the major program on their own responsibility. A chief faculty member is designated as the supervisor of the program.

The education affairs committee of the school exercises control over the major programs provided in the school.

The education affairs committee of the department consists of members who are elected for each program, a chairman who is chosen by the school, and another member.

The education reform promotion committee is engaged in the process of "check."

The education reform promotion committee consists of members who are elected in each program, a chairman who is chosen by the school, the chairman of the education affairs committee of the school, an assistant chief of the graduate course, and the other member(s).

The education reform promotion committee reviews and evaluates the major programs provided in each program, reports the results to the education affairs committee of the school and the programs, and provides advice and recommendations.

The faculty committee of the program that takes the responsibility for execution of the major program is engaged in the process of "act."

The faculty committee of the program and the education affairs committee of the school prepare and execute a plan for improvement taking the report, advice, and recommendations that are provided by the education reform promotion committee after the check process into consideration.

A tutor is designated for each program to provide direction regarding study and life.

A supervisor is designated in to each student in the program to provide guidance regarding the graduation thesis. The mentor guides the students through the process of the graduation research until they graduate.

The faculty committee of the program, the education affairs committee of the school, and the education reform promotion committee cooperate with each other to execute their roles with responsibility in the cycle of "plan", "do", "check", and "act" to improve the education provided at the school.

(2) Evaluation of program

Viewpoints for evaluation of program

The Food Program is evaluated from the viewpoints of "educational effectiveness" and "social effectiveness."

The "educational effectiveness" is evaluated by effects of the program execution on educational achievement in students.

The "social effectiveness" is evaluated by effects of the educational achievement in the program on the society.

#### Evaluation method

In this program, the achievement in the program is evaluated from the viewpoints described above for students in the second semester of the fourth year. For the "educational effectiveness", the results and achievement of the students who took the program are evaluated comprehensively by the group of faculty members who are engaged in the execution of the program. Also, the level of achievement of all the students is evaluated and reviewed. The "social effectiveness" is evaluated based on such things as the rate of employment in corporations that have a close connection with the contents of this program and the pass rate in public servant examinations. We regularly request a human resources staff member of a company that employs mainly students of this program to evaluate this program. In addition to that, we request graduates of this program to evaluate both their own achievement and that of the program. The staff in the company and graduates are requested to provide evaluation and advice regarding whether the class subjects and their contents in this program were effective for social activities, whether the contents of class appropriately corresponded to the changes in science, technology, and society, and any class subjects that would be required for the future.

#### Policy and method for feedback to students

The education reform promotion committee regularly conducts inquiries and interviews for students to review and evaluate the program, improve the contents of the program, and provide advice and recommendations for improvement.

