

NEW COURSE PROPOSAL

DATE FEBRUARY 13, 2006
 PROGRAM AREA COMPUTER SCIENCE

1. **Catalog Description of the Course.** *[Follow accepted catalog format.]*

Prefix COMP **Course#** 351 **Title** DISTRIBUTED COMPUTING **Units** (3)

3 hours Lecture per week

Prerequisites COMP151

Corequisites none

Description Learn effective use of remote objects and component technologies in computer programs. Study of fundamentals of distributed programming technologies. Build expertise in using modern tools and services to transparently integrate local and remote resources to solve problems.

Graded

Gen Ed

CR/NC

Repeatable for up to units

Categories

Lab Fee Required

A - F

Total Completions Allowed

Optional (Student's choice) **Multiple Enrollment in same semester**

2. **Mode of Instruction.**

	Units	Hours per Unit	Benchmark Enrollment	Graded Component	CS # (filled in by Dean)
Lecture	3	1	24	<input checked="" type="checkbox"/>	_____
Seminar	_____	_____	_____	<input type="checkbox"/>	_____
Laboratory	_____	_____	_____	<input type="checkbox"/>	_____
Activity	_____	_____	_____	<input type="checkbox"/>	_____

3. **Justification and Learning Objectives for the Course.** (Indicate whether required or elective, and whether it meets University Writing, and/or Language requirements) *[Use as much space as necessary]*

Justification: Existing programming courses for Computer Science students use a programming environment limited to one computer. Increasingly, that is not sufficient to solve many real world problems. Computer Science graduates need to understand programming in distributed computing environments that consist of numerous computers. In this course, the students will learn how to integrate local and remote computing resources transparently into a whole that resolves a problem at hand.

This course is an elective and does not meet the University Writing and/or Language requirements. .

Learning Objectives:

Upon completion of this course students will be able to:

(Press enter for the next bulleted item)

- discuss fundamentals of distributed computing environments
- classify distributed computing environments
- explain evolution of distributed frameworks
- use remote procedure calls
- design systems using distributed objects
- use a variety of distributed frameworks including

4. **Is this a General Education Course** YES NO

If Yes, indicate GE category and attach GE Criteria Form:

A (English Language, Communication, Critical Thinking)

A-1 Oral Communication

A-2 English Writing

A-3 Critical Thinking

B (Mathematics, Sciences & Technology)

- B-1 Physical Sciences
- B-2 Life Sciences – Biology
- B-3 Mathematics – Mathematics and Applications
- B-4 Computers and Information Technology

C (Fine Arts, Literature, Languages & Cultures)

- C-1 Art
- C-2 Literature Courses
- C-3a Language
- C-3b Multicultural

D (Social Perspectives)

E (Human Psychological and Physiological Perspectives)

UD Interdisciplinary

5. Course Content in Outline Form. *[Be as brief as possible, but use as much space as necessary]*
(Press enter for the next bulleted item)

- Remote Procedure Calls
- Distributed Objects Fundamentals
- Distributed Objects Middleware
- Distributed Objects Services
- Remote Method Invocation
- Interface Definition Language
- CORBA
- Web services
- Java APIs for Web services
- ASP.Net
- .Net Remoting
- Indigo

Does this course overlap a course offered in your academic program? YES NO

If YES, what course(s) and provide a justification of the overlap?

Does this course overlap a course offered in another academic area? YES NO

If YES, what course(s) and provide a justification of the overlap?

Signature of Academic Chair of the other academic area is required on the consultation sheet below.

6. Cross-listed Courses (Please fill out separate form for each PREFIX)

List Cross-listed Courses

Signature of Academic Chair(s) of the other academic area(s) is required on the consultation sheet below

Department responsible for staffing: Computer Science

7. References. *[Provide 3 - 5 references on which this course is based and/or support it.]*

(Press enter for the next number)

1. Engineering Distributed Objects, Wolfgang Emmerich, Wiley, 2000.
2. Distributed Computing: Principles and Applications, M.L. Liu, Adisson-Wesley, 2004
3. Professional C# Web Services: Building .NET Web Services with ASP.NET and .NET Remoting by Andrew Krowczyk et al., WROX, 2001
4. Programming .NET Web Services by Alex Ferrara, Matthew MacDonald. O'REILLY, 2002.

8. List Faculty Qualified to Teach This Course.

Computer Science Faculty

9. Frequency.

a. Projected semesters to be offered: Fall Spring Summer

10. New Resources Required. YES NO

If YES, list the resources needed and obtain signatures from the appropriate programs/units on the consultation sheet below.

a. Computer (data processing), audio visual, broadcasting needs, other equipment)

b. Library needs

c. Facility/space needs

11. Will this new course alter any degree, credential, certificate, or minor in your program? YES NO

If, YES attach a program modification form for all programs affected.

AJ Bieszczad

Proposer of Course

9/12/2005

Date

Approvals

Program Chair

Date

General Education Committee Chair

Date

Curriculum Committee Chair

Date

Dean

Date