

**Association of Jesuit Colleges and Universities
Jesuit Distance Education Network**

**PROPOSED JESUITNET BASELINE PROGRAM (AY 2002-03 and AY 2003-04)
March 2002**

The JesuitNET 2002-05 Funding Plan seeks to create a stable financial base and technical infrastructure to support multi-campus collaborative online curricula development and delivery. The proposed operational funding is \$1 million per year for each of the 2002-03, 2003-04 and 2004-05 academic years. JesuitNET programs will be supported by the combined resources of a core full-time JesuitNET staff, split positions and facilities with Jesuit institutions, a range of outsourced production and delivery services (primarily to Jesuit institutions), and the active instructional and administrative participation of many Jesuit colleges and universities. While funded by JesuitNET, the proposed new programs and courses will be taught by faculty at Jesuit institutions and be credentialized by Jesuit institutions.

While JesuitNET is confident of future funding opportunities, it must prioritize its programs to meet current Federal and AJCU member institutions' requirements with existing financial resources. Table 1 provides the original JesuitNET budget, and the current (as of Feb. 2002) JesuitNET funds (less the 8% AJCU indirect cost obligation).

Table 1. JesuitNET Budget Through Feb. 2002

Funding Source	Original Budget	Available Budget
JesuitNET Allotment	\$842,500	\$380,000
Georgetown Jesuits' Grant	50,000	46,000
LAAP Grant	1,049,558	214,000
Congressional Grant	1,225,000	1,038,000
Total	\$3,167,058	\$1,678,000

This document outlines a proposed JesuitNET program plan--using only current funds--through June 30, 2004 (completion date for the JesuitNET distance education demonstration project.) The following program services are proposed:

- JesuitNET Web Portal
- Online CADE Faculty Training Workshop
- LAAP Course Development and Delivery
- Online 12-credit Certificate/Concentration
- *E-Connections* Delivery Service

1. JesuitNET Web Portal

During spring-summer 2002, the current JesuitNET portal will be rebuilt into a more attractive and proactive marketing and editorial vehicle for AJCU/JesuitNET distance education programs and courses. Staff resources will be retained to perform the following:

- Populate and update on a semester/quarter basis complete course and program data sets for the portal's searchable database
- Write and solicit articles on AJCU distance offerings for *Connections* (monthly) and portal profiles (periodically)
- Work with AJCU Communications Director in seeking media coverage of AJCU distance offerings
- Place advertisements for AJCU distance offerings in distance education guidebooks and portals (e.g., Peterson's, Princeton Review)
- Maintain basic portal content using a common web editor such as FrontPage or Dreamweaver

2. Online CADE Faculty Training Workshop

During spring-summer 2002, the current CNDLS-LAAP online faculty workshop will be rebuilt into an operational Competency Assessment in Distance Education (CADE) training course (and serve as a prototype for the media-rich CADE course design). As described in Table 2, the new online workshop will lead faculty through a detailed instructional analysis and course design process. This process will deliberately utilize the very pedagogic methodologies that the online courses, designed by faculty participants, will employ to ensure student mastery of higher-level thinking and problem-solving competencies.

The CADE workshop will be delivered over a 12-week schedule (to minimize conflicts with start and end of semester faculty involvements) and initially offered free during fall 2002 and 2003 (mid-Sept. to early Dec.) and spring 2003 and 2004 (Feb. to April) to 15 professors each term. An email describing the CADE workshop and participation requirements will be sent this April to AJCU presidents, AVPs and deans, plus the rectors of the AUSJAL schools and selected Jesuit schools in Europe and Asia. The Baseline Program section of Table 4 provides a summary of faculty training, and JesuitNET-funded course production and hosting through AY 2003-04.

