

UW Colleges Assessment Planning and Reporting Form

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Department	CSEP
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NOTE: Please attach relevant supporting information used to complete the Report Summary Sheet.

PART 1: Assessment of General Education Outcomes

Section 1: Identify the Proficiencies/Performance Indicators Assessed

- at the *Planning* stage, mark the performance indicators to be assessed in the left hand column below
- at the *Reporting* stage, report the numbers of students who did not meet, met, or exceeded expectations

	Proficiency	Performance Indicators	# Do Not Meet	# Meet	# Exceed
X	B. Quantitative Skills	1. Solve quantitative and mathematical problems	40	125	101
X	C. Communication Skills	3. Demonstrate a large and varied vocabulary	54	97	79
X		5. Use computer technologies for communication	43	194	132

Section 3: Use of Results

1. How did individual instructors report that they plan to use these results to improve the instructional process?

CPS 106 (Fall 2004)

The results were:

16% (n = 35) Exceeded Expectations

71% (n = 150) Met Expectations

13% (n = 27) Failed to Meet Expectations

- It was reported by the faculty that if the student was not present for the assessment activity the student was scored with an NA so the student was not included in the count.
- Determine where and why students failed to achieve and reevaluate the preparation and time spent on them. On those items that seemed to have been understood readily, faculty will focus less time.
- The PowerPoint exercise was very clear. However, the one used last semester (using an excel worksheet to evaluate different aspects of car cost) was not written as clearly.

CPS 103 (Fall 2004)

The results were:

33% (n = 20) Exceeded Expectations

40% (n = 24) Met Expectations
17% (n = 16) Failed to Meet Expectations

- The results of the assessment identified the weak and strong areas of the students' vocabulary about computer concepts. Majority of the students seems to have a decent grasp of the material. The majority of the students who exceeded probably would have exceeded even if they never took CPS 103 portion of CPS 110. Students are more computer literate today then ten years ago.
- Faculty could cover this material at a faster pace in the future, and concentrate more on newer and emerging technologies.

MEC 201 (Fall 2004)

The results are a bit puzzling to the faculty, the results were:

71% (n = 10) Exceeded Expectations
29% (n = 4) Met Expectations
0% (n = 0) Failed to Meet Expectations

- It was reported by the faculty that if the student was not present for the assessment activity the student was scored with an NA so the student was not included in the count. There is the possibility that the students who did not take the assessment activity might in fact be students who do not meet expectations.
- Since the data did not reflect the need to change the instructional process, no action will be taken at this time. But, it is important to note that according to 10th day numbers 34 students were to be assessed and only 14 were assessed. It is the belief of the faculty that the attrition of 20 students (59%) of the class showed that the students self-selected that they could not meet the expectations of the course and dropped the course. This further reports that we have no changes to make at this time.

EGR 282 (Fall 2004)

The results for EGR 282 are as follows:

50% (n = 6) Exceeded Expectations
25% (n = 3) Met Expectations
25% (n = 3) Failed to Meet Expectations

The faculty felt that the assessment results for this course were "OK", possibly a bit high in the "Failed to Meet Expectations". The faculty member will be implementing a new methodology for students to study for exams. The faculty member will be implementing the use of Concept Maps (CMAPS). CMAPs are being used to allow students to visualize the topics/concepts in a course and relate the topics as the student sees the relationship. It is shown that this technique allows the students multiple methods of learning including visual methods as well as read/write methodologies. The instructor received training in concept maps in the Summer of '04 at UW-Madison. In the Fall 04 this methodology was an optional technique for the students, in Spring 05 this methodology is a required part of the course. Each student will be required to complete a concept map for each unit of instruction in the course. The faculty member will analyze the assessment results and determine if more students "exceed" or "meet" expectations when this teaching methodology is employed compared to years when this methodology was not used.

AST 100 (Fall 2004)

The results were:

42% (n = 22) Exceeded Expectations
29% (n = 15) Met Expectations
29% (n = 15) Failed to Meet Expectations

(Total students listed above = 52. Should have been closer to 130.)

The results reported for the AST 100 courses were considered skewed by the faculty since they did not contain results from the entire class. For some reason, only one section of the multi-section astronomy classes were posted for faculty to fill in assessment results. Individual faculty reported that

with all students included, their results showed fewer than 20% of students failing to meet expectations. Hence, no faculty reported a need to change their instruction based on these results.

AST 105 (Fall 2004)

The results were:

- 20% (n = 12) Exceeded Expectations
- 59% (n = 36) Met Expectations
- 21% (n = 13) Failed to Meet Expectations

The results reported for the AST 105 courses were considered to be within acceptable limits of variance around the goal of around 20% failing to meet expectations since a difference of one student makes a difference of 1%. Hence no action was deemed necessary by individual instructors at this time.

PHY 120 (Fall 2004)

The results were:

- 24% (n = 5) Exceeded Expectations
- 48% (n = 10) Met Expectations
- 29% (n = 6) Failed to Meet Expectations

The individual instructor for this course has not reported any feedback on these results at this time.

