

Course Planning Tool Instructions

Overview

The course planning tool consists of three spreadsheets:

- Instructional Costs Per Hour
- Instructional Costs of the Traditional Course
- Instructional Costs of the Redesigned Course

Traditional Course

The sheet labeled [Instructional Costs of Traditional Course](#) is used to determine the costs of preparing and delivering the course in its traditional format. Column 1 lists the tasks associated with preparing and offering a course. (Please feel free to insert additional categories if needed.) Enter the number of hours spent by each personnel category on each task in columns C, E and G. Enter the hourly rate of each category in row 3. (To derive these costs, use the spreadsheet labeled "Instructional Costs per Hour.") The spreadsheet will calculate the total cost for each instructional task. (Please feel free to insert additional columns if needed.)

Personnel Costs

The worksheet labeled [Instructional Costs per Hour](#) is used to determine all personnel costs associated with preparing and delivering the course expressed as an hourly rate.

Redesigned Model

This sheet labeled [Instructional Costs of Redesigned Course](#) is used to determine the costs of preparing and delivering the course in its redesigned format when it is fully operational—the "after" of a before and after view. It does not include transition or developmental costs.

A Note about Worksheets

You may find it easier to create your own worksheet, using categories of your own making, and then translate the data to the course planning tool. Several of the case studies use this approach.

ASSUMPTIONS

- Developmental costs are not included.

This planning model compares the before costs (current/historical/ traditional) and the after costs (forecast of what the course will cost when it is fully operational, say for example, in its "third" offering)—i.e., it asks you to plan what the redesigned course will look like at the end of the developmental process. It does not include the up-front developmental costs of either the traditional or the redesigned course.

The reason for this approach is twofold. The first is that we are trying to show institutions that by investing in IT-based course development, they can see a return of their investment provided that they redesign the course. The second is that, while the developmental period for course conversion has costs associated with it, those costs can be paid for from one-time allocations, such as grants from foundations, federal agencies, or the institution, and/or they can be

amortized over any number of years. If institutions can see that they will ultimately realize a return on their investment, they will have an incentive to make the needed developmental investment. Then, of course, questions about how much to invest for how much return come into play.

- Institutionwide support services, administrative overhead, infrastructure and equipment costs are not included.

The assumption is that these costs are constant—are part of the campus environment—for both the traditional and redesigned courses. Campus networking, site licenses for course management systems and desktop PCs for faculty, for example, are part of the campuswide IT environment. (Software or equipment that is particular to the specific course, however, should be included.)

There may be non-personnel areas where savings can be realized—e.g., space. There are no specific entry places for these items. They can be inserted on the sheets if they are part of a demonstration of savings (e.g., moving a 500-seat lecture from a lecture hall to an online environment) directly below the total personnel costs.

- Cost-per-Student

There are, of course, a variety of ways to redesign courses to reduce costs. One approach is where student enrollments stay the same but the instructional resources devoted to the course (course expenditures) are reduced. (Please see the introductory [chemistry](#) case that illustrates this approach.) Another approach is to increase enrollments with little or no change in expenditures. (Please see the [Spanish](#) and [economics](#) cases that illustrate this approach.) A third way is to reduce the number of course repetitions required to pass a particular course. In many community colleges, for example, it takes an average of 2.5 enrollments to pass introductory mathematics courses. This means that the institution and the student must spend 2.5 times what it would cost to pass the course on the first try. In each case, a translation of the savings to cost-per-student can be used for comparative purposes.

- Who Captures the Savings?

The tool is neutral on the question of who captures the savings. Savings can be used by the department or by the institution in a variety of ways—conduct more research, teach different courses, teach more students, support an incentive plan to encourage faculty productivity, etc.

INSTRUCTIONS

Here are the steps required to calculate the savings that result from redesigning a course:

STEP 1 – Identify the tasks associated with preparing and offering the course in a traditional format and the categories of personnel involved. These are listed on the spreadsheet labeled [Instructional Costs of Traditional Course](#).

STEP 2 – Determine all personnel costs expressed as an hourly rate. Use the worksheet labeled [Instructional Costs per hour](#).

STEP 3 – Enter the hourly rate on the third line of the spreadsheet labeled [Instructional Costs of Traditional Course](#).

