

THE PEW LEARNING AND TECHNOLOGY PROGRAM

# The Pew Grant Program in Course Redesign

Your invitation to participate

Center  
*for* Academic  
Transformation

AT RENSSELAER POLYTECHNIC INSTITUTE

For more information:

Visit the program's Web site at [www.center.rpi.edu](http://www.center.rpi.edu)

Contact Pat Bartscherer, Program Manager, at [bartp@rpi.edu](mailto:bartp@rpi.edu) or 518-276-6519

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## The Pew Learning and Technology Program

**The Pew Learning and Technology Program is an \$8.8-million, four-year effort to place the national discussion about the impact that new technologies are having on the nation's campuses in the context of student learning and ways to achieve this learning cost-effectively. Toward this end, the program has three programmatic thrusts.**

### The Pew Grant Program in Course Redesign

The purpose of the Pew Grant Program in Course Redesign is to encourage colleges and universities to redesign their instructional approaches using technology to achieve cost savings as well as quality enhancements. Redesign projects will focus on large-enrollment, introductory courses, which have the potential of impacting significant numbers of students and generating substantial cost savings.

A three-stage proposal process requires applicants to assess their readiness to participate in the program, develop a plan for improved learning outcomes, and analyze the cost of traditional methods of instruction as well as new methods of instruction utilizing technology. Prospective grant recipients will be supported through a series of invitational workshops that teach the assessment and planning methodologies. Once the grants have been awarded, interim workshops to share ideas and results will be held. During the life of this project, the program expects to award 30–35 grants—approximately 10 awards per year—with an average award of \$200,000.

### Pew Symposia in Learning and Technology

The Pew Symposia in Learning and Technology conducts an ongoing national conversation about issues related to the intersection of learning and technology. It marshals the thinking of acknowledged experts and frames the issues in ways that are useful to the higher education community as it incorporates technology into the academic program.

The program will convene two invitational symposia per year from 1999 through 2002 and produce monographs based on those discussions from a public-interest perspective.

Initial topics and symposia dates include:

- Redesigning More-Productive Learning Environments (Summer 1999)
- Who Owns Online Courses and Course Materials? Intellectual Property Policies for a New Learning Environment (Winter 1999-2000)
- Preserving Quality in Distributed Learning Environments (Summer 2000)

### Pew Learning and Technology Program Newsletter

The third programmatic component is a series of communications efforts. In addition to its Web site at [www.center.rpi.edu](http://www.center.rpi.edu), the program produces an electronic newsletter that highlights ongoing examples of redesigned learning environments using technology and examines issues related to their development and implementation. Its purpose is to serve as a significant source of expert advice for the higher education community. The newsletter is published on a quarterly basis: March 15, June 1, September 15, and December 1. Each issue includes an in-depth case study of a redesigned learning environment, reports on redesign developments in higher education, and announcements of conferences, workshops, and publications directly related to this topic. To subscribe, send e-mail (with the subject line left blank) to [listproc@lists.rpi.edu](mailto:listproc@lists.rpi.edu). In the body of the message, type SUB PLTP-L and your name. The newsletter is available in printed format upon request.

### The Larger Context

The Pew Learning and Technology Program is coordinated by the newly created Center for Academic Transformation at Rensselaer Polytechnic Institute and led by its executive director, Dr. Carol A. Twigg. The center's mission is to serve as a source of expertise and support for those in and around higher education who wish to transform their academic practices to make them more accessible, more effective, and more productive by taking advantage of the capabilities of information technology.

To have your name added to the Pew Learning and Technology Program's electronic mailing list, which ensures that you receive periodic updates and information about this new effort, send e-mail (with the subject line left blank) to [listproc@lists.rpi.edu](mailto:listproc@lists.rpi.edu). In the body of the message, type SUB PLTP-L and your name.

