

# Environmental Statistics



**MASTER PROGRAM OF ENVIRONMENTAL SCIENCE  
SCHOOL OF POSTGRADUATE STUDIES  
DIPONEGORO UNIVERSITY**



**A Module Handbook or collection of module descriptions that is also available for students to consult should contain the following information about the individual modules:**

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| Module design   | Environmental Statistics  |
| Module level, if applicable                           |   |
| Code, if applicable                                   | CIL-2.2. 602  |
| Subtitles, if applicable                              |   |
| Courses, if applicable                                |   |
| Semester(s) in which the module is taught             | 1 <sup>st</sup> Semester  |
| Person responsible for the module                     | Dr. Budi Warsito, S.Si, M.Si  |
| Lecturer  | 1. Dr. Budi Warsito, S.Si, M.Si<br>2. Dr. Dra. Sunarsih, M. Si  |
| Language  | <i>Indonesian and English</i>   |
| Relations to curriculum                               |   |
| Type of teaching, contact hours                       | <i>Lecture: 60 minutes<br/>Q&amp;A: 10 minutes<br/>Discussion: 10 minutes<br/>Presentation: 10 minutes</i>  |
| Workload  | <i>(Estimated) workload, divided into contact hours (lecture, exercise, laboratory session, etc.) and private study, including examination preparation, specified in hours,<sup>1</sup> and in total.</i> |
| Credit points   | <i>3 credits</i>  |
| Requirements according to the examination regulations | <i>Minimum attendance of lectures 75%</i>   |
| Recommended prerequisites                             | <i>eg existing competences in...</i>  |

<sup>1</sup> When calculating contact time, each contact hour is counted as a full hour because of the organization of the schedule, moving from room to room, and individual questions to lecturers after the class, all mean that about 60 minutes should be counted.

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| Module objectives/intended learning outcomes                | Students are able to process and analyze data related to the Environmental field by applying statistical methods. Able to apply the use of statistics in the Environmental field and master the concepts needed to analyze environmental problems  |
| Content   | Environmental Statistics course discusses the meaning of statistics, descriptive statistics, basic concepts of probability, probability distribution, theoretical distribution of random variables, theoretical distribution of continuous random variables, sampling distribution, estimation, single sample hypothesis testing, multiple sample hypothesis testing, several other inferential analyzes, simple linear regression and correlation, and some non-parametric methods.   |
| Study and examination requirements and forms of examination | <ul style="list-style-type: none"> <li>• <i>Open book and close book</i></li> <li>• <i>Multiple choice, case study, interview, practice</i></li> </ul>   |
| Media employed  | <i>Powerpoint, youtube, website</i>  |
| Reading list  | <ol style="list-style-type: none"> <li>1. Hadi, S., Statistics, Student Library, Yogyakarta, 2015.</li> <li>2. Harinaldi, Statistical Principles for Engineering and Science, Erlangga, Jakarta, 2005</li> <li>3. Rohmad, and Supriyanto, Introduction to Statistics, Kalimedia, Yogyakarta, 2015</li> <li>4. Spiegel MR, Statistics, Schaum Outline Series, McGraw-Hill, New York, 1982.</li> <li>5. Supranto J., Statistical Theory and Application Volume 1, Erlangga, Jakarta, 2009.</li> <li>6. Supranto J., Statistical Theory and Application Volume 2, Erlangga, Jakarta, 2009.</li> <li>7. Usman, H., and Akbar, PS, Introduction to Statistics, Earth Literacy, Jakarta, 2015</li> </ol> |