Tguwnvu qh uvwf { kp Hqqf Uekgpeg Ptqi tc o

Tgnvcvkqp dgv yggp gxcnvcvkqp kvg ou cpf gxcnvcvkqp etkvgtkc

Uvwf { cejkxg o gpv		Gxcnvcvkqp etkvgtkc			
Gxcnvcvkqp kvg ou		Gzegngpv	Vgt { Iqqf	Iqqf	
K P Q Y N I G & P G T H F	*3+	Cdnlkv { hqt eqo rtgjpgukxg cpf etquu/ fluekrnkpt { vj kpmkpi cpf mpqyngfig l wpfgtwvcpfkpi u tgswtgfv vq ugg c rjgpqogpqc htqo c dtqcf. vqr/fqyp rgturgevixg cpf vq vmg cevkap hqt uqnxkpi rtqdnou tgi ctfkpi vj g urgeknk   gf ctgc0	Jcu uwrgtkqt cdnlkv { hqt eqo rtgjpgukxg cpf etquu/ fluekrnkpt { vj kpmkpi cpf ecrdnlkv { vq ugg c rjgpqogpqc htqo c dtqcf. vqr/fqyp rgturgevixg cpf vq vmg cevkap hqt uqnxkpi rtqdnou tgi ctfkpi vj g urgeknk   gf ctgc0	Jcu dcuke cdnlkv { hqt eqo rtgjpgukxg cpf etquu/ fluekrnkpt { vj kpmkpi cpf ecrdnlkv { vq ugg c rjgpqogpqc htqo c dtqcf. vqr/fqyp rgturgevixg cpf vq vmg cevkap hqt uqnxkpi rtqdnou tgi ctfkpi vj g urgeknk   gf ctgc0	
	*4+	Dcu mpqyngfig cpf wpfgtwvcpfkpi vj ku mpqyngfig y jkng cuuqekcvkpi kv ykvj kvg ou tgnvcvfv vq qvjgt ctgc0			
		Ecrdng qh igpgtcm { crn { kpi vj dcuke mpqyngfig qh uvej cu e jgokvt { . dkqnqi { . dkqejgokvt { . oketqdkqnqi { . rj { ukeu. cpf ocvjgocvkeu tgswtgfv hqt wpfgtwvcpfkpi hqqf uekgpeg0			
		Ecrdng qh rtqxfkpi dcuke gznrcpvkqp tgi ctfkpi o gvjqfu hqt kf gpvkh { kpi vj g ovejcpku o qh hwpevkqp gzrtguukqp kp hqqf cpf hqqf ocvtken cpf crnkcevkqp qh vj g hwpevkqp0			
		Ecrdng qh rtqxfkpi dcuke gznrcpvkqp tgi ctfkpi gzrtvkug cpf gvjkeu qh uekgpeg cpf vgejpqni { cp cpcn { uku cpf gxcnvcvkqp o gvjqfu hqt uchgv { qh hqqf cpf hqqf ocvtkenu0			

