

(a) Apply knowledge of math, science, and engineering

Previous Curriculum Action Review Summary

- There were no 2005 Curriculum Actions Needed.

Curriculum Review Summary

- Outcome (a) scores increased from 2004 to 2005.
- Outcome (a) score variation among the three metrics increased somewhat in 2005 compared to 2004.

<i>Code</i>	<i>Curriculum Action Title</i>	<i>Curriculum Action Brief Description</i>
N		

Previous Assessment Process Action Review Summary

- The Assessment Process Actions for Outcome (a) for 2005 was the general action that all faculty members consider producing metrics that provide for more reliable measures of student achievement. This has taken the form of more objective measures as acquired through the Senior Exit Survey and the FE Exam.

Assessment Process Review Summary

- The current cadre of instruments appears to be good tools for assessing Outcome (a).
- The faculty are again asked to continually seek better measures of student performance.
- The Senior Survey is an excellent assessment instrument in that objective (faculty play no role in determining the assessment score) results are obtained.
- A Senior Exit Exam would be an excellent improvement that it would yield objective results in that the faculty would play no role in determining the assessment scores.

<i>Code</i>	<i>Assessment Process Action Title</i>	<i>Assessment Process Action Brief Description</i>
A	Develop a Senior Exit Exam	A Senior Exit Exam is needed to achieve better Assessment of Outcome (c).

(b) Design and conduct experiments analyze and interpret data and information

Previous Curriculum Action Review Summary

- There were no 2004 Curriculum Actions stated for 2005.

Curriculum Review Summary

- Student performance remains satisfactory.
- It is suggested to add more SPC assignments in courses other than MET 321.

<i>Code</i>	<i>Curriculum Action Title</i>	<i>Curriculum Action Brief Description</i>
A	Add SPC assignments to curriculum	SPC assignments are needed in courses other than MET 321.

Previous Assessment Process Action Review Summary

- The 2005 Assessment Process ActionS Needed noted a need for additional assessment Instruments Outcome (b).
- Senior Survey questions were added for Outcome (b), which seems to be performing adequately. However, developing instruments from senior level lab courses is advisable.

Assessment Process Review Summary

- More assessment of Outcome (b) in MET 440.

<i>Code</i>	<i>Assessment Process Action Title</i>	<i>Assessment Process Action Brief Description</i>
A	QC lab in MET 440	Add QC lab to MET 440 with corresponding instruments for Outcome (b).

(c) Optimally select material and design materials treatment and production processes

Previous Curriculum Action Review Summary

There were no Curricular Actions needed for Outcome (c) in 2005.

Curriculum Review Summary

- The students continue to perform well.
- No Curriculum Action is needed

<i>Code</i>	<i>Curriculum Action Title</i>	<i>Curriculum Action Brief Description</i>
A	Develop a Senior Exit Exam	A Senior Exit Exam is needed to achieve better Assessment of Outcome (c).

Previous Assessment Process Action Review Summary

Developing better or additional Instruments for all Outcomes was an Assessment Process Action needed for 2005. The Senior Survey provides non-faculty subjective inputs for Outcome (c)

Assessment Process Review Summary

- There is some concern that there is too much reliance on the Senior Design Reports for the assessment of Outcome (c).

- The continued general search for better metrics for all Outcomes is also noted here and should be addressed by development of a Senior Exit Exam.

<i>Code</i>	<i>Assessment Process Action Title</i>	<i>Assessment Process Action Brief Description</i>
A	Develop a Senior Exit Exam	A Senior Exit Exam needs to be developed to improve the Assessment Process for Outcome (c).

(d) Function well on teams

Previous Curriculum Action Review Summary

- There were no 2005 Curriculum Actions stated for 2006.

Curriculum Review Summary

- Student performance improved slightly but likely within the range of expected uncertainty in performance measurement for Outcome (d).
- No Curriculum Action is needed.