## The Pew Grant Program in Course Redesign

**The Pew Grant Program in Course Redesign is a three-year, \$6 million program conducted by the Center for Academic Transformation at Rensselaer Polytechnic Institute with support from the Pew Charitable Trusts. The purpose of the program is to support the efforts of colleges and universities to redesign their instructional approaches using technology to achieve cost savings as well as quality enhancements. During the life of the project, the program expects to award between 30–35 grants—approximately 10 awards per year—with an average award of \$200,000.**

**The grant program is one part of a larger three-part initiative under the leadership of Dr. Carol A. Twigg, executive director of the Center for Academic Transformation. For more information about that larger effort, see the description on page 2 of this booklet.**

### Background

A major problem that continues to confront higher education is that of rising costs. With the average cost of attendance consuming a substantial portion of the median family income, for many Americans what is at stake is nothing less than the continued viability of the American dream. The stakes are high for higher education as well. Caught in a closing vise between new demands for enrollment and declining rates of revenue growth, colleges and universities must figure out a way to do more with less.

Recognizing that tuition increases can no longer be used as a safety valve to avoid dealing with the underlying issues of why costs increase so much, campuses have begun the hard work of cost containment. But after sharpening priorities, sometimes making tough choices in light of those priorities, and asking everyone—administrators and faculty alike—to work harder, campuses are still groping for ways to wrestle costs under control.

At the same time, colleges and universities are discovering exciting new ways of using technology to enhance the process of teaching and learning and to extend access to higher educa-

tion to new populations of students. For most institutions, however, new technologies represent a black hole of additional expense as students, parents, and faculty alike demand access to each new generation of equipment and software. Most campuses have bolted on new technologies to a fixed plant, a fixed faculty, and a fixed notion of classroom instruction. Under these circumstances, technology becomes part of the problem rather than part of the solution of cost containment. By and large, colleges and universities have not yet begun to grab hold of technology's promise to reduce the costs of instruction.

Containing costs—and making use of new technologies to help contain costs—requires a fundamental shift in thinking. It requires one to challenge the fundamental assumption of the current instructional model: that faculty members meeting with groups of students at regularly scheduled times and places is the only way to achieve effective student learning. Rather than focus on how to provide more effective and efficient teaching, colleges and universities must focus on how to produce more effective and efficient student learning. Faculty are only one of many resources that are important to student learning. Once learning becomes the central focus, the important question is how best to use all available resources—including faculty time and technology—to achieve certain learning objectives. Rather than asking faculty to work harder, we need to enable them to work smarter.

### Program Focus: Large-Enrollment, Introductory Courses

In order to have maximum impact and achieve the highest possible return on the Trust's investment, redesign efforts supported by the grant program will focus on a limited number of academic areas, specifically large introductory courses with high enrollments. Studies have shown that undergraduate enrollments are concentrated in relatively few academic areas. At the community college level, about 50 percent of student enrollment is concentrated in just 25 courses. Those same 25 courses generate about 35 percent of enrollment at the baccalaureate level.

In addition to having an impact on large numbers of students, there are other advantages of such a focus. First, large introductory courses are good prospects for technology-enhanced redesign because they have a more or less standardized curriculum, outcomes that can be easily delineated, and content over which faculty are less possessive. Second, by targeting those courses, what is widely regarded as a prime area of inef-

fective teaching—the large lecture course—will be improved. While recognizing the limitations of the lecture method, many continue to organize courses in this way because they believe that it represents the most cost-effective way to deal with large numbers of students. The program will demonstrate that alternatives that improve quality and are less costly than lecture-based strategies are possible. Third, those courses serve as foundation studies for future majors. Successful learning experiences in them will influence students to persist in key disciplines like the sciences. Finally, because those courses are feeders to other disciplines, success in them will help students make the transition to more advanced study.

### Other Targets of Opportunity

While focusing the grant program on large-enrollment, introductory courses has the clear advantage of maximizing its impact, such a focus excludes other creative approaches to addressing the cost question using technology. For example, small institutions may see the benefit of forming consortia to offer joint degree programs via technology; states may see the opportunity to develop alternate routes to teacher certification using technology-mediated delivery methods. The program is committed to identifying other targets of opportunity as well. During its four-year period, the program will conduct ongoing conversations with the higher education community, getting feedback about the applicability of the planning and development methodology to other arenas and assessing the transferability of the models produced by the program to other settings.

