Module Handbook

Module Name	**Organic Synthesis**
Module Level	Bachelor
Kode Mata Kuliah	KIO 304
Sub Heading, if applicable	-
Courses included in the module, if applicable	-
Semester/Term	3 / ThirdYears
Person in charge	Dr. HerySuwito, M.Si Dr. Alfinda Novi Kristanti, DEA
Member	Dr. MulyadiTanjung, M.S / Dr. NanikSitiAminah, M.Si
Language of instruction	Bahasa Indonesia
Classification within the curriculum	Compulsory Course / ~~Elective course~~
Teaching format / class hours per week during the semester	2class hours /week (50 min / hour)
Workload	2hours in class, 2 hours structured activities, 2 hours individual learninga semester13 week Total a semester :78 hours~ 2.6 ECTS *
Credit Points	2 SCU
Requirements	Physical Organic Chemistry
Atribut softskill	Logic, communication skill
Learning goals/competencies	**General Competence (knowledge) :** After following this Course, students can design the synthesis of organic compounds according to sinton approach and disconnection **Specific Competence:** • Being able to understand types of organic reactions • Being able to understand definition of ideal synthesis, target molecule and determination of synthesis starting substance through retro synthesis analysis. • Being able to understand functional group addition by joining of carbon atom, convergent and divergent synthesis
Course Content	Types of organic reactions, ekuivalence and functional group transformation, synton and dipol inversion (umpolung), source of positive and engative carbon atom, definition of ideal synthesis, target molecule and determination of synthesis starting substance through retro synthesis analysis, synthesis by disconnection approach, synthon approach, reconnection approach by functional group transformation, functional group addition by joining of carbon atom, convergent and divergent synthesis.
Study/Exams achievement	Students are considered to be competent and pass if at least get 55. Passing grade of the Course is formulated using rubric as follows. Students Grading system: ▪ Assignment : 20% ▪ Quiz : 20% ▪ Mid-semester test : 30% ▪ Final-semester test : 30%

<table>
<tr><td></td><td>Grading based on university academic rules:
<table>
<tr><th>Score</th><th>Grade</th></tr>
<tr><td>75 - 100</td><td>A</td></tr>
<tr><td>70 - 74,9</td><td>AB</td></tr>
<tr><td>65 - 69,9</td><td>B</td></tr>
<tr><td>60 - 64,9</td><td>BC</td></tr>
<tr><td>55 - 59,9</td><td>C</td></tr>
<tr><td>40 - 54,9</td><td>D</td></tr>
<tr><td>0 - 39,9</td><td>E</td></tr>
</table></td></tr>
<tr><td>Learning Methods</td><td>• Lecturing, discussion, assignments</td></tr>
<tr><td>Forms of Media</td><td>• LCD, computer, whiteboard</td></tr>
<tr><td>Literature</td><td>1. Warren, S. Wyatt, P., 2008, Organic Synthesis : The Disconnection Approach, 2nd Ed., John Wiley & Sons, Chichester
2. Warren, S., 1978, Designing Organic Synthesis: a Programmed Introduction to Synthon Approach, John Wiley & Sons, Chichester</td></tr>
<tr><td>Notes</td><td>*Total ECTS = {(total hours workload x 50 min) / 60 min } / 25 hours
Each ECTS is equals with 25 hours</td></tr>
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