STEP 4 - Determine how much time each person involved in preparing and offering the course in a traditional format spends on each of the tasks. Enter these calculations on the spreadsheet labeled [Instructional Costs of Traditional Course](#). The costs of the traditional course will be calculated by the spreadsheet (multiplying the hours spent on each task by the

hourly rates as determined in Step 2.)

STEP 5 – Repeat steps 1 –4 for the redesigned course format. Enter the data on the spreadsheet labeled [Instructional Costs of Redesigned Course](#).

STEP 6 – Compare the two costs.

DEFINITIONS

I. Course Preparation

Assumption: There are four major activities associated with preparing the course: curriculum design, materials acquisition, materials development, and preparation/training of instructional personnel.

Some courses will involve only some tasks—i.e., do not expect to fill in every cell. If you need to add categories, please insert them as needed.

A. Curriculum Design and Development – all tasks associated with planning the overall structure of the course.

1. Learning objectives or outcomes – what will the students know or be able to do if they successfully complete the course?
2. Course design/sequencing – (i.e., the course syllabus) - what are the major topics/learning activities of the course and how will they be sequenced?
3. Evaluation criteria and methodology – how and on what basis will the student learning be evaluated?

B. Materials Acquisition

Materials acquisition includes evaluating and acquiring all learning materials that can be purchased or borrowed from others—i.e., those not developed by the faculty member(s) teaching the course.

1. Learning materials/software – these may be traditional paper-based materials (e.g., cases, workbooks, texts) as well as instructional software, course management software, simulations, etc.
2. Diagnostic assessments – these may be paper-based or computer-based. Such assessments determine how much a student already knows about the course subject matter, learning styles, etc.
3. Tests/evaluations – these may be paper-based or computer-based and include mid-course and end-of-course tests/exams or other kinds of assessment instruments.

C. Materials Development

Materials development includes the time spent by the faculty member(s) teaching the course and all others associated with course preparation (TAs, professional staff) to develop all learning materials used in the course.

1. Lectures/classroom presentations – the time spent preparing for in-class presentations or discussions.
2. Learning materials/software – same as above.
3. Diagnostic assessments – same as above.
4. Assignments – the time spent in developing specific learning activities for students to complete.

5. Tests/evaluations – same as above.

Sub-Total – all activities related to materials development. These activities may be listed as an aggregate if it is too difficult to specify the time spent in developing each specific task.

D. Faculty/TA Development and Training

If a course involves the use of teaching assistants, a certain amount of time is spent by supervising faculty and by them in their orientation and training. Courses that are team-taught may also require ongoing staff meetings, etc. These are activities that require participation but do not involve direct preparation of course materials.

1. Orientation – formal orientation sessions or time spent in informal orientation activities.
2. Staff meetings – TA staff meetings and other faculty meetings related to the specific course may occur throughout the term.
3. Attend lectures – time spent attending lectures or other course events.

Sub-Total – all activities related to TA training and development (or other kinds of faculty development) that do not involve direct preparation of course materials. These activities may be listed as an aggregate if it is too difficult to specify the time spent in developing each specific task.

TOTAL PREPARATION – the sum of all sub-totals by personnel category.

II. Course Delivery

During the course of the term, there are various activities associated with the delivery of the course. Course delivery tasks are divided by those conducted by instructional personnel (e.g., faculty, TAs) and those conducted by support personnel.

A. Instruction

1. Diagnose skill/knowledge level – in-class and out-of-class administering of assessment instruments at the beginning of the course.
2. Presentation – presentation of materials (e.g., lectures).
3. Interaction – all non-presentation interactions with students including leading in-class discussions, office hours, TA discussion sections, leading laboratory sessions, and e-mail interaction.
4. Progress monitoring – time spent monitoring the progress of individual students.

B. Evaluation

1. Test proctoring – time spent being present to proctor tests and examinations.
2. Tests/evaluation – out-of-class time spent grading assignments (homework, labs, exercises), tests and evaluations.

Total Delivery – all activities related to course delivery by instructional personnel.

Total – total instructional costs by personnel category.

GRAND TOTAL – total instructional costs.

PERSONNEL COSTS

The worksheet labeled [Instructional Personnel Costs per Hour](#) is used to determine all personnel costs associated with preparing and delivering the course expressed as an hourly rate. There are two kinds of personnel costs:

1. Cost as a percentage of salary (e.g., a faculty member devotes N percent of his professional obligation to instruction.)
2. Pre-established costs (e.g., a TA gets paid \$22 per hour, a professional staff member gets paid X per hour--total salary/# of working hours--to provide support).