### Multiple Models

The grant program seeks to create multiple models that show how colleges and universities can redesign their instructional approaches using technology to achieve cost savings as well as quality enhancements. To counter the belief that only one kind of institution (such as Rensselaer) can do this with one kind of model (such as the studio course), the program will demonstrate that there are many ways to accomplish this goal. It will show that courses in multiple disciplines can be successfully redesigned to counter the belief that only a restricted subset of disciplines (such as science courses) are candidates for redesign. The program will create a substantial body of data and experience, reflecting 30 distinct but related projects, and a coherent planning process that can be shared with and utilized by the higher education community.

### Sustaining Innovation

Another goal of the program is to show how ongoing investments in technology-based redesign can be supported based

on a return-on-investment strategy. The program recognizes that in order to be sustained, changes in instructional practice must be affordable by institutions and integrated into their base funding practices. A wealth of experience shows that attempts to add on innovations with external support, and without internal structural change—especially commitment of resources in the institution's core budget—have been almost totally unsuccessful. When the grant funding runs out, the innovation ends. The most surefire way to tell whether an innovation is for real or is artificial is to look at its funding. Unless an innovation is paid for directly by those who stand to benefit from it, its chances to flourish are dubious at best.

The goal of the program is to create a planning methodology to enable higher education institutions to fund their own future development in this arena rather than relying on external sources. This methodology can be used by individual institutions to support ongoing innovation. It can also be used by systems of higher education and by states as a mechanism to fund future investments in instructional technology.

### Eligibility Criteria

Institutions of higher education in the United States are eligible to apply. Companies are not eligible to apply, but institutions of higher education are encouraged to partner with companies—such as instructional software producers, publishers, course management system producers, and instructional technology outsourcers—where appropriate to their redesign projects. Institutions may receive more than one grant if the proposal is competitive and meets the eligibility and selection criteria.

### The Pilot Year

During its first year, the program is in a pilot stage. Representatives from 20 institutions who exhibit a high degree of readiness to participate in the program have met twice to help refine the program's premises and processes as well as its plans for subsequent years. Ten of those institutions will undertake redesign projects beginning in fall 1999. With the help of the pilot group, guidelines have been prepared for participation in the 2000 and 2001 grant cycles when the program will be open to all institutions of higher education. The pilot group is also helping establish a community of practice to serve as exemplars for future redesign efforts. Case studies of the pilot institutions' projects will be available on the program's Web site at [www.center.rpi.edu](http://www.center.rpi.edu).

## Planning Methodology

**It is possible to redesign learning environments to enhance learning by adhering to sound pedagogical principles and to reduce costs by transferring some of the tasks performed by instructional personnel to technology-assisted activities. The program employs a comprehensive planning methodology that can be taught to many kinds of institutions. This planning methodology involves three interrelated activities:**

### 1. PLANNING TO ENHANCE LEARNING

**The goal of course redesign is to improve student learning. By adhering to sound pedagogical principles, one can create viable alternatives to traditional formats. For this task, faculty are the key players in collaboration with information technology (IT) staff and administrators.**

### 2. PLANNING TO REDUCE COSTS

**In order to finance technology investments and to generate savings that can be used in other ways, one must analyze the cost of traditional methods of instruction as well as new methods of instruction utilizing technology. For this task, administrators are essential in collaboration with IT staff and faculty.**

### 3. PLANNING TO ASSESS THE RESULTS

**Did students learn as well or better than in traditional formats? Were institutions able to demonstrate cost savings as a result of the redesign? Success involves assessing both impact and improvement. For this task, assessment experts are needed in collaboration with faculty, IT staff and administrators.**

#### 1. Planning to Enhance Learning

There is a substantial body of knowledge about both the limitations of the predominant form of collegiate instruction—the didactic lecture—and the advantages of certain pedagogical principles that result in increased student learning. A lot is also known about the role of information technology in supporting those principles of good pedagogical design, what works, and what does not work. If instructors merely add on technology to ineffective instructional methods—if they

simply technologize the lecture method—there will be no improvement in student learning.

