

Universitas Negeri Surabaya Faculty of Medicine Study Program

Document Code

		SEN	MESTER	LEARN	IING	PLA	N				
Courses		CODE		Course Fam	ily	Credit We	eight	SEMESTER	Compilation Date		
Neurosensor	у	1120100018	3			T=5 P=1	ECTS=9.5	1 5	July 18, 2024		
AUTHORIZA [*]	ΓΙΟΝ	SP Develop	oer		Cours	se Cluster	Coordinato	Study Program	Coordinator		
		dr. Ariesia Γ	Dewi Ciptorini, S	p.N				dr. Hanifiya Sar M.K			
Learning model	Project Based L	_earning									
Program	PLO study pro	gram that is char	ged to the cou	ırse							
CPLO? PLO-7 III.1 Have basic skills in collaborating and working together with colleagues in the same profession, interprofessional health and other professions in managing health problems by applying values, ethics, roresponsibilities, managing problems effectively and the ability to develop health management based on international research studies multidisciplinary, innovative and tested. (CPL-9)								nics, roles and			
	PLO-11	comprehensive, ho	IV.3 Have basic skills in managing individual, family, community and community health problems in a comprehensive, holistic, integrated and sustainable manner using resources effectively in the context of primary health services (CPL-13)								
	PLO-16	II.2 Have basic knowledge in utilizing scientific knowledge in order to make changes to medical and health phenomena through medical actions and health interventions for individuals, families, communities and society for human welfare and safety, as well as advances in science in the field of medicine and health that pay attention to studies inter/multidisciplinary, innovative and tested (CPL-4)									
	Program Object	ctives (PO)	es (PO)								
	PO - 1	CPMK1 Able to be morals, ethics, dis neurosensory healt	scipline, İaw, sc	cial culture a	nd relig	gion in loc	al, regional				
	PO - 2	medical and heal communities and s	PMK4 Able to have basic neurosensory knowledge in utilizing scientific knowledge in order to make changes to edical and health phenomena through medical actions and health interventions for individuals, families mmunities and society for human welfare and safety, as well as advances in science in the field of medicine and alth that pay attention to studies inter/multidisciplinary, innovative and tested						duals, families,		
	PO - 3	CPMK9 Able to have basic skills in collaborating and working together with colleagues in the same profession, interprofessional health and other professions in managing neurosensory health problems by applying values ethics, roles and responsibilities, managing problems effectively and the ability to develop health management based on international research studies multidisciplinary, innovative and tested									
	PO - 4	Have basic neuros comprehensive, ho health care									
	PLO-PO Matrix	(
		P.O	PLO-7	PLO	-11	PLO	-16				

PO Matrix at the end of each learning stage (Sub-PO)

PO-1 PO-2 PO-3 PO-4

P.O									Wee	ek						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PO-1																
PO-2																
PO-3																
PO-4																

Short Course Description

This course is a course that discusses the anatomy, physiology and histopathology of neurosensory; analyze and perform anamnesis and physical examination regarding neurosensory; analyzing medical supporting examinations; analyze the main diagnosis and differential diagnosis; analyzing neurosensory related management where the achievement of learning competencies no be measured using a case method approach with discussion understand answer and assignment methods. Assessment is carried out by presentations, written tests and assignment portfolios.

References

Main:

- Paulsen F, Waschke J. Sobotta Atlas Anatomi Manusia: Organ-Organ Dalam. Edisi 23. Penerbit Buku Kedokteran EGC; 2015.
- Sherwood L. Fisiologi Manusia Dari Sel Ke Sistem. Edisi 8. (Ong OH, Mahode AA, Ramadhani D, eds.). Penerbit Buku Kedokteran EGC; 2014.
- 3. Dorland, 2002; Kamus Kedokteran Dorland; Edisi 29, Buku Kedokteran EGC, hal. 111, 701, 772, 1622, 2067.

