

## Reports:

### First Year Report on the Introduction of CourseInfo at Duke University

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#### Introduction

In the fall of 1999, the Center for Instructional Technology, Arts & Sciences Computing and the Office of Information Technology collaborated to offer CourseInfo software to faculty and students at Duke University. One goal of this project was to provide faculty with an easy-to-use tool for creating course web pages. This goal has been met, as the vast majority of faculty and students using CourseInfo reported that they found the program very easy to use. In fact, a number of faculty who already had created custom web pages switched to using CourseInfo because of its ease of use. Another major goal was to encourage faculty experimentation with using course web pages, web-based discussion boards, online assessment and other instructional technologies. This goal was partially met. A significant number of faculty created course web pages for the first time using CourseInfo. However, many faculty did not take advantage of the rich feature set of this software, to the disappointment of students. Overall, feedback on CourseInfo was mostly positive. During the coming year, we hope to build on the early success with CourseInfo to help faculty and students use CourseInfo more effectively.

This report summarizes faculty and student feedback about CourseInfo over the 1999-2000 school year and describes plans for making this software more useful for faculty and students in the coming year. The conclusions and representative quotations below are based on questionnaires submitted by faculty and students, evaluation forms collected at CourseInfo training sessions and conversations with faculty and students throughout the year. Forty-eight faculty and 238 students submitted questionnaires. Questionnaire data, statistics on CourseInfo usage and pointers to other reports on CourseInfo are included at the end of this report.

Although this report focuses on the introduction of CourseInfo at Duke, many of the conclusions below would apply to any software for creating course websites.

#### Positive Aspects of Using CourseInfo

- **CourseInfo was easy to use.**

One of the most frequently praised features of CourseInfo was its ease of use. Students offered such comments as:

*"Set up really well. Not confusing at all."*

*"Easy to use and instant information."*

When asked about the best aspects of CourseInfo, faculty also cited ease of use:

*"Easy for people who are afraid of complicated computer language, great way to communicate with students, it made my life easier."*

*"Content input and management can be accomplished through a Web browser in fairly simple steps."*

- **CourseInfo improved access to course materials.**

Both faculty and students cited the convenience of being able to access course materials anytime and from anywhere. Materials were more accessible, better organized, and more up to date. Students liked being able to access lecture notes and print them out before class, and appreciated having copies of class slides, diagrams and notes available from the CourseInfo website after class. Faculty also appreciated being able to distribute class materials easily via CourseInfo.

When listing best aspects of CourseInfo, many students had comments such as these:

*"I can access it any time I want to study, take practice tests, etc."*

*"Access to course document from any computer, home or away from campus."*

*"It keeps things super-up-to-date. I lost the syllabus and it was right there!"*

*"Having the lecture in an organized format to bring to class with me."*

*"A student can easily look up homework, announcements, or get course documents at any time."*

Faculty had similar positive comments:

*"I like the instantaneous upload and the fact that I can use it from anywhere -- like my home!"*

*"I loved having my PowerPoint presentations available to the students after the lecture."*

*"Ability to get lecture notes and graphics to students in advance."*

*"It was nice to have a central location on which to post assignments and, most importantly, to be able to look back at the whole course."*

- **CourseInfo facilitated interaction between professors and students and among students.**

Many students and faculty felt CourseInfo allowed faster feedback on grades and assignments, supported communication between faculty and students and among class members, made it easier to submit homework and provided an easy way to exchange papers with classmates.

Typical student comments about CourseInfo's strengths included:

*"It's cool to interact with my peers in an online setting."*

*"Easy way to communicate between students and instructors."*

*"Not having to travel to share papers with others in our group."*

*"The discussion board. When it's used, it really helps out."*

*"Helping students to see their grades faster and in an organized fashion."*

Many faculty listed these kinds of benefits:

*"Steady flow of information between students and instructor and among students helps generate a sense of community."*

*"Method of communication with students outside of class hours"*

*"Access for students; ease of e-mail communication; it made it easy to make student essays accessible to other students."*

- **Some individuals praised CourseInfo's ability to reduce use of paper.**

Many students and professors listed saving paper and saving time spent photocopying as CourseInfo's best features. However, a significant number of students disliked having the burden of printing shifted to them and listed printing problems as a negative aspect of relying on web-distribution of documents.