PHY 141/142 (Fall 2004/Spring 2005)

The results were:

- | | | |
|--------------------------|---------------------------|-----------------------------|
| Fall 29% (n = 25) | Spring 25% (n = 3) | Exceeded Expectations |
| Fall 46% (n = 40) | Spring 67% (n = 8) | Met Expectations |
| Fall 25% (n = 22) | Spring 8% (n = 1) | Failed to Meet Expectations |

Physics instructors in the PHY 141/142 series demonstrated an improvement in student performance from Fall to Spring semester, bringing the student scores to the satisfactory level of less than 20% failing to meet expectations. Hence, individual instructors were satisfied with overall performance.

CPS 106 (Spring 2005)

The results were:

- 60% (n = 85) Exceeded Expectations
- 28% (n = 40) Met Expectations
- 11% (n = 16) Failed to Meet Expectations

The CBT students did better than the face to face students and faculty believe that is because of the design of the assessment tool and the type of students in the CBT v. face to face. Face to face students get more hand holding and didn't attempt things that we hadn't specifically covered in class (the items that would have gotten them into the Exceeded category). CBT students were more used to investigating features and working on their own so they attempted just about everything even though some of the features were not part of any of the assigned sections in the book.

There was a direct relationship between class attendance success in this assessment activity. The failing students did not attend the lecture on presentation software and were, in most cases, not present to receive the assignment. This was after repeated notices that the lecture and the assignment were at a specific class. The majority did not meet expectations because they did not turn in the assignment.

Most of the students are familiar with the subject matter, but they could not be considered "experts". They can meet expectations without much effort. The faculty's goal is to motivate, by showing the value of completing all the elements that are called for, not just the elements they're comfortable with already.

CPS 217 (Spring 2005)

The results were:

- 39% (n = 13) Exceeded Expectations
- 39% (n = 13) Met Expectations
- 21% (n = 7) Failed to Meet Expectations

The results of the assessment identified the weak and strong areas of the students' vocabulary about Java. Faculty will stress vocabulary more to upon the weak areas next time around.

Some of the easiest question (about bytecodes) were wrong. This was addressed early on in the semester. Students study for finals properly, if at all.

CPS 240 (Spring 2005)

The results were:

- 33% (n = 2) Exceeded Expectations
- 67% (n = 4) Met Expectations
- 0% (n = 0) Failed to Meet Expectations

The difference in results between last year's assessment and this year to be dramatic (which happens to parallel the over-all class results). This occurrence is most likely the result of the second time through teaching a brand new course and one which had only been taught sporadically across the campuses previously.

MEC 202 (Spring 2005)

The results were:

- 35% (n = 8) Exceeded Expectations
- 65% (n = 15) Met Expectations
- 0% (n = 0) Failed to Meet Expectations

- The faculty were concerned with the low number of reported scores for the assessment. If all sections were taken into account there are 42 students enrolled in MEC 202 throughout the colleges. It was determined that one section of 19 students was not assessed this semester leaving us with 23 students that were to be assessed. One of the 23 students was not assessed due to an absence, leaving us with an assessment of 22 students. The results of the assessment meet the expectations of the department. The department has discussed at great length the fall 2005 scores for MEC 201 and feel that by the time a student reaches this level of course they should rarely fail to meet expectations. This is because they have passed many of the gateway courses for engineering including calculus, physics, and engineering economics.
- Since the data did not reflect the need to change the instructional process, no action will be taken at this time.

EGR 282 (Spring 2005)

The results for EGR 282 are as follows:

- 54% (n = 7) Exceeded Expectations
- 31% (n = 4) Met Expectations
- 15% (n = 2) Failed to Meet Expectations

The faculty felt that the assessment results for this course were very close to where they should be. The faculty member implemented a new methodology for students to study for exams called Concept Maps (CMAPS). CMAPs were used to allow students to visualize the topics/concepts in a course and relate the topics as the student sees the relationship. This methodology was implemented and compared to the Fall 2005 numbers there was a 10% reduction in the number of student failing to meet expectations. The faculty member will continue to use CMAPs in her class. The faculty feel that 15% failure rate is an acceptable rate as this course is taken by 2nd semester freshman and may be there first engineering course. This course is typically viewed as a gateway course for any engineering program and the faculty feel that 20% or less is an acceptable value for the fails to meet expectations.

PHY 202 (Spring 2005)

The results were:

- 44% (n = 37) Exceeded Expectations
- 49% (n = 41) Met Expectations
- 7% (n = 6) Failed to Meet Expectations

The PHY 202 instructors noted that their results were also satisfactory, though as one instructor said, they will still be looking for ways to improve content, delivery and learning environment.

AST 100 (Spring 2005)

The results were:

- 50% (n = 12) Exceeded Expectations
- 38% (n = 9) Met Expectations
- 13% (n = 3) Failed to Meet Expectations

The results for this course meet the target of 20% failing to meet expectations, so the instructor has not reported any proposed changes at this time.

