



# UNIVERSITAS GADJAH MADA

Faculty of Mathematics and Natural Sciences

Department of Mathematics

Sekip Utara Bulaksumur Yogyakarta 55281 Telp: +62 274 552243 Fax: +62 274 555131 Email: [math@ugm.ac.id](mailto:math@ugm.ac.id) Website: <http://math.fmipa.ugm.ac.id>

## Doctor in Mathematics

Telp : +62 274 552243

Email : [maths3@ugm.ac.id](mailto:maths3@ugm.ac.id); [kaprodi-s3-matematika.mipa@ugm.ac.id](mailto:kaprodi-s3-matematika.mipa@ugm.ac.id)

Website : <http://s3math.fmipa.ugm.ac.id/>

### MODULE HANDBOOK

### Doctoral in Mathematics

Module name:	Topik dalam dalam Komputasi Statistika Lanjut B ( <i>Topics in Advanced Computational Statistics B</i> )												
Code, if applicable:	MMM 7505												
Subtitle, if applicable													
Semester(s) in which the module is taught:	1 <sup>st</sup> or 2 <sup>nd</sup> semester												
The person responsible for the module:	Chair of Statistics Research Group												
Language:	Bahasa Indonesia												
Relation to curriculum:	Doctoral Degree in Mathematics, Elective Course												
Teaching methods	Lecture, classroom discussion, project-based learning.												
Workload (incl. contact hours, self-study hours)	The total workload is 232 hours per semester, which consists of 50 minutes of lectures per week, 120 minutes of structured activities per week, and 120 minutes of individual study per week; in total is 16 weeks per semester, including mid-exam and final exams.												
Credit points in Credit Units	3												
Required and recommended prerequisites for joining the module	Students have learned some basic courses in statistics and statistical mathematics course. Students also have some knowledge on statistical software, such as R.												
Module objectives/intended learning outcomes:	After completing this course the students have ability to: CO1 analyze various aspects of statistical computing and/or computational statistics CO2 conduct statistical programming CO3 apply various statistical methods using real data, do necessary computation using statistical software and interpret the output												
Content:	It will be derived from the research topic of the students. It will be focused on the theory, models, and method of specific data analysis used in the student research.												
Examination forms	Oral presentation, essay, paper												
Study and examination requirements and forms of examination:	The final mark will be weighted as follows: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>No</th> <th>Assessment methods (components, activities)</th> <th>Weight (percentage)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Final Examination (portfolio/essay/oral presentation)</td> <td>35%</td> </tr> <tr> <td>2</td> <td>Mid-Term Examination (portfolio/essay/presentation)</td> <td>35%</td> </tr> <tr> <td>3</td> <td>Class Activities: Presentation</td> <td>30%</td> </tr> </tbody> </table> <p>To pass the course, the minimum grade is B.</p>	No	Assessment methods (components, activities)	Weight (percentage)	1	Final Examination (portfolio/essay/oral presentation)	35%	2	Mid-Term Examination (portfolio/essay/presentation)	35%	3	Class Activities: Presentation	30%
No	Assessment methods (components, activities)	Weight (percentage)											
1	Final Examination (portfolio/essay/oral presentation)	35%											
2	Mid-Term Examination (portfolio/essay/presentation)	35%											
3	Class Activities: Presentation	30%											
Media employed:	Board, LCD Projector, Laptop/Computer												
Reading List:	1. Gentle, J.E., 2002, Elements of Computational Statistics, Springer, New York 2. Morgan, B.J. T., 2000, Applied Statistics Modelling, Arnold, London												

	3. Daalgard,P., 2002, Introductory Statistics with R, Springer Verlag, London 4. Crawley, R.J., 2007, The R Book, Wiley, New York
--	--

<b>Mapping of The COs and PLOs</b>
------------------------------------

	<b>PLO – 1 S3 Mat</b>	<b>PLO – 2 S3 Mat</b>	<b>PLO – 3 S3 Mat</b>	<b>PLO – 4 S3 Mat</b>	<b>PLO – 5 S3 Mat</b>	<b>PLO – 6 S3 Mat</b>
<b>CO 1</b>	v	v	v		v	
<b>CO 2</b>	v	v	v		v	
<b>CO 3</b>	v	v	v		v	v

