

UNIVERSITY ASSESSMENT COMMITTEE
Feedback to Academic Departments on Assessment Activities Reported in ____2011____ Annual Reports
GRADUATE PROGRAMS

DEPARTMENT Electrical EngineeringDATE April 13, 2012COMMITTEE MEMBER(S) CONDUCTING REVIEW Ruth Paur and Katherine Norman Dearden**1. STUDENT LEARNING GOALS**

- | | | | |
|---------------------------------------|--------------|---------|------------------------|
| • Were any goals referenced? | YES <u>X</u> | NO ____ | QUALIFIED Y/N ____ |
| • If so, were goals well articulated? | YES ____ | NO ____ | QUALIFIED Y/N <u>X</u> |
| • Do goals address student learning? | YES <u>X</u> | NO ____ | QUALIFIED Y/N ____ |

Comments:

The Department articulates three goals and five related objectives. Goals two and three address student learning with regard to research activities and communication of results. Goal 1 is not worded as a student learning goal, "1. Students will develop a comprehensive and in-depth understanding of electrical engineering through graduate-level coursework. Objective 1.1. Students will complete a program of study that includes electrical engineering courses at the graduate level."

2. ASSESSMENT METHODS

- | | | | |
|--|--------------|-------------|------------------------|
| Were any specific assessment methods referenced? | YES <u>X</u> | NO ____ | QUALIFIED Y/N ____ |
| • If so, were specifically chosen assessment methods appropriately aligned with individual goals? | YES ____ | NO ____ | QUALIFIED Y/N <u>X</u> |
| • Were both direct and indirect assessment methods used as components of a "multiple measures" approach? | YES ____ | NO <u>X</u> | QUALIFIED Y/N ____ |

Comments:

Assessment methods for goals 2 and 3 were completion of thesis evaluation forms and thesis defense evaluation form by each student's committee. Since these forms were not included, we can not make any determination about alignment with individual goals.

3. ASSESSMENT RESULTS

- | | | | |
|--|----------|-------------|--------------------|
| Were any assessment results reported? | YES ____ | NO <u>X</u> | QUALIFIED Y/N ____ |
| • If so, were the results clear in terms of how they specifically affirm achievement of goals? | YES ____ | NO <u>X</u> | QUALIFIED Y/N ____ |
| • If so, were the results clear in terms of how they indicate need for improvement? | YES ____ | NO <u>X</u> | QUALIFIED Y/N ____ |
| • Were the results tied to goals for student learning? | YES ____ | NO <u>X</u> | QUALIFIED Y/N ____ |

Comments:

The Department reports that at their Annual Departmental Retreat, they concluded that the program is meeting their educational objectives and learning goals. No further details were given. Perhaps if some examples of the data summaries would have been included we could have addressed this topic more easily.

4. CLOSING THE LOOP

Were any actions taken on the basis of assessment results reported?

YES _____ NO **X** _____ QUALIFIED Y/N _____

- If so, do curricular or other improvements/ changes arising from assessment results directly address goals for student learning?

YES _____ NO **X** _____ QUALIFIED Y/N _____

Comments:

The specific curricular changes reported involved alignment of course descriptions and contents and request for permanent course numbers. These do not appear to reflect their two student learning goals. This may be a result of the Department's decision that no actions needed to be taken in relation to the student learning goals.

SUMMARY***Strengths***

- _____ A specific plan for assessment is in place.
- _____ Student learning goals are well-articulated.
- _____ Assessment methods are clearly described.
- _____ Assessment methods are appropriately selected.
- _____ Assessment methods are well-implemented.
- _____ Direct and indirect methods are implemented.
- _____ Results are reported.
- _____ Results are tied to closing the loop.
(Decision-making is tied to evidence.)

Areas for Improvement

- _____ No specific plan for assessment is in place.
- _____ Student learning goals are not well-articulated.
- X** _____ Assessment methods are not clearly described.
- _____ Assessment methods are not appropriately selected.
- _____ Assessment methods are not well-implemented.
- X** _____ A single type of assessment methods predominates.
- _____ No results are reported.
- _____ Results are not clearly tied to closing the loop.
(Decision-making is not directly tied to evidence.)