- 2. What recommendations would you and/or the department assessment committee make to your department for continued improvement of the assessment process, proficiencies, performance indicators, assessment activity, rubric, and/or student performance in the discipline?**

CPS 106 (Fall 2004)

- Students had some difficulty embedding objects into PowerPoint (Word table, video, etc). Faculty will cover those items more fully in the classroom in the future.
- Given more time to the student to complete the assessment activity. Most of the students are learning the basics of PowerPoint, but some of the items in the problem used are not items that are frequently covered (like pack and go) so they didn't know how to do them and didn't have time to look up how to do them.

CPS 103 (Fall 2004)

- It will be nice to have a common assessment tool for the same course in every campus so that the results could be compared and analyzed in a meaningful way. An early start will help the process.
- Redesign class activities along the semester.

MEC 201 (Fall 2004)

- The faculty will examine the Fall '05 assessment results and see if the number of students who do not meet expectations is still zero. If so, the faculty will reevaluate the problems that are used in the assessment tool to ensure that the problems are adequately assessing the quantitative skills.

EGR 282 (Fall 2004)

- Nothing at this time.

CPS 106 (Spring 2005)

- In some cases students had more trouble following instructions than knowing how to complete the task. Faculty will likely integrate an activity to help students learn to follow instructions as part of the first project/lesson.
- Change the rubrics to also include a consideration of the overall cohesion of the presentation, not just a list of features to check off.

CPS 217 (Spring 2005)

- The current process seems to be working. The results would be more consistent if all the instructors could do the assessment towards the end of the semester when all students are supposed to be at the same level.
- Given more time to the student to complete the assessment activity.

CPS 240 (Spring 2005)

- The only area in which the students did not exceed last year's results was in the application of Crystal Reports. Oddly enough, this is one of the easier topics covered in the course.

MEC 202 (Spring 2005) & EGR 282 (Spring 2005)

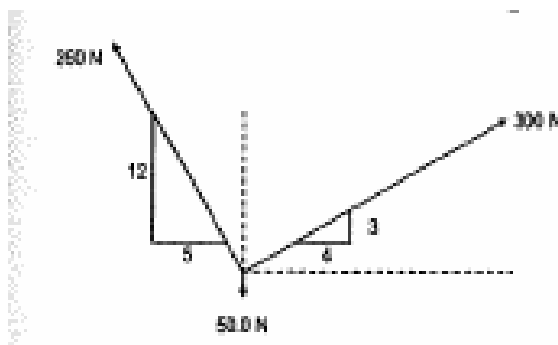
- The assessment of MEC 202 and EGR 282 will be moved to a multiple choice problem format that mirrors the Fundamentals of Engineering exam the students will take their junior year. This exam is required by most universities and is the first step that the student takes to become a licensed engineer. Since we will be moving to a multiple choice question format the evaluation of exceeds to meet, meets, and fails to meet expectations will need to be reviewed at the fall departmental meeting. The multiple choice questions will be pulled from the example Fundamentals of Engineering Exam published by the National Council of Examiners for Engineering & Surveying. Example questions are given below:

- EGR 282

A printer costs \$900. After 5 years its salvage value is \$300. Annual maintenance is \$50. If the interest rate is 8%, the equivalent uniform annual cost is most nearly:

- \$224
- \$300
- \$327
- \$350

- MEC 201



The magnitude of the resultant of the three forces shown above is most nearly:

- 140 N
- 191 N
- 370 N
- 396 N

AST/PHY

Some instructors have expressed frustration with the process which allowed previously used performance indicators to be dropped without warning. They see the process as being run by a handful of individuals who did not take the time to consult the faculty who used the performance indicators and ask if such drastic changes would be acceptable. They understand we are still in the growing stages of this program, but feel that they are excluded from any input on its direction and are merely expected to obey orders.

3. After discussion of the results by the department, what course of action will the department take to improve student performance with respect to the assessed proficiency?

CPS 106 (Fall 2004)

- Faculty need to decide ahead of time whether the assessment should be given as part of an exam or quiz, or be given as a homework assignment.
- Faculty need more time to review and agree on the problems being used and how they are being used (exam, homework, etc) Fall 2004 semester was short of a timeline in which to "argue" about what should or shouldn't be assessed. It was more difficult to do PowerPoint than Word because what faculty cover and the time faculty spend in PowerPoint is so much different from one instructor to another.

CPS 103 (Fall 2004)

- Faculty need to spend time developing a more meaningful assessment, ideally with some external measure.

MEC 201 (Fall 2004)

- The students are all performing adequately so no action will be taken at this time.

EGR 282 (Fall 2004)

- If the CMAPs prove successful, we may use them in all engineering classes.

AST

- The data which is complete show that the status of the astronomy courses is satisfactory and no action will be taken at this time.

PHY

- The data for the general physics courses indicate satisfactory performance. No action will be taken at this time.
- The data for PHY 120 do not meet the acceptable criteria at this time, but the course is not one of the primary courses assessed by the department. Instead, the course is assessed to meet the requirement of having all faculty participate in assessment. The department will take no action as a whole on this course at this time.