Good pedagogical practice enhanced by technology supports shifts in the nature of the teaching-learning enterprise, making it more active and learner centered. Technology can be deployed to optimize sound pedagogy by making it more consistent, by providing additional practice or examples, and by making more instruction available on-demand. Technology can provide tools to support teaching and learning as well as tools that replace, augment, or extend the ability to identify, collect, organize, integrate, and generate knowledge. Technology can also support pedagogical models and approaches that change in kind the nature of the teaching-learning enterprise. In effect, the new approaches and mechanisms stand as a new paradigm for student learning.

Planning to enhance learning should lead to a redesigned instructional process that achieves improved learning outcomes. Such high-quality learning environments should exhibit the following characteristics.

- Engage students in active learning. As one math professor puts it, “Students learn math by doing math, not by listening to someone talk about doing math.”
- Provide 24 x 7 access to learning resources where possible, creating environments that are both accessible and flexible, and allowing students to study at times most convenient to them.
- Enable students with a variety of backgrounds and with a range of professional and personal goals to engage successfully with the material.
- Incorporate customized course design including modularization of materials and incorporation of examples from various disciplines.
- Employ a continuous improvement model. If students are having difficulty understanding a particular part of the course, it can be changed and improved in real time.

**Applicants to the program are required to develop an academic plan that describes the learning goals and objectives for the redesigned environment and explains how the redesign will enable the institution to meet those learning goals and objectives. Examples of academic plans from multiple institutions are available on the program’s Web site at [www.center.rpi.edu](http://www.center.rpi.edu).**

## 2. Planning to Reduce Costs

How can information technology be used to reduce costs and increase academic productivity? Many experts on the subject have pointed out that moving away from our current credit-for-contact mode of instruction is fundamental. Some approaches employ a greater reliance on asynchronous, self-paced learning modes while others take place in a traditional, synchronous classroom setting but with reduced student/faculty contact hours. Both rely on shifting faculty time-on-task to the technology or lessening the labor-intensive quality of instruction. In each case, they are designed to transfer the locus of activity from the faculty to the student: the focus is on student problem solving and projects rather than on presentation of materials.

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. Another approach is to increase enrollments with little or no change in expenditures. 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.

Financial planning to reduce costs involves the following steps.

1. Identify the tasks associated with preparing and offering the course in a traditional format and the categories of personnel involved.
2. Determine all personnel costs expressed as an hourly rate.  
*(See sample spreadsheet labeled Instructional Costs per Hour on this page.)*
3. Determine how much time each person involved in preparing and offering the course in a traditional format spends on each of the tasks.  
*(See sample spreadsheet labeled Instructional Costs of Traditional Course on next page.)*
4. Repeat steps 1 through 4 for the redesigned course format.  
*(See sample spreadsheet labeled Instructional Costs of Redesigned Course on next page.)*
5. Compare the two costs and calculate the savings.

This planning model compares the *before* costs (the traditional course format) and the *after* costs (a forecast of what the redesigned course will cost when it is fully operational). It does not include the development costs associated with converting the course since 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. The model encourages institutions to plan to reduce ongoing operating expenses at the end of the development period.

