

| <p>Course Title</p> <p>Instructor</p> <p>Credits</p> <p>Semester Class Day & Period</p> | <p>Course Description</p> |
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| <p>Natural Products Chemistry and Cell Signaling</p> <p>Yukihito Kabuyama</p> <p>Kenichi Nihei</p> <p>1 credit</p> <p>Intensive course</p> | <p>Natural products are useful materials, for your life, to develop new medicines, cosmetics and agrochemicals. In the Natural Products Chemistry unit, recent knowledge for the structural determination and the chemical synthesis of natural products are introduced on the basis of organic chemistry of spider, wasp and other animal toxins. In the Cell Signaling unit, we will summarize the outline of the mechanisms of cell response toward natural product or hormones, especially with respect to the cell signaling pathway. Then we discuss the molecular mechanisms of toxic effects of natural products. We hope this class will provide a molecular link between natural products and cell behavior at the level of molecular or chemical biology.</p> |
| <p>Food Chemistry and Microbiology</p> <p>Kei Hashimoto</p> <p>Isamu Maeda</p> <p>1 credit</p> <p>Intensive course</p> | <p>This lecture deals with the recent advancement in the theory and the technique for achieving the food safety. In the Food Chemistry unit, a deep impact of polyphenol oxidase (PPO) on the quality of fruit and vegetables is mentioned. Then development of safe inhibitors for PPO to control the enzymatic browning will be introduced. In the Microbiology unit, application of microorganisms and their proteins for crop production, food fermentation, and food safety will be introduced. We hope this class will widen your point of view of food safety.</p> |
| <p>State of the Art of Molecular Biology</p> <p>Koichi Yoneyama</p> <p>Masaru Matsuda</p> <p>Takeshi Kurokura</p> <p>Masayuki Iigo</p> <p>Yukihito Kabuyama</p> <p>Hiromichi Matsumoto</p> <p>Yusuke Sato</p> <p>2 credits</p> <p>Intensive course</p> | <p>This course introduces advanced topics in the Bioscience fields that include many research fields, Animal Science, Plant Biology, Agriculture, Biotechnology and so on. The course also teaches basic knowledge to understand molecular mechanisms underlying the advanced topics.</p> |
| <p>Plant Molecular Communications</p> <p>Takahito Nomura</p> <p>Xiaonan Xie</p> <p>Hisashi Nishigawa</p> <p>Kazuhiro Morohoshi</p> <p>Yutaka Kodama</p> <p>2 credits</p> <p>Intensive course</p> | <p>This course aims at understanding recent topics on molecular biology of plants for future development of new biotechnology techniques. Especially, the course focuses on molecular communications between plants and biotic/abiotic environments. Examples are molecular communications between plants and animals, between plants and microorganisms, and between plants and abiotic factors.</p> |