MEC 202 (Spring 2005)

- The students are all performing adequately so no action will be taken at this time.

EGR 282 (Spring 2005)

- The CMAPs did prove successful and will be used again in EGR 282. The engineering faculty may move to using CMAPs in all engineering courses.

4. Have you assessed this proficiency/performance indicator previously? Did you make changes to your teaching and/or the assessment tool based on that assessment? Describe the impact those changes had on student learning.

CPS 106 (Fall 2004)

- This performance indicator C5 has not been previously assessed.

CPS 103 (Fall 2004)

- This performance indicator C5 has not been previously assessed.

MEC 201 (Fall 2004)

- This performance indicator has been previously assessed, but with different faculty members. We have not had a faculty member consecutively teach this course for the last three years. Fall '05 we will have different faculty teaching this course again, so we will analyze that instructors results compared to previous results and possibly use the results to help enhance the instructors teaching.

EGR 282 (Fall 2004)

- This performance indicator has been previously assessed; the results of the previous assessments were used to facilitate the move to the use of CMAP's in EGR 282.

AST 100 (Fall 2004)

- This performance indicator has not been previously assessed.

AST 105 (Fall 2004)

- This performance indicator has not been previously assessed.

PHY 120 (Fall 2004)

- This performance indicator has not been previously assessed.

PHY 141 (Fall 2004)

- This performance indicator has not been previously assessed.

CPS 106 (Spring 2005)

- Since this performance indicator C5 was assessed in Fall 04, the results and feedback of the previous assessment were used to improve and elaborate the Spring assessment activity.
- The table below shows the assessment activity for Fall 04 and Spring 05.

Fall 04	Spring 05
<p>Assessment Activity. Problem Example:</p> <p>You will be required to complete a power point presentation. You are required to submit your completed presentation printed in handout form with six slides to a page and the file (2) submitted to the D2L drop box for the assessment.</p> <p>The slide show consisting of 6 slides should include all of items below that you are capable of completing:</p> <ol style="list-style-type: none"> 1. Formatted Backgrounds 2. Transitions 3. Animation 4. Custom Animation 5. A text box with the following information: Your Name (on line 1), Your School (on line 2). Add a fill color and border to the text box. 6. Video Clip 7. Clip Art 8. An embedded Word table (You will have to create and submit a Word document in order to fulfill this requirement) 9. Promotions and Demotions of bullets 10. Various bullet styles 11. A Flow Chart or Organization Chart 12. A picture from the web 13. A timed slide show 14. Action Buttons 	<p>Assessment Activity. Problem Example:</p> <p>You will be required to complete a power point presentation. You are required to submit your completed presentation printed in handout form <i>with six slides to a page</i> and the file (2) submitted to the D2L drop box for the assessment.</p> <p>The slide show consisting of 6-8 slides should include all of items below that you are capable of completing:</p> <ol style="list-style-type: none"> 1. Formatted Backgrounds 2. Transitions 3. Custom Bullet Point Animation 4. Custom Animation 5. Video Clip 6. Clip Art 7. An embedded Word table (submit Word document along with presentation) 8. Promotions and Demotions of bullets 9. Various bullet styles 10. A Flow Chart or Organization Chart 11. A picture from the web 12. Automation of Bullets 13. A timed slide show 14. Action Buttons 15. Email Presentation to your instructor as an attachment <p>A penalty will be assessed for submitted slides shows containing <i>more</i></p>

