



**UNIVERSITAS SEBELAS MARET**  
**FACULTY OF TEACHER TRAINING AND EDUCATION**  
**BACHELOR OF BIOLOGY EDUCATION STUDY PROGRAM**

Building D 3rd Floor FTTE UNS Jl Ir. Sutami No. 36 A Kentingan Surakarta 57126 Indonesia

E-mail: [biologi@fkip.uns.ac.id](mailto:biologi@fkip.uns.ac.id); Website: <https://biologi.fkip.uns.ac.id/en/>

**Endocrinology**

**Undergraduate Programme In Biology Education**

**Module Handbook**

Module Name	Endocrinology (Endokrinologi)																		
Module level	Undergraduate Programme																		
Course Code	02013242020																		
Abbreviation, if applicable	-																		
Courses included in the module, if applicable	-																		
Semester/Term	6 <sup>th</sup>																		
Module coordinator (s)	Dr. Harlita, S.Si., M.Si.																		
Lecturer (s)	Dr. Harlita, S.Si., M.Si. Dr. Meti Indrowati, S.Si., M.Si.																		
Language	Bahasa Indonesia (Indonesian Language)																		
Classification within the curriculum	<del>Compulsory</del> /Elective																		
Teaching format/class hours per week during the semester	<p><b>Direct instruction/face to face/blended learning:</b> 26.7 hours / week / semester : lecture, discussion</p> <p><b>Structured Activity:</b> 32 hours / week / semester (Through the small group discussion, students discuss about the theory, concept, and principles in system material endocrine)</p> <p><b>Self-study Activity:</b> 32 hours / Week / semester (Students learn current issues and problem related to endocrine from various sources)</p>																		
Workload	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Type</th> <th>CSU</th> <th>Face to Face</th> <th>Structured Activities</th> <th>Self-study</th> </tr> </thead> <tbody> <tr> <td>T</td> <td>2</td> <td>26.7h (0.88 ECTS)</td> <td>32h (1.06 ECTS)</td> <td>32h (1.06 ECTS)</td> </tr> <tr> <td>Total</td> <td>2</td> <td colspan="3">3 ECTS</td> </tr> </tbody> </table>				Type	CSU	Face to Face	Structured Activities	Self-study	T	2	26.7h (0.88 ECTS)	32h (1.06 ECTS)	32h (1.06 ECTS)	Total	2	3 ECTS		
Type	CSU	Face to Face	Structured Activities	Self-study															
T	2	26.7h (0.88 ECTS)	32h (1.06 ECTS)	32h (1.06 ECTS)															
Total	2	3 ECTS																	
Credit Point	2 CSU (3 ECTS)																		



**UNIVERSITAS SEBELAS MARET**  
**FACULTY OF TEACHER TRAINING AND EDUCATION**  
**BACHELOR OF BIOLOGY EDUCATION STUDY PROGRAM**

Building D 3rd Floor FTTE UNS Jl Ir. Sutami No. 36 A Kentingan Surakarta 57126 Indonesia  
 E-mail: [biologi@fkip.uns.ac.id](mailto:biologi@fkip.uns.ac.id); Website: <https://biologi.fkip.uns.ac.id/en/>

Requirements:	Has taken courses in general biology, Animal Anatomy and Histology, Cell Biology																																																							
Learning goals/competencies	<p>PLO 2 They are able to apply the basic advance knowledge in biology to solve the problem in biology.</p> <p>PLO 8 They are able to communicate verbal and nonverbal effectively using the proper media</p> <p>CO 1 Communicating knowledge of the endocrine system related to homeostatic functions, hormone synthesis and hormone classification based on the site of production and constituent derivatives</p> <p>CO 2 Communicating knowledge of hormone receptors related to hormone work and endocrine system disorders</p> <p>CO 3 Communicating the endocrine system in children and adults</p> <p>CO 4 Communicating gastrointestinal hormones and endocrine mechanisms in Invertebrates</p> <p style="text-align: center;"><b>PLO and CLO Mapping</b></p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 5%;">CLO / PLO</th> <th style="width: 5%;">PLO 1</th> <th style="width: 5%;">PLO 2</th> <th style="width: 5%;">PL O3</th> <th style="width: 5%;">PL O4</th> <th style="width: 5%;">PLO 5</th> <th style="width: 5%;">PLO 6</th> <th style="width: 5%;">PLO 7</th> <th style="width: 5%;">PLO 8</th> <th style="width: 5%;">PLO 9</th> <th style="width: 5%;">PLO 10</th> </tr> </thead> <tbody> <tr> <td>CLO 1</td> <td></td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*</td> <td></td> <td></td> </tr> <tr> <td>CLO 2</td> <td></td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*</td> <td></td> <td></td> </tr> <tr> <td>CLO 3</td> <td></td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*</td> <td></td> <td></td> </tr> <tr> <td>CLO 4</td> <td></td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*</td> <td></td> <td></td> </tr> </tbody> </table>	CLO / PLO	PLO 1	PLO 2	PL O3	PL O4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	CLO 1		*						*			CLO 2		*						*			CLO 3		*						*			CLO 4		*						*		
CLO / PLO	PLO 1	PLO 2	PL O3	PL O4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10																																														
CLO 1		*						*																																																
CLO 2		*						*																																																
CLO 3		*						*																																																
CLO 4		*						*																																																