Students often made such comments as:

*"The electronic distribution/submission of assignments are great. This entirely replaces handouts by professors."*

*"It saved paper. I could easily refer to the web-page to lookup assignments or other info."*

*"Ability to post things like answer keys. This saves paper."*

Positive faculty comments included:

*"Being able to put assignments and labs on the web page instead of having to copy and hand them out."*

*"As a TA, it meant less copying and recopying for me."*

- **Most faculty and student liked the consistency and integration provided by the CourseInfo interface.**

Although there was criticism of some design features, many students were positive about the consistency and clarity of design:

*"Same format for every course."*

*"I like the format. It is user friendly and it has an attractive interface."*

*"Better web site design than teachers could come up with on their own."*

Faculty members' positive comments about the interface tended to focus on the ease of creating different course components and having the software handle the integration of different course components:

*"Well organized framework; relatively low learning curve; collaborative environment, organization of material, ease of use."*

*"Ease of posting things. Preloaded email list."*

*"The integration of discussion boards, email, grades, assignments all on one site."*

- **Faculty and students felt CourseInfo promoted faculty experimentation with new technologies.**

Students were positive about faculty members' early efforts to use CourseInfo but realized that it offered potential that faculty did not fully use.

*"If used to the full extent, it can help students gain more from class than lecture only."*

*"It encourages teachers to use the web more, and more often."*

*"I loved the classes that took advantage of CourseInfo. It was so much easier to use than the previously run department web pages and it was concise. Best idea of the year."*

*"Excellent idea. I wish we had used electronic submission of coursework and some of the group email options. This is the future."*

Faculty tended to see their uses of CourseInfo as more innovative than the students did. Because many faculty

using CourseInfo had not previously used course web pages, they were glad to have a tool that made experimentation easy.

*"Great tool. I'm looking forward to learning aspects I didn't know about and haven't used."*

*"I thought it was really great, overall, for people like me who just don't know how to make a website."*

*"I am glad I was encouraged to use CourseInfo. I feel I've joined the 21<sup>st</sup> century and the features offered were excellent."*

### **Criticism of CourseInfo or How It Was Used**

- **CourseInfo performance was slow and sometimes unreliable.**

A frequent complaint from faculty and students was that CourseInfo was slow. Users sometimes had difficulty getting access or maintaining access with the system. Both Arts & Sciences and the CIT upgraded their hardware for CourseInfo after the fall semester, which reduced system failures, but even in the spring, users continued to complain about how slow CourseInfo seemed. CourseInfo performance depends not only on the CourseInfo servers and software but also network traffic, method of access (modem versus direct network connection), the user's computer and the number of people using the system at a given time, so it was difficult to troubleshoot and improve system performance.

*"It was always slow loading and troublesome no matter what time of the day I used it."*

*"My computer sometimes had a difficult time pulling up everything, so it was slow going!"*

*"The speed, at first--but that seems to have been resolved."*

*"Last semester, there were lots of frustrations when the system wasn't adequate for the load."*

- **CourseInfo was not well integrated with other university systems. Problems with other university systems were frustrating when students or faculty needed to use CourseInfo.**

Criticisms in this category focused on such things as difficulty accessing the electronic materials in the library, differences in sending email via CourseInfo versus other mail packages, inability to transfer grades from CourseInfo's grade book directly into Registrar's forms, needing to use different ID's and passwords for different university systems, and uncertainty about where to get help. Because faculty and students do not all use the same word processing software, not all classes were able to use the file exchange feature effectively. Just a few samples of these types of concerns are shown below:

*"Can't access external links posted through Proquest from home computer."*

*"Unreliable connection to library documents."*

*"All the clicking it took to get there and not having a direct link to the web pages via ACES."*

*"The password is set differently from the ACPUB password."*

*"Difficult access to help desk, especially with uploading issues."*

*"Duke needs to support faculty connections to Dukenet from home if they are using CourseInfo (i.e. provide a longer connection time than the 15 minutes or an easier connection than the 4-hour one.)"*

- **Students found it frustrating to find their CourseInfo website.**

A number of students pointed out that they could not bookmark their courses on cluster machines, and it was hard to remember separate URLs for each course. The use of two different servers and the organization of course listings on each of the servers wasted students' time navigating to the particular CourseInfo course they needed to use. [Note: We have recently upgraded to version 4 of CourseInfo, which allows students to use an individualized

portal to access all their courses.]

*"Couldn't ever remember the [expletive] direct link address and my profile never stays in the lab computers."*

*"I think it is a very good system, but wonder why there are two of them. One that is courses.duke.edu and the other that is cinfo.duke.edu. Would make it easier to find courses if they were all together."*

- **Students did not like having to print large numbers of course documents.**

Although instructors were enthused about distributing documents via CourseInfo, not all students were as pleased.

