

**Proposal to the UNC TLTC
for Beta-test of the Cisco Learning / Assessment Engine
3/15/00**

UNC-A and ECU collaboratively submit the following proposal that aligns with TLT efforts that have strategic value and that serve the common interests among the campuses to apply technology for teaching and learning. The proposal will address these areas of interest:

- Modularize learning materials and develop repositories for use by multiple programs
- Provide demonstrations associated with visualization for teaching and learning
- Explore learning assessment tools, best practices, and performance-based approaches associated with distributed learning
- Purchase equipment, tools or services that will be available for use throughout UNC

Overview & Strategic Value

Dr. Chuck Bennett, UNC Asheville, and Dr. Helen Parke, East Carolina University, propose the following idea to be funded at a level of \$66,112. UNC-A, UNC-CH, and ECU would serve at Beta-sites for the Cisco Learning/Assessment Engine. Faculty, graduate students, and IT consultants at UNC-A and ECU would receive summer stipends during May and June 2000 to produce sample modules to be shared across the UNC system. These institutions would designate teams to prepare sample RLOs that would test the usability of the Learning/Assessment Engine in higher education and K-12 educational environments. Two of the members have received training on the engine at Cisco headquarters in Phoenix. Other team members have expertise in visualization and Flash technology that will enhance the RLOs.

To facilitate communication with Cisco and CourseNet, a spokesperson would be designated from the team. Representatives from these institutions are committed to working closely with Cisco on this project because of the immense potential benefit to learning. The potential of the Engine for establishing a common delivery system, common management can result in cost savings and increased achievement in university courses. All UNC campuses would have access to the Learning Engine in Fall 2000, so the beta testing will be valuable in making adjustments to this authoring tool for use in higher education.

Beta-test Content Focus

The RLOs will focus on science, mathematics, and technology competencies to be used in higher education courses and K-12 education such as AP courses. The RLOs developed will be:

- Applicable to undergraduate education, teacher professional development, and AP environments

- Aligned with the *National Science Education Standards*, NCTM's *Principles and Standards for School Mathematics*, and North Carolina's Technology Competencies for Teacher Education
- Inclusion of real time and virtual laboratory investigations/visualizations
- Adjustments for diverse learning needs

Team members

Representing ECU in the eastern region, UNC-A in the western region, and UNC-CH in the central region, the team members will work closely on the design and production of RLOs. Team members will assume responsibility in the following areas.

- Dr. Chuck Bennett and Dr. Mike Ruiz, UNC-A, will prepare RLOs on the physics of light and visual phenomena (calculus based physics). Two other professors at UNC-A will assist.
- Dr. Helen Parke and Dionna Draper, with faculty and graduate students at ECU, will design mathematics and science RLOs with attention to visualization and diverse learning needs
- Dr. Barry DuVall, Dr. Dave Hillis, and Patrick Weaver, ECU, will design Internet Tool RLOs combined with multimedia to assist learning
- Dr. Paige West and Dr. Susanne Bockholt , UNC-CH, will prepare RLOs based on biology concepts

Timeline/outcomes with measurable benefits

- April: Access to the learning engine using a Trainer of Trainer Model so that UNC campuses will have faculty prepared to share the operation of the Learning / Assessment Engine with colleagues in Fall 2000
- May: Completion of a minimum of 8 RLOs to be reviewed with feedback
- June: Completion of an additional 8 RLOs to be reviewed with feedback
Revision of original RLOs with feedback from team to Cisco on usability of Learning / Assessment Engine in university environments
Presentation to TLTC of RLOs and suggestions of partnership with Cisco
- July: Dissemination via TLT Portal

Budget Request

Both institutions are requesting funds to support faculty and consultants to develop RLOs to be available to UNC institutions and to provide feedback to Cisco and CourseAdvantage to make the Engine compatible with higher education environments. Funding is also being requested for visualization capability to use in the RLOs. UNC-A will focus on Flash technology. ECU is developing cave-based visualizations that can be accessed via web so the visualizations will be available for use on the Engine.

UNC-A	Hire 3-4 faculty in June to design RLOs (with flexibility to use funds to purchase up to 2 PC laptops to be used in the project if only 2-3 faculty participate)	\$22,500
	Director 8 Shockwave Studio	\$565
	Freehand 9/Flash 4 Studio (Order from Douglas Stewart, Inc.)	\$120
ECU	Hire faculty, graduate students, and consultants in May and June to design RLOs (Cost reflects inclusion of benefits)	\$15,000
	Purchase Stratavision Pro 2.5.3 licenses for visualization (Strata Software)	\$1,062
	Nugraf rendering System v2	\$301
	Pinch Glove	\$2,424
	Alias Wavefront (Maya Unlimited)	\$1,590
	Varsity Pack	\$2,550
	Server to host Engine (Oracle on NT)	\$20,000
	Total UNC-A request	\$23,185
	Total ECU request	\$22,927
	UNC request	\$20,000
	Total Request	\$66,112

Institutional resources available for the Project include computer facilities, office space, IT support, server support