RISC instructor form

This is the instructor's inventory of course elements for use with the RISC survey. The use of this form is essential for discerning if the course includes disciplinary and interdisciplinary characteristics. Previous analysis of student data categorized by instructor descriptions have yielded significant variations in learning gains.

Institution _____

Department _____

Course Number/Name _____

Instructor _____

Email Address _____

Number of Students _____

Course Elements

Read each item and indicate how much relative emphasis is placed on each element.

Level of emphasis

	Minor emphasis	**Moderate emphasis**	**Major emphasis**	**No emphasis or N.A.**
A scripted lab or problem in which the students know the expected outcome.	❍	❍	❍	❍
A lab or problem in which only the instructor knows the outcome.	❍	❍	❍	❍
Students work on problems that have no clear solution.	❍	❍	❍	❍
At least one problem that is assigned and structured by the instructor.	❍	❍	❍	❍
A problem in which the students have some input into the research process and/or what is being studied.	❍	❍	❍	❍
A project or problem entirely of student's own design.	❍	❍	❍	❍
Students work individually.	❍	❍	❍	❍
Students connect their personal experience to the course problem or problems.	❍	❍	❍	❍
Students work in small groups or teams.	❍	❍	❍	❍

	Minor emphasis	Moderate emphasis	Major emphasis	No emphasis or N.A.
Students learn that the use of disciplinary knowledge needs to be accurate and fair.	❍	❍	❍	❍
Students read primary scientific literature within one field or discipline.	❍	❍	❍	❍
Students receive assigned coursework from more than one discipline or area of study.	❍	❍	❍	❍
Students collect data.	❍	❍	❍	❍
Students analyze data.	❍	❍	❍	❍
Students learn that disciplines may approach problems in different and sometimes conflicting ways.	❍	❍	❍	❍
Students present intellectual work in written papers or reports.	❍	❍	❍	❍
Students present posters.	❍	❍	❍	❍
Students use instruments or materials borrowed from another discipline or field of study.	❍	❍	❍	❍
Students critique the work of other students.	❍	❍	❍	❍
Students listen to lectures.	❍	❍	❍	❍
Students work with students who major (or probably intend to major) in other disciplines or fields of study.	❍	❍	❍	❍
Students learn to find similarities and differences between disciplines or fields of study.	❍	❍	❍	❍
Students work on problem sets.	❍	❍	❍	❍
Students take tests in class.	❍	❍	❍	❍
Students work on defining a problem and refining the definition while solving the problem.	❍	❍	❍	❍
Students engage in class discussion.	❍	❍	❍	❍
Students maintain lab notebooks.	❍	❍	❍	❍
Students work on a problem that requires integrating ideas from two or more sciences.	❍	❍	❍	❍
Students study an interdisciplinary problem.	❍	❍	❍	❍
Students spend the entire course on one or a few problems.	❍	❍	❍	❍
Students read a textbook.	❍	❍	❍	❍
Students work on a problem that requires integrating ideas from both science and non-science disciplines.	❍	❍	❍	❍
Students attempt a complete understanding of a complex problem.	❍	❍	❍	❍
Students learn to ask "big questions" that implicate more than one discipline in a solution.	❍	❍	❍	❍

	Minor emphasis	Moderate emphasis	Major emphasis	No emphasis or N.A.
Students talk with faculty members from other disciplines or fields of study.	❍	❍	❍	❍
Students read primary literature from multiple disciplines or fields of study.	❍	❍	❍	❍
Students present intellectual work orally.	❍	❍	❍	❍
Students become responsible for a part of the project.	❍	❍	❍	❍
Students learn to translate the specialized language of a discipline into the language of other disciplines.	❍	❍	❍	❍
Students write a research proposal.	❍	❍	❍	❍
Students learn about two (or more) disciplines so that new insights emerge from considering them together.	❍	❍	❍	❍
Students work together as a whole class.	❍	❍	❍	❍
Students judge the relative contribution of disciplines to the solution of a problem.	❍	❍	❍	❍
Students are encouraged to create new metaphors, analogies, or models to understand problems.	❍	❍	❍	❍
Students learn computer modeling of complex systems.	❍	❍	❍	❍
Students study problems with multiple causes that operate simultaneously and interactively.	❍	❍	❍	❍
Students engage in experiential learning in the course.	❍	❍	❍	❍
Students are encouraged to call upon their personal values to motivate the study of the problem or problems.	❍	❍	❍	❍

Comments

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