A Cornell (LII) Playbook

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Marketing, Conducting, and Administering
an Inter-School, Internet-Based Course

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Step 1:

Craft a multi-year business plan, with adequate institutional commitment.

See:

LII Distance Learning Options Playbook (available upon request)

Comments:

For both the faculty members involved and the offering institution successful distance education entails major investment – under such headings as course design and construction, staff, technical infrastructure. That investment can only be justified in terms of expected returns (financial and other) over a several year period. That calls for a serious business plan.
Step 2:

Build the course (Web site, schedule & syllabus, presentations, interactive exercises, etc.).

See:

LII Course-Building Playbook (available upon request)
For background: Attachment A (LII’s 2001 report to ABA)
For an illustrative example go to:  
http://www.law.cornell.edu/socsec/course/

Comments:

The componentry, pedagogical design, and course construction process are subjects for another day, but having the course at a level of completeness that will allow schools contemplating participation and students considering registration to review it thoroughly is crucial for reasonable take-up.
Step 3:

Market the course to potential participating schools in time for inclusion in the following year’s curriculum.

See:

Attachment B (Memo sent to selected deans in early April 2003)

Comments:

Numerous factors, more and less obvious, determine the likelihood of one school agreeing to accept a course offered by another. A short list includes: 1) the subject matter of the course and whether it fills a curricular need on the one hand or competes with an offering of a member of the school’s regular faculty on the other; 2) the quality of the course and reputation of the teacher; 3) the relative status of the two institutions; 4) the financial and other terms on which the course is offered; and 5) the school’s openness to and interest in distance learning (which may, in turn, be a function of student body demand).
Step 4:
Review software licenses, administrative support, and teaching team in the light of expected enrollment.

Comments:
Even though final enrollment cannot be known until the end of the last drop period, software licensing, decisions about sectioning, and use of TAs must be made much earlier. The LII uses streaming media server software that must be re-licensed annually. It and the Web Crossing conference software we run for online discussion have licensing fees that scale according to volume.
Step 5:

Send out information to all participating schools for them to include in their course listings for students.

See:

http://www.law.cornell.edu/socsec/course/

Comments:

The course description is a subset of the course home page, coupled with a strong invitation to interested students to explore the site including a full multi-media course introduction.
Step 6:
Set up course database structure for all participating schools and send out instructions on its use to the registrar or other administrative contact at each participating school.

See:
Attachment C (Email to course contacts, representative registrar’s page, and individual law school message to its registered students)

Comments:
Experience has led us to this double registration approach. Principal among its several advantages is that the scheme gets the several participating schools, as swiftly as possible, out of the business of relaying contact information, messages, and drop/add lists. Registrars may function splendidly within the familiar, but give them additional and unfamiliar tasks for an online course that originates elsewhere and the results are often not pretty.
Step 7:

Monitor the course signups by individual students, acknowledging their presence, and providing initial instructions on how to proceed.

See:

Attachment D (Email to students who logged on in mid-December)

Comments:

The first students to sign in for this semester’s course did so on December 15 (Rutgers-Camden). The last to do so was a Cornell student who waited until the last day of Cornell’s add period, Feb. 3. Because of this incredible range the content of the welcome message must be adjusted as time progresses. The LII courses are structured so that early starters can engage the material productively without achieving such a head start that late joiners are placed at an impossible disadvantage.
Step 8:

Launch the course, officially, when most, though not necessarily all, of the schools have begun classes for the term.

See:

http://www.law.cornell.edu/socsec/course/syllabus.htm

Comments:

Fitting an inter-school course against the various start dates, semester breaks, end points, and exam periods of the participating schools is a challenge. With any substantial synchronous component the challenge pretty much forces the course into multiple terms (our approach during 1996-1999) and, of course, adds the excitement of clashing classroom schedules and multiple time zones.
Step 9:

Conduct the course during the first month with a degree of attention to individual students that convinces them that although the course is online they are not invisible and that although they need not be in class at a particular hour they must progress through its materials, presentations, exercises, and discussions in parallel with their classmates and that they must meet its key deadlines.

See:

Attachment E (The first of the weekly submission forms and the first of four mandatory mastery exercises)

Comments:

Expectations of weekly submissions and significant participation in the online discussion, plus the requirement of four written exercises during the term provide a level of monitoring and feedback available in few classroom courses of this size. These features are encouraged if not required by ABA Standard 306(c)(2), which calls for: “ample monitoring of student effort and accomplishment as the course progresses.” Without such measures student effort and engagement in distance courses can easily fall to lower levels than in conventional upper class offerings.
Step 10:
Invoice all participating schools for the number of their students enrolled in the course following the last drop date and the deadline for the first of the mandatory mastery exercises.

Comments:
Since the faculty effort in such a course is truly a function of the number of students and since that number has stabilized following completion of the first mastery exercise (which tends to flush out or induce a drop or two) the LII bills at this point.
Step 11:

Complete the course with ample individual feedback, full information about how grades will be determined, and when and how, at each school, the final exam will be administered.

See (again):

http://www.law.cornell.edu/socsec/course/syllabus.htm

Comments:

With all the other points of novelty and uncertainty in a distance course any confusion about what is graded and how or ambiguity about the ground rules and schedule for the exam can produce serious upset. Since the LII model places responsibility for scheduling and administering the exam on each participating school, there must be ongoing communication about these matters with each school until all details are set and understood by the affected students.
Step 12:

Distribute the final exam to the registrars of all participating schools.

Comments:

Sending this out in timely fashion requires knowing the exam administration cycle of the participating schools, along with associated key dates.
Step 13:

Conduct an online course evaluation survey of the students in the course.

See:

Attachment F (last year’s questionnaire)

Comments:

While each of the participating schools may have its own course evaluation instrument none of them will focus on the distinct issues raised by an online course. In addition compiling responses across institutions requires a course-specific questionnaire.
Step 14:
Grade the exam in adherence to the timetable and grading norms of each participating school, factoring in student performance on the mastery exercises and other forms of class participation.

Comments:
We concluded early that grading had to be done, school by school. Schools have different grading scales, as well as different grading norms, and students are extremely reluctant to join in a course where they see themselves as competing for grades with others from another (possibly more selective) institution.
Step 15:
Submit report on the course, as required by Interpretation 306-1, to the ABA.

See:
Attachment G (last year’s report)

Comments:
Interpretation 306-1 of ABA Standard 306 calls for an annual report from all schools offering a distance learning course. The LII’s practice is to submit a single report on behalf of all participating ABA accredited schools, furnishing each with a copy and inviting them to submit a supplemental report if they desire.
Step 16:
Start over again.