During spring-summer 2002, the following CADE promotion materials will be developed:

- 10-min. video (tape and streaming formats) describing CADE competency-based course model
- 8-page CADE viewbook (8.75" x 11.25", four-color, inside back materials pocket)
- 4-panel CADE brochure (4" x 9" folded, four-color, self-mailer)

3. LAAP Course Development and Delivery

During spring-summer 2002, the Cycle 3 LAAP courses (UDM's *Urban Theory* and LUC's *Ethics of Health Care*) will be designed by the four faculty via the CNDLS-LAAP online faculty workshop and produced by resources to be determined. During spring 2002, two LAAP courses (SLU's *Land Use Analysis* and LUC's *Database Systems*) will be hosted by Georgetown and two

Table 2. JesuitNET-CNDLS Online Course Design Workshop

<p>Session 1: Introduction Faculty will gain an understanding of the JesuitNET Competency Assessment in Distance Education (CADE) course development model and the methodologies to be used in course design. Introduction to the following learner-centered course concepts that will be threaded throughout the workshop:</p> <ul style="list-style-type: none">• Backward Design• Types of Content: Domain vs. Strategic Knowledge• Instructional Strategies: Cognitive Task Analysis and Cognitive Apprenticeship• Challenges and Reward of Teaching Online
<p>Session 2: Reflect on Current Course Goals and Practices Faculty will begin the process of Backward Design by identifying and analyzing their current student learning goals and practice. Faculty will also outline and reflect on relevant areas of knowledge for their course.</p> <ul style="list-style-type: none">• Major Question: What constitutes sound online teaching and course design?• Explore course goals, student performance objectives, possible assessments, evaluation schemes, effective media, and resources for media creation.• Activities involved: Faculty will reflect on their own course design practice in relationship to what they would like students to accomplish online.• Prepare worksheet listing course goals/competencies and how those goals will be related to content and media production
<p>Session 3: Outline Content Development Faculty will begin to shape the online course and identify domain and strategic knowledge sessions</p> <ul style="list-style-type: none">• Reflecting on their current course design, faculty will map their course into domain and strategic knowledge sessions. <p>Instructional Strategy Module: <i>Modeling and Coaching</i></p>
<p>Session 4: Strategic Knowledge Session Analysis Faculty will articulate evidence of student application of knowledge and begin to focus on student activities that will generate evidence of student learning.</p> <ul style="list-style-type: none">• Having identified the key domain and strategic knowledge course topics in Session Three, faculty will focus on designing the strategic knowledge sessions.• Within these strategic knowledge sessions, students will apply domain knowledge to solve problems or case studies.• Faculty will analyze these strategic knowledge sessions and the evidence needed from students to demonstrate that they are applying strategic knowledge and mastering the major course competencies. <p>Instructional Strategy Module: <i>Scaffolding and Fading</i></p>
<p>Session 5: Strategic Knowledge Session Development Faculty will create problems or cases that are authentic and promote higher-level thinking. Design strategic knowledge situations around evidence of student learning.</p> <ul style="list-style-type: none">• Faculty will create a representative problem or case study that promotes higher-level decision-making and problem-solving for <i>each</i> strategic knowledge session. These problems and cases will be specifically designed to elicit different behavior from students at different levels of proficiency.• Supplementary resources regarding the benefits of teaching with case studies will complement this session.• Using colleagues, students and others as necessary, faculty will gather think-aloud solutions for the strategic knowledge problems/cases at each of three levels of expertise: novice (students still in the course of study), graduate (recent graduates of the degree program) and expert (faculty and practitioners with several years of experience)• Faculty will identify the performance features that characterize patterns of cognitive behavior and differentiate the novice-graduate-expert mastery levels. These evidence rules will be used to categorize student work in the actual online course. <p>Instructional Strategy Modules: <i>Reflection, Articulation, and Exploration</i></p>
<p>Session 6: Instructional Strategies Faculty will be prepared for teaching online courses.</p> <ul style="list-style-type: none">• Faculty will revisit the seven cognitive apprenticeship instructional strategies represented throughout the workshop, and will reflect on the integration of the materials created up to this point (e.g., templates, strategic knowledge sessions).• Faculty will develop their own instructional strategies for teaching in an online environment.• This session will address the questions: "What is it like to teach online?" and "What does an online session look like?" The session will explore student-teacher and student-student communication online, the facilitation and special challenges of electronic communication, and the possibilities of multimedia for enhancing student learning.

LAAP courses (LUC's *Research Ethics* and Fordham's *Data Warehousing*) will be hosted by home institutions. During the fall 2002 and spring 2003 semesters, all six LAAP courses will be hosted (three or four likely by the home institutions.)

4. Online 12-Credit Certificate/Concentration

During the fall 2002-summer 2003 design/production period, JesuitNET will fund development of a four-course, 12-credit certificate that will comply with the Federally-funded CADE requirements provided in Table 3. With participating Jesuit institutions' sponsorship, the certificate/concentration will be hosted by JesuitNET and offered to fall 2003 and spring 2004 cohorts of matriculated/registered students.

