Initiative Report for Bus/CIT 2009-10

Update CIT Core Curriculum

Summary:

Update and modify CIS102 and CS133JS curriculum to accommodate the special needs of the Network program while providing additional algorithmic development skills needed to re-instate the Web Programming degree.

Description

CIS102 Problem Solving with Computers, and CS133JS Beg. Programming: JavaScript are both CIT "Core" (1st-year) courses. The Web Programming degree is slated to be reinstated to meet burgeoning (Trade Act) demand - already by Winter term the dept programs have 2% more enrollment/fte than the entire previous year!

CIS102 needs to be adjusted to increase coverage of algorithmic development in order to both deepen the Network Operations degree and provide the foundation needed to successfully train students in the Web Programming degree.

Questions and Answers

How is the initiative linked to the Unit Plans most recently submitted?

1. **How does it continue the achievement of those goals?**
2. **If this is a continuation of an initiative started last year, make sure that relationship is clear.**

How is this initiative linked to the efficiencies and productivities plans you had last year?

1. **How does it continue the achievement of these plans?**
2. **If this is a continuation of an efficiency or productivity plan started last year, make sure that relationship is clear.**

The alignment and redesign of the CIT curriculum has been the focus of CIT planning all along, starting with the implementation of the CIT Core Curriculum as a separately credentialed certificate aimed at providing an essential foundation to many career choices.

The target of this initiative is to improve both general problem-solving skills as well as the skills needed to effectively provide user support. The CIT Advisory committee has provided clear guidance that these two areas are critical for students entering the field.

Describe the resources needed:

Curriculum Development

- 140 hours of curriculum development to update and 2 existing classes (CIS102 and CS133JS)

What specific measurable program outcomes do you expect to achieve with this initiative? The outcomes should be specific enough to be measurable. Also, outline the method that will be used to determine the results.

This initiative will result in:

- improved employability for students who exit with the 1-year CIT Core Pathways CAS certificate
- creation of algorithm development skills earlier in the Core in order to better support the Web Programming degree
- alignment of the content of both CIS102 and CIS133JS
- improved employability for graduates of the Network AAS certificate
- better preparation for real-world coop job experiences through improved quality and focus of user support skills
- better retention and success rates through improved quality and focus of problemsolving skills

These outcomes are all directly reflected in data available for programs and certificates at Lane.

Department Priority:

8

Unit Resources:

The department provides the needed infrastructure for this curriculum - servers and server support - through ICP funds. The support for this Pathways certificate comes from having a full-time faculty member lead for this effort. The curriculum will be supported visibly in a wiki as a means for facilitating conversations and alignment within the related Pathway community, from high schools up to four-year institutions.

Funding Request: Carl Perkins

Funding Request: Curriculum Development

1. List the following information

- **Course Numbers (titles if not currently offered)**

- **Instructor Name(s) who will work on the curriculum development**
- **Whether each of the courses is in, or has been through, the curriculum approval process**

CIS102 Problem Solving with Computers
Gary Bricher
Current offering

CS133JS Beg. Programming: JavaScript
Mari Good
Current offering

2. List each course number (or title) and the materials to be created for each class

- **Instructional goals, objectives, syllabi and outlines**
- **Lab instruction packets**
- **Practice, quiz, presentation &/or demonstration materials**
- **Other (specify)**

CIS102
CS133JS

Analyze and modify the course materials (labs, exams, handouts, lecture notes) to better support the Networking Program AAS, and to better support the CIT Core as a Pathways certificate leading to multiple career choices. To re-introduce and develop algorithmic skills and flow between these two courses.

3. List each course number (or title) and give your timeline for beginning and completing each course curriculum development.

CIS102
Begin 7/09 and end 9/09

CS133JS
Begin 7/09 and end 9/09

4. What are up to 3 departmental instructional goals that are met through the development of curriculum in each class?

Both CIS102 and CS133JS play a pivotal role in the CIT first year curriculum. CIS102 cultivates general computer science problem solving skills, and CS133JS cultivates JavaScript skills that are so critical to entry-level positions in particular.

1. The CIT first-year "core" is designed as a Pathways ("CAS") Certificate to provide students with a meaningful "chunk" of education that might lead to employment.
2. Both of these classes play a central role in the Networking AAS degree and Web Programming degree.

5. List each course number (or title) and give the value of the development of curriculum in each course to other faculty members.

CIS102
CS133JS

Because CIS102 (problem solving) and CS133JS (JavaScript) skills are foundational in all areas of computer science, these courses raise the level of interaction with the students in all subsequent classes, allowing more meaningful problem sets based on problem solving skills learned in CIS102.

6. List each course number (or title) and say how many students will be served by the development of curriculum in each class.

CIS102
70

CS133JS
70

7. List each course number (or title) and give the specific benefits to students that you expect from the development of curriculum in each class.

CIS102
CS133JS

These courses help create computer professionals. They introduce the needed skills and style of thinking required of computer professionals. They also ground the student in user interactions and together provide arguably the most critical skill set needed for entry-level employment in the computer field.

8. List each course number (or title) and give the specific benefits for diversity that you expect from the development of curriculum in each class.

CIS102
CS133JS

Because of the particular emphasis on rational problem solving and working in a social context, these classes help students successfully work with diverse populations. The CIT dept student population is diverse, including under-represented females in computer

fields. Computers also provide employment for a very diverse population. Simply providing quality education to the CIT student population serves diversity.

9. List each course number (or title) and give the specific benefits to sustainability that you expect from the development of curriculum in each class.

CIS102
CS133JS

Sustainability is served by efficient program design. These classes are part of the CIT core, designed to create a common block of initial studies for a wide range of computer career choices and so provide capacity and efficiency solutions for the dept. These classes also serve sustainability from the perspective of student need, by providing foundational skills that are essential in a wide range of entry-level positions, and increasing the likelihood that students will be able to gain interim employment while they are continuing their education.

10. List each course number (or title) and give the specific effects on distributed learning that you expect from the development of curriculum in each class.

CIS102
CS133JS

CIT is one of the leaders at Lane in developing curriculum online, in making curriculum available in varying formats (e.g. video delivery and not just text-based), and in using innovative tools to distribute curriculum (e.g. using a wiki). These courses when realigned and developed will continue to contribute to that base of online curriculum.

Hours requested for Curriculum Development funding:

Please enter the amount of one of the following:

- **100 hours maximum for new development.**
- **70 hours maximum for course revision**
- **50 hours for 3-4 credit conversion**
- **other (use if multiple courses addressed in one initiative**

Do not enter any characters other than numbers and a decimal.

How many hours are you requesting? If there are multiple courses addressed in the initiative, please list each course number (or title) and give the number of hours requested for each course.

140

Can this initiative be partially funded?

No

Partially funded curriculum development HOURS requested:

70

Explanation of effect of partial funding:

The goals outlined for the CIT core as represented by the problem-solving skills in CIS102 and the user support skills in CS133JS could be partially accomplished.

Funding Request: Technology Fee