**Applicants to the program are required to complete a course planning tool as exemplified on these pages. A full description of how to complete the planning tool, including definitions, assumptions and illustrations from multiple institutions, is available on the program's Web site at [www.center.rpi.edu](http://www.center.rpi.edu).**

INSTRUCTIONAL COSTS PER HOUR					
FACULTY		TAs/GAs		SUPPORT STAFF	
Salary	\$89,538	Salary for 1 TA	\$32,618	POSITION	COST PER HOUR
% devoted to instruction	50%	% devoted to instruction	50%	Lab manager	\$19
% devoted to this course	50%	% devoted to this course	50%	Technical support	\$29
\$ devoted to this course	\$22,385	\$ devoted to this course	\$8,155	Stockroom	\$12
Contact hours for course	30	Contact hours for course	116	Computer room	\$7
Out of class hours	140	Out of class hours	244		
Total hours	170	Total hours	360		
Cost per hour	\$132	Cost per hour	\$23		



**INSTRUCTIONAL COSTS OF TRADITIONAL COURSE**

	Faculty Hourly Rate=\$132		TAs/GAs Hourly Rate=\$23	
	# OF HOURS	TOTAL COST	# OF HOURS	TOTAL COST
<b>I. COURSE PREPARATION</b>				
A. Curriculum Development				
B. Materials Acquisition				
C. Materials Development				
1. Lectures/presentations	60	\$7,900	464	\$10,510
2. Learning materials/software				
3. Diagnostic assessments				
4. Assignments				
5. Tests/evaluations	12	\$1,580	88	\$1,993
Sub-Total	72	\$9,480	552	\$12,503
D. Faculty/TA Development/Training				
1. Orientation		240	\$5,436	
2. Staff meetings	15	\$1,975	120	\$2,718
3. Attend lectures	240	\$5,436		
Sub-Total	15	\$1,975	600	\$13,590
Total Preparation	87	\$11,455	1,152	\$26,093
<b>II. COURSE DELIVERY</b>				
A. Instruction				
1. Diagnose skill/knowledge				
2. Presentation	30	\$3,950		
3. Interaction	30	\$3,950	1,048	\$23,737
4. Progress monitoring				
Sub-Total	60	\$7,900	1,048	\$23,737
B. Evaluation				
1. Test proctoring	11	\$1,448	32	\$725
2. Tests/evaluation	12	\$1,580	648	\$14,677
Sub-Total	23	\$3,028	680	\$15,402
Total Delivery	83	\$10,929	1,728	\$39,139
TOTAL	170	\$22,384	2,880	\$65,232
Support Staff		\$3,805		
GRAND TOTAL		\$91,421		
Cost per student		\$261		

To illustrate the planning methodology, this example analyzes a large introductory course organized in eight 350-student sections. In the traditional course, each section is taught by one professor, eight teaching assistants, and four support positions for a total semester cost of \$91,421 and a per-student cost of \$261.

By off-loading instructional tasks performed by faculty members and teaching assistants in the traditional model to interactive, computer-based learning modules, the redesigned course will cost \$69,830 per semester with a per-student cost of \$200. The savings for one 350-student section is \$21,591 (\$91,421-\$69,830); savings per semester (8 sections) is \$172,730 (\$21,591 \* 8).

**INSTRUCTIONAL COSTS OF REDESIGNED COURSE**

	Faculty Hourly Rate=\$132		TAs/GAs Hourly Rate=\$23	
	# OF HOURS	TOTAL COST	# OF HOURS	TOTAL COST
<b>I. COURSE PREPARATION</b>				
A. Curriculum Development				
B. Materials Acquisition				
C. Materials Development				
1. Lectures/presentations	15	\$1,975	224	\$5,074
2. Learning materials/software				
3. Diagnostic assessments				
4. Assignments				
5. Tests/evaluations	12	\$1,580	88	\$1,993
Sub-Total	72	\$3,555	312	\$7,067
D. Faculty/TA Development/Training				
1. Orientation	240	\$5,436		
2. Staff meetings	15	\$1,975	120	\$2,718
3. Attend lectures	120	\$2,718		
Sub-Total	15	\$1,975	480	\$10,872
Total Preparation	42	\$5,530	792	\$17,939
<b>II. COURSE DELIVERY</b>				
A. Instruction				
1. Diagnose skill/knowledge				
2. Presentation	30	\$3,950		
3. Interaction	30	\$3,950	808	\$18,301
4. Progress monitoring				
Sub-Total	60	\$7,900	808	\$18,301
B. Evaluation				
1. Test proctoring	11	\$1,448	32	\$725
2. Tests/evaluation	12	\$1,580	408	\$9,241
Sub-Total	33	\$3,028	440	\$9,966
Total Delivery	83	\$10,928	1,248	\$28,267
TOTAL	125	\$16,458	2,040	\$46,206
Support Staff		\$7,165		
GRAND TOTAL		\$69,830		
Cost per student		\$200		