i k p i	*8+	Gzrgtvkug tgiectfki rtqfwekqap ocpicigogpv cpf fluvtkdwwkqap qh hqqfu	Ecredng qh rtqxfkpi rtceveken gzrncpevkqap tgiectfki rtqfwekqap ocpicigogpv cpf fluvtkdwwkqap qh hqqfu y jkng cuuqekcvki kv ykvj mpqyngfig qh vjg qvjgt kvgo	Ecredng qh rtqxfkpi gzrncpevkqap tgiectfki rtqfwekqap ocpicigogpv cpf fluvtkdwwkqap qh hqqfu y jkng cuuqekcvki kv ykvj mpqyngfig qh vjg qvjgt kvgo	Ecredng qh rtqxfkpi gzrncpevkqap tgiectfki rtqfwekqap ocpicigogpv cpf fluvtkdwwkqap qh hqqfu
	*9+	Gzrgtvkug tgiectfki hqqf rtqeguukpi vgejppqnikgu cpf fgxgnr o gpv qh wughwn o cvgtkcu	Ecredng qh rtqxfkpi rtceveken gzrncpevkqap tgiectfki hqqf rtqeguukpi vgejppqnikgu cpf fgxgnr o gpv qh wughwn o cvgtkcu y jkng cuuqekcvki kv ykvj mpqyngfig qh vjg qvjgt kvgo	Ecredng qh rtqxfkpi gzrncpevkqap tgiectfki hqqf rtqeguukpi vgejppqnikgu cpf fgxgnr o gpv qh wughwn o cvgtkcu y jkng cuuqekcvki kv ykvj mpqyngfig kp qvjgt hknfu	Ecredng qh rtqxfkpi ducce gzrncpevkqap tgiectfki hqqf rtqeguukpi vgejppqnikgu cpf fgxgnr o gpv qh wughwn o cvgtkcu
C d k n k v k g u & u m k n u	*3+	Duce cdkkv{ kp eqo owpkcevkqap. kphqt o cvkqap rtqeguukpi. cpf rj{ukecn cevxxkvku tgswtgfhqt ceswtkpi gzrgtvkug}	Jcu uwrqtqt cdkkv{ kp cm vjg gngogpvu tgiectfki eqo owpkcevkqap. kphqt o cvkqap rtqeguukpi. cpf rj{ukecn cevxxkvku tgswtgfhqt ceswtkpi gzrgtvkug}	Jcu uwhhkegvp cdkkv{ kp cm vjg gngogpvu tgiectfki eqo owpkcevkqap. kphqt o cvkqap rtqeguukpi. cpf rj{ukecn cevxxkvku tgswtgfhqt ceswtkpi gzrgtvkug}	Jcu ducce cdkkv{ kp cm vjg gngogpvu tgiectfki eqo owpkcevkqap. kphqt o cvkqap rtqeguukpi. cpf rj{ukecn cevxxkvku tgswtgfhqt ceswtkpi gzrgtvkug}
	*4+	Duce gzrgtkogpvcvkqap cdkkvku cpf umknu tgswtgfhqt ceswtkpi gzrgtvkug	Jcu uwhhkegvp ducce gzrgtkogpvcvkqap cdkkvku cpf umknu tgswtgfhqt ceswtkpi gzrgtvkug. cpf ku ecredng qh cwvppqoqwun{ crn{kp vjgo}	Jcu uwhhkegvp ducce gzrgtkogpvcvkqap cdkkvku cpf umknu tgswtgfhqt ceswtkpi gzrgtvkug. cpf ku ecredng qh cwvppqoqwun{ crn{kp vjgo wvfgt kpvtwekqap}	Igggtcm{ jcu uwhhkegvp ducce gzrgtkogpvcvkqap cdkkvku cpf umknu tgswtgfhqt ceswtkpi gzrgtvkug. cpf ku ecredng qh uwrqtvki vjgt gzgewkqap}