Supporters:

- 1. Sidharta P, Mardjono M. 2004. Neurologi Klinis Dasar. Jakarta: Dian Rakyat.
- 2. Baehr, M. dan Frotscher, M. 2005. Duus' Topical Diagnosis in Neurology 4th edition. Georg Thieme Verlag. Stuttgart
- Waxman, Stephen G. 2010. Clinical Neuroanatomy twenty-sixth edition. Lange medical book: The McGraw-Hill Companies, Inc.
- 4. Campbell, William W. 2013. De Jong's the Neurologic Examination: Incoporation the Fundamental of Neuroanatomy and Neurophysiology 7th edition. Lipincott William & Wilkins. USA.
- Sidharta, Priguna. 1995. Tata Pemeriksaan Klinis Dalam Neurologi. Dian Rakyat.
- 6. Saunders. 2012. Netter's Neurology 2nd edition. Elsevier Inc

Supporting lecturer

Week-	Final abilities of each learning stage	Evalı	uation	Lea Stud	lelp Learning, arning methods, ent Assignments, Estimated time]	Learning materials	Assessment Weight (%)
	(Sub-PO)	Indicator	Criteria & Form	Offline (offline)	Online (online)	[References]	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

1	Able to analyze	1 4	Critoria	Casa	Mata	rial: Pook 1	2006
1	Able to analyze neurosensory anatomy	1.Analyze the anatomy of nerve cells 2.Analyze the anatomy of the central nervous system 3.Analyze the anatomy of the peripheral nervous system 4.Analyzing sensory nerve anatomy	Criteria: Performance Rubric	Case method Lecture: 3x50' Tutorial: 2x50' Practicum: 1x170'	Bibli Pauls Wass Soboc Humm Anate Intern Editic Medi Publi 2015 Mate Bibli Shen Humm Phys Cells Syste 8. (O Mahoc Ramm eds.) Medi Publi 2014 Mate Bibli Dorla Dorla Dorla Dictic Editic Medi 111, 1622	omy: nal Organs. on 23. EGC cal Book shers; . rial: Book 2 ography: wood L. an iology From to ems. Edition ng OH, ode AA, adhani D, . EGC cal Book shers; . rial: Book 3 ography: and Medical onary; on 29, EGC cal Book, p. 701, 772, ., 2067. rial: Book 6 ography:	20%

2	Able to analyze	1.Analyze the	Criteria:	Case	Material: Book 1	20%
2	Able to analyze neurosensory anatomy	1.Analyze the anatomy of nerve cells 2.Analyze the anatomy of the central nervous system 3.Analyze the anatomy of the peripheral nervous system 4.Analyzing sensory nerve anatomy	Criteria: Performance Rubric	Case method Lecture: 3x50' Tutorial: 2x50' Practicum: 1x170'	Material: Book 1 Bibliography: Paulsen F, Waschke J. Sobotta Atlas of Human Anatomy: Internal Organs. Edition 23. EGC Medical Book Publishers; 2015. Material: Book 2 Bibliography: Sherwood L. Human Physiology From Cells to Systems. Edition 8. (Ong OH, Mahode AA, Ramadhani D, eds.). EGC Medical Book Publishers; 2014. Material: Book 3 Bibliography: Dorland Medical Dictionary; Edition 29, EGC Medical Book, p. 111, 701, 772, 1622, 2067. Material: Book 6 Bibliography: Waxman, Stephen G. 2010. Clinical Neuroanatomy twenty-sixth edition. Lange medical book: The McGraw-Hill Companies, Inc.	20%

