

## Division of Applied Life Sciences

No.	Title	Instructor	Credits	Semester	Notes
CA01	Applied Life Sciences I	Hideto MIYOSHI, Osamu SHIRAI	1	Apr-Sep (Intensive)	1
CA02	Applied Life Sciences II	Naoki MORI, Shinjiro YAMAGUCHI, Hajime ONO	1	Apr-Sep (Intensive)	1
CA03	Applied Life Sciences III	Noriyuki KIOKA, Kenji SUGASE, Takao KISHIMOTO Ayako FURUKAWA, Yasuhisa KIMURA, TBD	1	Apr-Sep (Intensive)	1
CA04	Applied Life Sciences IV	Yasuyoshi SAKAI, Akifumi SUGIYAMA, Hiroya YURIMOTO	1	Apr-Sep (Intensive)	1
CA05	Industrial Microbiology	Makoto UEDA, Ryotaro HARA	1	Apr-Sep (Intensive)	1
CA06	Applied Life Sciences V	Jun OGAWA, Tatsuo KURIHARA, Yoshiharu INOUE	1	Oct-Mar (Intensive)	1
CA07	Applied Life Sciences VI	Kentaro IFUKU, Yuki Tobimatsu	1	Oct-Mar (Intensive)	1
CA08	Bioanalytical and Biophysical Chemistry	Osamu SHIRAI, Yuki KITAZUMI, Keisei SOWA	1	Oct-Mar (Intensive)	2
CA09	Chemistry of Bioregulation		1	N/A	2
CA10	Introduction to Chemistry of Molecular Biocatalysts	Shinjiro YAMAGUCHI, Kiyoshi MASHIGUCHI	1	Oct-Mar (Intensive)	2
CA11	Plant Nutrients -Function and Acquisition-	Kentaro IFUKU, Masaru KOBAYASHI, Kumiko OCHIAI, Kaori KOHZUMA	1	Apr-Sep (Intensive)	2
CA12	Fermentation Physiology and Applied Microbiology	Jun OGAWA, Shigenobu KISHINO, Akinori ANDO	1	Apr-Sep (Intensive)	2
CA13	Plant Metabolic Science	Yuki TOBIMATSU, Kanade TATSUMI	1	Apr-Sep (Intensive)	2
CA14	Cellular Bioenergy Conversion	Yoshiharu INOUE	1	Apr-Sep (Intensive)	2
CA15	Applied Structural Biology	Kimihiko MIZUTANI	1	N/A	2
CA16	Chemical Ecology	Naoki MORI, Hajime ONO, Naoko YOSHINAGA	1	Apr-Sep (Intensive)	2
CA17	Molecular Microbial Science	Tatsuo KURIHARA, Jun KAWAMOTO, Takuya OGAWA	1	Apr-Sep (Intensive)	2
CA18	Biotechnology of Molecular and Cellular Regulation	Yasuyoshi SAKAI, Hiroya YURIMOTO	1	Apr-Sep (Intensive)	2
CA19	Chemistry of Biological Activity	Hideto MIYOSHI, Masatoshi MURAI, Takahiro MASUYA	1	Apr-Sep (Intensive)	2
CA20	Cellular Biochemistry	Noriyuki KIOKA, Yasuhisa KIMURA, Mito KURODA	1	Apr-Sep (Intensive)	2
CA21	Biomacromolecular Chemistry	Kenji SUGASE, Ayako FURUKAWA, Masatomo SO	1	Apr-Sep (Intensive)	2
CA22	Plant Gene Expression	Akifumi SUGIYAMA, Ryosuke MUNAKATA	1	Apr-Sep (Intensive)	2
CA23	Chemistry of Wood Biomass Conversion	Takao KISHIMOTO, Takahito WATANABE Hiroshi NISHIMURA	1	Apr-Sep (Intensive)	2
CA28	Applied Microbiology for Human Life	Jun OGAWA, Yasuyoshi SAKAI, Yoshiharu INOUE	1	Oct-Mar (Intensive)	1, 2 △
CA29	Advanced Applied Biochemistry	Noriyuki KIOKA, Kenji SUGASE, Tatsuo KURIHARA	1	Oct-Mar (Intensive)	1, 2 △
CA34	Applied Plant Sciences	Shinjiro YAMAGUCHI, Kentaro IFUKU Masaru KOBAYASHI, Akifumi SUGIYAMA Yuki TOBIMATSU, Kaori KOHZUMA, Ryosuke MUNAKATA	1	Oct-Mar (Intensive)	1, 2 △
CA24	Life Sciences I (Advanced Course)		1	N/A	
CA25	Life Sciences II (Advanced Course)	Hideyuki TAMAKI	1	Oct-Mar (Intensive)	1, 2
CA26	Life Sciences III (Advanced Course)	Mitsunori SEO	1	Oct-Mar (Intensive)	1, 2
CA27	Life Sciences IV (Advanced Course)		1	N/A	
CA32	Life Sciences V (Advanced Course)		1	N/A	
CA33	Life Sciences VI (Advanced Course)		1	N/A	

