



UNIVERSITAS GADJAH MADA

Fakultas Matematika dan Ilmu Pengetahuan Alam

Sekip Utara Bulaksumur Yogyakarta 55281 Telp: +62 274 552243 Fax: +62 274 555131 Email: maths3@ugm.ac.id Website: <http://s3math.fmipa.ugm.ac.id/>

Program Pascasarjana S3 Matematika

Telp : +62 274 552243

Email : maths3@ugm.ac.id; kaprodi-s3-matematika.mipa@ugm.ac.id

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

MODULE HANDBOOK

Module name	Inferensi Bayesian (Bayesian Inference)
Module level, if applicable	S3 (Doctoral) (Graduate)
Code, if applicable	MMM5408
Subtitle, if applicable	-
Courses, if applicable	-
Semester(s) in which the module is taught	II
Person responsible for the module	Prof. Dr. Sri Haryatmi Kartiko, M.Sc
Lecture(s)	Prof. Dr. Sri Haryatmi Kartiko, M.Sc
Language	Indonesia
Classification within the Curriculum	Compulsory course / Elective Studies
Teaching format /class hours per week during the semester:	3 hours lecture
Workload	3 hours lectures, 6 hours individual study, 14 weeks per semester, and total 126 hours a semester
Credit points	3
Requirements	Advanced Mathematics Statistics
Module objectives/intended learning outcomes	By the end of this course : CO1 : Students are able to understand the principles of Bayesian analysis such as Expected Loss, Decision Rules, Risk, Prior and Posterior CO2 : Students are able to explain Bayesian approach and its application CO3 : Students are able to apply the inference of parameter in Bayesian analysis CO4 : Students are able to do the inference more in Bayesian calculation
Content	<ul style="list-style-type: none">- Review of Discrete and Continue Distribution-Utility and Expected Loss- Non-Informative Prior and Subjective probability- Bayesian Analysis- Posterior Distribution- Bayesian Inference- Bayesian Calculation- Sampling Distribution- Confidence interval
Study and examination requirements and forms of examination	Learning is carried out using the SCL (Student Center Learning) method where in most material, lecturers are only as directors and mediators of students in deepening material related to lectures. Students are required to be active in the presentation and discussion process with the lecturer. Open examinations are based on the results of presentations and student assignments reports. Assessments are carried out based on the following assessment categories: Grade scale: A: $80 \leq \text{score}$ A/B: $70 \leq \text{score} < 80$ B: $60 \leq \text{score} < 70$

	B/C: $50 \leq \text{score} < 60$ C: $40 \leq \text{score} < 50$ D: $20 \leq \text{score} < 40$ E: $\text{score} < 20$
Media employed	Books in list of reading, journal, whiteboard, LCD projector and slides.
Reading List	<ol style="list-style-type: none"> 1. Box, G dan Tiao, G. (1973) Bayesian Inference In Statistical Analysis. Addison-Wesley Publishing Company. Inc. Reading, Massachusetts 2. Hoff, P. D. (2009) A First Course In Bayesian Statistical Methods. Springer. New York. 3. Ghosh, J.K., Delampady, M. dan Samanta, T. (2006) An Introduction to Bayesian Analysis. Springer. New York. 4. Samaniego, F.J. (2010) A Comparison of the Bayesian and Frequentist Approaches to Estimation. Springer. New York. 5. Subanar. (2006) Inferensi Bayesian. Universitas Terbuka. Jakarta.

CO and PLO mapping

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
CO 1	x	x				
CO 2			x			
CO 3					x	
CO 4					x	x