

**RENCANA PROGRAM DAN
KEGIATAN PEMBELAJARAN SEMESTER
(RPKPS)**



Metode Analisis Lingkungan
Semester 2/2 SKS/KUI-6221
Program Studi S2 Ilmu Kesehatan Masyarakat

Oleh:

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**Universitas Gadjah Mada
Fakultas Kedokteran, Kesehatan Masyarakat dan Keperawatan
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Universitas Gadjah Mada

Fakultas Fakultas Kedokteran, Kesehatan Masyarakat, dan Keperawatan
Departemen/Program Studi S2 Ilmu Kesehatan Masyarakat

RENCANA PROGRAM DAN KEGIATAN PEMBELAJARAN SEMESTER (RPKPS)

Kode Mata Kuliah	Nama Mata Kuliah	Bobot (sks)	Semester	Status Mata Kuliah	Mata Kuliah Prasyarat																									
KUI 6221	Environmental Analysis Methods	2	2	Core	-																									
Capaian Pembelajaran Lulusan (CPL) yang dibebankan pada MK	ELO 2. Able to analyze public health programs from 5 core public health principles ELO 3. Able to conduct and publish research ELO 6. Able to apply theories and principles in public health field according to student tracts																													
Capaian Pembelajaran Mata Kuliah (CPMK)	CPMK1	Students are expected to be able to explain the principles in the method of environmental analysis																												
	CPMK2	Students are expected to be able to select appropriate methods to conduct an analysis of the environment																												
	CPMK3	Students are expected to be able to demonstrate skills in the method of analysis of the causes of environmental problems																												
Pemetaan CPL dengan CPMK	<table border="1"> <thead> <tr> <th></th> <th>CPMK 1</th> <th>CPMK 2</th> <th>CPMK 3</th> </tr> </thead> <tbody> <tr> <td>ELO 2</td> <td>x</td> <td></td> <td>x</td> </tr> <tr> <td>ELO 3</td> <td></td> <td>x</td> <td>x</td> </tr> <tr> <td>ELO 6</td> <td></td> <td></td> <td>x</td> </tr> </tbody> </table>						CPMK 1	CPMK 2	CPMK 3	ELO 2	x		x	ELO 3		x	x	ELO 6			x									
	CPMK 1	CPMK 2	CPMK 3																											
ELO 2	x		x																											
ELO 3		x	x																											
ELO 6			x																											
Deskripsi Singkat Mata Kuliah	The learning process of the Environmental Analysis Method will be based on the SCL (Student Centered Learning) pattern. This course discusses the knowledge related to environmental analysis methods, including parasites such as protozoa, nematodes, cestode trematodes, and bacteria, viruses, fungi, and chemicals. The lecture method uses a face-to-face lecture model with discussion. In addition to face-to-face lectures, questions and answers are conducted between students and lecturers, group presentations with topics according to lecture material. The material provided in the lecture is supported by practical tutorials in the laboratory and the field so that students can better understand what has been obtained in the lecture. Students are also required to find new information about the results of research that can support the topics or material to be presented. All library search results or from the internet that can be trusted are then presented at the presentation and followed by discussions between groups and students. Students are expected to be able to understand the basic principles in the method of environmental analysis, have a scientific basis for choosing the right method, identify various kinds of pathogens in the environment, and conduct methods of chemical and microbiological analysis																													
Bahan Kajian/Materi Pembelajaran	<ol style="list-style-type: none"> 1. Introduction to Parasitology 2. Environmental Analysis of Intestinal Protozoa 3. Environmental Analysis of <i>Toxoplasma gondii</i> and <i>Naegleria fowleri</i> 4. Environmental Analysis of Nematodes, Trematodes, and Cestodes 5. Identifying the Morphology of Protozoa, Nematodes, Cestodes, and Trematodes in Preserved Specimens 6. Water Sampling and Management 7. Identifying Parasites in Water Samples of Feces 8. Chemical Analysis Methods and Factors Affecting the Analysis 9. Chemical Examination Methods 10. Microbial Examination of Water 11. Bacterial Infection 12. Viral and Fungal Infection 13. Chemical Analysis Practical Session 14. Microbiological Analysis Practical Session 																													
Metode Penilaian dan Kaitan dengan CPMK	<table border="1"> <thead> <tr> <th>Komponen Penilaian</th> <th>Persentase</th> <th>CPMK 1</th> <th>CPMK 2</th> <th>CPMK 3</th> </tr> </thead> <tbody> <tr> <td>Exam</td> <td>30%</td> <td>X</td> <td>X</td> <td></td> </tr> <tr> <td>Pretest and posttest</td> <td>10%</td> <td></td> <td>X</td> <td>x</td> </tr> <tr> <td>Report</td> <td>30%</td> <td>X</td> <td>X</td> <td></td> </tr> <tr> <td>Presentation</td> <td>30%</td> <td>x</td> <td>x</td> <td></td> </tr> </tbody> </table>					Komponen Penilaian	Persentase	CPMK 1	CPMK 2	CPMK 3	Exam	30%	X	X		Pretest and posttest	10%		X	x	Report	30%	X	X		Presentation	30%	x	x	
Komponen Penilaian	Persentase	CPMK 1	CPMK 2	CPMK 3																										
Exam	30%	X	X																											
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Report	30%	X	X																											
Presentation	30%	x	x																											
Daftar Bahan dan Referensi	<ol style="list-style-type: none"> 1. Moody, D., Manser, W., Chiodini, P. Atlas of Medical Helminthology and Protozoology; 2001 2. Scallan E, Hoekstra RM, Angulo FJ, Tauxe RV, Widdowson MA, Roy SL, Jones JL, Griffin PM. Foodborne illness acquired in the United States--major 																													