No.	Title	Instructor	Credits	Semester	Notes
CF01	Cellular Biochemistry Seminar	Noriyuki KIOKA, Yasuhisa KIMURA, Mito KURODA Atsushi KODAN	1.5 1.5	Apr-Sep Oct-Mar	◎
CF02	Macromolecular Bioscience Seminar	Kenji SUGASE, Ayako FURUKAWA, Masatomo SO	1.5 1.5	Apr-Sep Oct-Mar	◎
CF03	Bioregulation Chemistry Seminar	Masahiro MIYASHITA	1.5 1.5	Apr-Sep Oct-Mar	◎
CF04	Chemical Ecology Seminar	Naoki MORI, Hajime ONO, Naoko YOSHINAGA	1.5 1.5	Apr-Sep Oct-Mar	◎
CF05	Plant Nutrition Seminar	Kentaro IFUKU, Masaru KOBAYASHI, Kumiko OCHIAI, Kaori KOHZUMA	1.5 1.5	Apr-Sep Oct-Mar	◎
CF06	Fermentation Physiology and Applied Microbiology Seminar	Jun OGAWA, Shigenobu KISHINO, Akinori ANDO, Makoto UEDA, Ryotaro HARA	1.5 1.5	Apr-Sep Oct-Mar	◎
CF07	Microbial Biotechnology Seminar	Yasuyoshi SAKAI, Hiroya YURIMOTO, Kosuke SHIRAI	1.5 1.5	Apr-Sep Oct-Mar	◎
CF08	Bioanalytical and Biophysical Chemistry Seminar	Osamu SHIRAI, Yuki KITAZUMI, Keisei SOWA	1.5 1.5	Apr-Sep Oct-Mar	◎
CF09	Biofunction Chemistry Seminar	Hideto MIYOSHI, Masatoshi MURAI, Takahiro MASUYA	1.5 1.5	Apr-Sep Oct-Mar	◎
CF10	Cellular Bioenergy Conversion Seminar	Yoshiharu INOUE	1.5 1.5	Apr-Sep Oct-Mar	◎
CF11	Applied Structural Biology Seminar	Kimihiko MIZUTANI	1.5 1.5	N/A	◎
CF12	Chemistry of Molecular Biocatalysts Seminar	Shinjiro YAMAGUCHI, Kiyoshi MASHIGUCHI, Kengo HAYASHI	1.5 1.5	Apr-Sep Oct-Mar	◎
CF13	Molecular Microbial Science Seminar	Tatsuo KURIHARA, Jun KAWAMOTO, Takuya OGAWA	1.5 1.5	Apr-Sep Oct-Mar	◎
CF14	Seminar on Plant Gene Expression	Akifumi SUGIYAMA, Ryosuke MUNAKATA	1.5 1.5	Apr-Sep Oct-Mar	◎
CF15	Seminar on Plant Metabolic Science	Yuki TOBIMATSU, Kanade TATSUMI	1.5 1.5	Apr-Sep Oct-Mar	◎
CF16	Seminar on Chemistry of Wood Biomass Conversion	Takao KISHIMOTO, Takahito WATANABE, Hiroshi NISHIMURA	1.5 1.5	Apr-Sep Oct-Mar	◎
CG01	Experimental Course of Cellular Biochemistry	Noriyuki KIOKA, Yasuhisa KIMURA, Mito KURODA, Atsushi KODAN	3 3	Apr-Sep Oct-Mar	◎
CG02	Experimental Course of Macromolecular Bioscience	Kenji SUGASE, Ayako FURUKAWA, Masatomo SO	3 3	Apr-Sep Oct-Mar	◎
CG03	Experimental Course of Bioregulation Chemistry	Masahiro MIYASHITA	3 3	Apr-Sep Oct-Mar	◎
CG04	Experimental Course of Chemical Ecology	Naoki MORI, Hajime ONO, Naoko YOSHINAGA	3 3	Apr-Sep Oct-Mar	◎
CG05	Experimental Course of Plant Nutrition	Kentaro IFUKU, Masaru KOBAYASHI, Kumiko OCHIAI, Kaori KOHZUMA	3 3	Apr-Sep Oct-Mar	◎
CG06	Experimental Course of Fermentation Physiology and Applied Microbiology	Jun OGAWA, Shigenobu KISHINO, Akinori ANDO, Makoto UEDA, Ryotaro HARA	3 3	Apr-Sep Oct-Mar	◎
CG07	Experimental Course of Microbial Biotechnology	Yasuyoshi SAKAI, Hiroya YURIMOTO, Kosuke SHIRAI	3 3	Apr-Sep Oct-Mar	◎
CG08	Experimental Course of Bioanalytical and Biophysical Chemistry	Osamu SHIRAI, Yuki KITAZUMI, Keisei SOWA	3 3	Apr-Sep Oct-Mar	◎
CG09	Experimental Course of Biofunction Chemistry	Hideto MIYOSHI, Masatoshi MURAI, Takahiro MASUYA	3 3	Apr-Sep Oct-Mar	◎
CG10	Experimental Course of Cellular Bioenergy Conversion	Yoshiharu INOUE	3 3	Apr-Sep Oct-Mar	◎
CG11	Experimental Course of Applied Structural Biology	Kimihiko MIZUTANI	3 3	N/A	◎
CG12	Experimental Course of Chemistry of Molecular Biocatalysts	Shinjiro YAMAGUCHI, Kiyoshi MASHIGUCHI, Kengo HAYASHI	3 3	Apr-Sep Oct-Mar	◎
CG13	Experimental Course of Molecular Microbial Science	Tatsuo KURIHARA, Jun KAWAMOTO, Takuya OGAWA	3 3	Apr-Sep Oct-Mar	◎

