Appendix 1. (Ref. Article 2)
Graduate School of Life Science and Systems Engineering Graduate Program Curriculum Tables

Subjects shared by both the Department of Biological Functions Engineering and the Department of Human Intelligence Systems

＜**Shared Subjects**＞

Subject Title	Credit Category	Credit	Grade
Life Science and Systems Engineering Seminar Series	Elective	2	1・2
Introduction to Green Innovation	Elective	2	1・2
Introduction to Life Innovation	Elective	2	1・2
Introduction to Human Intelligence Systems	Elective	2	1・2
GE^3 Seminar	Elective	2	1・2
Advanced Environmental Studies	Elective	1	1・2
Contemporary Philosophy	Elective	1	1・2
Advanced Theories of International Relations	Elective	1	1・2
Advanced Lectures on the SDGs	Elective	1	1・2

＜**Practical Subjects**＞

Subject Title	Credit Category	Credit	Grade
English Ⅶ C (Note 1)	Elective	1	1・2
English Ⅷ B (Note 1)	Elective	1	1・2
English Ⅸ B (Note 1)	Elective	1	1・2
English Ⅸ D (Note 1)	Elective	1	1・2
English Ⅹ A (Note 1)	Elective	1	1・2
English Ⅹ D (Note 1)	Elective	1	1・2
Elective English 2T	Elective	1	1・2
Elective English 4T	Elective	1	1・2
Introductory Japanese Ⅰ (Note 2)	Elective	1	1・2
Introductory Japanese Ⅱ (Note 2)	Elective	1	1・2
Domestic Internship1 (Note 3)	Elective	1	1・2
Domestic Internship2 (Note 3)	Elective	2	1・2
Advanced Overseas Study Ⅰ (Note 4,6)	Elective	1	1・2
Advanced Overseas Study Ⅱ (Note 4,6)	Elective	2	1・2
Advanced Overseas Internship Ⅰ (Note 5,6)	Elective	1	1・2
Advanced Overseas Internship Ⅱ (Note 5,6)	Elective	2	1・2
Advanced International Collaborative Learning	Elective	1	1・2
Exercises on Advanced Robotics Integration I	Elective	1	1・2
Exercises on Advanced Robotics Integration II	Elective	1	1・2
Exercises on Advanced Robotics Integration III	Elective	1	2
Exercises on Team Management	Elective	1	1・2

▽The following subjects are only available to students in the Department of Human Intelligence Systems.

Subject Title	Credit Category	Credit	Grade
DEGEIKO program 1	Elective	1	1・2
DEGEIKO program 2	Elective	1	1・2

Note 1. English classes
*The Roman numerals (VII-X) attached to the names of English classes indicate level of difficulty, the letters (A-D) indicate the target skill, as shown below.

A: Writing B: Reading C: Comprehensive D: Speaking

*Students may not take subjects that are lower in level than subjects for which they have already earned credits, including those taken in an undergraduate school.
*Please note that information on which subjects to take first will be posted in the graduate school concerned.
*Students who wish to take subjects on another campus must obtain approval by applying in advance to the Academic Section of the school to which they belong.
Note 2. Introductory Japanese I and II are for international students only.
Note 3. It is not possible to take both Domestic Internship 1 and Domestic Internship 2.
Note 4. It is not possible to take both Graduate School Study Abroad I and Graduate School Study Abroad II.
Note 5. It is not possible to acquire both Graduate School Overseas Internship Practicum I and Graduate School Overseas Internship Practicum II.
Note 6. Credit conferral will only be approved for Graduate School Study Abroad Program I, Graduate School Study Abroad Program II, Graduate School Overseas Internship Practicum I and Graduate School Overseas Internship Practicum II if the credits are conferred prior to assessment of completion.