	*5+	Duce vgejpkswgu cpf ogvjfqnikgu hqt jcpfkpi hqqfu cpf hqqf o cvgtkcu. cdkkv{ vq wvfgtvcvf xctqwu rjppogpc tgiectfki hqqfu htqo uekpvkhe rkpvu qh xgy. cpf ecrednk{ qh qticpk kpi vjg uvw{ tguwnv kp c tgrqtv}	Jcu uwhhkegvp{ cpf rtqhwvfn{ ceswtgfhqt ducce vgejpkswgu. ogvjfqnikgu. cpf wvfgtvcvfki cpf ku ecredng qh uwhhkegvp{ crn{kp vjgo} Cnuq ecredng qh nqikecm{ qticpk kpi vjg tguwnv qh tgugetj kp c tgrqtv cpf fluewukpi kv ykvj qvjgt}	Jcu uwhhkegvp{ ceswtgfhqt ducce vgejpkswgu. ogvjfqnikgu. cpf wvfgtvcvfki cpf ku ecredng qh uwhhkegvp{ crn{kp vjgo} Cnuq ecredng qh nqikecm{ qticpk kpi vjg tguwnv qh tgugetj kp c tgrqtv}	Jcu uduvcpvkcm{ ceswtgfhqt ducce vgejpkswgu. ogvjfqnikgu. cpf wvfgtvcvfki cpf ku ecredng qh iggtcm{ crn{kp vjgo} Cnuq ecredng qh qticpk kpi vjg tguwnv qh tgugetj kp c tgrqtv}
	*6+	Ceswkvkqap qh vgejpkswgu hqt rtqfwekqap qh hqqfu htqo octkpg cpf cpkocn tguwtegu cpf ecrednk{ qh eqpukfgtkvqap qh rtceveken o gcuwtgu hqt eqpxgtukvq vq uchg cpf jki jn{ hwpevkqpcn hqqfu}	Jcu uwhhkegvp{ ceswtgfhqt vgejpkswgu cpf mpqyngfig tgiectfki rtqfwekqap qh hqqfu htqo octkpg cpf cpkocn tguwtegu cpf ku ecredng qh hwm{ eqpukfgtkpi rtceveken o gcuwtgu}	Jcu ceswtgfhqt vgejpkswgu cpf mpqyngfig tgiectfki rtqfwekqap qh hqqfu htqo octkpg cpf cpkocn tguwtegu cpf ku ecredng qh eqpukfgtkpi rtceveken o gcuwtgu}	Jcu iggtcm{ ceswtgfhqt vgejpkswgu cpf mpqyngfig tgiectfki rtqfwekqap qh hqqfu htqo octkpg cpf cpkocn tguwtegu cpf ku ecredng qh eqpukfgtkpi rtceveken o gcuwtgu}
	*7+	Ecredng qh qticpk kpi cpf eqpukfgtkpi qyp kuuwgu vq gzrntg kp vjg hknfu qh hqqf uekpeg htqo c ueken rkp qh xgy dcugf qp gzrgtkpeg qh uej c qdugtvcvkqap qh c hqqf ocpwhcewtkpi uepg	Ecredng qh crn{kp hkpfpku cpf mpqyngfig qdvcpgf kp vjg qdugtvcvkqap qh c hqqf hcevt{. ngewtg. cpf gzrgtkogpv vq dg eqpuekwu qh vjg eqppgevkqap vq vjg uekgv{ cpf qticpk kpi cpf eqpukfgtkpi qyp kuuwgu vq gzrntg kp vjg hknfu qh hqqf uekpeg d{ cevxn{ eqo rctkpi vjg gzrgtkpeg vq vjcv kp vjg ngewtg cpf gzrgtkogpv kp vjg wpxgtukv{}	Ecredng qh crn{kp hkpfpku cpf mpqyngfig qdvcpgf kp vjg qdugtvcvkqap qh c hqqf hcevt{. ngewtg. cpf gzrgtkogpv vq dg eqpuekwu qh vjg eqppgevkqap vq vjg uekgv{ cpf qticpk kpi cpf eqpukfgtkpi qyp kuuwgu vq gzrntg kp vjg hknfu qh hqqf uekpeg dcugf qp vjg gzrgtkpeg}	Ecredng qh crn{kp hkpfpku cpf mpqyngfig qdvcpgf kp vjg qdugtvcvkqap qh c hqqf hcevt{. ngewtg. cpf gzrgtkogpv vq dg eqpuekwu qh vjg eqppgevkqap vq vjg uekgv{ cpf kfgpvk{kp qyp kuuwgu vq gzrntg kp vjg hknfu qh hqqf uekpeg}



