

Module Handbook

| Module Name | Physical Organic Chemistry | | | | | | | | |
|--|--|-------|-------|----------|---|-----------|----|-----------|---|
| Module Level | Bachelor | | | | | | | | |
| Kode Mata Kuliah | KIO 301 | | | | | | | | |
| Sub Heading, if applicable | - | | | | | | | | |
| Courses included in the module, if applicable | - | | | | | | | | |
| Semester/Term | 5 / Third Years | | | | | | | | |
| Person in charge | Tjitjik Srie Tjahjandarie, Ph.D/Dr Alfinda Novi Kristanti | | | | | | | | |
| Member | Dr. Mulyadi Tanjung, M.S/Dr Hery Suwito | | | | | | | | |
| Language of instruction | Bahasa Indonesia | | | | | | | | |
| Classification within the curriculum | Compulsory Course / Elective course | | | | | | | | |
| Teaching format / class hours per week during the semester | 3 class hours /week (50 min / hour) | | | | | | | | |
| Workload | every week : 3 hours in class, 3 hours structured activities, 3 hours individual learning, 13 week a semester. Total per semester 117 hours ~ 3.9 ECTS * | | | | | | | | |
| Credit Points | 3 SCU | | | | | | | | |
| Requirements | Organic Chemistry II (KIO 203) | | | | | | | | |
| Learning goals/competencies | <p>General Competence (skill) : Students have capability on time management and communication skill to give presentation on specific topic of organic chemistry</p> <p>Specific Competence : After following this Course, students able to evaluate the properties of intramolecular, reactivity based on the structure, reactions and stereochemistry of organic compounds</p> | | | | | | | | |
| Course Content | Intramolecular properties of organic compounds consisting of resonance, Hyperconjugation, covalent bonds, bond energy, bond length, the dipole moment and acid-base equilibrium. The relationship of structure and reactivity of organic molecules based on addition reaction, nucleophilic substitution, electrophilic substitution, elimination and rearrangement reactions. Stereochemistry and reactivity relationship of molecules based on enantiomer, diastereomer, molecular conformation, absolute configuration, regiospecific and regioselective reaction. | | | | | | | | |
| Study/Exams achievement | <p>Passing grade of the Course is formulated using rubric as follows.</p> <p>Students Grading system:</p> <ul style="list-style-type: none"> ▪ Assignment : 20% ▪ Quiz : 20% ▪ Mid-semester test : 30% ▪ Final-semester test : 30% <p>Grading based on university academic rules:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Score</th> <th>Grade</th> </tr> </thead> <tbody> <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> </tbody> </table> | Score | Grade | 75 - 100 | A | 70 - 74,9 | AB | 65 - 69,9 | B |
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|------------------|---|-----------|----|--|
| | | 60 - 64,9 | BC | |
| | | 55 - 59,9 | C | |
| | | 40 - 54,9 | D | |
| | | 0 - 39,9 | E | |
| Learning Methods | <ul style="list-style-type: none"> Lecturing, discussion, tutorials | | | |
| Forms of Media | <ul style="list-style-type: none"> LCD, computer, whiteboard | | | |
| Literature | <ol style="list-style-type: none"> Aitken, R.A. and Kilenyi, S.N., 1994, <i>Asymmetric Synthesis</i>, Blakie Academic and Professional, London Gould, E.S., 1964, <i>Mechanism and Structure in Organic Chemistry</i>, Holt, Linehart and Winston, New York Issacs, N.S., 1992, <i>Physical Organic Chemistry</i>, 2nded., Longman Science Technical, John Wiley and Sons Inc., New York Sykes, P., 1986, <i>A Guidebook to Mecanism in Organic Chemistry</i>, Longman Group Ltd., Essex | | | |
| Notes | <p>*Total ECTS = {(total hours workload x 50 min) / 60 min } / 25 hours</p> <p>Each ECTS is equals with 25 hours</p> | | | |