SAMPLE CURRICULUM MAP # 4: A Hypothetical B.S. in Physics Program

LEGEND

[I] OUTCOME STATEMENT:

The program outcome is ***(X) EXPLICITLY*** *(score of 2)* ***or (M) IMPLICITLY*** *(score of 1)* reflected in the course syllabus as being a learning outcome for this course.

[II] LEVEL OF INSTRUCTION:

(I) INTRODUCED - Students are not expected to be familiar with the content or skill at the collegiate level. Instruction and learning activities focus on basic knowledge, skills, and/or competencies and entry-level complexity. Only one (or a few) aspect(s) of a complex program outcome is addressed in the given course *(score of 1).*

(E) EMPHASIZED - Students are expected to possess a basic level of knowledge and familiarity with the content or skills at the collegiate level. Instruction and learning activities concentrate on enhancing and strengthening knowledge, skills, and expanding complexity. Several aspects of the outcome are addressed in the given course, but these aspects are treated separately *(score of 2).*

(R) REINFORCED - Students are expected to possess a strong foundation in the knowledge, skill, or competency at the collegiate level. Instructional and learning activities continue to build upon previous competencies with increased complexity. All components of the outcome are addressed in the integrative contexts *(score of 3).*

(A) ADVANCED - Students are expected to possess an advanced level of knowledge, skill, or competency at the collegiate level. Instructional and learning activities focus on the use of the content or skills in multiple contexts and at multiple levels of complexity *(score of 4).*

[III] FEEDBACK ON STUDENT PERFORMANCE / ASSESSMENT:

(F) Students are asked to demonstrate their learning on the outcome through homework, projects, tests, etc., and are provided formal *F*eedback *(score of 1).*

SEMESTER:	FALL 2006
UNIT RESPONSIBLE:	DEPARTMENT OF PHYSICS
DEGREE:	B.S. IN PHYSICS

SELECTED *Program Student Learning Outcomes* -- The B.S. in Physics Program Graduates Will Be Able To:

1. Knowledge of the basic principles, concepts and laws of classical and modern physics.
2. Fundamental understanding of the processes of science and how they have contributed to our present knowledge.
3. An ability to solve real-world problems using qualitative and quantitative arguments.
4. Demonstrate operational knowledge of the mathematical concepts and procedures assumed by the mathematical formulations of the physical laws.
5. Ability to design and conduct a research project and to present oral and written reports of the results.
6. Comprehensive understanding of basic and advanced laboratory instrumentation and the ability to properly collect and record experimental data and uncertainties.

CORE CURRICULUM COURSES FOR A "*TYPICAL*" B.S. IN PHYSICS STUDENT	1 [i] Outcome Statement (X, M)	1 [ii] Level (I, E, R, A)	1 [iii] Feedback (F) / Assessment	2 [i] Outcome Statement (X, M)	2 [ii] Level (I, E, R, A)	2 [iii] Feedback (F) / Assessment	3 [i] Outcome Statement (X, M)	3 [ii] Level (I, E, R, A)	3 [iii] Feedback (F) / Assessment	4 [i] Outcome Statement (X, M)	4 [ii] Level (I, E, R, A)	4 [iii] Feedback (F) / Assessment	5 [i] Outcome Statement (X, M)	5 [ii] Level (I, E, R, A)	5 [iii] Feedback (F) / Assessment	6 [i] Outcome Statement (X, M)	6 [ii] Level (I, E, R, A)	6 [iii] Feedback (F) / Assessment	*COURSE* BREADTH SCORES	*COURSE* DEPTH SCORES	*COURSE* ASSESSMENT FOCUS SCORES
PHY 241: PHYSICS SEMINAR	M	E	F				X	E	F	M	E	F							3	6	3
PHY 160: UNIVERSITY PHYSICS I	X	I	F	M	I		X	I	F	X	I	F							4	4	3
PHY 160L: UNIVERSITY PHYSICS I LABORATORY	X	I	F	M	I	F	M	I	F							X	I	F	4	4	4
PHY 161: UNIVERSITY PHYSICS II	X	I	F	M	I		X	I	F	X	I	F							4	4	4
PHY 161L: UNIVERSITY PHYSICS II LABORATORY	X	I	F	X	I	F	M	I	F							X	I	F	4	4	4
PHY 260: UNIVERSITY PHYSICS III	X	I	F	M	I		X	I	F	X	I	F							4	4	3
PHY 350: MODERN PHYSICS	X	I	F	M	I		X	I	F	X	I	F							4	4	3
PHY 351: EXPERIMENTAL CONCEPTS IN MODERN PHYSICS	M	I	F	M	I	F	M	I	F	M	I	F				X	I	F	5	5	5
PHY 356: THERMODYNAMICS	M	E	F				M	E	F	X	E	F							3	6	3
PHY 365: PHYSICAL MECHANICS I	X	E	F				X	E	F	X	E	F							3	6	3
PHY 366: PHYSICAL MECHANICS II	X	R	F				X	R	F	X	R	F							3	9	3
PHY 375: ELECTRICITY & MAGNETISM I	X	E	F				X	E	F	X	E	F							3	6	3
PHY 380: QUANTUM MECHANICS I	X	E	F				X	E	F	X	E	F							3	6	3
PHY 399: ADVANCED LABORATORY	M	E	F	X	E	F										X	E	F	3	6	3
PHY 468: OPTICS	X	E	F				X	E	F	X	E	F							3	6	3
PHY 475: ELECTRICITY & MAGNETISM II	X	R	F				X	R	F	X	R	F							3	9	3
PHY 480: QUANTUM MECHANICS II	X	R	F				X	R	F	X	R	F							3	9	3
PHY 498: SENIOR PROJECT I				M	A	F	X	A	F				X	A	F	X	A	F	4	16	4
PHY 499: SENIOR PROJECT II				M	A	F	X	A	F				X	A	F	X	A	F	4	16	4
***OUTCOME SCORES* (i) COMMUNICATION, (ii) SATURATION AND (iii) FEEDBACK POINTS**	30	*30*	17	12	*17*	6	32	*36*	18	26	*26*	14	4	*8*	2	12	*13*	6			

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