**UNIVERSITAS SEBELAS MARET**  
**FACULTY OF TEACHER TRAINING AND EDUCATION**  
**BACHELOR OF BIOLOGY EDUCATION STUDY PROGRAM**

Building D 3rd Floor FTTE UNS Jl. Ir. Sutami No. 36 A Kentingan Surakarta 57126 Indonesia  
 E-mail: [biologi@fkip.uns.ac.id](mailto:biologi@fkip.uns.ac.id); Website: <https://biologi.fkip.uns.ac.id/en/>

Content	<p>The Endocrinology course is one of the elective courses that must be taken by Study Program students Biology Education FKIP. Lectures include theoretical lectures with a semester credit system weighing 2 credits. Lectures are carried out in a face-to-face theory equipped with well-structured assignments individuals or groups with student centered learning methods and small group discussion strategies varied with media-assisted classical learning.</p> <p>This course is an elective course of study programs that examines:</p> <ol style="list-style-type: none"> <li>1. Scope of endocrinology,</li> <li>2. Synthesis and classification of hormones,</li> <li>3. The mechanism of action of hormones and hormonal disorders,</li> <li>4. Developmental endocrinology (children),</li> <li>5. Male and female reproductive endocrinology and invertebrate endocrinology,</li> <li>6. Hormone measurement methods using ELISA and RIA techniques</li> </ol>												
Attribute Soft skill	<ol style="list-style-type: none"> <li>1. Able to think conceptually, analytically, and logically</li> <li>2. Have good communication skills</li> </ol>												
Study/exam achievements:	<p>Students are considered to complete the course and pass if they obtain at least 60% of maximum final grade. The final grade (FS) is calculated based on the following ratio:</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 70%;">Aspect</th> <th style="width: 30%;">(%)</th> </tr> </thead> <tbody> <tr> <td>Task/quiz/presentation / laboratory activity</td> <td>30</td> </tr> <tr> <td>Participation</td> <td>10</td> </tr> <tr> <td>Mid-Term Test (Team based Project)</td> <td>30</td> </tr> <tr> <td>Final Exam</td> <td>30</td> </tr> <tr> <td>Final Score</td> <td>100</td> </tr> </tbody> </table>	Aspect	(%)	Task/quiz/presentation / laboratory activity	30	Participation	10	Mid-Term Test (Team based Project)	30	Final Exam	30	Final Score	100
Aspect	(%)												
Task/quiz/presentation / laboratory activity	30												
Participation	10												
Mid-Term Test (Team based Project)	30												
Final Exam	30												
Final Score	100												
Form of Media	Power point slide												
Literature (primary references)	<ol style="list-style-type: none"> <li>1. Brook,C.G.D ; Marshall.N.J. 1996. Essential Endocrinology. USA: Blacwell Science Ltd</li> <li>2. Ganong, W. F. 2005. Fisiologi Kedokteran, Ed 22 (Diterjemahkan Adji Dharma) . Jakarta : EGC</li> <li>3. Gard, P. 1998. Human Endocrinology (modules in life</li> </ol>												



**UNIVERSITAS SEBELAS MARET**  
**FACULTY OF TEACHER TRAINING AND EDUCATION**  
**BACHELOR OF BIOLOGY EDUCATION STUDY PROGRAM**

Building D 3rd Floor FTTE UNS Jl. Ir. Sutami No. 36 A Kentingan Surakarta 57126 Indonesia  
 E-mail: [biologi@fkip.uns.ac.id](mailto:biologi@fkip.uns.ac.id); Website: <https://biologi.fkip.uns.ac.id/en/>