<i>Code</i>	<i>Curriculum Action Title</i>	<i>Curriculum Action Brief Description</i>
N		

Previous Assessment Process Action Review Summary

- The Assessment Process Actions for Outcome (d) for 2005 was the general action that all faculty members consider producing metrics that provide for more reliable measures of student achievement. For Outcome (d) this has taken the form of using self assessment to determine the students' team experience in design courses.

Assessment Process Review Summary

- The current cadre of instruments appears to be good tools for assessing Outcome (a).
- The faculty are again asked to continually seek better measures of student performance.
- The self assessment procedure is an excellent assessment instrument for this objective (faculty play no role in determining the assessment score) results are obtained.
- A Senior Exit Exam would also be an improvement in that it would yield objective results in which the faculty would play no role in determining the assessment scores.

<i>Code</i>	<i>Assessment Process Action Title</i>	<i>Assessment Process Action Brief Description</i>
A	Develop a Senior Exit Exam	A Senior Exit Exam is needed to achieve better Assessment of Outcome (d).

(e) Identify, formulate, and solve engineering problems

Previous Curriculum Action Review Summary

- No Curriculum Actions were identified for Outcome (e) for 2005.

Curriculum Review Summary

- Students continue to perform well solving engineering problems.

<i>Code</i>	<i>Curriculum Action Title</i>	<i>Curriculum Action Brief Description</i>

Previous Assessment Process Action Review Summary

- No Assessment Process Action was needed for Outcome (e) for 2005.

Assessment Process Review Summary

- Process seems adequate.
- A small number of instruments were used.
- Additional instruments may need to be added because of small number during odd years.

<i>Code</i>	<i>Assessment Process Action Title</i>	<i>Assessment Process Action Brief Description</i>
W	Small Number of Instruments	* A small number of instruments are used to assess Outcome (e) in odd years, additional instruments may need to be added in odd years.

(f) Know professional and ethical responsibilities and practices

Previous Curriculum Action Review Summary

No items specific to Curriculum Action Review for ABET criterion (f) were noted.

Curriculum Review Summary

The scores continued to increase, but the number of assessments was low.

<i>Code</i>	<i>Curriculum Action Title</i>	<i>Curriculum Action Brief Description</i>
N		

Previous Assessment Process Action Review Summary

No items specific to Assessment Process Action Review for ABET criterion (f) were noted.

Assessment Process Review Summary

The number of assessments were rather low.

<i>Code</i>	<i>Assessment Process Action Title</i>	<i>Assessment Process Action Brief Description</i>

N		
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(g) Communicate effectively

Previous Curriculum Action Review Summary

The curriculum review indicated that student performance was at a high level.

Curriculum Review Summary

- During this review cycle it was determined that the students communicate effectively, particularly orally.
- Attention should be given to student written communication skills. Using re-writing as a technique to improve written skills is a strategy that should be pursued.

Code	Curriculum Action Title	Curriculum Action Brief Description
C	Rewriting as a method to improve written communication.	Faculty will utilize the re-writing technique to improve student skills.

Previous Assessment Process Action Review Summary

- Better Metric matching

Assessment Process Review Summary

- The assessment process appears to be working well.
- There are enough and varied instruments to adequately review both the oral and written components to the communication outcome.

Code	Assessment Process Action Title	Assessment Process Action Brief Description
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N	No action required.	
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(h) Know engineering's global societal context

Previous Curriculum Action Review Summary

No Curriculum Action Review actions were suggested for outcome (h).

- A Curriculum Action Review watch item was given in 2004.

Curriculum Review Summary

The global and societal outcome showed a large decrease in student performance for 2005 as compared to 2004. This was accompanied by a large decrease in the total number of assessments. The decrease in the number of assessments was likely due to a shift in which portions of the curriculum were used to evaluate Outcome (h).

- The watch item from 2004 will be continued to 2005 as the curriculum shift of Outcome (h) was implemented in part due to this watch, and the courses in which implementation occurs are offered every other year.