5. E-Connections Delivery Service

Contingent upon access to the faculty and managerial/professional email addresses of the 28 AJCU colleges and universities, JesuitNET will develop and host an online version of *Connections* beginning in Sept. 2002. *E-Connections* will operate as an online subscription-based service and will consist of a summary page similar to that in the online *Chronicle of Higher Education*, with links to full-text HTML versions of all articles, letters, etc. A pdf version of the composed issues may also be made available. Individuals will freely subscribe and unsubscribe to *E-Connections*. JesuitNET will also host a voluntary online survey form and database to maintain more detailed subscriber information. All editorial responsibilities for *E-Connections* will remain with the AJCU Communications Director.

Table 3. CADE Certificate Requirements by Federal Program

CADE Certificate Requirement	LAAP Grant	Congress Grant	Demo Project
<p>Competency-based Course Development Courses must be developed using full CADE model, incorporating appropriate strategic knowledge sessions in each course, Backward Design development process, Cognitive Task Analysis (real and/or virtual) for strategic session assignments, and Cognitive Apprenticeship pedagogical models in instructional presentations.</p>	X	X	X
<p>Evidence Data Collection Student performance (quantified as novice, graduate or expert) on all course strategic knowledge sessions will be recorded and tracked across all certificate courses, providing individual session and cumulative histogram profiles of novice-graduate-expert student competencies.</p>	X		X
<p>Credentialed Credit Program Courses must have appropriate content depth and breadth to be offered for graduate and/or undergraduate credit (in addition to noncredit for faculty training purposes) by one or more Jesuit institutions, preferably as a statutory certificate of no more than 12 credits by one institution (with other schools using course sequence as a major or concentration.) Six credits of coursework must be offered during each fall/spring semester.</p>		X	X
<p>On-Demand Delivery Courses must allow students to "test-out" (demonstrate competency in) of up to 25% of sessions, and to complete each 15-week semester course in a minimum of 10 weeks and a maximum of 20 weeks. Appropriate faculty support must be provided to students who take more or less time (than the standard 15 weeks) to complete course. To facilitate this requirement, certificate may deliver a semester's content as two 7-week 3-credit courses back to back, or as one 15-week 6-credit course.</p>		X	X
<p>Streaming Video Content Courses must include approximately three hours of streaming video content (primarily for cognitive apprenticeship-based instruction) optimized for 384Kbps DSL and cable modem delivery into homes, with reformatted content accessible by 28.8Kbps modems.</p>		X	

Table 4. JesuitNET Baseline and Extended Program Schedules

JesuitNET Program	Summer 2002	Fall 2002	Spring 2003	Summer 2003	Fall 2003	Spring 2004	Summer 2004	Fall 2004	Spring 2005	Summer 2005	TOTALS
Baseline Program (Proposed)											
Faculty taking CADE Workshop	0	15	15	0	15	15					60
JesuitNET-funded Courses in Design	0	3	3	0	0	0					6
JesuitNET-funded Courses in Production	1	0	3	3	0	0					7
JesuitNET-funded Courses Hosted**	0	4*	4*	0	7	7					22***
JesuitNET-funded Course Enrollments**	0	60	60	0	105	105					330

Extended Program (Sample Alternative)

Faculty taking CADE Workshop	0	15	15	0	15	15	0	15	15	0	90
Jesuit-NET-funded Courses in Design	0	3	3	0	3	3	0	3	3	0	18
JesuitNET-funded Courses in Production	1	0	3	3	0	3	3	0	3	3	19
JesuitNET-funded Courses Hosted**	0	4*	4*	0	7	7	0	13	13	0	48***
JesuitNET-funded Course Enrollments **	0	60	60	0	105	105	0	195	195	0	720

* Includes three LAAP courses hosted through spring 2003 semester

** Includes CADE Design Workshop hosted each fall and spring semester

*** Total number of course sections hosted

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Competency Assessment in Distance Education

The Jesuit Distance Education Network (JesuitNET) was created in 1999 as a collaborative effort of 25 U.S. Jesuit colleges and universities to develop, share and deliver a broad range of online academic programs and services for a national and eventually international audience. Grounded in a 450-year scholastic tradition, the Jesuit attributes of higher education--academic rigor, personalized instruction, faculty support, service learning and ethical concerns--are *universal* attributes that provide JesuitNET with a powerful model for high quality distance learning.