Comment:
Obviously, with a spring term course the next year's cycle must be begun months before the prior version of the course is over.
Memorandum

To: John A. Sebert, ABA Consultant on Legal Education
From: Peter W. Martin, Legal Information Institute, Cornell Law School
Date: 10/23/2001
Subject: A Report on the LII's Two Multi-Law School Courses Conducted via the Internet in 2000-2001

I. Background

In 1996 we (Cornell's Legal Information Institute or LII) invited a number of law schools to join us in an Internet-based course. Three accepted: the University of Colorado, Chicago-Kent College of Law, and the University of Kansas. For three successive years students at those institutions and Cornell studied "Copyright and Digital Works" with me and each other. The course made use of "off the shelf" Internet software (Web pages, Web-based conferencing, desktop video conferencing, and e-mail) and succeeded in adapting the law school interactive paradigm to this quite different educational environment.

Begun before the ABA's 1997 "Temporary Distance Education Guidelines" the course, nonetheless, fit within them being: a) "disseminated from one law school and received at another law school" (see section 1 of the guidelines), b) highly interactive (see section 4) and c) based on commercial grade technology (see section 5). In diverse settings including two CALI conferences (1998 and 1999), three AALS annual meetings, an ABA-sponsored distance education conference (Nov. 1999) and meetings of the section’s Technology Committee the LII reported on this three-year experiment as it proceeded.

In the spring of 1999, we concluded that, rather than continuing to evolve the initial model further, we should take what we had learned about available technology and appropriate pedagogy, pause a year, and create a fresh pair of distance learning courses. In doing so, we hoped to break free from the weekly “real time” video conference...
sessions that were central to the original model. We carried through with that plan and did, in fact, offer two totally asynchronous distance learning courses last year (2000-2001). This report summarizes what we did and how and concludes with several tentative conclusions emerging from this most recent phase of the LII’s ongoing exploration of distance learning in law.

II. The Courses

The LII’s first on-line course focused on an area of advanced copyright law. The 2000-2001 offerings were: 1) Introduction to Copyright and 2) Social Security Law. The former is a high demand area that many schools are forced to lump together with other topics of intellectual property in a survey course. The freestanding course we offered gave students with strong interest in the field an opportunity to go deeper, while allowing the participating schools to reconfigure their intellectual property offerings. Social Security is, by contrast, a subject that receives negligible curricular attention in U.S. law schools despite great importance and legal complexity. It is one of a host of important legal topics around which a critical mass of student interest and faculty expertise often cannot be found within a single institution. Courses covering such topics are, in our judgment, prime candidates for a distance learning structure that enables schools to pool teaching resources and students.

Both Copyright and Social Security Law are upper-class electives. Although normally they carry no prerequisites, their position in the curriculum assures that students enter with a solid understanding of the types of legal materials that frame the respective areas (statutes, regulations, appellate decisions), with skills of study and analysis developed during least one full year of law school study, and with a command of legal concepts and vocabulary that can be deployed to gain understanding of these new fields. As taught in most schools neither course focuses significantly on the development of professional skills or involves experiential learning in the way a clinical course does or an evidence, procedure, trial practice or negotiation course may. Instead they are organized around their respective legal domains. Whether taught in a classroom or on-line, they characteristically aim to build a solid understanding of the salient features of the respective fields, plus a sense of how to approach key issues from several important lawyer perspectives such as those of advocate, counselor, advisor, arrangement-maker, policy analyst or critic. Since neither area is static, topics of proposed or imminent change regularly prompt analysis of contending policies and political forces.

In short, this second round of distance learning experimentation continued the LII’s original, quite conservative concentration on on-line instruction as a means of providing greater content depth or breadth in the upper class curriculum through the sharing of teaching resources and students. It neither ventured into the first year learning experience nor into a broader range of upper-class course types. The principal difference between these courses and their predecessor consisted of the substitution of
fully asynchronous components for “real time” exchange. This change freed instruction from the scheduling constraints inherent in assembling students at the same moment across multiple time zones and academic schedules. Less obviously, it allowed larger enrollments without loss of interactivity or accountability. This, in turn, made investment in reusable multi-media content economically feasible.

**III. What Other Law Schools Participated and Why?**

A total of seven law schools accepted the LII’s invitation to join in last year’s experiment – Arizona State, Chicago-Kent, Kansas, Rutgers-Camden, Rutgers-Newark, Seattle, and Vermont – with four signing up for each course (Chicago-Kent participated in both).

Were distance education arrangements like this standard practice, with most law schools participating as providers and receivers, the basis for a school's decision to participate or not as to either of these particular courses would have been straightforward. Assuming adequate assurance about the quality of the materials and instruction, the issue would reduce to considerations of curricular fit, faculty deployment, and budget – e.g., does the course add an important subject the regular faculty cannot cover (Social Security) or provide desirable flexibility and increased options in an area of strong student demand (Copyright) at an acceptable cost?

Because interest in distance education is high and experience rare, there was a further reason for schools to join in. The experiment offered an opportunity to observe carefully designed and executed distance education at first hand. Few, if any, other law schools have experience in Internet-based legal education comparable to the LII’s. Participating schools were invited to designate one of their own faculty members as an "auditor/observer." Every effort was taken to open up the process of course construction and delivery. Schools were encouraged to use interviews, questionnaires, and other means to evaluate student response and educational effectiveness. In short, participation provided a means of experimenting with distance education for schools that had not yet done so and of exploring an alternative model for schools that had.

In order to share the results and compare our experience with that of others, the Legal Information Institute ran a workshop on distance learning course design during the summer of 2001. The weeklong conference drew faculty members and technical staff from a broad diversity of institutions. Schools that had participated in either one of the 2000-2001 LII on-line courses were assured of inclusion and contributed importantly to the proceedings (available on-line at: http://www.law.cornell.edu/background/distance/workshop/).
IV. What Participation Entailed

As with the LII’s earlier distance learning venture, all participating schools retained responsibility for course registration, exam administration, and related logistical matters. Students registered not with Cornell but with their home institution. Grades and credits were local. Participating schools were also responsible for front-line technical support for their own students (with LII back-up), for assuring that their students had adequate computer resources and Internet connection, and for providing a meeting room suitable for local discussions among enrolled students.

In order to take the course students had to have regular access to multi-media capable computers with sound and Internet connections capable of delivering streaming audio reliably – either in the law school or elsewhere. As previously noted, participating schools were encouraged to designate a local faculty member to be included in all course communications. In short, as was true of our earlier distance education arrangements, these courses were, to use the language of the ABA temporary guidelines, in all critical respects "disseminated from one law school and received at another."

The Legal Information Institute’s responsibilities included: preparation and distribution of course materials (free in digital format to the students), instruction, performance monitoring (the on-line analog of attendance), student evaluation and grading. Participating schools paid a fee of $500 per student per course.