	<p>sciences). USA: Tailor and Francis Inc</p> <ol style="list-style-type: none"> <li>4. Maritalia, D. 2012. Biologi Reproduksi. Yogyakarta: Pustaka Pelajar.</li> <li>5. Martini, F. and E. Bartholomew. 2007. Essential of Anatomy and Physiology. San Fransisco : Pearson Benjamin Cummings Paxten, 1987. Endocrinology: Biological and Medical Implication. W.C. Brown Publisher. Iowa</li> <li>6. Roos and Wilson. 2011. Anatomy and Physiology in health and illness 10th ed. Singapore : Elsevier diterjemahkan oleh elly Nurachmah dan Rida Angriani dengan judul Dasar- dasar anatomi dan fisiologi).</li> <li>7. Wijaya, C. FR Laulany dan S. Samsudin. 1994. Endokrinologi Dasar dan Klinis. ECG Publisher</li> <li>8. Jurnal-jurnal hasil penelitian tentang endokrin ( contoh : Journal of Endocrinology; Journal of Clinical Endocrinology and Metabolism)</li> </ol>
--	--

**ASSESSMENT ENDOCRINOLOGY WRITING EXAM QUESTION'S GRID  
 (PLO 2 AND PLO 5)**

No	CLO	QUESTION INDICATOR
1	Students can communicate knowledge endocrine system related function homeostasis, hormone synthesis and classification hormone based production place and derivatives composer	System endocrine and homeostasis Classification and hormone synthesis Hormones pituitary, thyroid, and parathyroid Hormones cortex adrenaline, pancreas and ovary
2	Students can Communicate Knowledge hormone receptor work related hormones and system crash Endocrine	Receptors hormone Mechanism hormone action . Disturbance endocrine system
3	Students can Communicate endocrine system in children and mature	Endocrinology child (differentiation and development sexual) Endocrinology women part 1 (cycle menstruation, Steroids ovary, pregnancy, partition and lactation) Endocrinology women part 2 (pathophysiology and contraception) Endocrinology male (testes, androgens work and pathophysiology)
4	Students can Communicate hormone Gastrointestinal and mechanism	Contraception Hormones gastrointestinal, pineal dan prostaglandins Mechanism endocrine on invertebrate (endocrine organs



**UNIVERSITAS SEBELAS MARET**  
**FACULTY OF TEACHER TRAINING AND EDUCATION**  
**BACHELOR OF BIOLOGY EDUCATION STUDY PROGRAM**

Building D 3rd Floor FTTE UNS Jl. Sutami No. 36 A Kentingan Surakarta 57126 Indonesia

E-mail: [biologi@fkip.uns.ac.id](mailto:biologi@fkip.uns.ac.id); Website: <https://biologi.fkip.uns.ac.id/en/>

endocrine on Invertebrates	there are crustaceans, insect, molluscs, arthropod)
----------------------------	---

**PAPER ASSESSMENT RUBRIC**

ASPECT	INDICATOR	SCORE
Background	All the descriptions in this section lead to the main problem and writing of the paper	4
	Just get to the point	3
	Irrelevant general statements	2
	No background	1
The aim of writing	The formulation of the purpose of writing is clear, pithy and systematic	4
	The formulation of the goal is long, but the goal is clear enough	3
	The formulation of objectives is stated in general and the purpose is not clear	2
	No goals written	1
Formulation of the problem	Problems are formulated in a clear, pithy and systematic way	4
	The formulation of the problem is prolonged, but the purpose is quite clear	3
	The formulation of the problem is stated in general terms and the purpose is not clear	2
	There is no written problem formulation	1
Writing Systematics	The systematics of logical writing follows the rules of writing scientific reports	4
	Systematic writing logical but not sequential	3
	Systematic writing is not logical and not in sequence	2
	There is no good writing systematic	1
Discussion	A systematic, logical, original and comprehensive discussion and presents the latest research results	4
	A systematic, logical, original and comprehensive discussion but does not present the latest research results	3
	The discussion is not systematic, logical and comprehensive and does not present the latest research results	2
	Short discussion and copy paste from the internet	1
Conclusion	Conclusions are drawn based on the discussion and the data presented in a clear, concise and systematic way	4
	Conclusions are not drawn based on the discussion and the data presented in a clear, concise and systematic way	3
	Conclusions are not drawn based on the discussion and the data presented are less clear, less concise and less systematic	2
	No conclusion written	1
Reference	Bibliography from trusted sources, following the rules of writing and up to date	4
	Bibliography from trusted sources, following the rules of writing, but not up to date	3
	The bibliography is not from a trusted source, does not follow the rules of writing and is not up-to-date	2
	There is no bibliography	1