Department of Biological Functions Engineering

＜**Specialized Subjects**＞

Subject Title	Credit Category	Credit	Grade
Semiconductor Power Devices	Elective	2	1・2
Advanced Electrochemical Technology	Elective	2	1・2
Nano materias and energy conversion	Elective	2	1・2
Applied power electronics	Elective	2	1・2
Organic Electronic Materials and Devices	Elective	2	1・2
Micro total analysis systems	Elective	2	1・2
Bio-MEMS	Elective	2	1・2
Biofluid Engineering	Elective	2	1・2
Biomechanical dynamics	Elective	2	1・2
Biomechanics	Elective	2	1・2
Functional Biomaterials	Elective	2	1・2
Harmonic Functional Materials Chemistry	Elective	2	1・2
Clean Cycle Chemistry based on Microbial Functions	Elective	2	1・2
Clean Cycle Chemistry based on Functional Interface Engineering	Elective	2	1・2
Biopolymers Structure and Functions	Elective	2	1・2
Biofunctional molecular engineering	Elective	2	1・2
Clean Cycle Chemistry based on Photo-functional Materials	Elective	2	1・2
Mechatronics	Elective	2	1・2
Micro-Technology	Elective	2	1・2

Semiconductor Materials and Devices	Elective	2	1・2
Collaborative Brainstorming on Clean Cycle Chemistry	Elective	2	1・2
Environmental Benign Material Chemistry	Elective	2	1・2
Clean Cycle Chemistry based on Catalyst Electrolytic	Elective	2	1・2
Exercises on Computational Biomechanics	Elective	1	1・2
Exercises on Measurement Control Systems	Elective	1	1・2
Bioinfomatics	Elective	1	1・2
Interdisciplinary training 1	Elective	1	1・2
Interdisciplinary training 2	Elective	1	1・2
Intelligent information processing for automobiles	Elective	2	1・2
Introduction to AI and Robotics	Elective	2	1・2
Seminar on semiconductor topics	Elective	2	1・2
Comprehensive subject1	Elective	1	1・2
Comprehensive subject2	Elective	1	1・2
Comprehensive subject3	Elective	2	1・2
Comprehensive subject4	Elective	2	1・2

＜**Seminars**＞

Subject Title	Credit Category	Credit	Grade
Biological Functions and Engineering Research	Compulsory	2	1～2
Biological Functions and Engineering Special Laboratory	Compulsory	6	1～2

Department of Human Intelligence Systems

＜**Specialized Subjects**＞

Subject Title	Credit Category	Credit	Grade
Interactive Seminar	Compulsory	2	1・2
Robot Dynamics	Elective	2	1・2
Robot Learning Control	Elective	1	1・2
Biomimetics	Elective	2	1・2
Human Function Substitution System	Elective	1	1・2
Intelligent Integrated Systems	Elective	1	1・2
Intelligent Material Systems	Elective	1	1・2
Intelligent Digital Integrated Circuits	Elective	1	1・2
Practicum in Intelligent Machine Design	Elective	1	1・2
Introduction to Computer Systems	Elective	1	1・2
Basic Engineering (Introduction to Electric Circuits and Mechanics)	Elective	1	1・2
Robot Sensing	Elective	2	1・2
Machine Learning 1A	Elective	1	1・2
Machine Learning 1B	Elective	1	1・2
Fandamental Machine Learning 2A	Elective	1	1・2
Fandamental Machine Learning 2B	Elective	1	1・2
Brain-Inspired Learning Theory A	Elective	1	1・2

Brain-Inspired Learning Theory B	Elective	1	1・2
Brain-Inspired Information Processing A	Elective	1	1・2
Brain-Inspired Information Processing B	Elective	1	1・2
Brain Inspired Artificial Intelligence	Elective	2	1・2
Fundamentals of Mathematics A	Elective	2	1・2
Fundamentals of Mathematics B	Elective	2	1・2
Information Processing using Brain Dynamical System	Elective	2	1・2
Mathematical Neurophysiology A	Elective	1	1・2
Mathematical Neurophysiology B	Elective	1	1・2
Molecular Sensing Systems	Elective	2	1・2
Team Management	Elective	2	1・2
Practicum in Neural Information Processing	Elective	2	1・2
Basic Neuroscience	Elective	2	1・2
Behavioral cognitive psychology	Elective	2	1・2
Laboratory Animal Science	Elective	2	1・2
Visuomotor Control System	Elective	2	1・2
Psychophysiology	Elective	2	1・2
Large-scale neural network simulation	Elective	2	1・2
Brain dynamics and Neural Information Processing	Elective	2	1・2
Measurement of Human Brain Function	Elective	2	1・2
Vision Sensing and Systems Intelligence Engineering	Elective	2	1・2
Neuronal mechanism for human sensory transduction	Elective	2	1・2
Intelligent information processing for automobiles	Elective	2	1・2
Introduction to AI and Robotics	Elective	2	1・2
Seminar on semiconductor topics	Elective	2	1・2
AI Seminar	Elective	2	1・2
AAR Seminar	Elective	1	1・2
Practicum in Robot Operating System	Elective	1	1・2
Practicum in Care and Medical DX	Elective	1	1・2
Interdisciplinary training 1	Elective	1	1・2
Interdisciplinary training 2	Elective	1	1・2
Comprehensive subject1	Elective	1	1・2
Comprehensive subject2	Elective	1	1・2
Comprehensive subject3	Elective	2	1・2
Comprehensive subject4	Elective	2	1・2
Advanced Human Intelligence Systems 1	Elective	1	1・2
Advanced Human Intelligence Systems 2	Elective	1	1・2
Advanced Human Intelligence Systems 3	Elective	1	1・2
Advanced Human Intelligence Systems 4	Elective	1	1・2

