

Module Descriptions

Module designation	Chemical Kinetics (Kinetika Kimia)
Semester(s) in which the module is taught	4 th / second year
Person responsible for the module	Prof. Dr. Suyono, M.Pd. Dr. Bertha Yonata, M.Pd. Nur Hayati, M.Si.
Language	Indonesian Language and English
Relation to curriculum	Compulsory course
Teaching methods	Project method 3 work hours per week (3 x 170 minutes per week)
Workload (incl. contact hours, self-study hours)	1 CU for a bachelor's degree equals 170 minutes (50 minutes face-to-face, 60 minutes structured, 60 minutes independent learning) per week × 14 weeks, excluding mid and end-term exams. = 39.67 work hours per semester = 1.587 ECTS.
Credit Point	3 CU = 3 x 1.59 = 4.77 ECTS
Requirements according to the examination regulations	Quantum Chemistry
Recommended Prerequisites	
Module Objectives/intended learning outcomes	<ol style="list-style-type: none"> 1. Students have the ability to communicate the results of experiments, so they are able to develop a conceptual framework for formulating actions or alternative actions in solving chemical problems in life. 2. Students skillfully use tools in determining reaction rates and reaction mechanisms based on empirical facts (inductive dimensions) and submit theoretical arguments to explore empirical facts that occur (deductive dimensions) in the field of reaction kinetics. 3. Students have knowledge of the laws of reaction rates and reaction mechanisms based on empirical facts (inductive dimensions) and submit theoretical arguments to explore empirical facts that occur (deductive dimensions) in the field of reaction kinetics. 4. Students have the ability to cooperate and are responsible for assessing the rate of reaction as a function of concentration, temperature, and catalyst as well as the legal interpretation of the reaction rate to the discussion and design of reaction mechanisms (including photochemical).
Content	Empirical and theoretical studies of reaction rates as a function of concentration, temperature and catalysts and the interpretation of the reaction rate laws to the discussion and design of reaction mechanisms (including photochemical).
Examination forms	Project/product results and presentation

Study and examination requirements	<p>Students are considered competent and pass if they get at least a minimum score of 68 from these assessments:</p> <ol style="list-style-type: none"> 1. Participatory Activities (discussion, presentation, assignment): 55.00% 2. Test: 10.00% 3. Laboratory Practical Assessment: 35.00% <p>Convert the 0-100 scale value to a 0-4 scale and the letters are arranged as follows.</p> <table border="1" data-bbox="619 562 1385 987"> <thead> <tr> <th>Letter</th> <th>Number</th> <th>Interval score</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>4.00</td> <td>$85 \leq A < 100$</td> </tr> <tr> <td>A-</td> <td>3.75</td> <td>$80 \leq A- < 85$</td> </tr> <tr> <td>B+</td> <td>3.50</td> <td>$75 \leq B+ < 80$</td> </tr> <tr> <td>B</td> <td>3.00</td> <td>$70 \leq B < 75$</td> </tr> <tr> <td>B-</td> <td>2.75</td> <td>$65 \leq B- < 70$</td> </tr> <tr> <td>C+</td> <td>2.50</td> <td>$60 \leq C+ < 65$</td> </tr> <tr> <td>C</td> <td>2.00</td> <td>$55 \leq C < 60$</td> </tr> <tr> <td>D</td> <td>1.00</td> <td>$40 \leq D < 55$</td> </tr> <tr> <td>E</td> <td>0.00</td> <td>$0 \leq E < 40$</td> </tr> </tbody> </table>	Letter	Number	Interval score	A	4.00	$85 \leq A < 100$	A-	3.75	$80 \leq A- < 85$	B+	3.50	$75 \leq B+ < 80$	B	3.00	$70 \leq B < 75$	B-	2.75	$65 \leq B- < 70$	C+	2.50	$60 \leq C+ < 65$	C	2.00	$55 \leq C < 60$	D	1.00	$40 \leq D < 55$	E	0.00	$0 \leq E < 40$
Letter	Number	Interval score																													
A	4.00	$85 \leq A < 100$																													
A-	3.75	$80 \leq A- < 85$																													
B+	3.50	$75 \leq B+ < 80$																													
B	3.00	$70 \leq B < 75$																													
B-	2.75	$65 \leq B- < 70$																													
C+	2.50	$60 \leq C+ < 65$																													
C	2.00	$55 \leq C < 60$																													
D	1.00	$40 \leq D < 55$																													
E	0.00	$0 \leq E < 40$																													
Media employed	Worksheet, Computer, LCD, White board, laboratory instruments																														
Reading List	<ol style="list-style-type: none"> 1. Anceyta, J. (2017). <i>Chemical Reaction Kinetics: Concepts, Methods and Case Studies</i>. New Jersey: John Wiley & Sons Ltd. 2. House, J. E. (2007). <i>Principles of chemical kinetics, 2nd ed.</i> San Diego: Elsevier Inc. 3. Laidler, K. J. (1987). <i>Chemical Kinetics, third edition</i>. New Delhi: Pearson Education Inc. 4. Wilkinson, F. (1980). <i>Chemical Kinetics and Reaction Mechanisms</i>. Victoria: Van Nostrand Reinhold Company. 																														
Date of last amendment	31 Januari 2025																														