Form for Faculty Self-Evaluation of Teaching (*adopted from modified excerpts from a real course*)

Course: *** ***
Instructor: *********

Semester: ****
Year: ****

List the student learning outcomes from your course syllabus in the table below. For each outcome, rate student performance on a scale of 1 to 5 with 5 implying very high performance and 1 implying very low performance. Make comments as appropriate.

Student Learning Outcome (supplemental questions)	**Student Performance**		**Comments**
	Instructor (self-assessment)	**Students** (self-assessment; from TCE)	
1. Calculate cycle time for any discrete handling device & use this information to determine fleet size.	3.2	3.6	Students' main difficulty is in applying kinematic principles to find time to accelerate, distance of acceleration, etc. As was done this semester, need to meticulously go over examples and not assume that these basic principles are ingrained.
2. Determine tractive effort for wheeled conveyances & use this information to estimate power requirement.	3.9	3.8	Did a better job explaining uses for performance curves, although some students still do not think to look to use them to solve problems. Drilled students repeatedly on equivalency of GR, AR, and GR, which seemed to pay off.
3. Develop/use fundamental equations for determining capacity, velocity, & fill factor, given a target productivity, for such systems as belt haulage and hoisting.	3.7	3.9	Problems experienced in reconciling average annual production with estimates of FF & E. Not everyone could see what is meant by FF & E, but persistent in-class drilling overcame this deficiency. Hoisting states of balance remain a difficult concept for many (over a third of class), indicating innate problems with fundamental statics principles.
4. Determine conveyor belt tension & use this information to determine drive pulley horsepower.	3.0	3.7	If problem given is identical to examples or homework, students experience little difficulty, but most had trouble understanding principle of M (material load on belt). Also, some simply did not understand the relationship between T_1/T_2. and how this defines horsepower. Another difficulty was in understanding the difference between net and gross horsepower, which needs to be improved in future offerings. Difficulty on final understanding how material load limits belt length for a system with a defined horsepower.
5. Symbolically express the unbalanced	2.7	4.0	Over 1/3 of the students still missed

load/moment of a drum-type hoisting system.			this on the final exam. Evident that several still do not understand states of balance. Some students do not correctly sketch the system, as it's described, demonstrating a fundamental lack of knowledge of state of balance.
6. Calculate pump horsepower, given inflow rate, pipe size and condition, and geometric details of the system.	3.4	3.5	Not having had course on fluids before this course makes this coverage challenging, but students handled this test item on the final better than in previous years. There remains some confusion regarding the concept of equivalent length, which needs to be further explained in class.
7. Integrate statutory requirements into the design/operation of a materials handling system.	4.0	3.6	Predominant way of assessing is to include in quizzes over objective material (each worth 5% of final grade); coverage of safety factor was adequate, but students still have difficulty with understanding the indirect solution technique and frequently make errors due to unit analysis in applying the direct solution technique.
8. Identify major components of a cont. haulage system & state its advantages over discrete handlers.	4.5	3.7	Due to lack of class time and length of final, did not quiz students on part (a) of this learning outcome this year, but did discuss in class. Did not achieve goal of students reading material recommended outside of class (Handbook Chapter).
9. Design a belt haulage system to meet stated mine production & communicate these results in oral & written formats.	4.7	4.0	Good performance, but not as good as 2008. Reports would benefit from an early graded draft. Also lacking is an understanding of the New Empirical Approach, although time was spent in class discussing this concept thoroughly. Still some confusion in regard to FF x E and how to estimate in real-world conditions. Oral presentations particularly good

What course improvements were made this time?   Were they successful?

*Need to spend more time on kinematics, however, as several students had persistent struggles with this important concept.

* Gave three major tests and two quizzes (quizzes covered objective material only); seemed to work well, since students could concentrate on reading assignments for two announced quizzes, which covered descriptive material (worth 5% each). Each of three major tests was worth 18%.

* Gave all belt design teams full credit for oral presentation; this seemed to be well received and while there was full credit given, students still received individual feedback from instructor, either after presentation or in an e-mail that followed. De-valued the belt design project a bit and, due to class size (7% of final grade). Placed more detail of what was expected for the project in the assignment statement, which seemed to help this year. Also used a peer evaluation strategy to help determine final project grade. For the most part, students seemed to take this serious, with all but two or three students submitting the rating form. This allowed grades within the team to be adjusted to reflect the team members' own perception of contribution to the whole.

