

Module Code	19349053	Course Term
Course Subject Name	<b>Bioorganic Chemistry</b>	Autumn Semester
Course Tutor	<b>Douglas Drummond</b>	
Credit	2	Taught Day
Schools	School of Agriculture	<b>THU-1</b>
Taught Year	3rd year	
Campus	Ito campus	
Subject Area	Lecture	
Course Subject Classification	Common Basic Subject	
Course Requirements		
Course Requirement (Pre-requisite)	Basic knowledge of organic chemistry	
<b>Course Outline</b>		
This course provides an overview of the molecules and molecular transformations in living organisms.		
<b>key words</b>		
Bioorganic chemistry, metabolism		
<b>Study Objectives (General)</b>		
To understand the fundamental organic chemistry that determines the structure and chemical reactions of molecules in living organisms.		
<b>Study Objectives (Specific)</b>		
To understand the organic chemistry of biochemical transformations. To learn the structures, reactions and organic chemistry of : amino acids and proteins simple and complex carbohydrates lipids nucleic acids secondary metabolites that form important natural products		
<b>Course Plan</b>		
Weekly schedule (may be subject to revision)		
1. Functional groups and common mechanisms in bioorganic chemistry I		
2. Functional groups and common mechanisms in bioorganic chemistry II		
3. Carbohydrates - structure and reactions (Quiz: functional groups and mechanisms)		
4. carbohydrates - metabolism		
5. lipids - structure and reactions (Quiz: carbohydrates)		
6. lipids - metabolism		
7. Exam 1 (lectures 1-6)		
8. nucleic acids - structure and reactions		
9. nucleotide - metabolism		
10. amino acids and proteins - structure and reactions (Quiz: nucleic acids)		
11. amino acids - metabolism		
12. Exam 2 (lectures 8-11 )		
13. natural product chemistry and biosynthesis I		
14. natural product chemistry and biosynthesis II		
15. Oral presentations of report topics in natural product chemistry and biosynthesis		
<b>Course Approaches</b>	Lectures and research and presentation of report and oral presentation	
<b>Textbooks</b>	Introduction to Organic Chemistry by W.H. Brown and T. Poon 4th ed (2010) The Organic Chemistry of Biological Pathways by John McMurry and Tadhg Begley 1st ed. (2005)	
<b>Reference Books</b>		
<b>Study consultation (office hour)</b>	Office: Rm.679 Bldg. West-5 Faculty of Agriculture, Kyushu University, Ito Campus Office Hours: 09:00 - 18:00 Email: d.drummond@agr.kyushu-u.ac.jp Phone: (092)-802-4768	
<b>Exams/Results Evaluation Method</b>	short quizzes: 15% short exams: 60% written report: 15% oral presentation to class: 10%	
<b>Others</b>	A minimum of 80% attendance is mandatory.	