<p>15. "Pack and Go" presentation (can use wizard for this)</p> <p>A penalty will be assessed for submitted slides shows containing more than 6 slides and for slides shows submitted containing less than 6 slides!</p> <p>Possible Topics:</p> <ul style="list-style-type: none"> • Yourself • A topic you must present in a different class • A business you would like to own or operate • A product you would like to sell • A favorite sports or music group <p>You are not to use a wizard or an auto-template to create this project, but you may use the slide templates.</p>	<p>than 8 slides and for slides shows submitted containing less than 6 slides!</p> <p>Text information must be given in an appropriate presentation style.</p> <p>Possible Topics:</p> <ul style="list-style-type: none"> • Yourself • A topic you must present in a different class • A business you would like to own or operate • A product you would like to sell • A favorite sports or music group <p>You are not to use a wizard or an auto-template to create this project, but you may use the slide templates.</p>
<p>Briefly explain how the supplied rubric was applied to the assessment activity</p> <p>The supplied rubric was interpreted in a standard, objective way for this problem. Each instructor then fit the students' solution into the expectation categories based on the supplied rubric and standard interpretation.</p> <p>For each item, the student is considered to have been successful if the instructor believes that the student has demonstrated the ability to meet the goal, even though the student may not have produced a perfect result.</p> <p>Meet Expectations In order to meet expectations, at least 10 of the following 11 measures of basic competency.</p> <ol style="list-style-type: none"> 1. Formatted Backgrounds 2. Transitions 3. Animation 4. Custom Animation 5. A text box with the following information: Your Name (on line 1), Your School (on line 2). Add a fill color and border to the text box. 6. Video Clip (can be animated clip) 7. Clip Art 8. Promotions and Demotions of bullets 9. Various bullet styles 10. A picture from the web 11. A timed slide show <p>Exceed Expectations In order to exceed expectations, students needed to additionally achieve at least 4 of the following 5 measures of more advanced understanding.</p> <p>Meets expectations and:</p> <ol style="list-style-type: none"> 1. An embedded word table which can be edited. 2. Appropriate use of Action buttons (linking either within slide show or to a web page) 3. Video Clip (other than animated clip) 4. Correct use of Pack and Go 5. A Flow Chart or Organization Chart <p>Failure Unsuccessful in achieving the "meets" and "exceeds" qualities.</p>	<p>Briefly explain how the supplied rubric was applied to the assessment activity</p> <p>The supplied rubric was interpreted in a standard, objective way for this problem. Each instructor then fit the students' solution into the expectation categories based on the supplied rubric and standard interpretation.</p> <p>For each item, the student is considered to have been successful if the instructor believes that the student has demonstrated the ability to meet the goal, even though the student may not have produced a perfect result.</p> <p>Meet expectations. The presentation contains 11 of the 13 items below:</p> <ol style="list-style-type: none"> 1. Formatted Backgrounds 2. Transitions 3. Custom Bullet Point Animation 4. Custom Animation 5. Video Clip (can be animated clip) 6. Clip Art 7. Promotions and Demotions of bullets 8. Various bullet styles 9. A picture from the web 10. Automation of Bullets 11. A timed slide show 12. Correct spelling and grammar appropriate for presentations (Use of phrases, appropriate uppercase in titles) 13. Common topic/theme <p>Exceeds Expectations. The presentation meets the criteria for "meets expectations" plus 2 of 4 items below:</p> <ol style="list-style-type: none"> 1. An embedded word table which can be edited. 2. Appropriate use of Action buttons (linking either within slide show or to a web page) 3. A Flow Chart or Organization Chart 4. Exam sent as an email attachment <p>Does Not Meet Expectations. The presentation does not fulfill the criteria for meeting expectations given above.</p>

CPS 217 (Spring 2005)

- This performance indicator has not been previously assessed.

CPS 240 (Spring 2005)

- This performance indicator has not been previously assessed.

MEC 201 (Spring 2005)

- This performance indicator has been previously assessed, but with different faculty members. We have not had a faculty member consecutively teach this course for the last three years. Spring '06 we will have many of the same faculty teaching this course, so we will begin to analyze results compared to previous results of the same professor and make appropriate changes and recommendations to instruction as well as the assessment problems.

EGR 282 (Spring 2005)

- This performance indicator has been previously assessed; the results of the previous assessments were used to facilitate the move to the use of CMAP's in EGR 282. The use of CMAPs were successful and will continue to be used next year.

AST 100 (Spring 2005)

- This performance indicator has not been previously assessed.

PHY 142 (Spring 2005)

- This performance indicator has not been previously assessed.

PHY 202 (Spring 2005)

- This performance indicator has not been previously assessed.

Use of the Assessment Funds:

The three disciplines met at UW-Marathon on January 2005 for one complete day to work on the Institutional Assessment and Discipline specific assessment. The assessment coordinators shared the Fall results and coordinated a roundtable discussion. Later, we worked in small group to reflect on the results and develop the assessment tools for Spring Semester. In addition, Computer Science and Engineering spent time on the Assessment of Discipline-Specific. This is the first time our Department incorporated the Assessment of Discipline-Specific.

The meeting was very productive, faculty had time to focus and reflect on Institutional Assessment and Department assessment, teaching effectiveness and student learning.

Future use of Assessment Funds:

Based on the positive results from our Department Assessment workshop, the Department is interested in conducting a similar workshop next January 2006.

PART 2: Assessment of Discipline-Specific Outcomes

Part 2a: Computer Science

Section 1: Identify department-specific outcomes/performance indicators.

Outcomes/Performance Indicators
1. Select and apply scientific and other appropriate methodologies.

Section 2: Attach the rubric/standards used to assess each outcome/performance indicator.