3	Able to analyze	1.Analyze the	Criteria:	Case	Material: Book 1	20%
3	neurosensory anatomy	1.Analyze the anatomy of nerve cells 2.Analyze the anatomy of the central nervous system 3.Analyze the anatomy of the peripheral nervous system 4.Analyzing sensory nerve anatomy	Performance Rubric	method Lecture: 3x50' Tutorial: 2x50' Practicum: 1x170'	Material: Book 1 Bibliography: Paulsen F, Waschke J. Sobotta Atlas of Human Anatomy: Internal Organs. Edition 23. EGC Medical Book Publishers; 2015. Material: Book 2 Bibliography: Sherwood L. Human Physiology From Cells to Systems. Edition 8. (Ong OH, Mahode AA, Ramadhani D, eds.). EGC Medical Book Publishers; 2014. Material: Book 3 Bibliography: Dorland Medical Dictionary; Edition 29, EGC Medical Book, p. 111, 701, 772, 1622, 2067. Material: Book 6 Bibliography: Waxman, Stephen G. 2010. Clinical Neuroanatomy twenty-sixth edition. Lange medical book: The McGraw-Hill Companies, Inc.	2070

4	Able to analyze neurosensory physiology	1.Analyze the physiology of the central nervous system 2.Analyze the physiology of the peripheral nervous system 3.Analyze the physiology of sensory	Criteria: Performance Rubric	Case method Lecture: 3x50' Tutorial: 2x50' Practicum: 1x170'	Material: Book 1' Bibliography: Paulsen F, Waschke J. Sobotta Atlas of Human Anatomy: Internal Organs. Edition 23. EGC Medical Book Publishers; 2015.
					Bibliography: Sherwood L. Human Physiology From Cells to Systems. Edition 8. (Ong OH, Mahode AA, Ramadhani D, eds.). EGC Medical Book Publishers; 2014. Material: Book 3 Bibliography: Dorland, 2002; Dorland Medical Dictionary; Edition 29, EGC Medical Book, p. 111, 701, 772, 1622, 2067. Material: Book 6 Bibliography: Waxman, Stephen G. 2010. Clinical Neuroanatomy twenty-sixth edition. Lange medical book: The McGraw-Hill Companies, Inc.

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5	Able to analyze neurosensory physiology	1.Analyze the physiology of the central nervous system 2.Analyze the physiology of the peripheral nervous system 3.Analyze the physiology of sensory nerves	Criteria: Performance Rubric	Case method Lecture: 3x50' Tutorial: 2x50' Practicum: 1x170'	Material: Book 1¹¹ Bibliography: Paulsen F, Waschke J. Sobotta Atlas of Human Anatomy: Internal Organs. Edition 23. EGC Medical Book Publishers; 2015. Material: Book 2 Bibliography: Sherwood L. Human Physiology From Cells to Systems. Edition 8. (Ong OH, Mahode AA, Ramadhani D, eds.). EGC Medical Book Publishers; 2014. Material: Book 3 Bibliography: Dorland, 2002; Dorland Medical Dictionary; Edition 29, EGC Medical Book, p. 111, 701, 772, 1622, 2067. Material: Book 6 Bibliography: Waxman, Stephen G. 2010. Clinical Neuroanatomy twenty-sixth edition. Lange medical book: The McGraw-Hill Companies, Inc.	5%