### 3. Planning to Assess the Results

It is important from the outset to emphasize the particular role that assessment is intended to play in each project's overall design. The program rests on the premise that it is possible to achieve greater learning productivity through technology-based approaches, so the requirement is strong to look specifically at the benefit side of this implied cost/benefit gain. Information about what institutions have actually done and what good it is doing is critical to the success of the program. At the same time, it is important to note that this is an action program, not an assessment program. It is all too possible to get caught up in the mentality of measuring everything that moves without thinking through what would really be useful or generalizable.

When planning for assessment, one must distinguish between *impact*—finding out whether the ultimate goals of an alternative method (better learning at lower cost or the like) were accomplished—and *implementation*—finding out whether the institution actually did what it said it was going to do. In any innovation/action research project, both are important.

To assess implementation, pay attention to questions of how things are acted out in the course of a project. Those can be assessed using simple questionnaires that include questions such as: Were resources and people in place as planned that might have gotten in the way of impact, including equipment, support, training, and orientation? What were the specific glitches that occurred and what might their impact have been? Did the process of teaching and learning change in the view of participants? Did faculty report different ways of teaching and if so, what were the differences? More important, did students report changes in how they approached the material, studied, and spent time on task?

To assess impact, it is important to be clear about what the grant program is after conceptually. The real premise of the program—and that which ought to be assessed—is not just learning but learning productivity. This conceptual framing of the program's dependent variable has several important implications. First, the perspective of analysis is by definition consciously comparative of the innovation(s) against an established baseline of current practice. This implies collecting data on learning and costs in both innovative and comparable standard practice settings, such as comparing outcomes directly for a technology-enhanced course with those of a course delivered in the usual way. Second, the variables used in the comparison to define impact need to include both

learning outcomes and later behavior—things like retention rates, course completion rates, and the like—as the latter can significantly impact the learning productivity equation even if learning outcomes are equivalent.

**Applicants to the program are required to develop an assessment plan that describes how they will assess both impact and implementation. Examples of assessment plans from multiple institutions are available on the program's Web site at [www.center.rpi.edu](http://www.center.rpi.edu).**



## Grant Application Process

**Each round of the grant program employs a three-stage application process. The first stage identifies those institutions that are ready to engage in large-scale redesign. The second stage selects 20 institutions from among a group of 40 that identify specific courses that are ready for large-scale redesign. The third stage selects 10 institutions to receive redesign grants. Each stage has a specific deadline for submission of materials.**

### Stage 1: Establishing Campus Readiness

The level of interest and enthusiasm in higher education for infusing information technology into the teaching and learning process is notable. It is clear, however, that certain institutions more than others have progressed farther along the learning curve about what is required to do so successfully. Because of their prior investments and experiences, those institutions are, in essence, more ready to engage in large-scale redesign efforts that achieve the program's goals.

Campuses that wish to propose a redesign project must assess and demonstrate their readiness to do so. The program has established a set of institutional readiness criteria that are used to prequalify prospective applicants. To be considered for an institutional grant, the first step is for the campus provost to send a brief narrative addressing each of the institutional readiness criteria listed on this page as they apply to the institution, focusing on evidence that demonstrates the way in which it meets each criteria. Please send those documents electronically to Pat Bartscherer, Program Manager, bartp@rpi.edu.