OVERALL SUMMARY AND RECOMMENDATIONS:

We encourage the Department to broaden their assessments, perhaps exploring additional methods of collecting assessment data and examining student learning outcomes in coursework leading to the thesis. It may be beneficial to define the differences between Engineering MS and Electrical Engineering MS.

MATERIALS REVIEWED

- X** _____ Annual report
- _____ Appendices (cited in annual report)
- _____ Other (please describe)

- X** _____ Assessment plan (as posted)
- _____ Previous assessment review

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Section 1: __?__ Section 2: __?__ Section 3: __N__ Section 4: __N__

Coding Key:

- Y = yes, this is done appropriately and well
- N = no, this is not done at all, or it is not done in relationship to student learning
- NA = no information available
- ? = action or progress is apparent; however, evidence is lacking that this is completely and appropriately done

UNIVERSITY ASSESSMENT COMMITTEE
Feedback to Academic Departments on Assessment Activities Reported in 2011 Annual Reports
UNDERGRADUATE PROGRAMS

DEPARTMENT Electrical Engineering (BSEE) **DATE** April 13, 2012

COMMITTEE MEMBER(S) CONDUCTING REVIEW: Ruth Paur and Katherine Norman Dearden

1. STUDENT LEARNING GOALS

- | | | |
|---------------------------------------|-----------------------------|---------------------------|
| • Were any goals referenced? | YES <u>X</u> NO <u> </u> | QUALIFIED Y/N <u> </u> |
| • If so, were goals well articulated? | YES <u>X</u> NO <u> </u> | QUALIFIED Y/N <u> </u> |
| • Do goals address student learning? | YES <u>X</u> NO <u> </u> | QUALIFIED Y/N <u> </u> |

Comments:

Several sets of goals are listed in the annual report. Those listed on p. 8, “a” through “k” are student learning goals.

In addition to the Departmental goals, please also consider UND’s Institutional and Essential Studies goals for student learning (shown in alignment within parentheses) and identify which goals are similar to departmental goals.

- X 1 Communication – written or oral (“able to write and speak in various settings with a sense of purpose/audience”)
 X 2 Thinking and reasoning – critical thinking (or “be intellectually curious”; analyze, synthesize, evaluate)
 X 3. Thinking and reasoning – creative thinking (or “be intellectually creative”; explore, discover, engage)
 X 4 Thinking and reasoning – quantitative reasoning (“apply empirical data...analyze graphical information”)
 5 Information literacy (“be able to access and evaluate...for effective, efficient, and ethical use”)
 X 6 Diversity (“demonstrate understanding of diversity and use that understanding...”)
 X 7 Lifelong learning (“commit themselves to lifelong learning”)
 8 Service/citizenship (“share responsibility both for their communities and for the world”)

Comments regarding departmental goals and alignment of departmental goals with institutional and Essential Studies goals:

After reviewing department and course goals, it appears that Institutional and Essential Studies Goals 1,2,3,4,6 and 7 align most directly.

2. ASSESSMENT METHODS

- | | | |
|--|-----------------------------|---------------------------|
| Were any specific assessment methods referenced? | YES <u>X</u> NO <u> </u> | QUALIFIED Y/N <u> </u> |
| • If so, were specifically chosen assessment methods appropriately aligned with individual goals? | YES <u> </u> NO <u>X</u> | QUALIFIED Y/N <u> </u> |
| • Were both direct and indirect assessment methods used as components of a “multiple measures” approach? | YES <u>X</u> NO <u> </u> | QUALIFIED Y/N <u> </u> |

Comments:

The Department describes eight direct assessment instruments and an alumni survey. This is an excellent example of gathering assessment data by multi-faceted means. Clarity would be improved by tying the methods back to the specific goals.

3. ASSESSMENT RESULTS

Were any assessment results reported?	YES__X__	NO__	QUALIFIED Y/N __
• If so, were the results clear in terms of how they specifically affirm achievement of goals?	YES__	NO__	QUALIFIED Y/N __X__
• If so, were the results clear in terms of how they indicate need for improvement?	YES__X__	NO__	QUALIFIED Y/N __
• Were the results tied to goals for student learning?	YES__	NO__	QUALIFIED Y/N __X__

Comments:

Assessment results were reported in some detail under the headings: course outcomes achievement, laboratory updates, multidisciplinary teamwork, broad education and knowledge of contemporary issues. The headings used to organize the assessment results probably correlate to the learning goals but the results were not directly tied back to the specific student learning goals addressed, making it difficult to give feedback.