Exceeds Expectations	<p>Selection of Methodologies:</p> <ul style="list-style-type: none"> • The student indicates an understanding of the concept of multiple methodologies for solving problems <p>Application of Methodologies:</p> <ul style="list-style-type: none"> • The selected method is correctly applied • The student has described alternative ways of applying methodology (if applicable) • Documentation is complete and contains few errors (if applicable)
Meets Expectations	<p>Selection of Methodologies:</p> <ul style="list-style-type: none"> • The method selected is appropriate to the problem <p>Application of Methodologies:</p> <ul style="list-style-type: none"> • The selected method is generally applied correctly with few errors
Fails to Meet Expectations	<p>Selection of Methodologies:</p> <ul style="list-style-type: none"> • The method selected is inappropriate to the problem or simply describes a randomly selected solution <p>Application of Methodologies:</p> <ul style="list-style-type: none"> • The application of the methodology is incorrect, incomplete, or has key steps omitted

Section 3: Assessment Results

Departmental Outcome/Performance Indicator	# Do Not Meet	# Meet	# Exceed
1. Select and apply scientific and other appropriate methodologies.	8	8	11

Section 5: Use of results

1. How did individual instructors report that they plan to use these results to improve the instructional process?

CPS 217 (Spring 2005) Department Assessment

The results were:

- 40.74% (n = 11) Exceeded Expectations
- 29.62% (n = 8) Met Expectations
- 29.62% (n = 8) Failed to Meet Expectations

- The dichotomy of results was due to the fact that the requirements for "meets" are too strict. Only those students who are likely to satisfy the "exceeds" conditions will satisfy the "meets", lessening the value of the intermediate category.
- It was reported by the faculty that if the student was not present for the assessment activity the student was scored with an NA so the student was not included in the count.
- Students who fell behind with their regular homework assignments showed signs of weakness with the assessment exercise also. The current process seems to be working.

2. What recommendations would you and/or the department assessment committee make to your department for continued improvement of the assessment process, proficiencies, performance indicators, assessment activity, rubric, and/or student performance in the discipline?

CPS 217 (Spring 2005) Department Assessment

- The implementation of a first year experience class for Computer Science students might be the first step to improving the mindset for Computer Science students.

3. After discussion of the results by the department, what course of action will the department take to improve student performance with respect to the assessed proficiency?

- The results would be more consistent if all the instructors could do the assessment towards the end of the semester when all students are supposed to be at the same level.
- Faculty are planning to warn them well ahead and try to give the assessment problem towards end of the semester.
- Because of the fact that students were not present for the assessment activity, the assessment activity could be part of the final exam so that all the students will participate on this activity and all the students could be at the same level.

4. Have you assessed this proficiency/performance indicator previously? Did you make changes to your teaching and/or the assessment tool based on that assessment? Describe the impact those changes had on student learning.

CPS 217 (Spring 2005) Department Assessment

- This performance indicator has not been previously assessed.

Part 2b: Engineering

Section 1: Identify discipline-specific outcomes/performance indicators.

Outcomes/Performance Indicators
1. After taking a course in the Engineering Department a student will be able to select and apply scientific and other appropriate methodologies

Section 2: Attach the rubric/standards used to assess each outcome/performance indicator.

The Engineering faculty will use the UW-Colleges provided rubrics for assessing:

- A4 – Select and apply scientific and other appropriate methodologies.

Section 3: Assessment Results

Departmental Outcome/Performance Indicator	# Do Not Meet	# Meet	# Exceed
1. Select and apply scientific and other appropriate methodologies.	2	19	15

Section 4: Courses assessed and assessment tools used

Course title	Dynamics
Course abbreviation/number	MEC 202
Number of credits	3
Semester/year course assessed	Spring 2005

Course title	Engineering Economics
Course abbreviation/number	EGR 282
Number of credits	3
Semester/year course assessed	Spring 2005

Section 5: Use of results

- 1. How did individual instructors report that they plan to use these results to improve the instructional process?**

EGR 282

The use of CMAPs will continue to be used in the course since the number of students exceeding expectations increased from the Fall semester to the Spring semester and the number of students in the fail so meet expectations decreased in the same time period.

- 2. What recommendations would you and/or the department assessment committee make to your department for continued improvement of the assessment process, proficiencies, performance indicators, assessment activity, rubric, and/or student performance in the discipline?**

All Courses

The engineering group will discuss a change in methodology for assessing all engineering students, which mirrors the fundamentals of engineering exam. This will allow us to compare our scores to the national average. We feel this would be highly valuable information.

- 3. After discussion of the results by the department, what course of action will the department take to improve student performance with respect to the assessed proficiency?**

Currently, no action is planned.

- 4. Have you assessed this proficiency/performance indicator previously? Did you make changes to your teaching and/or the assessment tool based on that assessment? Describe the impact those changes had on student learning.**

- **EGR 282** – This course has been assessed previously and changes were made based on previous assessments. The changes proved effective and will continue to be used in subsequent semesters.
- **MEC 202** – No changes will be made at this time due to the fact that the same professors are not consistently teaching the course.

Part 2c: Physics and Astronomy

Section 1: Identify discipline-specific outcomes/performance indicators.

Outcomes/Performance Indicators
1. Analyze, synthesize, evaluate, and interpret scientific information and ideas
2. Select and apply scientific and other appropriate methodologies
3. Integrate knowledge and experience to arrive at creative solutions
4. Solve quantitative and mathematical problems
5. Communicate clearly, precisely, and in a well-organized manner

Section 2: Attach the rubric/standards used to assess each outcome/performance indicator.