neurosensory histopathology nerve cell histopathology 2.Analyze the histopathology of the central nervous system 3.Analyze the histopathology of the peripheral nervos system 3.Malyze the histopathology of the peripheral nervo cell histopathology of the histopathology of the peripheral nervo cell histopathology of the histopathology of the peripheral Performance Rubric Nethod Lecture: 3x50' Tutorial: 2x50' Practicum: Practicum: Practicum: Practicum: Nobotta Atlas of Human Anatomy: Internal Organs. Edition 23. EGC Medical Book Publishers; 2015.	15%	Material: Pook 1	`200	Critoria:	1 4	Able to analyze	6
system 4. Analyzing sensory nerve histopathology Sensory nerve histopathology Sensory nerve histopathology Systems. Edition 8. (Ong OH, Mahode AA, Ramadhani D, eds.). EGC Medical Book Publishers; 2014. Material: Book 3 Bibliography: Dorland, 2002; Dorland,		Paulsen F, Waschke J. Sobotta Atlas of Human Anatomy: Internal Organs. Edition 23. EGC Medical Book Publishers; 2015. Material: Book 2 Bibliography: Sherwood L. Human Physiology From Cells to Systems. Edition 8. (Ong OH, Mahode AA, Ramadhani D, eds.). EGC Medical Book Publishers; 2014. Material: Book 3 Bibliography: Dorland, 2002; Dorland Medical Dictionary; Edition 29, EGC Medical Book, p. 111, 701, 772, 1622, 2067. Material: Book 6 Bibliography: Waxman, Stephen G. 2010. Clinical Neuroanatomy twenty-sixth edition. Lange medical book: The McGraw-Hill	ecture: kx50' Tutorial: kx50' Practicum:	Rubric Form of Assessment : Practice /	histopathology 2.Analyze the histopathology of the central nervous system 3.Analyze the histopathology of the peripheral nervous system 4.Analyzing sensory nerve	Able to analyze neurosensory histopathology	6

7	Able to analyze neurosensory histopathology	1.Analyzing nerve cell histopathology 2.Analyze the histopathology	Criteria: Performance Rubric	Case method Lecture: 3x50' Tutorial:	Material: Book 1 Bibliography: Paulsen F, Waschke J. Sobotta Atlas of
		of the central nervous system 3.Analyze the histopathology of the peripheral nervous system 4.Analyzing sensory nerve histopathology		2x50 [°] Practicum: 1x170 [°]	Human Anatomy: Internal Organs. Edition 23. EGC Medical Book Publishers; 2015. Material: Book 2 Bibliography: Sherwood L. Human Physiology From Cells to Systems. Edition 8. (Ong OH, Mahode AA, Ramadhani D, eds.). EGC Medical Book Publishers;
					Material: Book 3 Bibliography: Dorland, 2002; Dorland Medical Dictionary; Edition 29, EGC Medical Book, p. 111, 701, 772, 1622, 2067.
					Material: Book 6 Bibliography: Waxman, Stephen G. 2010. Clinical Neuroanatomy twenty-sixth edition. Lange medical book: The McGraw-Hill Companies, Inc.

Able to analyze and carry out anamnesis related to neurosensory

9 Able to analyze and carry out anamnesis related	 Carry out an 	Criteria:	Case	Material: Book 4	15%
to neurosensory	anamnesis of the main complaint and history of current illness 2. Carry out an anamnesis of previous medical history 3. Carry out anamnesis for family disease history 4. Carry out an anamnesis of medication history	Performance Rubric Form of Assessment: Practice / Performance	method Lecture: 3x50' Tutorial: 2x50' Practicum: 1x170'	References: Sidharta P, Mardjono M. 2004. Basic Clinical Neurology. Jakarta: Dian Rakyat. Material: Book 5 Bibliography: Baehr, M. and Frotscher, M. 2005. Duns' Topical Diagnosis in Neurology 4th edition. Georg Thieme Verlag. Stuttgart Material: Book 6 Bibliography: Waxman, Stephen G. 2010. Clinical Neuroanatomy twenty-sixth edition. Lange medical book: The McGraw-Hill Companies, Inc. Material: Book 7 Bibliography: Campbell, William W. 2013. De Jong's the Neurologic Examination: Incorporation of the Fundamentals of Neuroanatomy and Neurophysiology 7th edition. Lipincott William & Wilkins. USA. Material: Book 8 Bibliography: Sidharta, Priguna. 1995. Clinical Examination Procedures in Neurology. Dian Rakyat.	
				Material: Book 9 Bibliography: Saunders. 2012. Netter's Neurology 2nd	