	<p>pathogens. Emerg Infect Dis. 2011;17(1):7-15.</p> <p>3. Popek, E. Sampling Analysis of Environmental Chemical Pollutants. Academic Press; 2003</p> <p>4. Cabral, J. P. S. (2010). <i>Water Microbiology. Bacterial Pathogens and Water. International Journal of Environmental Research and Public Health</i>, 7(10), 3657–3703. doi:10.3390/ijerph7103657</p> <p>5. Shetty, N., Tang, J., Andrews, J. Infectious Disease: Pathogenesis, Prevention and Case Studies. Wiley-Blackwell; 2007</p>			
Nama Dosen Pengampu (<i>Team Teaching</i>)	Dr. drh. Sitti Rahmah Umniyati, SU Dr. Dra. Suhartini, Apt., MS Drs. Wiranto, M.Kes			
Otorisasi	Tanggal Penyusunan	Koordinator Mata Kuliah	Koordinator Bidang Keahlian (Jika Ada)	Ketua Program Studi
		<i>Tanda Tangan Nama Terang</i>	<i>Tanda Tangan Nama Terang</i>	<i>Tanda Tangan Nama Terang</i>

Rencana Kegiatan Pembelajaran Mingguan (RKPM)

Minggu Ke-	Sub-CPMK (Kemampuan Akhir yang Direncanakan)	Metode Penilaian			Bahan Kajian (Materi Pembelajaran)	Metode Pembelajaran	Beban Waktu Pembelajaran	Pengalaman Belajar Mahasiswa	Media Pembelajaran	Pustaka dan Sumber Belajar Eksternal
		Indikator	Komponen	Bobot (%)						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Students are expected to be able to explain the principles on parasitology and methods of environment-based parasite transmission and prevention	Answering exam questions correctly	Exam	5%	Introduction to Parasitology	Face to face and discussion	2 x 50 minutes	Discussion	Powerpoint presentation	Moody, D., Manser, W., Chiodini, P. Atlas of Medical Helminthology and Protozoology; 2001
2	Students are expected to be able to identify Giardia lamblia, Cryptosporidium in various stages of life Students are expected to be able to explain the epidemiology and prevention of intestinal protozoa Students are	Answering exam questions correctly	Exam	5%	Environmental Analysis of Intestinal Protozoa	Face to face and discussion	2 x 50 minutes	Discussion	Powerpoint presentation	Moody, D., Manser, W., Chiodini, P. Atlas of Medical Helminthology and Protozoology; 2001 Scallan E, Hoekstra RM, Angulo FJ, Tauxe RV, Widdowson