＜**Seminars**＞

Subject Title	Credit Category	Credit	Grade
Human Intelligence Systems　Research	Compulsory	2	1～2
Human Intelligence Systems Special Laboratory	Compulsory	6	1～2

Department of Life Science and Systems Engineering

＜**Practical Subjects**＞

Subject Title	Credit Category	Credit	Grade
Domestic Extra-Mural Studies 1	Elective	1	1・2・3
Domestic Extra-Mural Studies 2	Elective	1	1・2・3
International Extra-Mural Studies 1	Elective	1	1・2・3
International Extra-Mural Studies 2	Elective	1	1・2・3
Research Workshop 1	Elective	2	1・2・3
Research Workshop 2	Elective	2	1・2・3
DEGEIKO program 1	Elective	1	1・2・3
DEGEIKO program 2	Elective	1	1・2・3
DEGEIKO program 3	Elective	1	1・2・3
DEGEIKO program 4	Elective	1	1・2・3
English Technical Writing	Elective	1	1・2・3
Introductory Japanese Ⅰ (Note 1)	Elective	1	1・2・3
Introductory Japanese Ⅱ (Note 1)	Elective	1	1・2・3
Exercises on Advanced Robotics Integration I	Elective	1	1・2・3
Exercises on Advanced Robotics Integration II	Elective	1	1・2・3
Exercises on Advanced Robotics Integration III	Elective	1	1・2・3
Exercises on Team Management	Elective	1	1・2・3

Note 1. Introductory Japanese I and II are for international students only.

＜**Specialized Subjects**＞

Subject Title	Credit Category	Credit	Grade
Life Science and Systems Engineering Seminar Series	Elective	2	1・2・3
GE^3 Seminar	Elective	2	1・2・3
Semiconductor Power Devices	Elective	2	1・2・3
Advanced Electrochemical Technology	Elective	2	1・2・3
Nano materias and energy conversion	Elective	2	1・2・3
Applied power electronics	Elective	2	1・2・3
Organic Electronic Materials and Devices	Elective	2	1・2・3
Micro total analysis systems	Elective	2	1・2・3
Bio-MEMS	Elective	2	1・2・3
Biofluid Engineering	Elective	2	1・2・3
Biomechanical dynamics	Elective	2	1・2・3
Biomechanics	Elective	2	1・2・3
Functional Biomaterials	Elective	2	1・2・3
Harmonic Functional Materials Chemistry	Elective	2	1・2・3