10	Able to analyze	1 01-1 11	Critorio	Casa	Materials Book 4 450/
10	Able to analyze and carry out physical examinations related to neurosensory	1.Check vital signs 2.Perform a basic neurological examination 3.Perform a general neurosensory examination 4.Perform a special neurosensory examination	Criteria: Performance Rubric Form of Assessment: Practice / Performance	Case method Lecture: 3x50' Tutorial: 2x50' Practicum: 1x170'	Material: Book 4 References: Sidharta P, Mardjono M. 2004. Basic Clinical Neurology. Jakarta: Dian Rakyat. Material: Book 5 Bibliography: Baehr, M. and Frotscher, M. 2005. Duus' Topical Diagnosis in Neurology 4th edition. Georg Thieme Verlag. Stuttgart Material: Book 6 Bibliography: Waxman, Stephen G. 2010. Clinical Neuroanatomy twenty-sixth edition. Lange medical book: The McGraw-Hill Companies, Inc. Material: Book 7 Bibliography: Campbell, William W. 2013. De Jong's the Neurologic Examination: Incorporation of the Fundamentals of Neuroanatomy and Neurophysiology 7th edition. Lipincott William & Wilkins. USA. Material: Book 8 Bibliography: Sidharta, Priguna. 1995.
					the Fundamentals of Neuroanatomy and Neurophysiology 7th edition. Lipincott William & Wilkins. USA. Material: Book 8 Bibliography: Sidharta, Priguna. 1995. Clinical Examination
					Procedures in Neurology. Dian Rakyat. Material: Book 9 Bibliography: Saunders. 2012. Netter's Neurology 2nd edition. Elsevier Inc

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12	Able to analyze	1.Analyze basic	Criteria:	Case	Material: Book 4	5%
	supporting	supporting	Performance	method	References:	
	examinations related to	examinations	Rubric	Lecture:	Sidharta P,	
	neurosensory	2.Analyze basic		3x50'	Mardjono M.	
	neuroscrisory	neurological	Form of	Tutorial:	2004. Basic	
		investigations	Assessment :	2x50'	Clinical	
		3.Analyze	Practice /	Practicum:	Neurology.	
		neurosensory	Performance	1x170'	Jakarta: Dian	
		examination			Rakyat.	
					Material: Book 5	
					Bibliography:	
					Baehr, M. and	
					Frotscher, M.	
					2005. Duus'	
					Topical	
					Diagnosis in	
					Neurology 4th	
					edition. Georg	
					Thieme Verlag. Stuttgart	
					Material: Book 6	
					Bibliography: Waxman,	
					stephen G.	
					2010. Clinical	
					Neuroanatomy	
					twenty-sixth	
					edition. Lange	
					medical book:	
					The McGraw-Hill	
					Companies, Inc.	
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					Campbell,	
					William W. 2013.	
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					7th edition.	
					Lipincott William	
					& Wilkins. USA.	
					Material: Book 8	
					Bibliography:	
					Sidharta,	
					Priguna. 1995.	
					Clinical	
					Examination	
					Procedures in	
					Neurology. Dian Rakyat.	
					Material: Book 9	
					Bibliography:	
					Saunders. 2012. Netter's	
					Neurology 2nd	
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13	Able to analyze the main diagnosis and	1.Analyze the	Form of	Case	Material: Book 4	10%
	differential	main	Form of Assessment :	method Lecture:	References: Sidharta P,	
	diagnosis related	diagnosis	Practice /	3x50 [°]	Mardjono M.	
	to neurosensory	2.Analyze	Performance	Tutorial:	2004. Basic	
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		diagnoses		Practicum:	Neurology.	
				1x170'	Jakarta: Dian	
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					Material: Book 5	
					Bibliography:	
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					Frotscher, M. 2005. Duus'	
					Topical	
					Diagnosis in	
					Neurology 4th	
					edition. Georg	
					Thieme Verlag.	
					Stuttgart	
					Material: Book 6	
					Bibliography:	
					Waxman, Stephen G.	
					2010. Clinical	
					Neuroanatomy	
					twenty-sixth	
					edition. Lange	
					medical book:	
					The McGraw-Hill	
					Companies, Inc.	
					Material: Book 7	
					Bibliography:	
					Campbell,	
					William W. 2013.	
					De Jong's the Neurologic	
					Examination:	
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					Fundamentals of	
					Neuroanatomy	
					and	
					Neurophysiology 7th edition.	
					Lipincott William	
					& Wilkins. USA.	
					Material: Book 8	
					Bibliography:	
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					Priguna. 1995.	
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					Neurology. Dian	
					Rakyat.	
					Material: Book 9	
					Bibliography:	
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	14	related	2.Analyzing neurological management 3.Analyzing neurosensory management 4.Analyzing non-medical management 5.Promotive and preventive in the field of sports	Lecture: 3x50' Tutorial: 2x50' Practicum:	Sidharta P, Mardjono M. 2004. Basic Clinical Neurology. Jakarta: Dian Rakyat. Material: Book 5 Bibliography: Baehr, M. and Frotscher, M. 2005. Duus' Topical Diagnosis in Neurology 4th edition. Georg Thieme Verlag. Stuttgart Material: Book 6 Bibliography: Waxman, Stephen G. 2010. Clinical Neuroanatomy twenty-sixth edition. Lange medical book: The McGraw-Hill Companies, Inc. Material: Book 7 Bibliography: Campbell, William W. 2013. De Jong's the Neurologic Examination: Incorporation of the Fundamentals of Neuroanatomy and Neurophysiology 7th edition. Lipincott William & Wilkins. USA. Material: Book 8 Bibliography: Sidharta, Priguna. 1995. Clinical Examination Procedures in Neurology. Dian Rakyat. Material: Book 9 Bibliography:	5%
Saunders. 2012. Netter's Neurology 2nd edition. Elsevier Inc					Saunders. 2012. Netter's Neurology 2nd edition. Elsevier	
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16 0%	16					0%