*"Our instructor insisted on scanning in hand-written notes—took forever to print."*

*"It's a pain to have to constantly download articles and course notes at our own time and expense."*

- **Faculty and students disliked some aspects of the CourseInfo interface.**

There were a variety of complaints about how particular buttons worked, or how many steps were required to complete certain operations. Some individuals were put off by the standard design.

*"The program is way too mouse-driven. My index finger joint is still sore after all the clicking!"*

*"Looks and feels like some template generated site."*

- **Both students and faculty felt that faculty did not use CourseInfo's full potential.**

A substantial number of students complained that that professors did not keep the site up to date or did not use many of the program's features.

*"Some teachers are not interested in using it, so no page upgrade!"*

*"It's a great system, and I only wish that more teachers would use it to its full potential."*

*"If other students had taken advantage of the discussion board, or if the professor used the site more, it would have been a better resource."*

*"Professor should have used it more instead of sending us 5 emails a day!"*

*"The program is only as good as the professor lets it be. All that was on our page was the syllabus (which was very useful)."*

A number of faculty recognized that they could do more with the software than they had during their first semester or two:

*"The training opportunities were extensive, but I had difficulty taking advantage of them. Keep offering them!"*

*"I used CourseInfo in the hope that I would find that I could do things in class that I had not thought of doing before. So far I have only found that it makes what I already do a little easier."*

*"I intend to try other features this semester."*

- **Although faculty listed the ability to post things at any time as a benefit, students found last minute or unpredictable postings to be a negative effect of using CourseInfo.**

*"Having to check it all the time to keep up with the class notes."*

*"Don't waste your time posting an outline for a lecture if you don't post it until the morning of the class."*

*"The biggest problem with sites like CourseInfo is not the site itself, but usually the disorganized manner in which the staff and teachers use the site (i.e. late postings, late announcements, etc.)"*

- **A few students and faculty commented that posting materials online reduced students' attendance or attention in class.**

Most students commented that they liked being able to print lecture notes or outlines before class and use them during class. But one student commented, "...many people didn't pay attention in class because they had access to the notes on CourseInfo." A faculty member mentioned a similar concern: "One minor problem is that the effectiveness of CourseInfo takes away some of the incentive for students to attend class."

- **Professors and students had mixed reactions to the way CourseInfo restricted access to courses.**

CourseInfo allows faculty to restrict some or all of the course web site to students enrolled in the class. Some components can not be made guest accessible, and even when instructors choose to allow guest access to the other parts of their courses, users must log in with a guest account. Some faculty see this as a benefit because it allows them to control access to course materials which should not be generally available, but others disliked limiting any kind of access to their course site.

*A faculty member: "Not clear what people from outside Duke or not in class can access. I would like to refer prospective students to parts of my site, but don't know what difficulty they would have."*

*A student: "I like to read the materials of other courses, but with password access, I can no longer do that. It closes off a valuable resources for a lot of folks in a supposedly "open" academic environment."*

- **Specific feature criticisms**

The chat tool did not work reliably.

The assessment component did not have features faculty felt were important for interactive testing and grade record keeping.

CourseInfo does not handle specialized fonts, mathematical symbols or equations very well.

Uploading and down loading files is tedious, and there is no convenient way to share files across multiple courses.

CourseInfo does not work as well on Macintosh computers as on Windows-based computers.

Some of these problems are resolved in new versions of CourseInfo.

## Future Plans

1. Improved security

Although there have been no security problems to date, we feel it is important to improve the security of passwords within CourseInfo and to begin linking CourseInfo to other campus security strategies. Staff from Arts & Sciences computing, the CIT and OIT are working together on security plans for the Fall 2000 semester.

2. Additional training for instructors and staff

We will offer introductory training on CourseInfo for new users plus advanced training for those instructors who are ready to use a wider range of CourseInfo's features. In all training sessions, we will share the feedback from students to help instructors plan to use CourseInfo as effectively as possible.

3. Improved help documentation; review of help services

This summer, CIT staff and Arts & Sciences computing staff are reorganizing and expanding the help resources for CourseInfo based on the questions and suggestions we received throughout the first year of use. Currently, CourseInfo help services for weekends and evenings are very limited. We need to find a way to extend help services so that individuals can get help at the times when they are working with CourseInfo.