Analyze, synthesize, evaluate, and interpret scientific information and ideas

Exceeds Expectations	<ul style="list-style-type: none"> • Has an advanced understanding of physics principles and their applications • Consistently understands how given information is applicable to solution • Correctly develops solution in a logical manner • Numerical answers are always reasonable
Meets Expectations	<ul style="list-style-type: none"> • Has general understanding of physics principles and their applications • Usually understands how given information is applicable to solution • Usually develops solution in a logical manner • Numerical answers are usually reasonable
Fails to Meet Expectations	<ul style="list-style-type: none"> • Has limited understanding of physics principles and their applications • Infrequently understands how given information is applicable to solution • Rarely develops solution in a logical manner • Numerical answers are sometimes reasonable

Select and apply scientific and other appropriate methodologies

Exceeds Expectations	<ul style="list-style-type: none"> • The student shows a clear understanding that there is rarely a single correct way of solving a problem or answering a question and that ideas in physics are interrelated. • The student shows a mastery of the majority of approaches listed below by indicating an understanding of how they work and applying at least one of them correctly. <ul style="list-style-type: none"> ○ An approximate answer could be obtained by an order of magnitude calculation ○ A relationship could be shown to hold true using dimensional analysis ○ Conservation laws could be used to obtain an answer along with a possibly lengthier approach using definitions ○ Symmetry arguments could serve as a test as compared to the application of powerful tools such as calculus
Meets Expectations	<ul style="list-style-type: none"> • The student shows a good grasp of the some of the approaches outlined above by indicating an understanding of how they work and applying at least one of them correctly.
Fails to Meet Expectations	<ul style="list-style-type: none"> • The student does not show an understanding of the different approaches outlined above and cannot use a single approach to do so.

Integrate knowledge and experience to arrive at creative solutions

Exceeds Expectations	<ul style="list-style-type: none"> • The student shows a clear understanding of the concepts involved in the statement of the problem or question • The student shows a clear understanding of the information needed in order to answer the question or solve the problem • The student shows the necessary breadth of knowledge in obtaining this information from various sources such as their readings, lectures, discussions and lab work • The student shows how to correctly synthesize all the relevant information in answering the question or solving the problem and does so.
Meets Expectations	<ul style="list-style-type: none"> • The student shows a clear understanding of the concepts involved in the statement of the problem or question • The student shows a clear understanding of the information needed in order to answer the question or solve the problem • The student shows some breadth of knowledge in obtaining this information from various sources such as their readings, lectures, discussions and lab work • The student shows how to synthesize all the relevant information in answering the question or solving the problem and does so in a way that is mostly correct.

Fails to Meet Expectations	<ul style="list-style-type: none"> • The student fails to show any of the following: <ul style="list-style-type: none"> ○ A clear understanding of the concepts involved in the statement of the problem or question ○ A clear understanding of the information needed in order to answer the question or solve the problem ○ Some breadth of knowledge in obtaining this information from various sources such as their readings, lectures, discussions and lab work
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Solve quantitative and mathematical problems

Exceeds Expectations	<ul style="list-style-type: none"> • The student is consistent in showing a clear understanding of the concepts involved in solving a problem and the appropriate notation in describing such concepts • The student understands the importance of units and consistently applies the appropriate units in solving problems, especially those included in the metric system. • The student shows a clear understanding of the process involved in solving the problem and possesses the appropriate mathematical skills to do so. • The student consistently and appropriately applies such skills in accurately solving the problem in at least one of a number of possible ways.
Meets Expectations	<ul style="list-style-type: none"> • The student usually shows a good understanding of the concepts involved in solving a problem and the appropriate notation in describing such concepts • The student usually shows a good understanding of the importance of units and consistently applies, most often correctly, the appropriate units in solving problems, especially those included in the metric system. • The student shows a good understanding of the process involved in solving the problem and possesses the appropriate mathematical skills to do so. • The student consistently and appropriately applies such skills in solving the problem and does so in a manner mostly correct.
Fails to Meet Expectations	<ul style="list-style-type: none"> • The student fails to do any of the following: <ul style="list-style-type: none"> ○ Consistently show a clear understanding of the concepts involved in solving a problem and the appropriate notation in describing such concepts ○ Show an understanding of the importance of units and consistently apply the appropriate units in solving problems, especially those included in the metric system. ○ Show a clear understanding of the process involved in solving the problem and possession of the appropriate mathematical skills to do so.

