Module Descriptions

A **module** is a self-contained **learning unit** within a higher education program that includes thematically related courses and is assigned a **fixed number of credits**. It follows specific **learning objectives**, includes an **assessment component**, and contributes to achieving the qualifications of a degree program. In some countries, “modules” are also named “courses”.

Please provide a module description for each module. In addition to the compulsory and elective modules, this also includes credited internships and the final thesis.

Please summarize all module descriptions in one document (Module Handbook) and create a table of contents so that the modules can be found easily.

Module designation	*Models of Teaching*
Semester(s) in which the module is taught	3
Person responsible for the module	*Sukisman Purtadi, M.Pd.*
Language	*Indonesia*
Relation to curriculum	*Compulsory / ~~elective / specialisation~~*
Teaching methods	*Lecture, discussion, project*
Workload (incl. contact hours, self-study hours)	*(Estimated) Total workload:* *100 minutes/week for class learning*
Credit points	*2 sks*
Required and recommended prerequisites for joining the module	*Curriculum Review*
Module objectives/intended learning outcomes	*On successful completion of the course students should be able to:* 1. *cultivate **responsibility, independence, and the confidence to voice their thoughts** while respecting others' views* 2. ***apply chemistry learning strategies** effectively, integrating **technological, pedagogical, and content knowledge (TPACK)** to achieve learning goals.* 3. ***work independently or in groups to solve challenges** related to mastering these strategies, preparing them to become professional educators.* 4. *effectively **communicate how theoretical ideas can be used to address issues** in applying chemistry learning strategies.*

<table>
<tr><td>Content</td><td>
- Introduction to Chemistry Learning
- Learning Theories in Chemistry Learning
- Approaches to Chemistry Learning
- Scientific Approach in the 2013 Curriculum
- Methods, Techniques, and Tactics in Chemistry Learning
- Basic Concepts of Learning Models
- Grouping Learning Models Based on Objectives
- Direct Instruction and Discovery Learning Models
- Cooperative Learning Model
- Inquiry Learning Model
- Learning Cycle Model
- Problem-Based Learning Model
- Project-Based Learning Model
- Chemistry Learning with Hybrid Learning
- Chemistry Learning with Multiple Representations
</td></tr>
<tr><td>Examination forms</td><td>Project report and presentation, written tests</td></tr>
<tr><td>Study and examination requirements</td><td>Minimum attendance at lectures is 75%
Final score (NA) is calculated as follows:
<table>
<tr><th>Learning Outcome</th><th>Weight (%)</th><th>Technique of Assesment</th></tr>
<tr><td>1</td><td>5</td><td>Participation</td></tr>
<tr><td>1</td><td>5</td><td>Observation</td></tr>
<tr><td>2</td><td>10</td><td>Mid-term Written Test</td></tr>
<tr><td>3</td><td>20</td><td>Presentation and Observation</td></tr>
<tr><td>4</td><td>10</td><td>Final-term Written Test</td></tr>
<tr><td>4</td><td>50</td><td>Project</td></tr>
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</td></tr>
<tr><td>Reading list</td><td>

1. Anton E. Lawson (2010) Teaching Inquiry Science in Middle and Secondary Schools, Los Angeles: Sage
2. Joyce, M., & Weil, J., 2000, Models of Teaching, Englewood Cliffs, New Jersey: Prentice-Hall, Inc.
3. Arends, R.I. 2007. Learning to Teach. New York: McGraw Hill Companie
4. Gallagher, J.J. 2007. Teaching Science for Understanding. New Jersey; Pearson Education
5. Lawson, A.E. 1995. Science Teaching and The Development of Thinking. California: Wdsworth Company
6. Gilbert, J.K, & Treagust, D. 2009. Multiple Representation in Chemical Education. Springer
7. Eggen, P. & Kauchak. 2012. Strategic and Models for Teaching Content and Thinking. Boston: Pearson Education

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Prepared by	Verified by:	Authorized by:
Sukisman Purtadi, M.Pd.		Program Study Coordinator