V. Pedagogical (and Technological) Approach

The basic components of this latest LII distance learning model included:

- digital readings (with a print-on-demand option)
- scheduled progression through a sequence of topics paced by Web-based discussion and mandatory interactive exercises
- hypermedia presentation (streaming audio linked to assigned texts and supplementary materials) *
- computer-based tutorials and exercises (similar to those CALI has long distributed) tightly integrated with the readings and presentation material

* The presentation component used audio rather than video because of our conviction, confirmed by experience, that the substantially greater cost of making and revising video materials is not warranted so long as the principal content would be a "talking head." For more on this point, see IX.D. infra.
• asynchronous but paced teacher-student, student-student written discussion

• short writing and problem-solving assignments submitted via the Net for teacher evaluation and feedback

• an end-of-term exam for final evaluation of student performance

VI. Schedule and Exams

Because the LII’s earlier distance learning course included a weekly video conference it could not be fit completely within a single academic term. Inconsistent start times and vacation patterns among schools required distribution of those real-time class meetings across two semesters. The current model, being more flexibly constructed, did not require all students to be “in session” at the same time. This permitted each course to be conducted within a single term. Copyright was offered in the fall; Social Security, in the spring. The precise beginning and ending dates were set to correspond to the schedules of the participating schools. Final exams were taken during each participating school's regular examination period. In order to allow full use of the digital materials with which the courses had been conducted at this critical point, the exams were administered on a "take-home" basis in schools that did not otherwise permit students to use computers to write their exams.

VII. Scale

Our previous model of distance learning worked only with relatively small numbers – e.g., eight students per school and 32 total. One important question we sought to answer with the new approach was whether it could effectively accommodate larger enrollments, comparable to those common in specialized law school courses taught conventionally, without sacrificing interactivity or other qualities important to effective learning.

Working closely with the participating schools we achieved enrollment figures that provided that scale. Ninety-five students took the fall term Copyright course; sixty completed Social Security Law.

VIII. Placing the LII's Approach to Distance Learning in Context

The form of distance education most widely practiced by law schools to date represents the simple extension of conventional classroom practice through high-end videoconferencing technology. Classrooms at more than one location are linked to permit a teacher at one of those locations to lecture or conduct more elaborate presentation to students who are assembled at the same time in other locations. With
additional investment in technology infrastructure those remote students can participate in discussion with the teacher and each other. The principal advantage of this mode of distance education is that it requires very little adjustment of working patterns or expectations on the part of either teacher or student. It can be used to create highly diverse collections of students (students gathered in classrooms in different countries, for example) and can link faculty members with students they might otherwise be unable to teach.

Major drawbacks to this form of distance education include high-cost at both the sending and receiving end and its requirement that faculty and students assemble in "real-time." The latter can become increasingly problematic as sites are linked across time zones.

The LII's current distance education courses rely on less costly technologies and embody patterns of instruction that make substantial use of asynchronous exchange and pre-programmed instructional materials. The choice reflects a conviction that, long term, this direction holds the greatest potential gains from networked digital education. Last year’s experience only strengthens this belief.

**IX. Some Preliminary Conclusions**

**A. The fundamental architecture and methodology are sound**

For law courses of this type, i.e. content-defined and focused on a statutory domain, and with students already well grounded in the study of law, the model appears effective. The LII’s 2000-2001 offerings generated educational outcomes that compare favorably to those realized in similar courses taught in a conventional, classroom-anchored mode.

Some might argue that in light of the widely observed tailing off of attendance and engagement among upper-class law students that constitutes too low a benchmark. Unquestionably, our ambition is to achieve substantially better outcomes (at no greater cost) through on-line methodologies, and our tentative conclusions, set out below, encourage us to believe that we are headed down that path. But in any discussion about regulatory and administrative structures that privilege classroom instruction (as the current ones do), the effectiveness of conventional teaching methods inevitably and appropriately becomes the initial basis for evaluation.

**B. Student mastery and engagement**

1. **Gauged by the teacher**

The students enrolled in these two courses represented a greater range of language and analytic skills, work and life experience, and facility in doing “law student work” than a teacher is likely to confront in a single law school student body. Since some of the
participating schools had part-time divisions, the mix of students in both courses included significant numbers who brought directly relevant work experience to the exchange. Taking account of that diversity, I judge the quality of student work product I saw through the two terms (the weekly problem submissions, on-line discussion contributions, mandatory mastery exercises, and final exam) to be of very high quality. Measured in terms of: 1) understanding and mastery of course content, 2) sustained engagement, and 3) learning from one another, the course outcomes were, overall, better than I would expect to achieve with the same students meeting thrice a week through the term.

With a classroom-anchored course culminating in a final exam, there are few reliable mechanisms for monitoring individual student progress during the term. Attendance may or may not be effectively tracked. Class preparation may or may not be audited by periodic queries directed at non-volunteers. Even with the most rigorous application of “Socratic” teaching the large upper-class course provides plenty of cover for students who opt for a “wait and then cram for the exam” approach. In contrast, on-line teaching methods enable a teacher to be far more attentive to the progress of individual students. The model of asynchronous instruction represented by the LII’s 2000-2001 courses included weekly progress expectations and four mandatory progress checkpoints (the “mastery exercises”). Placed in a work environment that logged student contributions, it facilitated prompt intervention when any student fell behind. As teacher I experienced an unfamiliar level of confidence that I was detecting student difficulty or simple procrastination in time to make a difference.

With a conventionally taught course, the overall work load is crudely measured by the minutes per week of class time. There are three credit hour courses and four. Inevitably some three-hour courses impose more demands on students than others, but, over time, students themselves police excess in one direction, faculty colleagues and academic administration, extremes in the other. For an asynchronous on-line course, with no shared clock running on any part of the student-teacher interaction, there is, at present, no such convenient metric. Each of the presentation or problem modules comprising these courses did carry an explicitly stated “run time”. But summing up these times yields a useless number, for several reasons. First, most students exercised the control over delivery offered by the on-line environment to pause, reflect, take notes, and repeat. Consequently, completion of any 20-minute module could easily take twice as long. Total time spent reading, reflecting on and responding to messages in the on-line discussion area or composing a problem submission can only be the subject of speculation by course builder and teacher.

So long as such courses remain the exception rather than the norm, however, their contents and work demands can be benchmarked against conventional ones. Both of the LII on-line courses covered exactly the same ground as their classroom-based equivalents at Cornell.
2. As experienced by the students

Students in both courses were encouraged to fill out a final course questionnaire, online, during the week before their final exam. The response rate was 30% in the fall, 38% in the spring.

To begin, the students (who were predominantly in their last year of law study) were asked to compare the on-line course they were completing with "other specialized law school courses with comparable credit." Specifically they were asked about: (1) the total time and effort required, (2) their own success in mastering the material covered, and (3) the quantity and quality of teacher feedback and amount of discussion with teacher and other students. Answers were consistent across the two courses with a strong majority of students reporting that they worked harder, achieved comparable or greater mastery, and experienced more feedback and exchange than in a classroom course of similar content. (Since the Social Security course came second, it benefited from a few lessons learned during the first term and, to the extent there were discernible differences in student evaluation of the courses, it received slightly more favorable ones.)

