<table>
<tr><td colspan="2">  </td><td colspan="4">Faculty of Natural Sciences and Mathematics
Chemistry Department
Chemistry Education Study Program</td></tr>
<tr><td colspan="2">Module name</td><td colspan="4">Coordination Chemistry</td></tr>
<tr><td colspan="2">Module level, if applicable</td><td colspan="4">4th Year</td></tr>
<tr><td colspan="2">Code, if applicable</td><td colspan="4">SPK – 755</td></tr>
<tr><td colspan="2">Semester(s) in which the module is taught</td><td colspan="4">7th semester</td></tr>
<tr><td colspan="2">Person responsible for the module</td><td colspan="4">Imam Sahroni, M.Sc.</td></tr>
<tr><td colspan="2">Lecturer</td><td colspan="4">Imam Sahroni, M.Sc.</td></tr>
<tr><td colspan="2">Language</td><td colspan="4">Indonesia</td></tr>
<tr><td colspan="2">Relation to curriculum</td><td colspan="4">Compulsory</td></tr>
<tr><td>Teaching methods</td><td>Class size</td><td>Forms of active participation</td><td colspan="3">Workload: 91 hours</td></tr>
<tr><td rowspan="3">Class discussion</td><td rowspan="3">50-60</td><td rowspan="3">Discussion</td><td>Lecture: 100 (min) x 16 (meeting)</td><td colspan="2">27 hours</td></tr>
<tr><td>Assignment: 120 (min) x 16 (week)</td><td colspan="2">32 hours</td></tr>
<tr><td>Independent study: 120 (min) x 16 (week)</td><td colspan="2">32 hours</td></tr>
<tr><td colspan="2">ECTS credit</td><td colspan="4">3.25</td></tr>
<tr><td colspan="2">Credit points</td><td colspan="4">2 SCU</td></tr>
<tr><td colspan="2">Requirements according to the examination regulations</td><td colspan="4">Minimum attendance at lectures is 75% (according to UII regulation)</td></tr>
<tr><td colspan="2">Recommended prerequisites</td><td colspan="4">N/A</td></tr>
<tr><td colspan="2">Related course</td><td colspan="4">Chemical Bonding</td></tr>
<tr><td colspan="2">Module objectives/intended learning outcomes</td><td colspan="4">On successful completion of the course students should be able to:
1. Explain the theoretical concepts of central atoms and ligands in complex compounds.
2. Explain the interaction between the central atom and ligands in forming complex compounds.
3. Identify structures and explain the names of complex compounds based on bond interactions between atoms and ligands
4. Conclude complex compounds from the results of geometric identification and energy stability.</td></tr>
<tr><td colspan="2">Content</td><td colspan="4">• Introduction to coordination chemistry
• Bond theory of transition metal compounds
• Crystal field theory</td></tr>
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<tr><td></td><td colspan="3">

- Molecular orbital theory
- Stereochemistry and isomers
- Properties of coordination compounds
- Preparation and reaction of complex compounds

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<tr><td rowspan="6">Study and examination requirements and forms of examination</td><td colspan="3">Final score (NA) is calculated as follows:</td></tr>
<tr><td>Intended learning outcomes</td><td>Weight (%)</td><td>Technique of assessment</td></tr>
<tr><td>1</td><td>25</td><td>Written test: assignment, midterm</td></tr>
<tr><td>2</td><td>25</td><td>Written test: assignment, midterm</td></tr>
<tr><td>3</td><td>25</td><td>Written test: assignment, final examination</td></tr>
<tr><td>4</td><td>25</td><td>Written test: assignment, final examination</td></tr>
<tr><td>Media employed</td><td colspan="3">Power point slide presentation, video, Google classroom</td></tr>
<tr><td>Reading list</td><td colspan="3">Crabtree, Robert, H., 2005, The Organometallic Chemistry of the Transition Metals, 4th Edition, John Wiley and Son, New Jersey.
Canham, R, G., 2005, Descriptive Inorganic Chemistry, 4th Edition, John Wiley.</td></tr>
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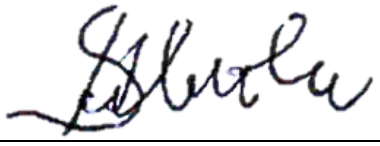
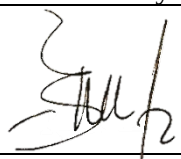
Prepared by:	Verified by:	Authorized by:
		
Person responsible for the module	Student representative	Coordinator Program