*8+	Cdkkv{ vq tgef cpf wfgtuvcpf vgejpkcn gzrncpvkqpu cpf dcuke tgcfkpi ecrdlnkvku qh uekpvkhke Gpinkuj	Ecrdng qh tgcfkpi Gpinkuj vgzvu cpf wfgtuvcpfkpi vgejpkcn gzrncpvkqpu	Jcu c dcuke cdkkv{ hqt tgcfkpi Gpinkuj vgzvu cpf ecrdng qh wfgtuvcpfkpi vgejpkcn gzrncpvkqpu vq uqoggzvqv	Jcu c dcuke cdkkv{ hqt tgcfkpi Gpinkuj vgzvu cpf ecrdng qh rctvn{ wfgtuvcpfkpi vgejpkcn gzrncpvkqpu
-----	---	--	---	---

e c r u c d k x g n k v	<p>Ecrcdknkv{ qh eqmgevki kphqt o cvkqp qh vjg rgtkr jgtcn fluekrnkpgu cpf qti cpk kpi jkuljgt qyp kfgc dcugf qp vjg kphqt o cvkqp. xcnkfcvki vjg kfgc dcugf qp vjg kphqt o cvkqp. nqikecm{ rtgugpvki vjg eqpenwukqp qtcmm{ qt kp c fqew ogpv. cpf gzejcpiki qrlpkqpu ykvj qvjgtu kp vjg ctgc vjcv uwwfkgu uekgpvkhke kuuwgu tgi ctfkpi hqqfu cpf hqqf o cvgtkcnu</p>	<p>Ecrcdng qh eqmgevki kphqt o cvkqp qh vjg rgtkr jgtcn fluekrnkpgu cpf qti cpk kpi jkuljgt qyp kfgc dcugf qp vjg kphqt o cvkqp. xcnkfcvki vjg kfgc dcugf qp vjg kphqt o cvkqp. nqikecm{ rtgugpvki vjg eqpenwukqp qtcmm{ qt kp c fqew ogpv. cpf gzejcpiki qrlpkqpu ykvj qvjgtu kp vjg ctgc vjcv uwwfkgu uekgpvkhke kuuwgu tgi ctfkpi hqqfu cpf hqqf o cvgtkcnu</p>	<p>Ecrcdng qh eqmgevki kphqt o cvkqp qh vjg rgtkr jgtcn fluekrnkpgu cpf qti cpk kpi jkuljgt qyp kfgc dcugf qp vjg kphqt o cvkqp. xcnkfcvki vjg kfgc dcugf qp vjg kphqt o cvkqp. rtgugpvki vjg eqpenwukqp qtcmm{ qt kp c fqew ogpv. cpf gzejcpiki qrlpkqpu ykvj qvjgtu kp vjg ctgc vjcv uwwfkgu uekgpvkhke kuuwgu tgi ctfkpi hqqfu cpf hqqf o cvgtkcnu</p>	<p>Ecrcdng qh eqmgevki kphqt o cvkqp qh vjg rgtkr jgtcn fluekrnkpgu cpf qti cpk kpi jkuljgt qyp kfgc dcugf qp vjg kphqt o cvkqp. xcnkfcvki vjg kfgc dcugf qp vjg kphqt o cvkqp. cpf rtgugpvki vjg eqpenwukqp qtcmm{ qt kp c fqew ogpv kp vjg ctgc vjcv uwwfkgu uekgpvkhke kuuwgu tgi ctfkpi hqqfu cpf hqqf o cvgtkcnu</p>
--	---	--	---	---

### Tqng qh nkdgtcn ctvu gfwevckqp kp vjku rtqitc o

Vjg nkdgtcn ctvu gfwevckqp kp vjku rtqitc o ckou vq dwknf dqvj vjg ncpiwcig umknnu cpf vjg cecfgoke hqwpfcvkqp tgswktgf hqt vjg urgekcnk|gf gfwevckqp<sup>0</sup> kv fgxgnqru pqv qpn{ c ecrcdknkv{ hqt uwwf{ kpi cwwppqoqwun{ cpf c uekgpvkhke kpygmnikgpeg dcugf qp vjg cdknkv{ vq eqmgev. cpcn{ |g cpf etkvkek|g fcvc. dwv cnuq ncpiwcig umknnu vjcv cnnqy vjg uwwfgpv vq gzejcpig kfgcu ykvj qvjgtu kp Gpinkuj<sup>0</sup> Cnuq. kv gpjcegu kpuki jv htqo c dtqcf rgturgevkg hqt vjg guugpvkcnu cpf vjg dcemittqwpf qh rjgpqogpc. cpf vjg nkpiwkuvke cdknkv{ cpf eqpegtp hqt rgceg yjkej ctg tgswktgf hqt c ekvk|gp qh vjg yqtnf<sup>0</sup> kv gpcdngu uwwfgpvu vq ceswktg vjg cdknkv{ vq kpvgitcvg hkpflkiu cpf guvednkuj c "mpqyngfig u{uvgo" vjcv ku tgcmm{ wughwn hqt rtqdngo uqnkpi. cpf vq gzcokpg rjgpqogpc wukpi c vqr/fqyp rgturgevkg dcugf qp vjku kpvgitcvgf mpqyngfig<sup>0</sup>