C. Course architecture – modularity

The challenge of disaggregating the range of activities carried out during standard classroom meetings into presentation modules, interactive exercises, problems for analysis and submission, and on-line teacher-student discussion forces an unusual degree of attention to pedagogical ends and means. Done properly, the resulting asynchronous components allow students to organize their course work for more successful learning. The fixed length class at a standard meeting time imposes significant burdens to which most law faculty members and students are blinded by familiarity. The duration is often too long, sometimes too short. In terms of student readiness and attention, the moment is arbitrary and, therefore, frequently the wrong one.

By contrast, students taking these on-line offerings had enormous flexibility in how they fit the multiple course elements into their weekly schedules. Such control over the exact time and place of their learning was, for the students, the most highly valued feature of the asynchronous course architecture. Not only could students to take up a given module when they were ready and able to focus, they could run it, pause, take notes, and return to puzzling points. In numerous ways they could exercise a degree of control over each step of the process quite impossible in a real-time classroom session.

Course questionnaire results indicate that more students than not took advantage of the capacity to pause and replay the course presentations and also to block and copy the presentation outlines and visited text (e.g., statutory provisions) in the course of note-
taking. As one student explained: "What was great about the [format] was that I was able to go through the [presentation] once but pause many times. I would write what you said and then stop .... Then I would look at the statute or regulations and highlight it and make notes in the margin."

In addition, modularity has a direct bearing on future reuse, course maintenance and other important elements directly related to the economics of this form of education, a topic addressed below.

D. Course architecture - streaming audio linked to web-based content

1. Why not video?

In faculty workshops and other settings where these courses have been described and demonstrated, one question that recurs is why we chose audio rather than video for the “teacher presentation” components. The reasons are numerous.

To begin, there is a stark cost-benefit difference between the two. While the educational gain from using video can be enormous when the medium is being used to show process or action – whether the topic be marine biology, migration trends of the past century, volcanic eruption or cross-examination at trial – the educational gain from adding a head and gesture to the teacher’s voice is minimal. No doubt some psychological value flows from students being able to visualize their professor, but that can be realized through a short video introduction.

On the cost side, the gap is enormous. Video imposes several different types of added cost. Most obvious is the greater expense of initial production. Students bring expectations of broadcast quality to video material. Creating video content to that standard is more expensive than first-rate audio by several orders of magnitude. Furthermore, whatever assumptions one makes about the ongoing rate of course revision in successive years, even at levels as low as 10-20% per year video, being far more complicated is, therefore, more costly to maintain.

Bandwidth is a totally separate matter. The streaming audio, multi-media technology used in the LII courses operates quite reasonably over a dial-up Internet connection. Streaming video does not. Its use requires students to have more capable and more expensive network connections, and it also obliges the offering institution to have greater serving capacity.

2. Some distinct advantages of streaming audio linked to Web-based content

Most law teachers create in relative solitude. They write, they prepare and deliver their courses by themselves. Use of teaching assistants is rare. Effective though they may be
in live lecture and discussion formats, few are comfortable and as skillful before a camera.

For these and other reasons, a mode of multi-media course production that begins with a microphone attached to the law professor’s office computer is accessible to many more teachers than one requiring use of a studio and video crew. With current authoring tools, high quality audio can be prepared, edited, and revised by a faculty member, alone, in his or her office. Software tools designed to allow presenters of all kinds to prepare audio files to accompany their PowerPoint slides can be readily adapted to the creation of presentations that refer to a wider range of Web-based material. With a set of course materials on-line, the teacher can speak about a statutory section or passage in an assigned case and have the very text automatically loaded in the student’s browser as it is being discussed. The student can, in turn, pause the audio in order to reflect on the text, copy portions into his or her notes, or follow hypertext links that connect to related material, as for example, another statutory section defining key terms or qualifying its apparent meaning.

Within a modular architecture, such content can be assembled in different combinations and configurations. It can, in successive years, be altered by adding, subtracting, or substituting new audio and textual material, without the need to rebuild from the beginning.

**E. Course architecture – interactivity**

1. **The mastery exercises**

The interactive features included one that drew near unanimous praise, the set of four "mastery exercises". These mandatory problems, placed at the end of two to three weeks worth of material, called for students to submit a few paragraphs of analysis, via a Web form. Each problem was posted a week before its deadline. Forty-eight hours after the deadline the class received a generic (i.e. non-individualized) feedback memo. It set out my view of the issues and responded to common errors or confusions revealed in student submissions. A typical student reaction to this course component read: "I thought the mastery exercises were useful and the feedback was very helpful too." Another student, perhaps more candid, wrote: "The mastery exercises were a necessary evil. I am thankful they were included insomuch as it is too easy to fall behind. Those exercises forced me to keep up with the material and review it again and again until I found the appropriate answers." Yet another exclaimed: "Finally a law school class where a question is not answered with another question."
2. Interactive self-assessment exercises

Also popular were the interactive exercises that allowed students to gauge their level of comprehension following the presentations and readings on a topic. This is one dimension in which several expressed a desire for more: "The pop up windows for the illustrative questions were great. I wished they popped up for each question."

3. On-line discussion preceded by problem submissions

The on-line class discussions had both fans and detractors with the obvious base for comparison being discussions in a conventional class of similar size. Objectively several things seem clear to me. Including the forms which asked every student to submit a question or take a tentative position on a hypothetical problem before the related on-line discussion began many more students were involved in the exchange throughout the course, topic by topic, than I have ever been able to bring into "real time" classroom discussion. The evident degree of reflection and level of discourse were high and I observed more frequent introduction of personal experience and references to material outside the assigned readings, including current events. However, just as some students found this a less inhibiting venue for "discussion" than a classroom, others exhibited at least comparable reluctance to "speak," perhaps in part because the class included others they did not know, from different law school communities. Some reluctant posters said they liked the discussion environment, nonetheless: "I like the discussion area. I like to read all the messages even though I didn't put anything there. :-("

F. Sources of student dissatisfaction

Most of the students were pleased with their on-line instruction. A number pronounced it their best law school learning experience. What were the complaints? Anyone who has taught an upper class law school course can imagine many of them. To some my voice was soothing, to a few it was monotonous. The expectation of involvement struck a handful as "unrealistic." Said one: "I have never been in any class where EVERY person has something to say on EVERY topic!"

Based on a review of the full range of student feedback, I have concluded that most individual student frustration and dissatisfaction can be traced to one of three sources: 1) technical problems, 2) specific expectations of what an on-line course would or should be that were not fulfilled by this one, and 3) the challenge of dealing with digitally-delivered course readings.
1. Technical problems

Most students reported few or no technical problems. Those with the worst experience fell in one of two categories. They were either at a law school plagued with frequent network difficulties (true of at least one of the participating schools) or they were relying on an Internet service provider (ISP) with inadequate capacity, most frequently AOL. Learning from the fall term course, we emphasized at the outset of the second one that students should, as a test, run the introductory unit of the course under the conditions (computer, ISP, time of day) most likely to prevail later while they would be taking the course.