	expected to be able to select the method of environmental analysis of intestinal protozoa									MA, Roy SL, Jones JL, Griffin PM. Foodborne illness acquired in the United States--major pathogens. Emerg Infect Dis. 2011;17(1):7-15.
3	Students are expected to be able to identify <i>Toxoplasma gondii</i> and <i>Naegleria fowleri</i> in various stages of life Students are expected to be able to explain the epidemiology and prevention of <i>Toxoplasma Gondii</i> and <i>Naegleria</i>	Answering exam questions correctly	Exam	5%	Environmental Analysis of <i>Toxoplasma gondii</i> and <i>Naegleria fowleri</i>	Face to face and discussion	2 x 50 minutes	Discussion	Powerpoint presentation	Moody, D., Manser, W., Chiodini, P. Atlas of Medical Helminthology and Protozoology; 2001

	<p>Fowleri</p> <p>Students are expected to be able to select the method of environmental analysis on Toxoplasma gondii and Naegleria fowleri</p>									
4	<p>Students are expected to be able to identify nematodes, trematodes and cestodes</p> <p>Students are expected to be able to explain the epidemiology and prevention of nematodes, trematodes and cestodes</p> <p>Students are expected to be able to select an environmental analysis method for nematodes, trematodes, cestodes</p>	Answering exam questions correctly	Exam	5%	Environmental Analysis of Nematodes, Trematodes, and Cestodes	Face to face and discussion	2 x 50 minutes	Discussion	Powerpoint presentation	Moody, D., Manser, W., Chiodini, P. Atlas of Medical Helminthology and Protozoology; 2001

5	Students are expected to be able to demonstrate skills in identifying parasites	Answering pre-test and post-test correctly Report demonstrates understanding of topic and steps to identify parasites	Pre-test and Post-test Report	2.5% 7.5%	Identifying the Morphology of Protozoa, Nematodes, Cestodes, and Trematodes in Preserved Specimens	Practical session at the Parasitology Lab	2 x 50 minutes	Identifying morphology from preserved specimens	Preserved specimens of parasites Microscope Powerpoint presentation Other laboratory tools	Moody, D., Manser, W., Chiodini, P. Atlas of Medical Helminthology and Protozoology; 2001
6	Students are expected to be able to describe the method of water sampling and sample management		Presentation	7.5%	Water Sampling and Management	Tutorial	2 x 50 minutes	Discussion	Scenario	Moody, D., Manser, W., Chiodini, P. Atlas of Medical Helminthology and Protozoology; 2001
7	Students are expected to be able to demonstrate skills in sampling and analysis of samples	Answering pre-test and post-test correctly Report demonstrates understanding	Pre-test and Post test Report	2.5% 7.5%	Identifying Parasites in Water Samples of Feces	Practical session Students are obligated to hand in a water sample from a water source (river, swimming pool, well etc)	2 x 50 minutes	Collecting water sample and identifying parasites in the samples	Laboratory tools	Moody, D., Manser, W., Chiodini, P. Atlas of Medical Helminthology and Protozoology; 2001

		ding of topic and steps to analyze water samples				a day before the practical session				
8	Students are expected to be able to compare and select environmental analysis methods to overcome public health problems	Discussion of analysis presented well	Presentation	7.5%	Chemical Analysis Methods and Factors Affecting the Analysis	Tutorial	2 x 50 minutes	Discussion	Scenario	Popek, E. Sampling Analysis of Environmental Chemical Pollutants. Academic Press; 2003
9	Students are expected to be able to compare and choose environmental analysis methods to overcome public health problems	Discussion of analysis presented well	Presentation	7.5%	Chemical Examination Methods	Tutorial	2 x 50 minutes	Discussion	Scenario	Popek, E. Sampling Analysis of Environmental Chemical Pollutants. Academic Press; 2003
10	Students are expected to be able to explain the method of water microbiological examination	Discussion of analysis presented well	Presentation	7.5%	Microbial Examination of Water	Tutorial	2 x 50 minutes	Discussion	Scenario	Cabral, J. P. S. (2010). <i>Water Microbiology. Bacterial Pathogens and Water. Internation</i>

