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 Website: http://math.fmipa.ugm.ac.id

Graduate Program in Mathematics
Telp : +62 274 552243
Email : maths2@ugm.ac.id;
Website : http://s2math.fmipa.ugm.ac.id

MODULE HANDBOOK

Module Name	Pemodelan Harga Obligasi (Bond Price Modeling)
Module level, if applicable	Master Program
Code, if applicable	**MMM5515**
Subtitle, if applicable	-
Courses, if applicable	-
Semester(s) in which the module is taught	4/Second year
Person responsible for the module	Chair of Statistics Laboratory
Lecturer(s)	Dr. Gunardi, M.Si.
Language	Bahasa Indonesia
Relation to curriculum	Elective *for* Master Degree in Mathematics,
Teaching methods	3 hours lecture
Workload (incl. contact hours, self-study hours)	3 hours lectures, 6 hours individual study, 14 weeks per semester, and total 126 hours a semester
Credit points	3

Required and recommended prerequisites for joining the module	Financial Mathematics
Module objectives/intended learning outcomes	On successful completion of this course, students should be able to: : ● CO 1 understands basic bond market terminology. ● CO 2 to extract yield curves from bond prices ● CO 3 Create bond pricing model based on Affine models, ● CO 4 measure bond risk
Content	Extracting yield curves from bond prices, Affine models, Merton's model, Vasicek's model, The Cox-Ingersoll-Ross model, Heath-Jarrow-Morton models, The measurement and management of interest rate risk, Mortgage-backed securities.
Examination forms	*oral presentation and essay.*
Study and examination requirements	The weight of assignments will be as follows: 1. Quiz, home work, presentation 40% 2. Mid semester exam 30% 3. Final exam 30%
Media employed	online platform, Learning management system, LCD projectors, whiteboards.
Reading list	1. Munk, C., 2005, *Fixed Income Analysis: Securities, Pricing, and Risk Management*, University of Southern Denmark. 2. Fabozzi, F. J., 2007, *Fixed Income Analysis*, John Wiley & Sons, Inc. .

CO-PLO Mapping

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7
CO 1	x						
CO 2		x					
CO 3			x				
CO 4				x			

Compilation Date	**:**	**8/9/2022**
Modified Date	**:**	**9/4/2023**