#### 4. A unified course web page gateway

To make it easier for students to find any course website, we are creating a single gateway that will list all courses on the CIT CourseInfo server, all courses on the Arts & Sciences CourseInfo server and any non-CourseInfo course web site that faculty wish to include.

#### 5. More discussions with Blackboard to shape their product to fit our users' needs

We plan to work more closely with other North Carolina and Ivy Plus universities that are using CourseInfo to influence Blackboard's product development. If Blackboard cannot provide features faculty need (e.g., certain assessment tools), we will identify other products to offer to supplement CourseInfo.

#### 6. Extended consulting with groups of faculty members

Several faculty members or groups of faculty members have indicated that they plan to use CourseInfo extensively in their courses or programs in the coming year. We will be offering extra help to these faculty via staff consulting, Dell FAST-start student workers and grant supported activities (e.g., Markets & Management program).

#### 7. Begin planning for transition of CourseInfo from pilot test to enterprise system

A significant number of faculty and students from five schools began using CourseInfo during this first year, and we expect the number of faculty and student users to increase in the 2000-02 school year. As increasing numbers of individuals come to depend on CourseInfo for their academic work, we must plan a more comprehensive and reliable support strategy. For example, we need to have both systems support and user support available on evenings and weekends, when many faculty and students are accessing CourseInfo for course work. We also need to investigate ways we could reduce some of the user frustrations that stem from lack of integration with other university systems. Blackboard now offers additional versions of CourseInfo with different options for sharing materials across multiple courses and linking CourseInfo into other university systems. We will study these new product offerings and also talk with other departments on campus to find ways to make CourseInfo highly reliable and easy to use.

### **Background Information on CourseInfo at Duke University**

#### **CourseInfo Usage Statistics Fall 1999 – Spring 2000**

##### **CIT server**

**(courses for Divinity, Medicine, Law, Engineering, Environment, Library)**

| Semester   | Fall 1999   | Spring 2000   |
|--|---|---|
| Number of active courses   | 29  | 55  |
| Number of courses in development   | 17  | 5   |
| Total number of courses (active, in development, training experimental, etc) | 141   | 168   |
| Number of users  | 1012  | 1826 (716 active)   |
| Number of hits to the site   | 153,010 (12/1/1999)                                     | 411,232 (5/2/2000)  |
| Course documents disk usage  | 88 MB   | 428 MB  |
| Course database disk usage   | 34 MB   | 28 MB   |
| Site total (course documents, course database, backups, programs, etc.)      | 458MB   | 1.3 GB  |
| Server Hardware:   | Sun Ultra 60, 1 360MHz CPU, 128 MB RAM, 18GB hard drive | Sun Ultra 60, 1 360 MHz CPU, 1.1 GB RAM, 18 GB hard drive |

#### Arts and Sciences CourseInfo Server Statistics

| Semester   | Fall 1999   | Spring 2000   |
|--|---|---|
| Number of active courses   | 105   | 143   |
| Number of courses in development   | 16  | 1   |
| Total number of courses (active, in development, training experimental, etc) | 146   | 283   |
| Number of users  | 3359  | 5343  |
| Number of hits to the site   | ~950,000  | 1,733,436 (4/6/2000)  |
| Course documents disk usage  | 575 MB  | 1011 MB   |
| Course database disk usage   | 80 MB   | 183 MB  |
| Site total (course documents, course database, backups, programs, etc.)      | 880 MB  | 1717 MB   |
| Server Hardware:   | Inter Dual Processor<br>450 MHz, 1 GB RAM, mirrored 9 GB hard drive | Inter Dual Processor<br>450 MHz, 1 GB RAM, mirrored 9 GB hard drive |

### Links to Further Information

#### Report on initial implementation of CourseInfo, fall 1999

<http://www.lib.duke.edu/cit/about/reports-itac-12-2-99.pdf>

#### Blackboard, Inc. Corporate Website

<http://blackboard.com/>

#### CourseInfo at Duke Homepage

<http://courseinfo.duke.edu/>

#### CourseInfo Arts & Sciences Homepage

<http://www.aas.duke.edu/cinfo/>

#### Faculty Survey Results Fall 1999

<http://cit.duke.edu/about/reports-courseinfo-survey-1999.html>

#### Faculty Survey Results Spring 2000

<http://cit.duke.edu/about/reports-courseinfo-7-7-00--faculty-survey-responses.html>

#### Student Survey Results Spring 2000

<http://cit.duke.edu/about/reports-courseinfo-7-7-00--student-survey-responses.html>

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