										<i>al Journal of Environmental Research and Public Health, 7(10), 3657–3703. doi:10.3390/ijerph7103657</i>
11	Students are able to explain infectious diseases caused by bacteria	Answering exam questions correctly	Exam	5%	Bacterial Infection	Face to face and discussion	2 x 50 minutes	Discussion	Powerpoint presentation	Shetty, N., Tang, J., Andrews, J. Infectious Disease: Pathogenesis, Prevention and Case Studies. Wiley-Blackwell; 2007
12	Students are able to describe infectious diseases caused by viruses and fungi	Answering exam questions correctly	Exam	5%	Viral and Fungal Infection	Face to face and discussion	2 x 50 minutes	Discussion	Powerpoint presentation	Shetty, N., Tang, J., Andrews, J. Infectious Disease: Pathogenesis,

										Prevention and Case Studies. Wiley-Blackwell; 2007
13	Students are able to demonstrate the skills of chemical analysis methods	Answering pre-test and post-test correctly Report demonstrates understanding of topic and steps to identify parasites	Pre-test and post-test Report	2.5% 7.5%	Chemical Analysis Practical Session	Practical session	2 x 50 minutes	Analyzing samples	Laboratorium tools	Popek, E. Sampling Analysis of Environmental Chemical Pollutants. Academic Press; 2003
14	Students are expected to be able to demonstrate the method of microbiological analysis of E. coli	Answering pre-test and post-test correctly Report demonstrates understanding of topic and steps to identify	Pre-test and post-test Report	2.5% 7.5%	Microbiological Analysis Practical Session	Practical session	2 x 50 minutes	Analyzing samples	Laboratorium tools	Cabral, J. P. S. (2010). <i>Water Microbiology. Bacterial Pathogens and Water. International Journal of Environmen</i>

		parasites								<i>tal</i> <i>Research</i> <i>and Public</i> <i>Health,</i> <i>7(10),</i> <i>3657–3703.</i> <i>doi:10.3390</i> <i>/ijerph7103</i> <i>657</i>
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Keterangan :

Penilaian pembelajaran (3), (4), (5) dapat berupa:

Metode:

Tatap muka: observasi, tes tertulis, kuis, dsb

Daring: tugas *essay*, *feedback*, penilaian teman sejawat, penyusunan proposal, penyusunan paper, dsb

Instrumen

Tatap muka: soal *essay*, dsb

Daring: pilihan ganda, dsb

Bobot nilai

Bahan kajian (6) dapat berupa:

Sumber belajar yang diberikan oleh pengampu MK, jelaskan substansinya

Sumber belajar yang diperoleh mahasiswa secara online dalam bentuk teks, *slides*, *audio*, *video* dsb, jelaskan substansinya.

Metode pembelajaran (7) dapat berupa:

Metode tatap muka: pemaparan, *collaborative learning*, *problem based learning*, dsb

Metode daring: *self learning*, tugas terstruktur, *essay writing*, dsb

Beban waktu pembelajaran (8):

Tatap muka 2 x 50 menit, atau

Daring 2 x 60 menit belajar mandiri, 2 x 60 menit tugas terstruktur

Pengalaman belajar/aktivitas mahasiswa (9) dapat berupa:

Tatap muka: belajar berkelompok, berdiskusi, berdebat secara konstruktif, pemecahan masalah, dsb

Daring: belajar mandiri, berlatih mengkaji literature, berlatih menulis *essay*, dsb

Media pembelajaran (10) dapat berupa:

Tatap muka: computer, in focus, alat tulis, alat peraga, dsb

Daring: computer, *gadget*, akses internet, dsb