

Certificate Assessment Plan: Biodegradation and Bioremediation 2012-2013

**Institutional Assessment
Timothy S. Brophy, Director**

Office of the Provost

University of Florida

Institutional Assessment

*Continuous Quality
Enhancement Series*

Biodegradation and
Bioremediation

College of Agricultural and
Life Sciences

Andrew Ogram;
aogram@ufl.edu

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Biodegradation and Bioremediation

College of Agricultural and Life Sciences

2012-13 Certificate Assessment Plan

A. Rationale

Restoration of polluted lands is one of the primary missions of the Soil and Water Science Department, and of the discipline in general. Recent offerings of the courses in the proposed certificate have included students employed in the remediation industry who would be well served by such a certificate program.

B. Mission

The Biodegradation and Bioremediation certificate program supports the missions of the college and university to serve the nation's and state's critical needs by contributing to a well-qualified and broadly diverse citizenry, leadership and workforce. Successful completion of this certificate will contribute to students' fundamental understanding of the biological, chemical, and physical aspects of the use of microorganisms to restore polluted environments.

C. Student Learning Outcomes (SLOs)

1. Describe the fundamental role of microorganisms in transformations of organic and inorganic pollutants.
2. Describe the fundamental processes controlling the fate and transport of pollutants in soils.
3. Describe the basic strategies underlying environmental bioremediation of at least two different classes of pollutants.

D. Assessment Timeline for Certificates

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SLOs	Courses	Competency Exam
Describe the fundamental role of microorganisms in transformations of organic and inorganic pollutants.	SWS 5305 Soil Microbial Ecology	X
Describe the fundamental processes controlling the fate and transport of pollutants in soils.	SWS 6262 Soil Contamination and Remediation	X
Describe the basic strategies underlying environmental bioremediation of at least two different classes of pollutants.	SWS 6366 Biodegradation and Bioremediation	X

E. Assessment Cycle Chart for Certificates

Biodegradation and Bioremediation

College of Agricultural and Life Sciences

Analysis and Interpretation:

May – June annually

Improvement Actions:

Completed by August 1 of each year

Dissemination:

Completed by September 1 of each year

SLOs	Year	12-13	13-14	14-15	15-16
Describe the fundamental role of microorganisms in transformations of organic and inorganic pollutants.			X	X	X
Describe the fundamental processes controlling the fate and transport of pollutants in soils.			X	X	X
Describe the basic strategies underlying environmental bioremediation of at least two different classes of pollutants.			X	X	X

F. Methods and Procedures

Instructors of core courses in the certificate program will submit a minimum of 10 questions each that will test student’s achievement of the Student Learning Outcomes associated with these courses. These questions will be compiled into a single on-line examination. Students will be required to score a minimum of 85% correct to pass the exam. The exam may be taken multiple times if necessary.

G. Assessment Oversight

Name	Department Affiliation	Email Address	Phone Number
Andrew Ogram	Soil and Water Science	aogram@ufl.edu	352-294-3138
John Thomas	Soil and Water Science	Thomas@ufl.edu	352-294-3131
Lena Ma	Soil and Water Science	Lqma@ufl.edu	352-294-3135

