



## Module Description/Course Syllabi

Study Program : Bachelor Program (S1)  
 Faculty of Agriculture  
 University of Andalas

### 1. Course number and name

PIT62205 Land Reclamation and Bioremediation

### 2. Credits and contact hours/Number of ECTS credits allocated

3 credits ( 2 classes, 1 practicum)

### 3. Instructors and course coordinator

1. Is. Lusi Maira, Magrsc
2. Dr. Ir. Agustian
3. Dr. Ir. Teguh Budi Prasetyo, MS
4. Dr., Gusmini, SP. MP

### 4. Text book, title, outhor, and year

1. Cummings, S. P. 2010. Bioremediation: Methods and Protocols. Humana Press UK, ISBN 978-1-60761 438-8. DOI 10.1007/978-1-60761-439-5. 290p
2. Wiley, N. 2007. Pytoremediation: Methods and Review. Humana Press-UK. ISBN 13: 978-1-59745-098-0,
3. Directorate of Land Management, Director General of Land and Water Management. Department of Agriculture 2008. Optimization and Reclamation of Agricultural Land in Central Kalimantan Peatland Development Area. 4. Directorate of Land Management, Director General of Land and Water Management. Department of Agriculture. 2008. Post-Mining Land Reclamation.
4. Enviromental Protection Agency, 1993. Biological and Chemical Assessment of Contaminated Great Lakes Sediment. EPA 905-R93-006
5. Enviromental Protection Agency, 1991. Biological remediation of Contaminated Sediments, with Special Emphasis on the Great Lakes. EPA/600/9-91/001
6. Negim, O. 2009. New Technique for Soil Reclamation and Conservation: In Situ Stabilization of Trace Elements in Contaminated Soils. Thèse Docteur. École Doctorale Des Sciences Et Environnements
7. Chen, F.H. 1999, Soil Engineering: Testing, Design, And Remediation. CRC Press. Boca Raton London, Université Bordeaux 1, New York Washington, D.C.

### 5. Specific course information

#### A. Brief description of the content of the course (catalog description)

After completing this course, students are expected to be able to apply reclamation measures for degraded land and bioremediation for soil polluted by toxic organic materials as a result of agricultural or non-dairy activities

#### B. Level of course unit (according to EQF: first cycle Bachelor, second cycle Master)

First Cycle Bachelor

<b>C. Semester when the course unit is delivered</b>
Even Semester
<b>D. Mode of delivery (face-to-face, distance learning)</b>
Face to face
<b>6. Intended Learning Outcomes (CPL)</b>
ILO-4: Able to apply their professional responsibilities to make decisions in land and environmental management P4.3 Determine alternative solutions to land problems
<b>7. Course Learning Outcomes (CPMK) ex. The student will be able to explain the significance of current research about a particular topic.</b>
1. Determine alternative solutions to land problems
<b>8. Learning and teaching methods</b>
Cooperative Learning and Project Based Learning
<b>9. Language of instruction</b>
Indonesian
<b>10. Assessment methods and criteria</b>
<b>Summative Assessment :</b>
<ol style="list-style-type: none"> <li>1. Assignment</li> <li>2. UTS</li> <li>3. UAS</li> <li>4. Internship</li> </ol>
<b>Formative Assessment:</b>
<ol style="list-style-type: none"> <li>1. Thumb up and thumb down</li> <li>2. Minutes paper</li> </ol>