UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND SCIENCE
DEPARTMENT OF BIOLOGY EDUCATION
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Bachelor of Science in Biology **MODULE HANDBOOK**

Module name:	Endocrinology
Module level, if applicable:	Undergraduate
Code:	BIO6250
Sub-heading,if applicable:	-
Classes,if applicable:	-
Semester:	Even
Module coordinator:	Dr. Heru Nurcahyo
Lecturer(s):	Ir. Suhandoyo, M.Si
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory subject
Teaching format / class hours per week during the semester:	100 minutes lectures, 120 minutes structured activities, and 120 minutes individual studyper week
Work load:	Total workload is 91 hours per semester which consists of 100 minuteslectures, 120 minutes structured activities, and 120 minutes individual study per weekfor 16 weeks.
Credit points:	2 SKS (3 ECTS)
Prerequisites course(s):	General Biology
Perogram Learning Outcomes (PLO):	4. Comprehensively mastering Biology (core biology) to solve problems in the field of Biology (problem-solving) and to underlie the concepts of related sciences 6. Being adaptive, creative, innovative in applying the concepts of Biology and other related fields 9. Being able to work and create jobs/being an entrepreneur in the field of Biology 11. Possessing scientific skills to support the ability to speak in local, national, and international forums
Course Outcomes (CO):	After taking this course, the students have ability to: CO1. Identify the concept of endocrinology and homeostasis in the regulation of biology system CO2. Understand the concept of structure and function of various hormones CO3. Elaborate the recent development of derivate hormone including: peptida hormone; amino acid derivate; steroid derivate; and leucotriens derivate. CO4. Analyze the role hipothalamo-pituiaria-ovary axis in human and its application CO5. Apply the principles on biosinthesis of peptide hormone, amino acid hormone and steroids hormone in a daily live CO6. Elaborate disease and disfunction of endocrine problems and its solutions CO7. Explain the mechanism action of various hormone: target cell, reseptor specific, second messenger, and G-proteins

<table>
<tr><td></td><td>CO8. Explain the concept, main role and effect of hypothalamic hromones: various releasing hormone
CO9. Apply the concept of anterior pituitari hormones: Gonadotropin Hormone (GnH), GH, PL, FSH, LH, TSH, ACTH, MSH, Endorphins and its implication
CO10. Elaborate the concept of posterior pituitary hormones: ADH, oxytocin and its implication
CO11. Describe the definition, stages and roles of insulin and glucagon in the regulation of glikogenesis, glikolisis, glukoneogenesis and impact analyses
CO12. Communicate the role of adrenal medulla hormones: epinepherine & norepinephrine, and adrenal cortex hormones: glucocorticoids; aldosterone; and testosterone.</td></tr>
<tr><td>Content:</td><td>This course discusses the awareness of endocrinology problems, interaction between structures and its function in biology system, and its application on daily live.</td></tr>
<tr><td>Study/examachievements:</td><td>The final mark will be weight as follow:
<table>
<tr><th>No</th><th>CO</th><th>Assessment Object</th><th>Assessment Technique</th><th>Weight</th></tr>
<tr><td>1</td><td>CO1 to CO12</td><td>Observed attitudes , knolwedge, and skills</td><td>Survey, test, rubrics and manuals</td><td>100%</td></tr>
<tr><td colspan="4">Total</td><td>100%</td></tr>
</table></td></tr>
<tr><td>Forms of media:</td><td>Real objects, model, multimedia</td></tr>
<tr><td>References:</td><td>A. Hadley, Mac. E. (1992). Endocrinology. 3rd ed. USA: Prentice Hall Inc.
B. Arey, L.B., William Burrows, Greenhill, J.P., and Hewitt, R.M., (1961). Dorland’s Illustrated Medical Dictionary. 23 ed. W.B. London: Saunders Company.
C. Baret, J.M., Peter Abramoff, Kumaran, A.K., and Millington, W.F. (1986). Biology. Prentice Hall: New Jersey
D. Berridge, M.J., (1985). The Molecullar Basis of Communication Within The Cell. Scientific Amer. 253, 4: Hal 142-153.
E. Ganong, W.F., (1989). Review of Medical Physiology, 10th ed. California: Lange Medical Publications.
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I. Van De Graaff, K.M. (1999). Concepts of Human Anatomy and Physiology, 5th ed. USA: MC Graw Hill Companies, Inc.</td></tr>
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PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11
CO1				✓							
CO2				✓							
CO3				✓							
CO4				✓							
CO5				✓							
CO6				✓		✓					

CO7				✓		✓					
CO8				✓		✓					
CO9				✓		✓					
CO10				✓		✓					
CO11				✓		✓			✓		
CO12											✓