Module name: Pengantar Teori Risiko Aktuaria 1 (Introduction to Actuarial Risk Theory 1)

Module level, if applicable: Bachelor

Code, if applicable: MMS-332

Subtitle, if applicable: -

Courses, if applicable: -

Semester(s) in which the module is taught: 5th Semester

Person responsible for the module: Danang Teguh Qoyyimi, M.Sc., Ph.D.

Language: Bahasa 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 -

Module objectives/intended learning outcomes:

This course introduces a variety of useful frequency and severity models. The students will be required to understand the steps involved in the modeling process and how to carry out these steps in solving business problems. Students should be able to: 1) analyze data from an application in a business context; 2) determine a suitable model including parameter values.

By the end of this course, students should be able to:

CO1 Apply the probability theory in modeling risks
CO2 Apply transformation in random variable to loss modifications
CO3 Compute aggregate claims distributions and use them to calculate loss probabilities

Content:

1. Introduction: random variables, basic distributional quantities, tails of distribution, measures of risk
2. Characteristic of actuarial model
3. Creating new distributions
4. Selected distributions and their relationship
5. Discrete distributions
6. Frequency and severity with coverage modifications
7. Aggregate loss models

This course will train the student in both knowledge and application setting but give more portion to the knowledge.

| Study and examination requirements and forms of examination | The weight of assignments will be as follows:
| i. Quiz, homework, group discussion | 25%
| ii. Mid semester exam | 35%
| iii. Final exam | 40%

Grade scale:
A: 85<score≤100
A-: 80<score≤85
A/B: 75<score≤80
B+: 70<score≤75
B: 65<score≤70
B-: 60<score≤65
B/C: 55<score≤60
C+: 50<score≤55
C: 45<score≤50
C-: 40<score≤45
C/D: 35<score≤40
D+: 30<score≤35
D: 20<score≤30
E: 0<score≤20

Media employed
Slides and LCD projectors, blackboards

Reading List

<table>
<thead>
<tr>
<th>CO and PLO mapping</th>
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<tbody>
<tr>
<td>PLO 1</td>
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<td>CO 1</td>
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