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MODULE HANDBOOK

Module Name	*Topics in the Riesz Spaces*
Module level, if applicable	*Doctor*
Code, if applicable	*MMM-7110*
Subtitle, if applicable	-
Courses, if applicable	*Topics in the Riesz Spaces*
Semester(s) in which the module is taught	*1st / 2nd*
Person responsible for the module	*Chair of the Lab. of Analysis*
Lecturer(s)	*Prof. Dr. Supama, M.Si.* *Made Tantrawan, S.Si., M.Sc., Ph.D.*
Language	*Bahasa Indonesia*
Relation to curriculum	*Elective course in the 1st semester/2nd semester doctor's degree*
Teaching methods	*Lecture, classroom discussion, flipped learning*
Workload (incl. contact hours, self-study hours)	*Total workload is 136 hours per semester, which consists of 150 minutes lectures per week for 14 weeks, 180 minutes structured activities per week, 180 minutes individual study per week, in total is 16 weeks per semester, including mid exam and final exam.*
Credit points	*3*
Required and recommended prerequisites for joining the module	*Students have good knowledge on the concept of vector spaces, set theory, and/or normed spaces.*

Module objectives/intended learning outcomes	*After completing this course, the students should be able to:* *CO 1. Justify and prove concepts related to Riesz spaces.* *CO 2. Combine properties in Riesz spaces to solve problems in the fields related to Riesz spaces*
Content	*In this module, the student must do several academic activities under supervision of the lecturer. The academic activities will be conducted based on literature study to master one or more topics in Riesz spaces, such as* *1. Riesz spaces:* *Riesz spaces, ideals and bands, Archimedean spaces, order convergence, projection bands, Dedekind completeness, spektral theorems in Riesz spaces.* *2. Banach lattices:* *Riesz spaces, ideals and bands, order convergence, Dedekind completeness, normed Riesz space and Banach lattices, the Riesz-Fischer property, order continuous norm, order continuous dual.* *3. Operator in Riesz spaces or Banach lattices:* *Riesz spaces or Banach lattices, ideals and bands, order convergence, linear operators, order bounded operators, order continuous operators, order duals in Riesz spaces.*
Examination forms	*Essay, oral presentation*
Study and examination requirements	*The final mark will be weighted as follows:* *No Assessment methods (components, activities) Weight (percentage)* *1 Final Examination :* *final project/presentation/oral exam/essay 30% - 40%* *2 Mid-Term Examination :* *presentation/oral exam/essay 30% - 40%* *3 Class Activities: presentation, quiz,* *homework, etc 20% - 30%* *To pass the course, the minimum grade is B.*
Media employed	*Board, LCD Projector, Laptop/Computer*
Reading list	*1. Meyer-Nieberg, 1991, Banach Lattices, Springer.* *2. Zaanen, A.C., 1997, Introduction to Operator Theory in Riesz Spaces, Springer.* *3. Luxemburg, W.A.J., dan Zaanen, A.C., 1971, Riesz Spaces, American Elsevier Pub. Co.* *4. Aliprantis, C. dan Burkinshaw, O., 2006, Positive Operators, Springer.* *5. Kalauch, A. dan Onno van Gaans, 2019, Pre-Riesz Spaces, De Gyuter.*

CO-PLO Mapping

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6

CO 1	**v**	**v**	**v**			**v**
CO 2	**v**	**v**	**v**			**v**

Last Modified Date : August, 12 2022