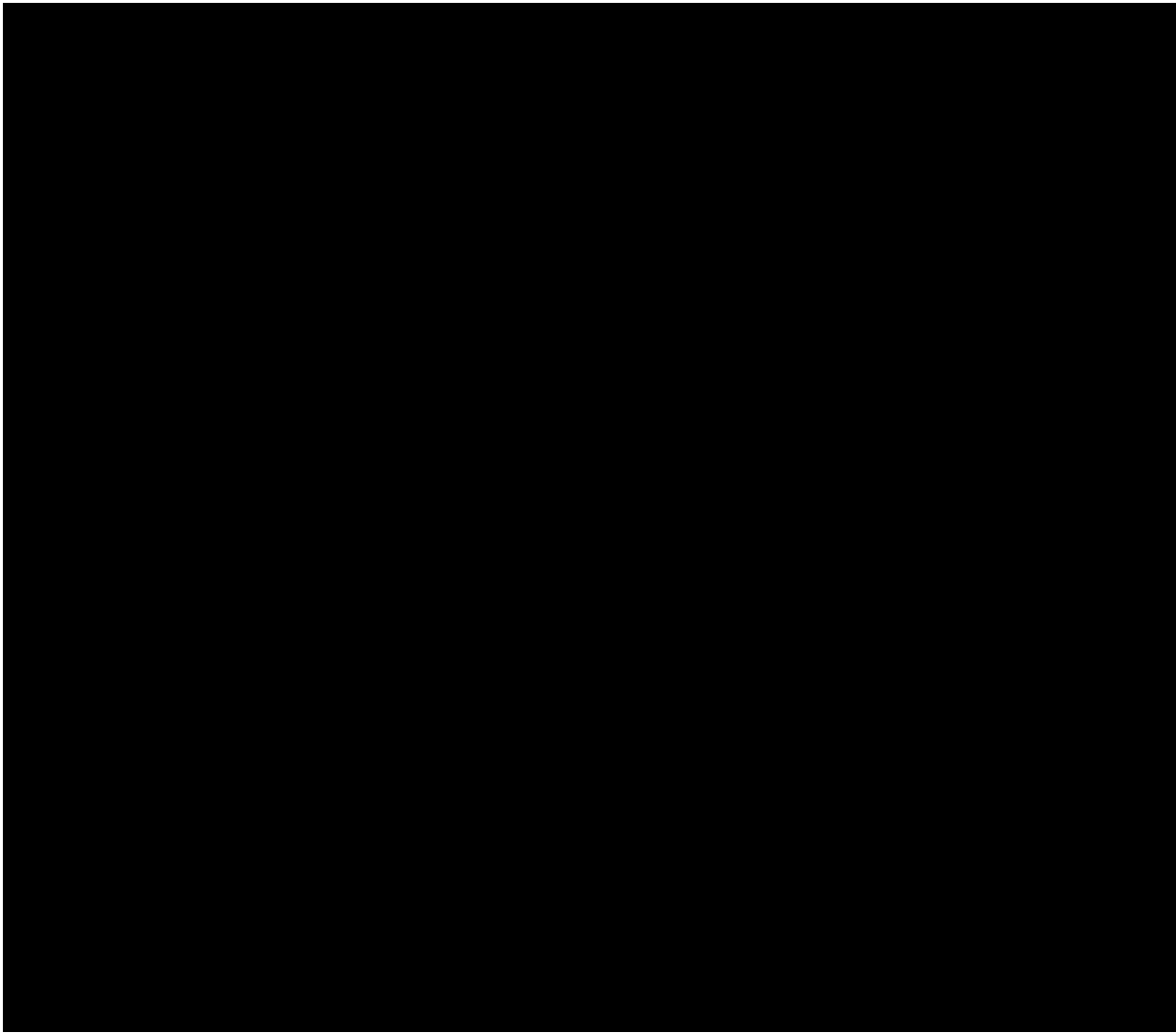




u n d e r s t a n d i n g							
	Expertise regarding methods for identifying the mechanism of function expression in food and food material and for application of the function.						

Expertise and ethics of science and technology regarding analysis and evaluation methods for safety of food and food material.							
Expertise regarding production management and distribution of foods							
Expertise regarding food processing technologies and development of useful materials.							