Clean Cycle Chemistry based on Microbial Functions	Elective	2	1・2・3
Clean Cycle Chemistry based on Functional Interface Engineering	Elective	2	1・2・3
Biopolymers Structure and Functions	Elective	2	1・2・3
Biofunctional molecular engineering	Elective	2	1・2・3
Clean Cycle Chemistry based on Photo-functional Materials	Elective	2	1・2・3
Mechatronics	Elective	2	1・2・3
Micro-Technology	Elective	2	1・2・3
Semiconductor Materials and Devices	Elective	2	1・2・3
Collaborative Brainstorming on Clean Cycle Chemistry	Elective	2	1・2・3
Environmental Benign Material Chemistry	Elective	2	1・2・3
Clean Cycle Chemistry based on Catalyst Electrolytic	Elective	2	1・2・3
Interdisciplinary training 1	Elective	1	1・2・3
Interdisciplinary training 2	Elective	1	1・2・3
Robot Dynamics	Elective	2	1・2・3
Robot Learning Control	Elective	1	1・2・3
Biomimetics	Elective	2	1・2・3
Human Function Substitution System	Elective	1	1・2・3
Intelligent Integrated Systems	Elective	1	1・2・3
Intelligent Material Systems	Elective	1	1・2・3
Intelligent Digital Integrated Circuits	Elective	1	1・2・3
Introduction to Computer Systems	Elective	1	1・2・3
Basic Engineering (Introduction to Electric Circuits and Mechanics)	Elective	1	1・2・3
Robot Sensing	Elective	2	1・2・3
Machine Learning 1A	Elective	1	1・2・3
Machine Learning 1B	Elective	1	1・2・3
Fandamental Machine Learning 2A	Elective	1	1・2・3
Fandamental Machine Learning 2B	Elective	1	1・2・3
Brain-Inspired Learning Theory A	Elective	1	1・2・3
Brain-Inspired Learning Theory B	Elective	1	1・2・3
Brain-Inspired Information Processing A	Elective	1	1・2・3
Brain-Inspired Information Processing B	Elective	1	1・2・3
Brain Inspired Artificial Intelligence	Elective	2	1・2・3
Information Processing using Brain Dynamical System	Elective	2	1・2・3
Mathematical Neurophysiology A	Elective	1	1・2・3
Mathematical Neurophysiology B	Elective	1	1・2・3
Molecular Sensing Systems	Elective	2	1・2・3
Team Management	Elective	2	1・2・3
Basic Neuroscience	Elective	2	1・2・3
Behavioral cognitive psychology	Elective	2	1・2・3
Laboratory Animal Science	Elective	2	1・2・3
Visuomotor Control System	Elective	2	1・2・3
Psychophysiology	Elective	2	1・2・3

Large-scale neural network simulation	Elective	2	1・2・3
Brain dynamics and Neural Information Processing	Elective	2	1・2・3
Measurement of Human Brain Function	Elective	2	1・2・3
Vision Sensing and Systems Intelligence Engineering	Elective	2	1・2・3
Neuronal mechanism for human sensory transduction	Elective	2	1・2・3
Intelligent information processing for automobiles	Elective	2	1・2・3
Introduction to AI and Robotics	Elective	2	1・2・3
Seminar on semiconductor topics	Elective	2	1・2・3
AI Seminar	Elective	2	1・2・3
AAR Seminar	Elective	1	1・2・3
Practicum in Robot Operating System	Elective	1	1・2・3
Practicum in Care and Medical DX	Elective	1	1・2・3
Comprehensive subject1	Elective	1	1・2・3
Comprehensive subject2	Elective	1	1・2・3
Comprehensive subject3	Elective	2	1・2・3
Comprehensive subject4	Elective	2	1・2・3
Advanced Human Intelligence Systems 1	Elective	1	1・2・3
Advanced Human Intelligence Systems 2	Elective	1	1・2・3
Advanced Human Intelligence Systems 3	Elective	1	1・2・3
Advanced Human Intelligence Systems 4	Elective	1	1・2・3

＜**Seminars**＞

Subject Title	Credit Category	Credit	Grade
Biological Functions and Engineering Special Research	Compulsory	6	1～3

Appendix 2. (Ref. Article 3) Department of Biological Functions Engineering

Class Subject		Registration Criteria
Shared Subjects		4 or more credits
Practical Subjects		3 or more credits
Specialized Subjects		13 or more credits
Seminars	Supervised Research	2 credits
	Special Laboratory Work	6 credits
Credits required for completion		30 or more credits

Appendix 2. (Ref. Article 3) Department of Human Intelligence Systems

Class Subject		Registration Criteria
Shared Subjects		4 or more credits
Practical Subjects		3 or more credits
Specialized Subjects		13 or more credits Students must take “Interactive Seminar”
Seminars	Supervised Research	2 credits
	Special Laboratory Work	6 credits
Credits required for completion		30 or more credits

Appendix 2. (Ref. Article 3) Department of Life Science and Systems Engineering

Class Subject	Registration Criteria
Practical Subjects and Specialized Subjects	Students must take at least 6 credits worth of practical subjects and specialized subjects
Special Seminars	6 credits
Credits required for completion	12 or more credits