Communicate clearly, precisely, and in a well-organized manner

Exceeds Expectations	<ul style="list-style-type: none"> • Always employs physics terminology correctly and precisely • Always answers questions in a logical and step-by-step manner as in solving mathematical problems and interpreting data in a laboratory exercise • Always answers conceptual questions in a manner understandable by someone who does not already know the answer • Always answers conceptual questions by providing complete information that is necessary and relevant to the concept • Always solves mathematical problems by including the complete information that is necessary and relevant to the problem. • Always provides proper units for numerical quantities
Meets Expectations	<ul style="list-style-type: none"> • Usually employs physics terminology correctly and precisely • Usually answers questions in a logical and step-by-step manner as in solving mathematical problems and interpreting data in a laboratory exercise • Usually answers conceptual questions in a manner understandable by someone who does not already know the answer • Usually answers conceptual questions by providing complete information that is necessary and relevant to the concept • Usually solves mathematical problems by including the complete information that is necessary and relevant to the problem. • Usually provides proper units for numerical quantities
Fails to Meet Expectations	<ul style="list-style-type: none"> • Rarely employs physics terminology correctly and precisely • Rarely answers questions in a logical and step-by-step manner as in solving mathematical problems and interpreting data in a laboratory exercise

	<ul style="list-style-type: none"> • Rarely answers conceptual questions in a manner understandable by someone who does not already know the answer • Rarely answers conceptual questions by providing complete information that is necessary and relevant to the concept • Rarely solves mathematical problems by including the complete information that is necessary and relevant to the problem. • Rarely provides proper units for numerical quantities
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Section 3: Assessment Results

The Physics and Astronomy Discipline was still in the process of planning its departmental assessment methods during this cycle of assessment and had not yet applied them.

Departmental Outcome/Performance Indicator	# Do Not Meet	# Meet	# Exceed
1. Select and apply scientific and other appropriate methodologies.			

Section 4: Courses assessed and assessment tools used

The Physics and Astronomy Discipline was still in the process of planning its departmental assessment methods during this cycle of assessment and had not yet applied them.

Section 5: Use of results

The Physics and Astronomy Discipline was still in the process of planning its departmental assessment methods during this cycle of assessment and had not yet applied them.

Use of the Assessment Funds:

The three disciplines met at UW-Marathon on January 2005 for one complete day to work on the Institutional Assessment and Discipline specific assessment.

Sample Agenda from January 2005 Workshop

Physics and Astronomy Agenda

1. Discuss assessment results from previous semester
2. Discuss any action plans, if necessary
3. Discuss Departmental Assessment for PHY/AST
4. Select skills to be assessed for departmental assessment

Computer Science Agenda

1. Discuss assessment results from previous semester
2. Discuss any action plans, if necessary
3. Discuss Departmental Assessment for CPS
4. Select skills to be assessed for departmental assessment

Engineering Agenda

1. Discuss assessment results from previous semester
2. Discuss any action plans, if necessary
3. Discuss Departmental Assessment for CPS
4. Select skills to be assessed for departmental assessment

The assessment coordinators shared the Fall results and coordinated a roundtable discussion. Later, we worked in small group to reflect on the results and develop the assessment tools for Spring Semester. In addition, Computer Science and Engineering spent time on the Assessment of Discipline-Specific. This is the first time our Department incorporated the Assessment of Discipline-Specific.

The meeting was very productive, faculty had time to focus and reflect on Institutional Assessment and Department assessment, teaching effectiveness and student learning.

Future use of Assessment Funds:

Based on the positive results from our Department Assessment workshop, the Department is interested in conducting a similar workshop next January 2006.

PART 3: Additional Assessment and Contributions

Please ask for and include in the report information from Department members about any other assessment activities they have conducted, particularly in conjunction with grant-funded innovations. Also ask for and describe briefly any additional contributions to assessment such as publications, presentations, qualitative classroom innovations (such as Scholarship of Teaching and Learning activities), and other items relating to assessment that the department wishes to note.

After the Department attended the UW Colleges Conference on the Potential Nexus between the Scholarship of Teaching and Learning (SoTL) and Assessment, the CPS discipline decided to apply for an OPID Conference Development Grant in order to extend the conferee initiative into the CPS discipline.

The UW Colleges Conference on the Potential Nexus between the Scholarship of Teaching and Learning (SoTL) and Assessment was funded by a UW System OPID Follow-up SoTL Fall 2004 Conference Development Grant.

CPS OPID Conference Development Grant:
CPS 106 Assessment and SoTL workshop brief report:

Location: UW - Fond du Lac

Date: Wednesday August 31, 2005

8 CPS 106 Instructors were present at the CPS 106 Assessment and SoTL workshop.

Agenda:

9:10 am - 9:30 am

Refreshments and conversation

9:30 am - 11am

Guest speaker: Catherine Helgeland, Professor of Geography & Geology. University of Wisconsin-Manitowoc. SoTL Project Participant.

She:

- introduced SoTL terminology, SoTL process, SoTL bibliography and related articles
- lead a SoTL discussion about How to relate Assessment with SoTL
- presented her SoTL Project

11 pm - 12 pm

Working lunch

The group identified the students learning problems in CPS 106.

12 pm - 3:00 pm

Development of Assessment tool

Instructors of CPS 106 will be required to use the pre-test/post-test assessment instrument along with the course survey to gather raw data to be used in the assessment process. The data from both the survey and pre/post tests will be collected through a standard template distributed by the Department Assessment Committee.

This assessment activity will be described in detail in the UW Colleges Assessment Planning and Reporting Form 2005-2006.

For Engineering, Physics and Astronomy no presentations were made, as this activity is not supported by Institutional Assessment Funds.