

# **TH01007: PROBABILITY AND STATISTICS**

Total credits 3: theory 3 - practice 0 - Self-study 9

## **EXPECTED LEARNING OUTCOMES**

Notation	<b>Course expected learning outcomes</b> After successfully completing this course, students are able to	<b>Program expected learning outcomes</b>
Knowledg	ge	
CELO1	Apply the concepts of probability and the rules of probability calculation to solve practical problems.	<b>ELO1:</b> Apply the knowledge of natural science, politics, social science and humanities, law, economics, and awareness of contemporary issues in the field of environmental sciences.

CELO2	Apply knowledge of probability distributions to identify a number of common probability distributions and to calculate their numerical characteristics.	<b>ELO1:</b> Apply the knowledge of natural science, politics, social science and humanities, law, economics, and awareness of contemporary issues in the field of environmental sciences.
<b>CELO3</b>	Apply knowledge of descriptive statistics, interval estimation, hypothesis testing, correlation and regression to solve practical problems.	<ul> <li>ELO2: Analyze environmental quality including designing and conducting experiments, collecting data, and interpreting results.</li> <li>ELO3: Evaluate the impact of natural resource exploitation and emissions on environmental quality.</li> </ul>
Skills		
CELO4	Apply simple statistical models to practical problems, analyze and process data.	<b>ELO 9:</b> Apply appropriate approaches, suitable methods, and techniques to investigate, survey, and study environmental problems.
Attitude		
CELO5	Demonstrate ability of lifelong learning for continuously developing knowledge and skills.	<b>ELO11:</b> Define a clear career orientation; possess a passion for one's career and a sense of lifelong learning.
COU	JRSE DESCRIPTION STUDENT	TASKS

- This course provides basic knowledge of probability and statistics.
- Topics covered are: probability, random variables, descriptive statistics, parameter estimation, hypothesis testing, correlation and regression.
- Attend at least 80% of the course

contact hours.

- Complete at least 70% of homework. ullet
- Take the midterm and final exam.



### **ASSESSMENT METHODS**

#### • Grading: 10

• Average score of course is the total points of rubrics multiplied by the respective weight of each rubric.

- Formative assessment: Participation (10%) and midterm exam (30%)
- Summative assessment: Final exam/multiple choice or essay (60%)

### **LEARNING METHODS**

- Learning in class
- Team work
- Self learning
- E-learning







### **LECTURERS**

All teachers in the Department of Mathematics.



