

COVER SHEET
OUTCOMES ASSESSMENT REPORT
2007-2008

Natural Resources Management

Forestry

Bachelors of Science

Department

Program (major or minor)

(Degree)

Edward Martinez

Assessment Coordinator (Print)

Signature

Date

Edward Martinez

Program Chair (Print)

Signature

Date

Program Starting Date; only needed if within the past three years: Fall 2007
semester year

I. NEW MEXICO HIGHLANDS UNIVERSITY MISSION

NMHU is a diverse comprehensive university serving the global community by integrating education, research, public service, and economic development, while celebrating our distinctive New Mexico cultures and traditions. We achieve this through a University-wide commitment to quality student-centered education.

II. FORESTRY PROGRAM GOALS

Mission

Forestry is the application of scientific principles to the management of forest resources, including non-wood products. The mission of the Forestry Program at NMHU is to provide students the skills needed to excel in a natural resources management field of study.

- Providing a broad-based undergraduate education in the Liberal Arts and Sciences;
- Promoting study and quality research in forestry and natural resource management sciences;
- Providing a superior learning experience for students through dedicated teaching, hands-on learning, research, and commitment to the individual student; and
- Providing a combination of state of the art computer and science facilities and close access to a diversity of ecosystems for student experiential learning.

Goals

The primary goal of the forestry program is to produce technically competent forest and natural resources managers who understand the ecological, economic, social and legal basics that underpin human uses of natural resources. Students are trained in the various techniques used to determine resource quantities and qualities, economic values, resource productivity, and social constraints in management of natural and forest resources.

III. 2007-2008 FORESTRY COURSE OFFERINGS

Fall 2007

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| FOR 105 | Humans and Ecosystems | 41 students |
| FOR 300 | Forestry Field Practices | 7 students |
| FOR 310 | Mensuration and Biometrics | 7 students |
| FOR 315 | Soil Science | 8 students |
| FOR 321 | Forest Entomology | 14 students |
| FOR 322 | Forest Pathology | 8 student |
| FOR 335 | ST. Natural Resources Ecology | 15 students |
| FOR 402 | Siviculture | 8 students |
| FOR 408 | Limnology | 5 students |
| FOR 412 | Surveying Geographical Information System | 11 students |
| FOR 420 | Wildlife Habitat Management | 10 students |

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| FOR 440 | Senior Project | 3 students |
| FOR 490 | Independent Study (Dr. Martinez) | 1 student |

Spring 2008

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|---------|----------------------------------|-------------|
| FOR 105 | Humans and Ecosystems | 48 students |
| FOR 330 | Natural Resources Law and Policy | 11 students |
| FOR 335 | ST: Watershed Management | 15 students |
| FOR 335 | ST: Wildland Fire Management | 20 students |
| FOR 340 | Quantitative Methods | 12 student |
| FOR 351 | Atmospheric Science | 5 students |
| FOR 400 | Surface Hydrology | 8 students |
| FOR 410 | Forest Management | 9 students |
| FOR 417 | Watershed Management | 5 students |
| FOR 440 | Senior Project | 3 students |
| FOR 453 | Toxicology in Life Science | 7 students |
| FOR 490 | Independent Study (Dr. Bentson) | 1 student |

| III. STUDENT LEARNING OUTCOMES | IV. OUTCOMES ASSESSMENT | V. OUTCOME |
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| <ul style="list-style-type: none"> Effectively describe the process of scientific inquiry. | <ul style="list-style-type: none"> Score of $\geq 70\%$ on class and laboratory examinations emphasizing the scientific method (FOR 105—<i>Humans and Ecosystems</i>, FOR 315—<i>Soil Science</i>, and FOR 340--<i>Quantitative Methods</i>,). | <ul style="list-style-type: none"> FOR 105—<i>Humans and Ecosystems</i>, -92% of students scored 70% or higher FOR 315—<i>Soil Science</i>, -86% of students scored 90% or higher FOR 340--<i>Quantitative Methods</i>, -90% of students scored 90% or higher. |
| <ul style="list-style-type: none"> Effectively read and critically evaluate relevant professional literature. | <ul style="list-style-type: none"> Score of $\geq 70\%$ on comprehensive literature review paper and oral presentation assigned in most 200- through 400- level courses. | <ul style="list-style-type: none"> 92% of students scored 70% or higher in all 200-400 level courses. |
| <ul style="list-style-type: none"> Effectively communicate scientific ideas, information, and results, both verbally and in writing, that (1) demonstrate consistent logic; (2) are well organized; (3) state and defend a thesis; and (4) demonstrate competent use of language. | | |
| <ul style="list-style-type: none"> Think critically. | <ul style="list-style-type: none"> Score of $\geq 70\%$ on all courses. | <ul style="list-style-type: none"> 90% of students scored 70% or higher in all forestry courses offered in 2007-2008. |
| <ul style="list-style-type: none"> Know U.S. laws and policy issues relevant to the natural sciences. | <ul style="list-style-type: none"> Completion (with grade $\geq C$) of a Forestry Law and Policy course. | <ul style="list-style-type: none"> FOR 330 <i>Natural Resources Law and Policy</i>, -82% of students scored 70% or higher |
| <ul style="list-style-type: none"> Competently use appropriate tools from geology, chemistry, physics, and | <ul style="list-style-type: none"> Completion (with grade $\geq C$) of a field based course (FOR 300- <i>Field Practices</i>, FOR | <ul style="list-style-type: none"> 100% of students scored 70% or higher |