\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



t i e s & s k i l s	Acquisition of techniques for production of foods from marine and animal resources and capability of consideration of practical measures for conversion to safe and highly functional foods							
Capable of organizing and considering own issues to explore in the fields of food science from a social point of view based on experience of such as observation of a food manufacturing scene	Agricultural Production Resources( )							

Ability to read and understand technical explanations and basic reading capabilities of scientific English

e  
n  
s  
i  
v  
e  
  
c  
a  
p


(Example) Liberal arts subjects Specialized fundamental Specialized subjects Graduation thesis ( ) Required subjects ( ) Elective required ( ) Elective subjects

## List of Faculty Members of the Food Science Program

Name of faculty	Name of program and position	Extension number	Laboratory	Mail address
Satoru Ueno	Professor	.	A118	sueno hiroshima-u.ac.jp
Tadashi Shimamoto	Professor		A506	tadashis hiroshima-u.ac.jp
Takuya Suzuki	Professor		A809	takuya hiroshima-u.ac.jp
Yoshio Hagura	Professor	.	A123	hagura hiroshima-u.ac.jp
Kiyoshi Kawai	Professor	.	A122	kawai hiroshima-u.ac.jp
Kenji Hosono	Professor	0	B215	kjhosono hiroshima-u.ac.jp
Thanutchaporn Kumrungsee	Associate Professor		A604	kumrung@hiroshima-u.ac.jp
Haruhiko Koizumi	Associate Professor	. 0	A116	
Yosuke Chomei	Associate Professor		B216	
Tatsuya Nakayama	Associate Professor	0.	A508	
Makoto Hirayama	Associate Professor	-	A802	hirayama hiroshima-u.ac.jp
Yoshinari Yamamoto	Assistant Professor	. -	A808	yamamo59 hiroshima-u.ac.jp
Yakabe Takafumi	Visiting Professor			Class Science and Technology for Food Development
	Visiting Professor			Class Science and Technology for Food Development
	Visiting Professor			Class Food Information Management,

b H ijh j Ij h i h b hji j I ji  
 j h j l o h if h I Fh h c" ffb c b Fb j I Fh h c"  
 I Fh h c" b b h h I Fh h c

Type	Subject type	Required No. of credits	Class subjects	No. of credits	Type of course registration	Year in which the subject is taken								
						1 <sup>st</sup> grade		2 <sup>nd</sup> grade		3 <sup>rd</sup> grade		4 <sup>th</sup> grade		
						Springs	Fall	Springs	Fall	Springs	Fall	Springs	Fall	
Liberal Arts Education	Peace Science Courses			2	Required									
	Basic Courses in University Education	Introductory Seminar for First-Year Students		2	Required									
		Introduction to University Education		2	Required									
	Common Subjects	Foreign Languages	English(Note2)	Basic English Usage	2	Required								
				Communication I	2		Required							
			Communication II	Communication II A	2	Required								
				Communication II B	2									
		Non-English Foreign Languages (Select one language)	Basic Foreign Language I	4	Elective Required	1								
			Basic Foreign Language II			1								
			Basic Foreign Language III			1								
			Basic Foreign Language IV			1								

Information and Data  
 Science

		Basic Concepts of Chemistry (Note7)											
		F	1										
		C B											
		C B	1	Required									
	Total	44											

Note 1: The year indicated with a circle mark represents that in which students typically take the subject. The year with a double circle mark indicates the year in which students are highly recommended to take the subject. Students are allowed to take the subject in any year after that indicated with a circle or double circle mark. It is required to confirm the semester in which the subject is provided in the class schedule for liberal arts education subjects in the Students' Handbook because some subjects might be provided in different semester from that which is provided in this document.

Note 2: The credit for "Field Research in the English-speaking World" that is earned through such as a short-term study abroad and that for "Online English Seminar I," "Online English Seminar II," and "Online English Seminar III" that is earned through a self-study, are accepted as the credit for English required for graduation. Achievement in a foreign language skill test and language training might be accepted as a credit. For further information, 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.