**Last Modified Date : October 9, 2023**



# UNIVERSITAS GADJAH MADA

Faculty of Mathematics and Natural Sciences

Department of Mathematics

Sekip Utara Bulaksumur Yogyakarta 55281 Telp: +62 274 552243 Fax: +62 274 555131 Email: [math@ugm.ac.id](mailto:math@ugm.ac.id) Website: <http://math.fmipa.ugm.ac.id>

## Doctor in Mathematics

Telp : +62 274 552243

Email : [maths3@ugm.ac.id](mailto:maths3@ugm.ac.id); [kaprodi-s3-matematika.mipa@ugm.ac.id](mailto:kaprodi-s3-matematika.mipa@ugm.ac.id)

Website : <http://s3math.fmipa.ugm.ac.id/>

## MODULE HANDBOOK Doctoral in Mathematics

Module name:	Topik dalam dalam Komputasi Statistika Lanjut B ( <i>Topics in Advanced Computational Statistics B</i> )												
Code, if applicable:	MMM 7505												
Subtitle, if applicable													
Semester(s) in which the module is taught:	1 <sup>st</sup> or 2 <sup>nd</sup> semester												
The person responsible for the module:	Chair of Statistics Research Group												
Language:	Bahasa Indonesia												
Relation to curriculum:	Doctoral Degree in Mathematics, Elective Course												
Teaching methods	Lecture, classroom discussion, project-based learning.												
Workload (incl. contact hours, self-study hours)	The total workload is 232 hours per semester, which consists of 50 minutes of lectures per week, 120 minutes of structured activities per week, and 120 minutes of individual study per week; in total is 16 weeks per semester, including mid-exam and final exams.												
Credit points in Credit Units	3												
Required and recommended prerequisites for joining the module	Students have learned some basic courses in statistics and statistical mathematics course. Students also have some knowledge on statistical software, such as R.												
Module objectives/intended learning outcomes:	After completing this course the students have ability to: CO1 analyze various aspects of statistical computing and/or computational statistics CO2 conduct statistical programming CO3 apply various statistical methods using real data, do necessary computation using statistical software and interpret the output												
Content:	It will be derived from the research topic of the students. It will be focused on the theory, models, and method of specific data analysis used in the student research.												
Examination forms	Oral presentation, essay, paper												
Study and examination requirements and forms of examination:	The final mark will be weighted as follows: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>No</th> <th>Assessment methods (components, activities)</th> <th>Weight (percentage)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Final Examination (portfolio/essay/oral presentation)</td> <td>35%</td> </tr> <tr> <td>2</td> <td>Mid-Term Examination (portfolio/essay/presentation)</td> <td>35%</td> </tr> <tr> <td>3</td> <td>Class Activities: Presentation</td> <td>30%</td> </tr> </tbody> </table> <p>To pass the course, the minimum grade is B.</p>	No	Assessment methods (components, activities)	Weight (percentage)	1	Final Examination (portfolio/essay/oral presentation)	35%	2	Mid-Term Examination (portfolio/essay/presentation)	35%	3	Class Activities: Presentation	30%
No	Assessment methods (components, activities)	Weight (percentage)											
1	Final Examination (portfolio/essay/oral presentation)	35%											
2	Mid-Term Examination (portfolio/essay/presentation)	35%											
3	Class Activities: Presentation	30%											
Media employed:	Board, LCD Projector, Laptop/Computer												
Reading List:	1. Gentle, J.E., 2002, Elements of Computational Statistics, Springer, New York 2. Morgan, B.J. T., 2000, Applied Statistics Modelling, Arnold, London												

	3. Daalgard,P., 2002, Introductory Statistics with R, Springer Verlag, London 4. Crawley, R.J., 2007, The R Book, Wiley, New York
--	--

<b>Mapping of The COs and PLOs</b>
------------------------------------

	<b>PLO – 1 S3 Mat</b>	<b>PLO – 2 S3 Mat</b>	<b>PLO – 3 S3 Mat</b>	<b>PLO – 4 S3 Mat</b>	<b>PLO – 5 S3 Mat</b>	<b>PLO – 6 S3 Mat</b>
<b>CO 1</b>	v	v	v		v	
<b>CO 2</b>	v	v	v		v	
<b>CO 3</b>	v	v	v		v	v

**Last Modified Date : October 9, 2023**