*Outcome:* Forty institutions from among those that submit an institutional readiness statement will be invited to move to the next stage of the application process by attending a January workshop. This workshop will give participants an overview of the redesign process with emphasis on pedagogical design, planning for cost savings, and assessing results. Three persons from each institution will be invited to participate: the chief academic officer (or designee), the chief technology officer (or designee), and an academic at the program level (faculty member or dean) of the institution's choosing.

### Institutional Readiness Criteria

1. Does the institution want to control or reduce costs and increase academic productivity?
2. Is there a demonstrated commitment on the part of institutional leaders to use technology to achieve strategic academic goals, a commitment that moves beyond using technology to provide general support for all faculty and for all courses?
3. Is computing firmly integrated into the campus culture?
4. Does the institution have a mature information technology (IT) organization(s) to support faculty integration of technology into courses? Or does it contract with external providers to provide such support?
5. Do a substantial number of the institution's faculty members have an understanding of and some experience with integrating elements of computer-based instruction into existing courses?
6. Does the institution have a demonstrated commitment to learner-centered education?
7. Has the institution made a commitment to learner readiness to engage in IT-based courses?
8. Is there a recognition on the campus that large-scale course redesign using information technology involves a partnership among faculty, IT staff and administrators in both planning and execution?

Deadline for submission of institutional readiness statements:

November 15, 1999 (round 2)

November 15, 2000 (round 3)

*Please see the program's Web site at [www.center.rpi.edu](http://www.center.rpi.edu) for an elaborated discussion of the criteria as well as examples of how the pilot-year group of institutions responded to the criteria.*

## Stage 2: Identifying the Course

Just as some institutions are more ready than others to engage in large-scale redesign, some courses more than others are more ready to be the focus of that redesign effort. Because of prior experiences with technology-mediated teaching and learning, and because of numerous attitudinal factors, some faculty members are more ready to engage in large-scale redesign efforts to achieve the program's goals. They have, in essence, a head start on the process.

The program has established a set of course readiness criteria that are used to move prospective applicants to the next stage. Institutions that participate in the January workshop will be asked to send a brief narrative addressing each of the course readiness criteria listed on this page as they apply to their institutions, focusing on evidence that demonstrates the way in which they meet each criteria. These documents should be sent electronically to Program Manager Pat Bartscherer at [bartp@rpi.edu](mailto:bartp@rpi.edu).

*Outcome:* Twenty institutions from among those that participate in the January workshop and that submit a course readiness statement will be invited to attend a March workshop to move to the next stage of the application process. Those invited to participate will make up the core team that will implement the project if funded. The focus of the workshop will be twofold: (1) institutional development plans and budgets for the redesign project, and (2) completion of the course redesign planning tool. The workshop will give participants an opportunity to share ideas and experiences, to obtain feedback from program staff, and to assess the quality of their proposals in relation to others.

### Course Readiness Criteria

1. Will changes in the course have a high impact on the curriculum?
2. Does the course offer the possibility of capital-for-labor substitution?
3. Are decisions about curriculum in the department, program, or school made collectively—in other words, beyond the individual faculty member level?
4. Are the faculty able and willing to incorporate existing curricular materials in order to focus work on redesign issues rather than materials creation?
5. Do the project participants have the requisite skills?
6. Have the course's expected learning outcomes and a system for measuring their achievement been identified?
7. Do the faculty members involved have a good understanding of learning theory?
8. Is there a business plan for achieving the redesign goals so that the innovation can be self-sustaining in the future?

Deadline for submission of course readiness statements:

February 15, 2000 (round 2)

February 15, 2001 (round 3)

*Please see the program's Web site at [www.center.rpi.edu](http://www.center.rpi.edu) for an elaborated discussion of the criteria as well as examples of how the pilot-year group of institutions responded to the criteria.*



### Stage 3: Developing a Project Plan

Institutions that participate in the March workshop will be invited to submit a final proposal that follows the format described below. Those proposals should be sent electronically to Program Manager Pat Bartscherer at bartp@rpi.edu.

#### *Abstract*

Write a one-page double-spaced abstract following a title page. The abstract should identify the course redesign purpose, the proposed project activities and their intended outcomes.