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage	
1.	Practice / Performance	90%	
		90%	

Notes
1. Learning Outcomes of Study Program Graduates (PLO - Study Program) are the abilities possessed by each Study Program graduate which are the internalization of attitudes, mastery of knowledge and skills according to the level of their

- study program obtained through the learning process.
- 2. The PLO imposed on courses are several learning outcomes of study program graduates (CPL-Study Program) which are used for the formation/development of a course consisting of aspects of attitude, general skills, special skills and knowledge
- 3. **Program Objectives (PO)** are abilities that are specifically described from the PLO assigned to a course, and are specific to the study material or learning materials for that course.
- 4. **Subject Sub-PO (Sub-PO)** is a capability that is specifically described from the PO that can be measured or observed and is the final ability that is planned at each learning stage, and is specific to the learning material of the course.
- 5. **Indicators for assessing** abilities in the process and student learning outcomes are specific and measurable statements that identify the abilities or performance of student learning outcomes accompanied by evidence.
- 6. **Assessment Criteria** are benchmarks used as a measure or measure of learning achievement in assessments based on predetermined indicators. Assessment criteria are guidelines for assessors so that assessments are consistent and unbiased. Criteria can be quantitative or qualitative.
- 7. Forms of assessment: test and non-test.
- 8. **Forms of learning:** Lecture, Response, Tutorial, Seminar or equivalent, Practicum, Studio Practice, Workshop Practice, Field Practice, Research, Community Service and/or other equivalent forms of learning.
- Learning Methods: Small Group Discussion, Role-Play & Simulation, Discovery Learning, Self-Directed Learning, Cooperative Learning, Collaborative Learning, Contextual Learning, Project Based Learning, and other equivalent methods.
- 10. Learning materials are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
- 11. The assessment weight is the percentage of assessment of each sub-PO achievement whose size is proportional to the level of difficulty of achieving that sub-PO, and the total is 100%.
- 12. TM=Face to face, PT=Structured assignments, BM=Independent study.