Code	Curriculum Action Title	Curriculum Action Brief Description
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W	Curriculum Shift	As the curricular areas assessing global and societal context are being shifted, watching to ensure this goes smoothly is important.
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Previous Assessment Process Action Review Summary

No Assessment Process Action was suggested for Outcome (h) from 2004.

- A general assessment action item concerning better metric matching in all ABET Outcomes was delineated. This action requested questions for an exit exam for the graduating seniors.

Assessment Process Review Summary

During 2005, the global and societal context requirements were a little sparse, most likely due to lag in changing class procedures to accommodate this requirement. This situation should be monitored to ensure that the requirements are fulfilled.

- Question collection was begun, but the exit exam is not expected to be fully operational until 2007.

Code	Assessment Process Action Title	Assessment Process Action Brief Description
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W	Curriculum Shift	As the curricular areas assessing global and societal context are being shifted, watching to ensure this goes smoothly is important.
A	Question Collection	Questions for a new exit examination will be sought.

(i) Engage in life-long learning

Previous Curriculum Action Review Summary

Cognitive-Level Assessment is now Bi-annual. Discontinue the Met 321 cognitive writing instrument from outcome (i) assessment. The results of the cognitive-level assessment are to be completed by Dr. Stu Kellogg. Although we appreciate this service it does make our assessment dependant on personnel outside the program. We may want to consider paying Dr. Kellogg for his service or training ourselves to complete the cognitive assessment. We will continue under the current aegis; however, to minimize the burden on Dr Kellogg the cognitive assessment will be performed in Met 310 only.

Curriculum Review Summary

The outcome summaries increased and the range was about the same as the previous year.

<i>Code</i>	<i>Curriculum Action Title</i>	<i>Curriculum Action Brief Description</i>
A	Move assessment to Met 310	Move the assessment from Met 321 to Met 310.

Previous Assessment Process Action Review Summary

Remove assessment from Met 321.

Assessment Process Review Summary

Assessment was successfully remove from Met 321 and initiated in Met 310.

<i>Code</i>	<i>Assessment Process Action Title</i>	<i>Assessment Process Action Brief Description</i>
N		

(j) Know contemporary issues

Previous Curriculum Action Review Summary

- No action required during the previous review cycle.

Curriculum Review Summary

- Need to augment Online Senior Survey as an instrument to assess outcome (j), and to broaden beyond 321 and 310 instruments.

<i>Code</i>	<i>Curriculum Action Title</i>	<i>Curriculum Action Brief Description</i>
A	Instruments utilized	Need to broaden the number of instruments beyond MET 321 and MET 310 instruments.

Previous Assessment Process Action Review Summary

- Remove FC module on contemporary issues from Met 321 and find it a new home.

Assessment Process Review Summary

- The assessment process is limited by the single instrument that was available to assess this outcome. Need to find areas in the curriculum to assess this outcome.

<i>Code</i>	<i>Assessment Process Action Title</i>	<i>Assessment Process Action Brief Description</i>
A	Instruments utilized	Need to identify new instruments to assess this outcome.

(k) Use engineering techniques, skills, and tools

Previous Curriculum Action Review Summary

The Charpy impact instrument should not appear in outcome (k). The use of computer tools is better than the student's use of actual laboratory hardware; however, the overall trend for outcome (k) is upward. Faculty will endeavor to improve laboratory instruction. Continue doing what we are doing.

Curriculum Review Summary

There was a considerable increase in the outcome scores from 2004 to 2005 and the overall range decreased as well.

<i>Code</i>	<i>Curriculum Action Title</i>	<i>Curriculum Action Brief Description</i>
A	Charpy tests	Remove the Charpy impact instrument from outcome (k)

Previous Assessment Process Action Review Summary

No actions were needed.

Assessment Process Review Summary

No actions were needed.

<i>Code</i>	<i>Assessment Process Action Title</i>	<i>Assessment Process Action Brief Description</i>
N		