2. Expectations

Upper class law students know what to expect in a classroom-based course. Currently at least, those taking an on-line course have far less certain ground for anticipating how the course will be conducted or how they will, as individuals, respond. To deal with this source of potential difficulty, we placed materials at the beginning of each course that explained and also modeled how the course would function. This is a second area in which our second course benefited from experience with the first.

3. Digitally-delivered readings

On-line courses can be taught from standard commercially published casebooks. Concord does so routinely. A separable feature of the LII’s approach to date has been the use of original course materials that, being free of the license constraints, can be delivered on-line along with the rest of the course. This approach permits tight integration between the readings and the on-line instructional materials. With a full set of course materials on the Web, our presentations can and regularly do link to portions of the assigned readings. The same is possible with comments posted in the on-line discussion area.

On-line delivery need not mean reading from the screen. For both courses the readings were offered in parallel versions: a browsable format and also downloadable word-processing files ready for printing. The range of choices and the consequences of some of them (i.e. the bulk and, at some schools, the cost of printing out the full course materials) surprised a number of students. The complaints on this score were significantly reduced in the spring, probably also a consequence of greater clarity in the course introduction about what to expect coupled with specific advice about how to manage the readings.
G. Teacher time and effort (and institutional costs)

Institutions and teachers need to conceive of the preparation of on-line courses as being much more like writing a book than like teaching a class. The time, level of commitment, and need for attention to detail required to create the first version of a multi-media on-line course can be justified only if viewed in book-like or long-term investment terms.

When the course is constructed of modular and reusable elements that investment can pay attractive dividends, but only when the course is offered to successive cohorts of students. As it is offered for the second and third time, requirements of teacher time and effort reduce to those entailed in revising the reusable material and interacting with, monitoring, and assessing the students.

X. Continuing the experiment

Encouraged by last year's experience we are repeating both courses this year. Since they were built around reusable modules, designed with an eye to revision, we have, as we planned, been able to make updating and other changes selectively (without starting over from scratch).

The course architecture also contemplated re-assembly with appropriate additional material for different student populations. To explore this process and its potential, we have adapted last year's Copyright Law course to produce an offering that introduces the principal issues and features of the field to university students in such areas as journalism, art, music, and computer science. This non-JD course is being tested at Cornell during the current term in anticipation of wider distribution.

The Social Security Law course will again be offered to law students during the 2002 spring semester. Participating law schools will include some of last year's group joined by one or more others.

XI. Further Information

Both LII courses, as offered last year, remain at the institute’s Web site. Unlike conventionally taught courses where the only residue following completion rests in notes and memories, they can still, months later, be inspected in full.

While the sites are not open to the public, any member of the Council, its staff or committees are welcome to visit them. The respective URLs are:
The materials are, in differing degrees, password-protected. For anyone seeking an overview, the best place to begin is with Social Security site. It allows access, without password, to the course syllabus, readings, multi-media environment, and introduction. To proceed further with that course or to inspect any of the Copyright site requires a guest password. It is available upon request. Anyone wanting the password for either course or further information about them should feel free to contact me directly, by phone (607-255-4619) or by e-mail (martin@lii.law.cornell.edu).
An Invitation to Participate in an Online Social Security Law Course – Spring Term 2004

Continuing its seven-year program of distance learning experimentation, Cornell's Legal Information Institute (LII) will offer "Social Security Law" again next spring term (2004) through participating law schools. Although the topic holds immense social, economic, and political importance and is the subject of over one-half million administrative law judge and at least 12,000 federal court decisions each year, few law schools cover it – making this an appealing candidate for an inter-school course.

This will be the fourth time we have offered Social Security Law in this format. Our 2003 course includes students from six law schools spread across four time zones in the U.S. and at least one in Europe. The participating institutions, like the nine others who have joined with us in past on-line ventures, viewed this as an economic way to enrich to their upper-class offerings while also becoming familiar with a fully developed model of asynchronous legal instruction. Schools are invited to have a faculty member "observe" the course from beginning to end. Through that means and by monitoring the experience of the school's students, participation offers a convenient way to explore the potential of distance learning.

In addition, if a school wishes we can include a site visit (at that school's expense) for a "get acquainted and deal with any issues" meeting with its students, a workshop for faculty members on the technology and pedagogy involved, or both.

Prior to last summer’s revision of the ABA accreditation standards, reasonable doubt about whether such instruction could be counted toward the required minimum number of “classroom minutes” held some schools back. The new Standard 306 explicitly authorizes up to four credit hours per term beyond the first year for instruction in this form.

More information about the general structure of the course, including the forms and levels of interactivity and student response can be found in the LII's report to the ABA of October, 2001, which informed deliberations over the proposed Standard 306. See http://www.abanet.org/legaled/distanceeducation/distance.html

The scope and content of this spring's Social Security offering is available for inspection at: http://www.law.cornell.edu/socsec/course/
The course site allows open access to the syllabus, readings, multi-media environment, and introduction. To proceed further one must have a password; but we'll gladly furnish guest credentials upon request.

The terms and conditions for participating schools currently in place will remain unchanged. Each school is responsible for such logistical matters as course registration and exam administration vis-à-vis its own students. Students register not with Cornell.
but with their home institution and they receive local grades and credits. The Legal Information Institute's responsibilities include: preparation and distribution of course materials (free in digital format to the students), all instruction, performance monitoring (the on-line analog of attendance), student evaluation and grading. Cornell's charge is $500 per student, with a minimum fee of $2,500 per school. Institutions concerned about the fiscal impact of uncontrolled enrollments are free to set an enrollment cap.

Different law schools have different course approval cycles. We extend this invitation now because we know that at some schools the 2003-2004 course offerings will shortly be settled upon. With others, the list of upper-class electives for the second term won't be firmed up until the fall.

If possible, we would like to know of a school's decision before July 1, but so long as projected enrollment doesn't get out of hand we can add to the group of participating schools into the fall.

We would be delighted to have your school join us.

Peter W. Martin
Jane M.G. Foster Professor of Law &
   Co-Director, Legal Information Institute
Cornell Law School
Message to course administrative contact

Here are the details on how to get your students who are taking my online Social Security course this coming term linked up with it.

Those students need two things.

1) They need to know the address of the course site:  
   http://www.law.cornell.edu/socsec/course/

2) They also need a set of instructions generated by our registrar's system (see below).

To access the registrar's system you or someone else from ___ will need to go to:  
   http://www.law.cornell.edu/distlearn/contacts.php  
and login using the ___ password: "___" [leaving off the quotes]

That system has two functions.

It allows you to generate a page of instructions that should be communicated to the students taking the course. These instructions tell the students how to enter themselves in the course database, obtain a personal password, and designate the email address they'll be using for the course.

All further "how to get started" instructions are at the course site.

(Any faculty or staff member that you want to receive full access to the course should also sign-in following these instructions, but they should also send me an email so that I don't embarrass myself or them by being unaware of their non-student status.)

The registrar's system also furnishes your school a window on the ensuing student sign-ups. It allows ___ to drop students from our database as and if they drop with you.

