



UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF CHEMISTRY EDUCATION
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Bachelor of Education in Chemistry

MODULE HANDBOOK

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| Module name: | Instructional Strategies of Chemistry |
| Module level, if applicable: | Undergraduate |
| Code: | MPK6303 |
| Sub-heading, if applicable: | - |
| Classes, if applicable: | 2 |
| Semester: | 4 |
| Module coordinator: | Dr. Das Salirawati |
| Lecturer(s): | Dr. Das Salirawati, M.Si.; Sukisman Purtadi, S.Pd.,M.Pd. |
| Language: | Bahasa Indonesia |
| Classification within the curriculum: | Compulsary Course |
| Teaching format / class hours per week during the semester: | 150 minutes lectures, 180 minutes individual study, and, 180 minutes structured activities per week. |
| Workload: | Total workload is 90.67 hours per semester which consists of 150 minutes lectures, 180 minutes structured activities, and 150 minutes individual study per week for 16 weeks. |
| Credit points: | 3 SKS (4.92 ETCS) |
| Prerequisites course(s): | - |
| Course Outcomes: | After taking this course, the students are expected to be able to: CO1. responsibly study chemical learning strategies to achieve teacher pedagogical competence. CO2. describe the basic concepts of chemical learning strategies and problems in chemistry learning and various learning strategies, both in the form of approaches, methods, techniques, and learning models. CO3. master various basic teaching skills as a basis for planning learning strategies and developing learning models with scientific approaches. CO4. apply appropriate learning strategies in dealing with unexpected situations |
| Content: | Through this course, students are expected to be able to plan learning strategies that are suitable for chemistry subjects in schools (high school, vocational) which include approaches, methods, techniques, models, and the ability to develop learning models with a scientific approach. The course contains of the followings materials: understanding learning strategies, chemistry learning problems, basic teaching skills, public speaking, method approaches, techniques, and |

| | learning models, scientific approaches, learning models, strategies to face unexpected situations. | | | | | | | | | | | | | | | |
|----------------------------|---|--|--------------------------------|---------------------------------|----------------------|--------|---|------------------------------|--|--------------------------------|---------------------------------|--|--|--|-------|------|
| Study / exam achievements: | <p>Attitude assessment is carried out at each meeting by observation and/or self-assessment techniques using the assumption that basically every student has a good attitude. The student is marked very good or not good attitude if they show it significantly compared to other students in general. The result of attitude assessment is not taken into account in the final grades, but as one of the requirements to pass the course. Students will pass from this course if at least have a good attitude.</p> <p>The final mark will be weight as follow:</p> <table border="1"> <thead> <tr> <th>No</th> <th>CO</th> <th>Assessment Object</th> <th>Assessment Technique</th> <th>Weight</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CO1, CO2, CO3, CO4.</td> <td>Assignments Quiz Final Exam Participation</td> <td>Presentation / written test</td> <td>30% 20% 30% 30% 20%</td> </tr> <tr> <td></td> <td></td> <td></td> <td>Total</td> <td>100%</td> </tr> </tbody> </table> | No | CO | Assessment Object | Assessment Technique | Weight | 1 | CO1, CO2, CO3, CO4. | Assignments Quiz Final Exam Participation | Presentation / written test | 30% 20% 30% 30% 20% | | | | Total | 100% |
| No | CO | Assessment Object | Assessment Technique | Weight | | | | | | | | | | | | |
| 1 | CO1, CO2, CO3, CO4. | Assignments Quiz Final Exam Participation | Presentation / written test | 30% 20% 30% 30% 20% | | | | | | | | | | | | |
| | | | Total | 100% | | | | | | | | | | | | |
| Forms of media: | Video files, presentation slides, laptop, whiteboard, stationeries, LCD projector. | | | | | | | | | | | | | | | |
| References: | <p>Ad Roojakkers. (1993). <i>Mengajar dengan sukses</i>. Jakarta: Grasindo.</p> <p>Blokdyk, G., 2019. <i>Blended Learning A Complete Guide</i>. 5STARCOoks.</p> <p>Mawardi, M., & Fitriza, Z. (2019). The Guided Inquiry Learning Materials Based on Multiple Chemical Representations As One of Chemistry Learning Strategies Centered on Students. <i>Pelita Eksakta</i>, 2(2). https://doi.org/10.24036/pelitaeksakta/vol2-iss2/55</p> <p>Temel, S., Ozgur, S. D., Sen, S., & Yilmaz, A. (2012). The Examination of Metacognitive Skill Levels and Usage of Learning Strategies of Preservice Chemistry Teachers. <i>Procedia - Social and Behavioral Sciences</i>, 46. https://doi.org/10.1016/j.sbspro.2012.05.318</p> <p>Hans-Dieter Barke, Al Hazari, & Sileshi Yitbarek. (2009). <i>Misconceptions in chemistry</i>. Heidelberg: Springer</p> <p>Hans-Dieter Barke, Gunther Harsch, & Siegbert Schmid. (2009). <i>Essentials of chemical education</i>. Heidenberg: Springer.</p> <p>John Vivian. (2008). <i>Teori Komunikasi Massa</i>. Jakarta: Kencana Prenada Media Group</p> <p>Made Wina. (2011). <i>Strategi pembelajaran inovatif kontemporer: suatu tinjauan konseptual operasional</i>. Jakarta: Bumi Aksara.</p> <p>Mel Silberman. (2002). <i>Active learning : 101 Strategi pembelajaran aktif</i>. Yogyakarta : Yappendis.</p> <p>Moh. Uzer Usman. (2000). <i>Menjadi guru profesional</i>. Bandung: Remaja Rosdakarya.</p> <p>Munif Chatib. (2011). <i>Gurunya manusia</i>. Bandung: Mizan Media Utama.</p> <p>Neila Ramdhani. (2012). <i>Menjadi guru inspiratif</i>. Jakarta: titian</p> | | | | | | | | | | | | | | | |

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| | <p>Foundation Publisher.</p> <p>Onong Uchjana Effendy. (2007). <i>Ilmu Komunikasi: Teori dan Praktek</i>. Bandung: Remaja Rosdakarya.</p> <p>Paul Suparno. (2005). <i>Miskonsepsi & perubahan konsep pendidikan fisika</i>. Jakarta: Grasindo.</p> <p>Rob Batho, et. al. (2005). <i>Learning and teaching in secondary schools</i>. London: Bell & Bain Ltd.</p> <p>Syaiful Bahri Djamarah & Aswan Zain. (2010). <i>Strategi belajar-mengajar</i>. Jakarta: Rineka Cipta.</p> <p>Tresna Sastrawijaya. (1998). <i>Proses belajar-mengajar kimia</i>. Jakarta: Depdikbud</p> |
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PLO and CO mapping

| | PLO | | | | | |
|------------|----------|------|-----------|----------------|---------------|------|
| | Attitude | | Knowledge | Specific Skill | General Skill | |
| | PLO1 | PLO2 | PLO3 | PLO4 | PLO5 | PLO6 |
| CO1 | | | √ | | | |
| CO2 | | | √ | | | |
| CO3 | | | | √ | | |
| CO4 | | | | √ | | |