To more accurately assess student progress and achievement in online courses, JesuitNET has been developing a competency-based model for distance learning. JesuitNET competency-based online course development is being supported by two 2000 Federal grants--a \$1.05 million Learning Anytime Anywhere Partnerships (LAAP) grant to develop a model for competency-based distance assessment and a \$1.225 million Congressional grant to explore the use of broadband, on-demand and essay-scoring technologies for competency-based distance learning. In June 2001, the U.S. Department of Education selected JesuitNET as a Distance Education Demonstration Program participant to test the quality and viability of JesuitNET's innovative competency-based approach. Together, these three Federal projects constitute the JesuitNET Competency Assessment in Distance Education (CADE) Initiative.

Working in close partnership with Georgetown University's Center for New Designs in Learning and Scholarship (CNDLS), IBM's T.J. Watson Research Center and a number of participating Jesuit universities, the JesuitNET CADE team has developed an innovative instructional design process for developing competency-based courses. The major phases of this design process are described below.

Defining Competencies: Expert Performance

Many academic disciplines are characterized by two broad categories of knowledge--domain and strategic. Domain knowledge represents the conceptual, factual and procedural knowledge inherent in a field. Strategic knowledge represents the *methods* inherent in a field--the higher-level thinking skills, processes and heuristics used by experts to make decisions and solve problems.

By definition, experts have developed particular ways to think and reason effectively. Understanding expertise is important because it provides insights into the nature of thinking and problem solving. Research shows that experts have acquired extensive knowledge that affects what they notice and how they organize, represent, and interpret information in their disciplines. In *How People Learn*, the National Research Council identified several key principles of experts' knowledge that have potential implications for learning and instruction:

1. Experts notice features and meaningful patterns of information that are not noticed by novices.

levels of expertise, and to categorize subsequent student work into the appropriate expertise level.

Delivering Instruction: Cognitive Apprenticeship

JesuitNET competency-based courses will use "cognitive apprenticeship," a learning model whereby the "master" (expert teacher) models authentic ways of doing work in a field for the "apprentice" (novice student) and then gradually, through guided work, fades back as the apprentice takes on more and more of the critical tasks. One key set of ideas in cognitive apprenticeship is that the teacher has to make visible all of the strategic knowledge that often remains invisible in novice learning contexts. The following table illustrates how cognitive apprenticeship might be used in a typical JesuitNET course session.

Course Session Activity	Activity Description
Session Introduction	Instructor delivers (via video, animations or text) background material on the facts, concepts and procedures of the session topic
First Student Exercise	Students are given a new and unfamiliar problem to solve. Each student submits his/her approach to and solution of the problem via the online course discussions.
First Instructor Solution	Instructor (via video, audio or text) thinks aloud and articulates how he/she would approach and solve the problem using expert strategies or methods.
Instructor Guidance	Instructor identifies tips, techniques, rules of thumb that will help students remember how to use a certain expert approach or strategy.
Second Student Exercise	Students are given a more authentic problem to solve individually. Via the online course discussions, students share or pose problems they have encountered or experienced.
Second Instructor Solution	Via online discussions, students present their solutions and instructor provides coaching in moving students to more expert problem-solving approaches.
Team Problem	Students work in teams on a professional-level problem. Via online discussions, teams describe their approach taken and submit their solution. Teams also suggest alternative ways to solve the problem.
Final Instructor Solution	Via video-audio and online discussions, instructor models how to approach problem and identifies alternative methods to problem solution based on the collective student approaches.

JesuitNET Online Course Model

Online courses developed through the JesuitNET CADE Initiative will utilize a broad range of multimedia and interactive technologies to support competency-based learning by "making thinking visible." The figure below shows the various content components of a typical

online course session. To the extent feasible, JesuitNET online courses will be structured to provide differentiated content access to credit students, noncredit students, and alumni and the general public.

Jesuit Distance Education Network Levels of Content Access to JesuitNET Online Courses

Level I: Alumni/Staff/Public **—————**
 Level II: Noncredit Students **.....**
 Level III: Credit Students **///////**