Any adds can be accomplished simply by giving late-registering students the instructions referred to above.

I'll be sending out a welcome and how to get started email to each student as he or she registers.

peter
**Administrator’s page**

![LII Logo](image)

**Cornell**

Students who have registered with their law school to take a Distance Learning course at LII must also register with us. To do so they must know the correct authentication code. To view a page with the authentication code, suitable for printing and distribution to all students authorized by your school to take a course, select the course below and press the "Student authentication" button.

Social Security 2004

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**Student authentication**

To view the students from Cornell who have registered with us and are, therefore, according to our records enrolled in a course, select the course and click the "View enrollment" button.

Social Security 2004

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**View enrollment**
Student Message from School Registrar

Subject: Social Security Law -- Getting Started

You are registered with a guaranteed seat for the Spring 2004 Social Security Law distance-learning course which originates at Cornell Law School. The next step in the process of taking this online course is to register for it at Cornell as well.

After you register, you will receive a personal password that will give you access to all the features of the online course.

I have printed below the instructions you must follow to register in the Cornell database. Please note that you must complete the Cornell registration no later than Wednesday, January 12, 2004. After that date, you will lose the opportunity to participate in this course. If you decide that do not wish to take the course, you must advise me directly, because you will not be able to drop the course on your own either at ___ or at Cornell. Finally, most of your questions about the course should be answered directly by the online instructions, but you should also know that Professor ____ has agreed to be the local liaison for this course offering.

Enrollment in Social Security 2004

Students from ___ Law School who have registered for the on-line course Social Security 2004 must also register for that course with Cornell's Legal Information Institute (LII). To do so go to the following web page:

http://www.law.cornell.edu/distlearn/students.php

and there sign in using the following authentication code:

___

Registration with the LII entails filling out a form, receiving a username and selecting a password. You will need both the username and password to participate in the course.

The syllabus and principal readings are also posted on the course website found at this link

http://www.law.cornell.edu/socsec/course/
Welcome email to registering students (Dec. 2003)

Welcome to Social Security Law. You are registered in the course database and have acquired a login name and password giving you full access to the course site as its several elements are opened for use.

The law schools participating in this course* begin the coming term at several different dates in January. Striking a compromise among them, our formal start date for Topic 1 will be Monday, January 12. (See, if you haven't already, the Course Syllabus and Schedule.) I'll be opening up the Course of Instruction for Topic 1 on that date.

In the meantime, what might you be doing (after recovering from the fall term and enjoying New Year celebrations)? First, if you haven't completed the "getting started" steps on the course home page:

http://www.law.cornell.edu/socsec/course/
you should do so.

Next you should proceed through the streaming audio presentations that provide the "course introduction" (accessible from the Course Syllabus and Schedule).

The block of course reference materials that we'll be working with all term is ready for downloading from the course "readings" page. Possible ways of working with them are discussed in the introduction.

Finally, having secured a login name and password by registering in the course database you can access the course "discussion area". Several days before our formal opening I'll begin a "getting acquainted" discussion there -- giving you a "heads-up" email as I do so.

I look forward to working with you this coming term.

peter w. martin

*Participating schools this term include:
Concord School of Law
Cornell Law School
School of Law, Rutgers (Camden)
Center for Law & Justice, Rutgers (Newark)
Shepard Broad Law Center, Nova Southeastern
William Mitchell College of Law
Social Security 2004 - Questions to discuss now or explore later

Please submit before Jan. 15

I am asking for two different, though related, types of response at this early stage. First, I'd like your help in identifying the points we ought to explore in the course conference area this week. In addition, I want to know what issues lying within this field hold greatest interest and importance for you so that as we progress through the syllabus they are not neglected.

Your school: Concord

I. Matters touched on in this unit that puzzle you

There are likely to be important points on which you remain puzzled or at least unsure about how the basic benefit structure of OASDI operates - points that you would like to have pinned down now, in our initial discussion. If so, please enter them here.

II. Other matters you are eager to have covered during the term

As you reflect on this overview material and look down the syllabus there may well be some particular questions or issues you hope very much that we will cover but are not sure whether or where they fit in our sequence of topics. If so, please outline them here.
Peter W. Martin

Click when ready to submit
Gloria Arcate is 50. (She'll be 51 in April.) This past December she underwent surgery for a serious medical condition. The outcome was positive but should the condition return, a distinct possibility, it could be mortal or seriously disabling.

This medical episode led Gloria to take stock. Ever since her only child, a daughter name Hannah, entered high school Gloria has worked full-time at a modest income. For 2003, her earnings were approximately $30,000. It had gradually risen to that figure from $20,000, her salary when she returned to work in 1990. Gloria also worked before her marriage (from 1974 through 1977 with annual figures in the $15,000 - $17,000 range), but the earnings record report she recently received from the Social Security Administration shows a string of 12 years with entries of zero or only a thousand or two - - Hannah's growing up years.

The year after Hannah graduated from high school Gloria and her husband, Florio Arcate, Hannah's father, separated. They have lived apart ever since but never divorced. Three years ago Gloria met Vladimir Wall. They now live together.

Among the major steps Gloria now contemplates taking are these:

- Taking early retirement and spending more time with Hannah's kids, her grandchildren, who live in the same town and traveling with Vladimir in the summer
- Divorcing Florio and marrying Vladimir
Curious about the Social Security implications of both courses of action, Gloria poses two clusters of questions to you:

1) Would ceasing earnings now have a significant negative impact on future Social Security benefits -- to Gloria if she makes it to 62, to a survivor if she doesn't? Is there any possibility that early retirement might jeopardize Social Security benefits on her account altogether?

2) If there is going to be a Social Security survivors benefit of any value on her account Gloria wants it to go to Vladimir rather than Florio? As things currently stand would her death bring Florio a survivors benefit? If she were to divorce Florio and marry Vladimir would that yield additional Social Security for him? Would that course of action jeopardize any potential benefits of value to her based on Florio's account?

Gloria's most recent Social Security Statement reports that she has earned enough credits to qualify for retirement benefits and similarly that if she were to die this year she has enough credits for qualifying family members, including a spouse, to receive survivors benefits. Concerning retirement benefits it estimates that if she continues at her current earnings level her benefit at full retirement age (66 in her case) will be about $1,150. The figure it provides for a spouse survivors benefit at full retirement age is $1,047, assuming her death this year.

Florio is a physician whose earnings have, Gloria surmises, been at or close to the maximum covered amount since shortly after completing his residency. He is only three years older than she is. Vladimir is 60. He works as a high school teacher and coach. His statement from the Social Security Administration shows a projected monthly retirement benefit of $1,630 at his "full retirement age" of 66.

As best you can, working with this limited information and without a crystal ball, respond to Gloria's questions. Provide as helpful guidance as you can, in non-technical terms and no more than two paragraphs per set of questions.
Note: This and the other three mastery exercises will count significantly toward the "class participation" element of your final grade for the course.
Social Security Law 2003  
- Course Questionnaire

Due: At the end of your exam period

Before your experience in this novel course has faded from short term memory I would appreciate your taking a few minutes to respond to the following questions about it.

