To: Dr. France Córdova

From: Dr. Tim Sands, Executive Vice President for Academic Affairs and Provost

Date: October 24, 2011

Re: Online Master of Science Degree in Computer Sciences submitted by the Department of Computer Science

Enclosed for your review and approval is a proposal for an online Master of Science degree program offered by the Department of Computer Science in the College of Science. This degree is currently offered on the West Lafayette campus.

Since no new degree program is proposed, it does not need Board of Trustees approval. You may wish to share it with the Board of Trustees as an information item only.

Upon your approval, this proposal will be submitted electronically to the Indiana Commission for Higher Education for review and approval.

Recommended Approval:

Timothy D. Sands
Executive Vice President for Academic Affairs and Provost
10/27/11

Approved:

France A. Córdova
President

11/1/11
TO: Timothy D. Sands, Executive Vice President for Academic Affairs and Provost
FROM: Mark J. T. Smith, Dean
DATE: September 15, 2011
SUBJECT: Proposal for an Online Master of Science Degree in Computer Science, Submitted by the Department of Computer Science

I am transmitting for your information, review, and approval, the Graduate School’s proposal for an online graduate degree program. The Department of Computer Science, in the College of Science, at Purdue University West Lafayette, has proposed to offer an online Master of Science degree. This degree is currently offered on the West Lafayette campus.

The Graduate School has conducted an administrative review of the proposal. We believe it follows the format and includes the information that is required for online degree programs by the Indiana Commission for Higher Education. The Department of Computer Science makes a compelling argument for the proposal and has stated that the online program will have the same rigor as the campus-based program.

I recommend approval of this proposal. Since this is an already recognized degree, the proposal was not reviewed by the Graduate Council nor does it require approval by the Board of Trustees, as stated in a letter from Carolyn T. Jones to Dr. Kenneth R. Sauer, dated April 8, 1998. The letter states that “The Purdue University Board of Trustees has designated the president of the University to make final decisions on the manner in which all previously approved courses of instruction are delivered. Thus, all requests from Purdue University to offer approved degree programs via distance education technology will be forwarded to the commission accordingly.”

Please let me know if you have any questions. Thanks for your consideration for this important innovation in graduate education.

Copies: Nancy A. Bulger
Joseph S. Francisco
Sunil K. Prabhakar
Robert D. Skeel
Phillip E. Pope

Enclosure: Proposal
PROPOSAL

ONLINE MASTER OF SCIENCE DEGREE
IN COMPUTER SCIENCE

RECEIVED FROM THE DEPARTMENT OF COMPUTER SCIENCE

COLLEGE OF SCIENCE

PURDUE UNIVERSITY
WEST LAFAYETTE CAMPUS

Received in the Graduate School
8/11/11

Final Revisions Received
9/4/11
Indiana Commission for Higher Education

DISTANCE EDUCATION PROGRAM PROPOSAL

Two-Way Video
☐ IHETS - Satellite
☐ IHETS - Terrestrial
☐ IU VIC System
☐ Other: (explain here)

Institution: Purdue University, West Lafayette Campus
Degree Program: Master of Science
Degree in Computer Science (MS)

Date: Fall 2011

Item
1. On-Campus Enrollment/Degree History (from SIS):
   
<table>
<thead>
<tr>
<th>FY2008-09</th>
<th>FY2009-10</th>
<th>FY2010-11*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headcount</td>
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<td>32</td>
<td>35</td>
</tr>
<tr>
<td>Degrees</td>
<td>20</td>
<td>21</td>
</tr>
</tbody>
</table>

*tentative; official FY 2010-11 counts available in September

2. Mix of Technologies:

   This program will be delivered by using the following mix of technologies (select as many as apply):

   ☑ Internet/Web: streaming video, discussion boards such as that found in Blackboard Vista, and on-line two-way communication software such as the Vista Blackboard Chat tool or group videoconferencing using Google Hangouts.

   ☐ Computer-Based (CD-ROM, DVD, diskette, etc.)

   ☐ Audioconferencing/Audiocassette

   ☐ Other:

(June 6, 2006 Format)
3. **Access to the Instruction:**

   a. The selected mix of technologies allows students to receive the instruction in the following settings (select as many as apply):

   - [x] Home
   - [x] Workplace (Including Hospitals)
   - [x] Libraries and Other Public, Non-Educational Settings
   - [ ] K-12 Schools
   - [ ] Campuses/Centers within the Same System
   - [x] All Public Campuses/Centers

   b. Will the institution enroll students in the program from anywhere in the state?

      - [x] Yes

4. **Schedule for Delivering Coursework:**

   a. All required coursework in the major will be offered via distance education technology over a 2-year period. *Engineering Professional Education requests student to sign up for courses well ahead of the hard deadline, and for cases where this does not happen, the enrollment operations specialist contacts the individual student to encourage them to continue making progress toward their degree.*

   b. A minimum of 5 elective courses will be offered via distance education technology each year. *Ten 3-credit courses are required. The course offerings may be adjusted based on student demand; however, the planned schedule of Computer Science courses to be offered online is as follows: Fall 2013: 50300, 51400, 52600, 53000, 53500, 54100, 55500, 58000, 59100-RS1; Spring 2014: 50200, 51500, 52500, 53600, 54200, 56500; Fall 2014: 50300, 51400, 52600, 53000, 53500, 54100, 55500, 58000, 59100-RS1; Spring 2015: 50200, 51500, 52500, 53600, 54200, 56500. Students are not grouped into cohorts.*

   c. Please explain how students will be able to complete general education, minor, and other curricular requirements outside of the major. *All requirements can be met by taking courses offered online in any consecutive four semesters. Currently, the M.S. degree in CS requires no courses outside of Computer Science, though some electives may be taken outside of Computer Science.*

5. **Off-Campus Curriculum and Instruction:**

   a. Will the off-campus curriculum be identical to the on-campus curriculum?