In addition to departmental goals, some assessment results may be applicable to institutional and Essential Studies goals. Indicate any goals for which the department presents findings, and, for indicated items, describe findings below. .

- ___X_ 1 Communication – written or oral (“able to write and speak in various settings with a sense of purpose/audience”)
 _____ 2 Thinking and reasoning – critical thinking (or “be intellectually curious”; analyze, synthesize, evaluate)
 _____ 3 Thinking and reasoning – creative thinking (or “be intellectually creative”; explore, discover, engage)
 ___?_ 4 Thinking and reasoning – quantitative reasoning (“apply empirical data...analyze graphical information”)
 _____ 5 Information literacy (“be able to access and evaluate...for effective, efficient, and ethical use”)
 ___X_ 6 Diversity (“demonstrate understanding of diversity and use that understanding...”)
 _____ 7 Lifelong learning (“commit themselves to lifelong learning”)
 _____ 8 Service/citizenship (“share responsibility both for their communities and for the world”)

Comments regarding results and the application of results to departmental, institutional and Essential Studies goals:

The Department reports that the student perception is that they do not receive “the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and social context.” They also comment that the new Essential Studies program may help remedy this situation, if the current fluctuation in the approved ES course list and concomitant student confusion can be minimized. The Annual Report, Assessment 4 – Specific Curricular or Other Improvements/Changes. Section “e” (p. 13) references Essential Studies revalidation of EE courses and the preparation of appropriate assessment documentation. Advanced Communication (A), Senior Capstone (C) and Oral Communication are mentioned, specifically, but not a lot of detail is provided (e.g., which ES goals the Senior Capstone addresses, what assessments were used in the revalidation documentation). We expect that the Department addresses quantitative reasoning in their coursework, but they do not reference it directly in their assessment results.

4. CLOSING THE LOOP

Were any actions taken on the basis of assessment results reported?	YES__X__	NO__	QUALIFIED Y/N __
• If so, do curricular or other improvements/changes arising from assessment results directly address goals for student learning?	YES__	NO__	QUALIFIED Y/N __X__

Comments:

As a result of the Department’s assessment process, they are revising teaching materials in EE 405 and EE 314, addressing student concerns about labs, providing additional opportunities to engage in multidisciplinary teamwork, and giving more attention to contemporary issues. They have also made a number of specific curriculum changes. The direct correlation to the student educational goals is unclear.

SUMMARY*Strengths**Areas for Improvement*

- ☒ A specific plan for assessment is in place.
☒ Student learning goals are well-articulated.
☐ Assessment methods are clearly described.
☐ Assessment methods are appropriately selected.
☐ Assessment methods are well-implemented.
☒ Direct and indirect methods are implemented.
☐ Results are reported.
☐ Results are tied to closing the loop.
 (Decision-making is tied to evidence.)

- ☐ No specific plan for assessment is in place.
☐ Student learning goals are not well-articulated.
☐ Assessment methods are not clearly described.
☐ Assessment methods are not appropriately selected.
☐ Assessment methods are not well-implemented.
☐ A single type of assessment methods predominates.
☐ No results are reported.
☐ Results are not clearly tied to closing the loop.
 (Decision-making is not directly tied to evidence.)

OVERALL SUMMARY AND RECOMMENDATIONS:

The Department's student learning goals are well articulated and six of them align with UND's Institutional and Essential Studies goals for student learning. The Department also engages in a multi-faceted process to collect its assessment data. This is excellent. These efforts would be enhanced further if more information about how the assessment results and curricular/pedagogical adjustments connect back to the goals.

MATERIALS REVIEWED

- ☒ Annual report
☐ Appendices (cited in annual report)
☐ Other (please describe)

- ☒ Assessment plan (as posted)
☐ Previous assessment review

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Section 1: ☒ Y ☐ ? Section 2: ☐ ? ☐ ? Section 3: ☐ ? ☐ ? Section 4: ☐ ? ☐ ?

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