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Module designation	Environmental Chemistry
Module level, if applicable	Undergraduate
Code, if applicable	PIPAUM6303
Subtitle, if applicable	-
Courses, if applicable	-
Semester(s) in which the module is taught	Odd/Spring Term
Person responsible for the module	Dr. Munzil, M.Si
Lecturer	Dr. Munzil, M.Si Muhammad Fajar Marsuki, S.Pd, M.Sc
Language	Bahasa Indonesia
Relation to curriculum	Elective, 3 <sup>rd</sup> Term
Type of teaching, contact hours	Colaboration, Presentation, Direct Instruction: 3 x 50 = 150 minutes.
Workload	1. Class Activities: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Exercises and Assignments: 3 x 60 = 180 minutes (3 hours) per week. 3. Private study: 3 x 60 = 180 minutes (3 hours) per week
Credit points	3 credit points (~4.76 ECTS cr-eq)
Requirements according to the examination regulations	Minimum of attendance is 80% for a semester
Recommended prerequisites	PIPAUM6302 – Basic Chemistry II
Module objectives/intended learning outcomes	After completing this module, students are expected to: LO 3: master basic chemistry knowledge using the Nature of Science (NOS) along with logical, critical, systematical, and innovative thinking in team collaboration using local potential and information technology development.
Content	This course covers the following five main topics: 1) The concept of environmental ecology, 2) Air and environmental chemistry, 3) Water and environmental chemistry, 4) Soil

	and environmental chemistry, and 5) The testing in environmental chemistry.
Study and examination requirements and forms of examination	Assignment, Midterm, Final Examination, Product
Media employed	Slide Show, Video, White Board, and Moodle (SIPEJAR)
Reading list	<ol style="list-style-type: none"> <li>1. Bashkin, V. 2003. Environmental Chemistry: Asian Lessons. New York: Kluwer Academic Publishers.</li> <li>2. Dunnivant, F. M. 2004. Environmental Laboratory Exercises for Instrumental Analysis and Environmental Chemistry. New Jersey: John Wiley &amp; Sons, Inc.</li> <li>3. Harrison, R.M. 1999. Understanding Our Environment. Cambridge: The Royal Society of Chemistry.</li> <li>4. Hester, R. E., &amp; Harrison, R. M. 2000. Chemistry in the Marine Environment. Cambridge: The Royal Society of Chemistry.</li> <li>5. Hester, R.E., &amp; Harrison, R. M. 2002. Global Environmental Change: Issues in Environmental Science and Technology. Cambridge: The Royal Society of Chemistry.</li> <li>6. Hites, R. A. 2007. Elements of Environmental Chemistry. New Jersey: John Wiley &amp; Sons, Inc.</li> <li>7. Manahan, S.E. 2001. Fundamentals of Environmental Chemistry. Boca Raton: CRC Press.</li> <li>8. Schwarzenback, R. P., Gschwend, P. M., &amp; Imboden, D.M. 2002. Environmental Organic Chemistry. New Jersey: John Wiley &amp; Sons, Inc.</li> <li>9. Sparks, D.L. 2002. Environmental Soil Chemistry. California: Academic Press.</li> <li>10. Swaddle, T. W. 1997. Inorganic Chemistry: An Industrial and Environmental Perspective. Elsevier Science &amp; Technology Books.</li> </ol>
Date of last amendment made	May, 2020