      - [x] Yes

(June 6, 2006 Format)
b. Will the program require students to complete laboratory or studio work?

☐ Yes  x NO

c. Please explain how the program will provide for timely and appropriate interaction between students and faculty members.

*Distance students watch the course session on the same day as the on-campus students. In addition to the use of email, faculty and teaching assistants may offer scheduled Chat sessions through Vista Blackboard or group videoconferencing, e.g., using Google Hangouts. Also, faculty will, on request, make phone calls to distance students (with costs covered by tuition).*

d. Will the program require students to come to campus for any period of time?

☒ No

e. Please explain how the program will provide for timely and appropriate interaction between students and other students. *The Discussions Tool of Blackboard Vista provides for interaction, as do chat sessions and videoconferencing. At their option, distance students can then extend such interactions to other channels.*

6. **Assessment of Student Learning:**

Please explain how student learning will be assessed. *Similar to the normal on-campus program, assessment will be based on a number of class and program requirements. Class requirements will be assessed through examinations, homework, and projects. This is identical to how on-campus students are assessed. The examinations usually require the use of selected proctors at the test takers location in order to maintain the integrity of the test. Additionally, learning is assessed by the student through surveys done for each course taken. In particular, students are asked to assess the effectiveness of the instructor and the value of the course material. Instructors use these responses to improve their courses and administrators of the program use it to improve the program and making teaching assignments.*

7. **Availability of Academic Support and Student Services:**

Please explain how students will have access to each of the following academic support and student services:

(June 6, 2006 Format)
a. Admissions – Normal admissions process administered by the Department of Computer Science: all applications for the program will be reviewed by the CS grad admissions committee and head. Based on their admission requirements, they make recommendations to the graduate school for acceptance and/or rejection of the applications.

b. Financial Aid – Students use the normal on-campus methods of securing financial aid and will be provided information on the Division of Financial Aid. There are no scholarships, monetary awards, etc. that have been designated specifically for the on-line program.

c. Academic Advising – A distance student receives the same academic advising as does their on-campus counterpart, except that the advising will be done by telephone and e-mail. Upon admittance into the MS degree program, each student will be assigned to one of the regular Computer Science faculty members, who will act as an academic advisor. Courses used to fulfill degree requirements are listed on a plan of study and submitted for approval to the student’s assigned academic advisor well before the final session.

d. Course Materials (including delivery mechanism) – Following the normal on-campus procedures, students purchase textbooks through a local campus bookstore (books can be shipped) or an on-line bookstore. Additional course materials are made available via postings on the web, e.g., in Vista Blackboard.

e. Library Materials (including delivery mechanism) – Required library materials will be accessible via on-line versions or through inter-library loan for all students. Through the Purdue library system, students will be able to access needed on-line journals.

f. Placement and Counseling – Most students in the distance program are part-time students with full-time jobs. The Center for Career Opportunities is available to all Purdue students, including those in this on-line program. Counseling services for distance students may require students to access the counseling via e-mail and telephone technologies to a greater extent when on-campus visits are not an option.

g. Technical support (e.g. on-line help desk) – Technical support for the streaming video portion of the program is provided through the Engineering Professional Education office. Technical support for the course management system (i.e., Blackboard) is provided by ITaP (Instructional Technologies at Purdue).

8. **Student Fees:**

<table>
<thead>
<tr>
<th></th>
<th>Indiana Residents</th>
<th>Non-Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Campus Instruction</td>
<td>$336.10</td>
<td>$916.25</td>
</tr>
</tbody>
</table>

1 All tuition and mandatory fees

(June 6, 2006 Format)
Distance Education Instruction  $1032.00  $1032.00

Rate determined annually via a rate request approved by Business Services

9. Review Process:

The proposal to offer the MS degree in Computer Science in a distance education mode was developed by a committee formed by the Head of the Computer Science Department. As the plan evolved, it was presented for discussion at two regular faculty meetings. After a considered study of alternatives, an agreement was reached with Engineering Professional Education for delivery of the courses to off-campus students. The proposal was endorsed by the Dean of the College of Science who forwarded the proposal to the Graduate School. The administration of the Graduate School reviewed each item of the proposed online degree proposal for comparability to the existing campus-based degree and recommended its approval to the Dean of the Graduate School, who in turn forwarded his recommendation to the Provost, and finally the president, who made the final approval before submitting it to the Indiana Commission for Higher Education.

(June 6, 2006 Format)
Signature Page

Adding an Online Option to an Existing Graduate Degree Program

Degree Title: Master of Science

Name of academic unit offering the degree: Department of Computer Science

Include signatures from all involved programs:

Signature of Department Head
(Sunil Prabhakar)

Signature of Academic Dean
(Joseph Francisco)

Signature of Dean of the Graduate School

Signature of Provost

Date

8/11/11

8/11/11

09/23/11

10/27/11