Full-time faculty

- What is his/her annual salary?
- What is the value of his/her annual benefits?
- What is the total salary and benefits?
- What percentage of his/her professional obligation is devoted to instruction on an annual basis?
- What percentage of his/her instructional time is devoted to this particular course on an annual basis?
- What is the dollar value of the faculty member's time that is devoted to this course?

Example:

- Faculty member's annual salary = \$67,000
- Faculty member's annual benefits = \$22,538
- Faculty member's annual salary and benefits = \$89,538
- Professional obligation expectation = 50% devoted to instruction
- Percentage of time devoted to this course = 50% (faculty member teaches one course per semester, two courses per year.)
- Dollar value of the faculty member's time devoted to this course = \$22,385 (50% devoted to instruction = \$44,769; 50% of instructional time = \$22,385.)
(If the same faculty member taught two courses per semester, the dollar value of his/her time for this particular course would be \$11,192 and so on.)

What is the expected number of hours to be devoted to course preparation and delivery? Use the expected number of hours rather than attempting to calculate the actual number of hours. Reason: most institutions have a rule-of-thumb expectation. By using this expectation, we avoid the "self-reporting" problem. Establishing this rule-of-thumb expectation as a framework also encourages the faculty member to be more realistic when estimating time associated with specific instructional tasks.

NOTE: The number of hours (in-class plus out-of-class) on the Instructional Costs per Hour sheet and the Instructional Costs of Traditional Course sheet should correspond. Display the hours for a single faculty member by faculty type on the Instructional Costs per Hour sheet. The number of hours will be multiplied by the number of personnel involved on the Traditional Course sheet (see below).

- Contact hours for course – the number of in-class contact hours.
- Out of class hours – most institutions have a rule-of-thumb expectation of something like two hours prep time for each hour spent in class. This number will change when additional tasks like supervising TAs are included.
- Total hours - total contact hours + total out-of-class hours.

- Cost per hour - dollar value of the faculty member's time devoted to this course/total number of hours spent on the course.

TAs/GAs

TAs and Gas typically have an institutional expectation for the total number of hours they are expected to spend on instruction. Follow the same process as for faculty to determine the cost per hour of TA instructional time.

Support Staff

Professional staff typically have an institutional expectation for the total number of hours they are expected to work per week. The "\$ per hour" is either the staff member's hourly wage or his/her annual salary/number of hours per year.

Displaying Faculty by Type

If multiple faculty members are involved in the course, use an average salary and obligation description by type/role rather than showing data for each individual involved. Label each appropriately (e.g., tenured faculty and non-tenured faculty; Type 1, Type 2 and Type 3).

ADDITIONAL INFORMATION ABOUT HOW TO DISPLAY DATA

One Section vs. Whole Course

Data displayed on the Traditional Course and Redesigned Course spreadsheet should reflect the whole course—i.e., all sections and all semester/quarters affected by the redesign. If your redesign involves a simple extrapolation from one section, you may show one section and multiply accordingly. The [UW-Madison chemistry case](#) illustrates this approach.

NOTE: Be careful to consider the preparation time if any faculty member teaches more than one section—i.e., this would involve an adjustment to simple multiplication.

Generally, you will show the total hours for the whole course. This is especially true when you have diverse instructional arrangements in regard to personnel types and number of sections per semester (e.g., 5 in the fall, 2 in the spring, 2 in the summer.)

When You Need To Use More than 3 Spreadsheets

There are several instances when you may need to complete more than 3 spreadsheets. These include:

- When you are considering more than one redesign model. ([The SUNY-Buffalo computer literacy case](#) illustrates this approach.)
- When you are combining more than one course into a single course. In this instance, you should complete a traditional course analysis for each of the courses involved and one redesign sheet for the final plan.
- When you offer two versions of the traditional course (e.g., small expensive sections and large cheap sections) that you are combining into a new redesign. ([The University of Colorado astronomy case](#) illustrates this approach.)
- When you have already begun to redesign a course and are planning further redesign. In this instance, you should complete one traditional course sheet reflecting the course before redesign began, one initial redesign sheet reflecting the current state and a second redesign sheet reflecting the intended future redesign.