#### *Proposal Narrative*

Write a narrative describing (1) the current course environment, (2) the learning goals and objectives for the redesigned environment, (3) a plan describing the specific activities required to design and implement the new learning environment and how the redesign will enable the institution to meet those learning goals and objectives, (4) an assessment plan and, (5) a dissemination plan.

#### *Course Planning Tool*

Complete the course planning tool, identifying the instructional tasks and associated costs in the current learning environment and the instructional tasks and associated costs in the redesigned learning environment. In addition, provide a brief narrative that explains the entries in the planning tool where necessary.

#### *Budget Page and Narrative*

Please use the budget form available on the program's Web site at <http://www.center.rpi.edu> or a suitable facsimile to present a complete project budget. In addition, provide a budget narrative explaining (1) how the proposed budget will enable the institution to implement the project plan; (2) how the major cost items relate to the proposed activities; (3) the basis on which you estimated the costs of professional personnel, consultants, travel, indirect costs and any unusual project expenditures; and (4) a breakdown of institutional and other support for the project if applicable.

*Outcome:* Final proposals will be examined by a program selection committee. Approximately 10 institutions from among those that participate in the March workshop and that submit a final proposal will be awarded a grant. Award decisions will be made by July 1 in order to enable campuses to begin development efforts in the summer.

### Selection Criteria

Preliminary proposals at stages one and two will be judged on the basis of how well they meet the institutional and course readiness criteria. Final proposals will be judged on the basis of the criteria as well as on the quality of the project plan. In addition, preference will be given to the following types of projects:

- Those in disciplines with the highest impact on the largest number of students nationally (such as mathematics, psychology, biology, chemistry, English, and economics).
- Those in disciplines with large existing bodies of technology-based curricular materials and/or assessment instruments.
- Those that are able and willing to incorporate existing curricular materials in order to focus work on redesign issues rather than materials creation when possible. This would include projects that partner with other content providers such as commercial software producers or other universities who have developed technology-based materials.
- Those in disciplines that cluster with other projects in the program in order to create maximum impact on a particular field where possible and further delineate communities of practice.
- Those that demonstrate a higher level of cost savings or return on institutional investment in comparison with competing proposals.

Deadline for proposal submissions:

June 1, 2000 (round 2)

June 1, 2001 (round 3)

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## Program Support and Dissemination

The program supports communication and collaboration among grant recipients throughout the process of design, implementation, and evaluation. The results of the program will be disseminated through an active communications plan. Among the communications vehicles to be employed are:

**Workshops.** In addition to the two workshops that assist institutions in preparing proposals, two additional workshops for grant recipients will be held in each round. The first will occur midway through the grant period to enable participants to share their experiences and to exchange ideas. The second will be held just prior to full implementation of the redesigned course to assess the results of pilot implementations and to exchange ideas. Part of the second workshop will also be devoted to discussions about dissemination within individual institutions, within relevant disciplines, and to the broader higher education community.

**Individualized assistance.** Center staff and associates who have extensive experience with redesign will provide individualized assistance as prospective recipients prepare and implement proposals.

**Listserv.** The program will establish a listserv for grant recipients to communicate and share ideas and experiences throughout the life of the projects.

**Web site.** A Web site has been established at [www.center.rpi.edu](http://www.center.rpi.edu) to share progress of the program's projects with the higher education community and the public. A condition of receiving a grant is the right of the program to share planning data in a sanitized form.

**Monographs.** The program will produce an annual monograph that includes case studies describing the grant projects. The monographs will be produced in print and electronic formats and will be distributed to the higher education and other related communities.

**State-of-the-art briefings.** The program will sponsor a series of state-of-the-art briefings to disseminate the results of the grant-making program. The briefings will enable administrators and faculty members as well as policy makers and others interested in this topic to learn firsthand how to redesign courses and programs from those who have done it. In those sessions, participants will have the opportunity to interact intensely with representatives from successful projects as well as with program staff and associates.

Center  
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