Consistent with the ground rules for such questionnaires at most institutions I have set this form up so that it does not ask your name or require signing in. That permits you to submit it anonymously. It also means that when you submit the confirming message of receipt may contain the alert "Your SID was not entered with the quiz." So long as it also says "Your answers were received and recorded." everything has worked as it should. The database has your response but not your ID.

The form does ask for your school so that I can look for local patterns and also share the results from each participating institution with its administration.

Finally, be assured the submissions will gather dust in the course database, unexamined by me, until after all course grades have been turned in.

Your institution: Concord

I. Overall Questions

a. Amount of Work

Making appropriate adjustment for the novel nature of its several components and comparing this course to other specialized law school courses with comparable credit, how would you rate the total amount of time and effort required in this course?

b. Level of Mastery

Comparing this course to other specialized law school courses with comparable credit, how would you rate your own success in mastering the material covered during the term?

c. Feedback and Exchange
Comparing this course to others with comparable enrollment (65 plus or minus) taught conventionally, how would you rate the quantity and quality of teacher feedback and the amount of discussion with both teacher and other students?

Average

\[d. \text{Technical Problems}\]

- Did technical problems get in the way? Were they temporary or did they persist?

If you had problems please describe them and their impact on your work in the course in the Comment Box 1 below.

\[e. \text{Getting Used to the Course Environment}\]

- Were there particular features of the course environment or procedures that in retrospect you wish had been more clearly explained at the outset?

If so please note in Comment Box 1 below and any suggestions you have about how to be clearer next time around.

\[f. \text{The Overall Structure and Approach}\]

- Would you take another course offered in a similar on-line format or have you discovered reasons why this approach doesn't work for you?

**Comment Box 1: Responses to I-d, I-e, and I-f**

Place responses to d, e, and f here, as well as any other comments about the overall structure and approach of the course and your response to it -- anything that might help me in improving the course for next year. (Questions focusing specifically on the course content, presentations, on-line discussions, and mastery exercises follow.)

\[II. \text{Course Content and Materials}\]
a. Topics covered in the course

- What topics, if any, covered lightly this year or not at all would you recommend be deepened or added in 2003?
- What topics, if any, would you recommend be trimmed back or eliminated?
- Do you have any advice about the course's general approach to the field or specific suggestions on improving the sequence of topics?

Please respond in Comment Box 2 below.

b. Course materials

- Do you have any suggestions about either the content or format of the assigned readings?

Please respond in Comment Box 2 below.

Comment Box 2: Responses to II-a and II-b

III. The Presentations and Interactive Problems

I am eager to receive any and all comments you have on the presentations and problems, ranging from their tempo (Did I speak too quickly, too slowly, too monotonously?) to the synchronization of the text and spoken content, to the adequacy of the popup window feedback on problems. Before turning to the open-ended comment form, however, on these matters, I'd like you to respond to two discrete questions.

What became your standard approach to the background presentations?

- Ran once without pause

(If you select "other" please explain below.)

Did you block and copy the presentation outlines or visited text into your notes?

- Occasionally

(If you select "other" please explain below.)

Comment Box 3: Comments on presentations and interactive problems
IV. The Course Discussion Area, Mastery Exercises, and Other

I've only got a single space left for you to comment on our use of the on-line discussion area, the mastery exercises (including their number and the feedback), and anything else you would like to share, including comparison with other on-line courses you have taken or advice about the course the prior specific questions have not called for.

Comment Box 4: Comments on use of course discussion area, the mastery exercises, and other course features not already touched upon

Many, many thanks for joining me in this adventure and for your assistance in helping me understand what about it worked and what didn't work.

Peter W. Martin

Click when ready to submit
Memorandum

To: John A. Sebert, ABA Consultant on Legal Education

From: Peter W. Martin, Legal Information Institute, Cornell Law School

Date: 8/22/2003

Subject: Report on the On-line Social Security Law Course Offered by Cornell’s Legal Information Institute, Spring Term 2003.

I. Background

Interpretation 306-1 to the new accreditation standard on distance education, Standard 306, calls for an annual report from schools offering distance courses. This report is submitted on behalf of Cornell Law School and the three other ABA-accredited schools that participated in the 2003 Social Security Law course offered by Professor Peter Martin through Cornell’s Legal Information Institute (or LII). Those other schools are: Rutgers-Camden, Rutgers-Newark, and William Mitchell College of Law.

This was the third year for the course, one of two the LII has created for on-line delivery. The principal components of the LII course design include:

• digital readings (with a print-on-demand option)
• scheduled progression through a sequence of topics paced by Web-based discussion and mandatory written exercises
• hypermedia presentation (streaming audio linked to assigned texts and supplementary materials)
• computer-based tutorials and exercises (similar to those CALI has long distributed) tightly integrated with the readings and presentation material
• asynchronous but paced teacher-student, student-student written discussion
• short writing and problem-solving assignments submitted via the Net for teacher evaluation and feedback
• an end-of-term exam for final evaluation of student performance

The Social Security course was first created by and is annually revised and conducted by Peter W. Martin of the Cornell faculty. This course has now been through two revision cycles, giving the LII unique perspective on the relationship between course architecture and ease of course maintenance. Annual revision is essential to take account of changes in the field – caused by adjustments to the benefit formula, amendments to the act and
regulations, and important new cases – and to make improvements of other kinds to both content and pedagogy. (Another ABA-accredited school has been forced, at least temporarily, to shelve a successful 2001-02 distance course because of subsequent changes in the law and course materials.)

For background on the LII’s approach to distance education and further detail on how the Social Security course is structured and conducted and why, see the LII’s 2001 distance education report, available at the ABA Web site <http://www.abanet.org/legaled/distanceeducation/distance.html>. The 2003 version of the course itself – syllabus and schedule, readings, hypermedia presentations, interactive problems, and mastery exercises – is accessible online at <http://www.law.cornell.edu/socsec/course/>. While a login name and password are required beyond the first topic, a guest login will be furnished any member of the Council, Standards Review Committee or ABA staff requesting it. A full set of responses to the student questionnaire summarized below is also available upon request. (To receive either send email to <martin@lii.law.cornell.edu>.)

The 2003 Social Security course enrolled sixty-five students from five law schools (including one non-ABA-accredited school, Concord) spread across four time zones in the U.S. and at least one in Europe. The participating institutions, like the nine others who have joined with us in past on-line courses, viewed this as an economic way to enrich to their upper-class offerings while also becoming familiar with a fully developed model of asynchronous legal instruction.

The terms and conditions for participating schools remained as described in our 2001 report. Each school was responsible for such logistical matters as course registration and exam administration vis-à-vis its own students. Non-Cornell students registered not with Cornell but with their home institution and received local grades and credits. Their performance was graded in relation to that of other students from the same institution.