(PP. 30 - 31, Liberal Arts)

Note 3: For the information and Data Science subject, it is required to take the subject " Introduction to Information and Data Sciences " that is provided in the first semester in the first year. Only when failing to earn the credit for " Introduction to Information and Data Sciences " , is it allowed to take the subject " Elements of Information Literacy " that is provided in the second semester in the first year.

Note 4: It is required to earn 4 credits or more for the natural science subjects and 4 credits or more for the human & social science subjects.

However, "Fundamentals of Biology" of the natural science subjects is a subject for which students are requested to take if he/she did not take biology subjects in the entrance exam (including the University Testing Center Examination).

For the other students, the credit for the subject "Fundamentals of Biology" is not accepted as that for graduation.

It is allowed to include up to 4 credits for society-related subjects as credits for the Human & Social Science Subjects.

Note 5: For health & sports subjects, it is recommended to take a practicum in sports.

Note 6: Students who studied Mathematics III in high school are required to take the subject "Basic Calculus." Students who did not study Mathematics III in high school are required to take the subject "Elements of Calculus."

Note 7: Students who did not take chemistry subjects in the entrance exam (including the University Testing Center Examination) are required to take the subject "Basic Concepts of Chemistry." For those students, the credit for the subject "General Chemistry" is not accepted for graduation.

For students who take chemistry subjects, the credit for the subject "Basic Concepts of Chemistry" is not

accepted for graduation.

Note 8: It is required to take

I

C

F

B

F

&

(



Table of Registration Standards (Specialized Fundamental Subjects)

Integrative Hydrospheric Science Program Applied Animal and Plant Science Program Food

Science Program Molecular Agro-Life Science Program

Type	Subject type	Required No. of credits	Class subjects	No. of credits	Year in which the subject is taken															
					1 <sup>st</sup> grade		2 <sup>nd</sup> grade		3 <sup>rd</sup> grade		4 <sup>th</sup> grade									
					Springs	Fall	Springs	Fall	Springs	Fall	Springs	Fall								
Specialized Subjects	Specialized Fundamental Subjects	24	Introduction to Applied Biological Sciences	2																
			Introduction to Microbiology	2																
			Introduction to Molecular Biochemistry	2																
			Agricultural Production Resources	2																
			Physics for Applied Biological Science	2																
			Ethics of Science and Technology	2																
			Statistics in Biology	2																
			Environmental Sciences for Bioproduction	2																
			Laboratory Work in General Biology I	1																
			Laboratory Work in General Biology II	1																
			Laboratory Work in General Chemistry	1																
			Laboratory Work in General Physics	1																
			Required Subjects: Total 20 credits																	

			Seminar in Field Science	2								
			Research Front of Applied Biological Sciences	2								
			Introduction to Physiology	2								
			Public Health	2								
			Elective Required Subjects Take 4 credits from above subjects (Redundant credits over 4 credits move to Elective Subjects in each Program)									



			Genome Science I	2				<input type="radio"/>	
			Genome Science II	2				<input type="radio"/>	
			Molecular Cell Biology	2				<input type="radio"/>	
			Animal Nutrition	2				<input type="radio"/>	
			Plant Nutritional Physiology	2				<input type="radio"/>	
		<p style="text-align: center;">Elective Subjects: At least 14 credits must be obtained.</p> <ul style="list-style-type: none"> <li>• Specialized subjects from other Applied Biological Science programs can be included in the elective subjects.</li> <li>• Up to 12credits obtained from specialized subjects at another School and from subjects offered by the AIMS Program completed at the dispatch destination can be included in the credits required for graduation.</li> <li>• Credits obtained from Liberal Arts Education Subjects and subjects related to the teaching profession cannot be included in the credits required for graduation.</li> </ul>							
		124							

[Credits required for graduation] 124 credits (44 credits for liberal arts education subjects + 24 credits for specialized fundamental subjects + 56 credits for specialized subjects)