*Need to review states of hoisting prior to the final exam, since many students lost this skill between Test #1 and the Final Exam and therefore lost 5 points that were very easy to earn.

* By limiting test items, I thought that students had been given ample time to complete all tests, but poor class performance on the belt haulage test, especially, as well as on the first attempt at Test #1 (rail haulage), seemed to taint the class and might have contributed to less-than-ideal TCEs.

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* Include a question on the last homework that requires students to read the recommended section of Handbook chapter to obtain a better understanding of continuous haulage and its benefits to the industry.

*In what was a major change in the 2009 offering, a very careful check was made on each and every student's pre- and co-requisites. One student's verification did not come through until about week 2 of class, due to the necessity of having to wait for confirmation of passing PHY 231 at Bluegrass Community and Technical College.

List any improvements below that would make the course better the next time it is taught.

On the basis of my own observations and comments from students, the following is planned:

1. Continue to give increased attention to principles of kinematics.

2. Attempt to give even shorter tests and homework assignments, even if not all principles are thoroughly and repeatedly assessed each term. It seems I always have this intention but, in the end, I seem to get over-ambitious. Some students panic more than they should when they cannot complete an exam.

3. Continue the policy of awarding extra points to final grade from average score of homework (up to 5.0). This semester, most students received 2.5-3.0 additional points toward the final grade. The rubric followed, which was shared early in the semester with the class (attached) seemed to be well received.

4. More practice of hoisting states-of-balance, which was a particular problem again this semester. Based on final exam performance, about a half-dozen students never did understand this important principle, this despite considerable drilling.

5. Shorten each test by 15-20%, which will require items to bear more weight than in the past. Will need to explain this strategy clearly to all students.

Comments: This offering of *** **** was a challenge, both from a standpoint of class size (19) and class-member performance, although the class seemed to be smoother than the 2008 class. *** **** is the first analytically-steeped course in the curriculum (although it is recognized and appreciated that there are analytical components of *** 100-level, 200-level, and 200b-level as well), relying heavily on students' ability to begin to use foundational principles learned mainly in Physics I and in Statics (the latter a co-requisite). Approximately 6 students, in my opinion, were academically under-prepared for the course, while an additional 4-5 simply did not adequately prepare outside of class.

How Homework in this course is Marked

The table below is offered as a guideline on how a score is assigned to homework. By all means, see me if you have issue with the marking of homework or need help with a problem or question.

5.0 Perfect in every sense; impeccable solution technique; systematic; accurate; easy to read; all units provided; all sources provided; a model.

4.5 Nearly perfect; excellent solution technique; systematic; only very minor errors; neat; all units provided; slight detail/explanation lacking; nearly all sources provided.

4.0 Very good; good, solid solution technique overall; quite systematic; only minor errors; almost all units provided; some detail/explanation lacking; most sources provided.

3.5 Good but not perfect; solid solution technique; one or two points still not well understood; most units provided; most sources provided; some detail lacking; overall, sound performance.

3.0 Quite good to above average; most solution techniques sound; two or three points still not well understood, but no major gaffs; one or two units and/or source information missing, inaccurate, or incomplete; detail lacking.

2.5 Acceptable; average; indications of significant but not fatal gaps in understanding or "over-reliance" on others' work; one or more problems not understood; major omissions in units or sources; difficult to read or to follow logic.

2.0 Marginally acceptable; highly significant or major gaps in understanding; two or more problems not understood; major gaps in units or sources; difficult to read or interpret solution steps; improper/missing documentation; one or two problems not attempted.

1.5 Basically "going through motions;" indications that student didn't take homework very seriously; barely half the problems have no glaring errors or inconsistencies; major gaps in one=s understanding of material already covered in class; obvious that there has been little attempt at seeking help from instructor or from course aids; two or more problems not attempted.

1.0 More than half the problems have glaring errors or not tried at all; major gaps in understanding; no help sought from others or from instructor.

0.5 Almost no effort expended. Turned in but that's about all. Most/All problems attempted or barely attempted.

Expect a minimum 1.0-point deduction for a late assignment.