

Module Handbook

Modul Name	Elucidation of Organic Structure (Practical)
Module Level	Bachelor
Abbreviation, if applicable	KIO 303
Sub-heading, if applicable	-
Course included in the module, if applicable	-
Semester/term	6 th / third year
Modul coordinator(s)	Dr. MulyadiTanjung, MS.(C1) Dr. NanikSitiAminah, MSi.(C2)
Lecturer(s)	Dr. Alfinda Novi Kristanti, DEA; Dr. Ir. Suyanto Dr. Hery Suwito, MSi., Dr. Ir. Suyanto
Language	Bahasa Indonesia
Classification within the curriculum	Compulsory
Teaching format/class hours per week during the semester	2 hours laboratory work (50 min/ hour)
Workload	2 hours doing worksheet and pretest preparation, 2 hours laboratory work, 2 hours group discussion, searching literature and writing report, 13 week per semester, and total 78 hours per semester ~ 2.6 ECTS *
Credit point	1
Requirement	Elucidation of Organic Structure (KIO 302)
Learning Outcomes	<p>General competence (skill) : Able to perform molecular structure elucidation and deduce unknown compounds based on qualitative data and physicochemical properties of organic compounds.</p> <p>Specific Competence:</p> <ol style="list-style-type: none"> 1. Being able to do a preliminary test in the analysis of organic compounds 2. Being able to determine the elements - the building blocks of an organic compound 3. Being able to classify organic compounds in the classroom the solubility 4. Be able to identify the functional groups in a compound by reaction drops 5. Be able to identify a compound by UV - Vis 6. Able to identify the functional groups of a compound using IR spectrophotometer 7. Able to perform a compound structure elucidation using NMR spectrum 8. Able to structure elucidation of a compound using a spectrum MS 9. Students are able to make a compound structure elucidation using

	spectrum UV-Vis, IR, NMR and MS
Content	Methods preliminary analysis that includes test burning and authoring, analysis of the following elements: C, H, O, N, S, P and halogen qualitatively, class solubility, the test of functional groups, the identification of the structure of organic compounds as UV-Vis, IR / FTIR, NMR (proton and carbon) and MS, concluded unidentified compounds based on the combined data analysis group, group functions, physical properties, chemical properties and spectroscopic
Attribute softskills	Communication skill, group skill, organization skill, leadership
Study/exam achievements	Students are considered to be competent and pass if at least get 55 Final score is calculated as follows: Practicum30%; assignment 30%; Softskill10%; UAS30% Final index graduation A : 100>NA≥75 AB: 74,9> NA≥70 B : 69,9> NA≥65 BC : 64,9> NA≥60 C : 59,9>NA≥55 D : 54,9>NA≥40 E : 39,9≥NA
Learning Methods	Lecture, Discussion and assignment
Forms of media	LCD, computer, White board, internet
Literature	<ol style="list-style-type: none"> 1. Shriner et al, 1980, <i>The Systematic Identification of Organic Compounds</i>, 6th ed., John wiley & Sons, New York 2. Silverstain, Bassler, Morril, 1991, <i>Spectrometric Identification of Organic Compounds</i>, 5th ed., John wiley & Sons, New York 3. William, D.H., Fleming, I., 1987, <i>Spectrometric Identification of Organic Compounds</i>, 4th ed., McGraw-Hill, New York
Note	*Total ECTS = {(total hours workload x 50 min) / 60 min } / 25 hours Each ECTS is equals with 25 hours