The Legal Information Institute's responsibilities included: preparation and distribution of course materials (free in digital format to the students), all instruction, performance monitoring (the on-line analog of attendance), student evaluation and grading. Cornell's charge was $500 per student, with a minimum fee of $2,500 per school. Institutions concerned about the fiscal impact of uncontrolled enrollments were free to set an enrollment cap.

II. Student response to the course

As in years past, the student response was, in general, quite positive. A course questionnaire to which a remarkable 82% of the class responded confirmed that for a substantial majority the model worked as envisioned.

Most of the responding students would take another course offered in this format. That is not, however, because they found this one easy. Seventy-five percent of the respondents rated the time and effort required by the Social Security course as either much more (43%) or slightly more (32%) in comparison with other upper-level law courses covering similar content at their institutions; only 6% rated it “less.” Concerning the quantity and
quality of teacher feedback and discussion with teacher and other students, 81% judged it as comparable to or greater than that in conventionally taught law courses with similar enrollment. Asked to characterize their ultimate success in mastering the course content, 74% reported that they had achieved levels of mastery at least equal to those they achieved in a classroom-taught course.

Did the students from the several institutions respond at all differently? Only to a slight extent. Students from William Mitchell were less likely to characterize the level of effort required as "much more" then students from other schools. While a majority of students from all schools reported average or greater levels of mastery, the balance at Cornell was quite close, with 5 of 11 Cornell students reporting "slightly less" mastery. (Nearly half the Cornell students took the course on a pass/no pass basis.) Rutgers-Camden students were the only group in which a majority did not judge the level of feedback and interaction either “slightly more” or “much more” than in other courses of the same size.

As with any course, some students found the material dry; others were fascinated by it. Presentations that many judged to be "perfect" or "easy to listen to" and "at a good pace" struck others as "monotonous," "too long," or "too brief."

A majority of students found distinct advantages in the course structure, online delivery, and pedagogical design. One student in this group wrote:

> Overall I enjoyed the experience and found it as informative as a traditional law school course. It was superior in many ways as I could go back and listen to the lectures again and all of the primary law was sorted out for me by topic and it was just a click away.

> I would take another online course if one were available.

Another commented:

> I think this approach to learning takes a certain amount of discipline. Overall, it worked for me. I was diligent, however, about listening to the lectures every week. I also love the fact that when it was time to study for the exam, I could go back to any given lecture on a topic I was confused about or had questions about and review the material. This is not an option in the regular classroom situation, and I found it extremely helpful.

Others discovered that they missed the stimulation and discipline of classroom meetings. One student expressed this reaction as follows:

> Unfortunately, while the idea of an online course was very appealing, I don't think it worked for me. I thought the benefit of not having to attend a class would outweigh the prospect of sitting in front of the computer, but in the end I realized that to succeed in the course I needed to have the focus that physically attending a class requires. I thought I could handle the "only on my own schedule" aspect of the online course, but in the end it just didn't work. So, I would have to say that in the future, I would likely spend the time in the classroom.
Having pre-recorded presentations that one can pause and replay is not an unmixed blessing. A student who responded very affirmatively to the online structure of the course, noting that "the time-shifting advantages to an evening student with a full-time job are great," observed that material in this format demands more time from a serious student:

Per unit time, the [recorded] lectures of this course contained at least twice the information as a live class lecture; there are no interruptions by students questions and the professor never has to slow down or repeat a point for emphasis, because the student has the ability to rewind or pause a lecture at any point.... The canned nature of the lectures also allows for more speaking perfection and less repetition than extemporaneous lectures.

Twenty-one percent of the responding students indicated that their regular approach to the online presentations included pausing them for note-taking and reflection; forty percent ran them more than once. Seventy-two percent took advantage of the opportunity provided by the “hypermedia” environment to block and copy presentation outlines and “visited” portions of the Social Security act and regulations into their notes.

Students appreciated the multimedia nature of the presentations. One wrote: "What I like very much about this course is that as you went along in the lecture, it would take you to relevant places on the Internet or bring you back to the outline so it was easier to follow along in the discussion." From another: "I did truly enjoy how you've had the pop-ups and how the text flowed with the lecture. That is a key element that cannot be removed."

Two features of the online course structure continue to draw close to unanimous student endorsement: (1) the interactive problems coming at the end of each topic, which allow students to assess their own level of comprehension immediately after completing the readings and online presentations, and (2) the four mastery exercises spaced at equal intervals through the term.

About the former one student observed: “The interactive problems were great because they would get me thinking about the material I just read. Plus, I like the immediate responses to my answers. Thus I'll know if I missed something in the reading or not.” From another: "The practice problems were my favorite part of the course. They were extremely helpful to see where I was with my level of understanding."

About the mastery exercises one student wrote: "The mastery exercises really hold this course together, since they force one to proceed through the lectures in a timely fashion and focus on practical examples. In this matter, this course outshines traditional courses." Another commented: "The mastery exercises were good tests of all that we'd been studying. I definitely appreciated the encouragement we had to be brief (three paragraphs) and not too technical." A third: "The mastery exercises were an incredible tool and I recommend them for any of your courses. They reproduce the 'feel' of an exam taking process while allowing one to delve into the material. Although, it was frustrating trying to keep up, I must say that I felt challenged and in the process learned accordingly." Not always mentioned in these comments on the mastery exercises but implicit in the favorable response was appreciation of the generic feedback all students
received by email 48 hours after the exercise deadline. One student spoke for numerous others: "The feedback for the mastery exercises were extremely helpful!!!

Students were of mixed views about the value of the online discussion area (to be distinguished from the material they submitted for programmatic or teacher feedback). A significant number of students, whether or not they participated in discussion, considered it "a good medium to explore and expand on the material" and "a lively place to share ideas." But for others the asynchronous nature of the discussion and the fact that a few students were very active and swift to participate led to a feeling of frustration: "Often the most straightforward responses were posted very soon after questions posed, and there was very little left to add." (In the controlled environment of the classroom a teacher can limit “gunners” by not always calling on them.) Some students who responded less favorably to the discussion area referred to the already heavy workload and a preference for upper-level courses that don’t demand regular, active engagement: "I didn't find the course discussion area very helpful. Very few courses have that much class participation and I generally prefer the lectures and teacher's comments over that from other students."

Substantial numbers of students indicated that while having all of the readings for the course online was a great asset, they would have liked to have the option to acquire them printed out and bound at the beginning of the course. Several expressed the same view about the audio presentations, wishing they were available on CD for purchase at the beginning of the course which would among other things, they noted, permit listening to the lectures while commuting. Both would be possible at additional expense plus some sacrifice in the currency of the readings and presentations.

III. Holding the course against Standard 306

Based on the quality of the student work, the regular monitoring of student participation and effort through weekly pre-discussion submission, the online discussion itself, and the four mastery exercises, we are confident the course meets the requirements of Standard 306(c). Cornell’s LII shall offer the course again next year (spring term 2004). We hope to have all this year’s schools participating again, and a few others are likely to join.