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| <p>mathematics to solve discipline-specific problems.</p> | <p>315—<i>Soil Science</i>, FOR 318—<i>Natural Resources Ecology</i>, FOR 333—<i>Water Science</i>, FOR 408—<i>Limnology</i>, FOR 412—<i>Surveying and Geographic Information Systems</i>, and a senior capstone course consisting of an open-ended advanced Forestry project).</p> | |
| <ul style="list-style-type: none"> Competently use appropriate laboratory and field methods and instrumentation. | <ul style="list-style-type: none"> Completion (with grade \geq C) of the above mentioned courses; and Completion of research that demonstrates achievement in areas of ethics, field methods, analytical instrument usage, problem-solving, written and/or oral presentation of work; and Query of student abilities, employability, and overall satisfaction with the program via course exit questionnaires. | <ul style="list-style-type: none"> 100% of students scored 70% or higher FOR 440 <i>Senior Project</i>, -50% of students completed their project within the one semester time limit. No survey completed |
| <ul style="list-style-type: none"> Effectively apply quantitative analysis to scientific problems by selecting and performing appropriate quantitative analyses of scientific observations. | <ul style="list-style-type: none"> Completion (with grade \geq C) of FOR 305—<i>Natural Resources Economics</i>, FOR 310—<i>Mensuration and Biometrics</i>, and FOR--340—<i>Quantitative Methods</i>. | <ul style="list-style-type: none"> 89% of students scored 70% or higher |
| <ul style="list-style-type: none"> Attain employment in forestry, natural resources management, environmental science, or related fields and/or continue graduate studies. | <ul style="list-style-type: none"> Query of relevance of degree program to success in employment or graduate school via Alumni Survey. | <ul style="list-style-type: none"> No alumni Survey completed |

VI. REMARKS

Faculty in the Forestry discipline have identified several problems regarding student performance.

- Academic Dishonesty - both undergraduate and graduate students have been caught plagiarizing on some of their work.
- Writing - Poor structure in term papers.
- Class Absenteeism

- Inattention to Deadlines

The identified problems are being addressed by all faculty through the following measures:

1. **Academic Dishonesty** – Some faculty have begun drafting sections on academic dishonesty for faculty handbook, student code of conduct, and catalogs. Students in our classes are being informed at the beginning of each semester of the consequences of cheating in written assignments. Additionally, students are provided the CBE citation style they should be used.
2. **Writing** – Faculty are requiring shorter papers which then allows for more feedback that can be used for the following writing assignment. In some of the upper level courses students are given assignments of critiquing journal articles and requiring them to provide feedback not only on content by structure and organization. Faculty are also allowing students to participate in the review process of manuscripts that have been submitted to professional journals so they get a better perspective of the nuts and bolts of constructing technical review documents.
3. **Class Absenteeism** – Faculty are developing rigorous and uniform attendance policies in the lower level courses. Students are asked to please e-mail or call the instructor immediately to communicate their situation and receive the missed material. If they are not able to attending class for an “excused absence” they are required to provide written verification in addition to emailing or calling.
4. **Inattention to Deadlines** – Faculty are developing specific guidelines with due dates for particular pieces of the project or drafts of the assignment. In addition, some of the bigger assignments such as term papers or field investigations are being assigned early in the semester. Students are also informed that late assignments will not be accepted and or will be penalized based on the lateness of the assignment.