No.	Title	Instructor	Credits	Semester	Notes
CG14	Experimental Course of Plant Gene Expression	Akifumi SUGIYAMA, Ryosuke MUNAKATA	3 3	Apr-Sep Oct-Mar	◎
CG15	Experimental Course of Plant Metabolic Science	Yuki TOBIMATSU, Kanade TATSUMI	3 3	Apr-Sep Oct-Mar	◎
CG16	Experimental Course of Chemistry of Wood Biomass Conversion	Takao KISHIMOTO, Takahito WATANABE, Hiroshi NISHIMURA	3 3	Apr-Sep Oct-Mar	◎
CZ00	Master's Thesis				

#### Requirements by Division of Applied Life Sciences

1) Earn at least 30 credits including 6 credits by seminar and 12 credits by experimental course given by your laboratory.

\* Including more than 4 credits for second year students (This is not applied to the students for Special Course in Agricultural Sciences ).

2) Subjects with "△ marks" target international students.

3) In order to take other divisions' courses and earn them as credits, get permission from your division's office at the time of registration.

4) Retaking subjects you have previously completed is not permitted, even if it is an intensive course with a different instructor in a different year. The only exception is retaking seminars and experimental courses of your own laboratory.

5) Subjects with "1" are for first year students, and those with "2" are for second year students.

6) Subjects with "◎ marks" may be given in English when any of international students wish to attend.

7) If you enroll in April and aim to complete the course in March, register for the "Master's Thesis" during your 2nd (fall) semester as a M2 student. / If you enroll in October and aim to complete the course in September, register for the "Master's Thesis" during your 1st (spring) semester as a M2 student.