



Course Syllabus (Academic Year 2020)

School of Interdisciplinary Studies, Kanchanaburi Campus, Mahidol University

1. **Course No. and Title** : KAID 220 Basic Organic Chemistry
Credit (study hours) : 3(3-0-6)
2. **Program Name** : Bachelor of Science in Food Technology
 Bachelor of Science Program in Conservation Biology
Course Module : Specific Requirement Course
Pre-requisite : -
Co-requisite : -
3. **Class Semester** : 1st Semester 2nd Semester Academic Year 2019
4. **Class Schedule & Venue** : 09.00 – 12.00, Online WebEx
5. **Class Coordinator** : Assist. Prof. Dr. Nongnuch Sungayuth
 Contact No. : 083-6356441 Email : nongnuchts@gmail.com

6. Course Description

Bonding and molecular structure of organic compounds, nomenclature, reactions of organic compounds, stereochemistry, synthesis and reactions of alkane, cycloalkane, alkene, cycloalkene, alkyne, aromatic hydrocarbon, halide, alcohol, phenol, ether, aldehyde, ketone, carboxylic acid and their derivatives, amine, protein, carbohydrate, lipid;

Course Objectives / Course Learning Outcomes (CLOs)

No.	Objectives / CLOs	Expected Skills / Knowledge			PLOs
		Specific	Generic	Knowledge	
8.1	Understand the important terms and definitions	reactions of organic compounds	nomenclature, Bonding and molecular structure of organic compounds	Basic organic chemistry	Understand
8.2	Explain the physical and chemical	Synthesis	English	Basic	Explain

	properties of organic compounds	and reactions of organic compounds	Language, Information technology	organic chemistry	
8.3	Predict chemical reaction of organic compounds	Reactions of organic chemistry	English Language, Information technology	Basic organic chemistry	Apply
8.4	Compare and select reaction for organic chemical problem	Reactions of organic chemistry	English Language, Information technology	Basic organic chemistry	Analysis

7. Class Instructor List

7.1 Name : Assist. Prof. Dr. Nongnuch Sungayuth Contact No. : 083-6356441

Email : nongnuchts@gmail.com

7.2 Name : Dr. Waraporn Threeprom Contact No. : 083-7784445

Email : wthreeprom@yahoo.com

8. Course Outline

Week	Date	Contents	CLOs	Teaching & Learning	Instructor's Names
1	6/07/2020	Bonding and molecular structure of organic compounds	8.1	Lecture, Group discussion, Group assignment	Dr. Waraporn
2	13/07/2020	Nomenclature of organic compounds: IUPAC, Common name etc.	8.1, 8.2	Lecture, Group discussion,	Dr. Waraporn

				Homework	
3	20/07/2020	Reactions of organic compounds	8.2, 8.3	Lecture, Group discussion, Homework	Dr. Waraporn
4	27/07/2020	Stereochemistry	8.2, 8.3	Lecture, Group discussion, Homework	Dr. Waraporn
5	3,10/08/2020	Synthesis and Reactions of alkane and cycloalkane	8.2, 8.3, 8.4	Lecture, Group discussion, Homework	Dr. Waraporn
6	10,17/08/2020	Synthesis and Reactions of Alkene and cycloalkene	8.2, 8.3, 8.4	Lecture, Group discussion, Homework	Dr. Waraporn
7	17/08/2020	Synthesis and Reactions of alkyne	8.2, 8.3, 8.4	Lecture, Group discussion, Homework	Dr. Waraporn
8	24/08/2020	Structure and reactions of aromatic hydrocarbon	8.2, 8.3, 8.4	Lecture, Group discussion, Homework	Dr. Waraporn

9	31/08/2020	Synthesis and Reactions of halides	8.2, 8.3, 8.4	Lecture, Group discussion, Homework	Dr. Waraporn
10	19-23 October 2020 Mid-term Examination				
11	07/09/2020	Synthesis and Reactions of alcohol, phenol and ether	8.2, 8.3, 8.4	Lecture, Group discussion, Homework	Assist. Prof. Dr. Nongnuch
12	14/09/2020	Synthesis and Reactions of aldehyde and ketone	8.2, 8.3, 8.4	Lecture, Group discussion, Homework	Assist. Prof. Dr. Nongnuch
13	28/09/2020, 5/10/2020	Synthesis and Reactions of carboxylic acid and their derivatives	8.2, 8.3, 8.4	Lecture, Group discussion, Homework	Assist. Prof. Dr. Nongnuch
14	12/10/2020	Synthesis and Reactions of amine	8.2, 8.3, 8.4	Lecture, Group discussion, Homework	Assist. Prof. Dr. Nongnuch
15	19/10/2020	Structure of protein	8.2, 8.3, 8.4	Lecture, Group discussion, Homework	Assist. Prof. Dr. Nongnuch
16	26/10/2020	Structure of carbohydrate	8.2, 8.3,	Lecture,	Assist. Prof. Dr.

		and lipid	8.4	Group discussion, Group assignment	Nongnuch
17	30 November-11 December 2020 Final Examination				
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9. Course Assessment

No.	Methods / Activities	Regulations	CLOs	Week	Weight Distribution (%)
11.1	Mid-term exam	Online Writing examination (Open book)	8.1, 8.2	9	30
11.2	Final exam	Online Writing examination (Open book)	8.2, 8.3, 8.4	18-19	30
11.3	Group Reports / Assignments	Complete and On time	8.1, 8.2, 8.3, 8.4	1, 16	20
11.4	Personal homework	Complete and On time	8.1, 8.2	2-16	20
				Total	100

10. Grading System

Criterion-referenced evaluation

Grade	Score	Grade	Score	Grade	Score	Grade	Score
A	≥ 80 %	B	70 – 74.99%	C	60 – 64.99%	D	50 – 54.99%
B+	75 – 79.99%	C+	65 – 69.99%	D+	55 – 59.99%	F	< 50 %

Norm-referenced evaluation

*If use both criterion and norm-referenced evaluation, please tick two boxes.

11. References

11.1 Solomon TWG, Fryhle CB. Organic Chemistry, 10th ed., John Wiley & Sons, Inc., Asia, 2010.

11.2 Pine SH. Organic Chemistry, 5th ed., McGraw-Hill, Inc., Singapore, 1987.

11.3 Clayden JP, Greeves N, Warren S, Wothers PD. Organic Chemistry, Oxford University Press, Italy, 2001.

11.4 Bruice PY. Organic Chemistry, 4th ed., Pearson Education Inc., USA, 2004.