Catalog Description:
547 -- Windows Programming. (3) (Prereq: CSCE 245) Object-oriented methods and tools for application programming with graphically interactive operating systems.

Prerequisite(s) By Topic:
Programming and data structures
Object Oriented Programming

Textbook(s) and Other Required Material:
Don Box and Chris Sells, Essential .NET Volume 1, Addison Wesley, Boston, MA, 2003.

Computing Platform:
Windows and in particular the .NET environment.

Course Objectives: {Assessment Methods Shown in Braces}
1. Use design and development methods and tools for distributed, component-based computer applications based on .NET. {projects}
2. Use Web services and client applications, with a focus on case studies and applications in engineering. {projects}

Topics Covered:
1. Fundamental features of graphically interactive operating systems. (9)
2. Review of object-oriented methods. (3)
3. Developing Enterprise Applications: What have we done to deserve this? (3)
4. .NET versus J2EE: Two technologies separated by their similarities and attracted by their differences. (6)
5. Focus on .NET spiced with C# (9)
6. .NET soup letter: FCL, CLI, CIL, SDK, CTS, CLR . . . (6)
7. Case studies in engineering. (6)

Laboratory Projects:
Two very extensive projects.

Difference between Undergraduate and Graduate Work:
Graduate students complete more complicated projects and also give a class presentation on research related to their project.

Syllabus Flexibility: High. The instructor approves the choice of textbook and syllabus.
**Relationship of Course to Program Outcomes:**
The contribution of each course objective to meeting the program outcomes is indicated with the scale: 3 = major contributor, 2 = moderate contributor, 1 = minor contributor. Blank if not related.

<table>
<thead>
<tr>
<th>Course Objectives</th>
<th>Program Outcomes</th>
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<tbody>
<tr>
<td>1. Use design and development tools for distributed applications</td>
<td>1. Logic &amp; Math</td>
</tr>
<tr>
<td>2. Use Web services and client applications</td>
<td>2. Computing Fundamentals</td>
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</tbody>
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**Estimated Computing Category Content (Semester hours):**

<table>
<thead>
<tr>
<th>Area Core</th>
<th>Advanced</th>
<th>Area Core</th>
<th>Advanced</th>
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<tbody>
<tr>
<td>Algorithms</td>
<td></td>
<td>Data Structures</td>
<td></td>
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<tr>
<td>Software Design</td>
<td>2</td>
<td>Programming Languages</td>
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<tr>
<td>Computer Architecture</td>
<td>1</td>
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</tbody>
</table>

**Estimated Information Systems Category Content (Semester hours):**

<table>
<thead>
<tr>
<th>Area Core</th>
<th>Advanced</th>
<th>Area Core</th>
<th>Advanced</th>
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<tbody>
<tr>
<td>Hardware and Software</td>
<td>1</td>
<td>Networking and Telecommunications</td>
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<tr>
<td>Modern Programming Language</td>
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<td>Analysis and Design</td>
<td>2</td>
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<tr>
<td>Data Management</td>
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<td>Role of IS in an Organization</td>
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<tr>
<td>Quantitative Analysis</td>
<td></td>
<td>Information Systems Environment</td>
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**Oral and Written Communication:** None.

**Social and Ethical Issues:** None.
Theoretical Content: None.

Analysis and Design:
Extensive analysis and design.

Collaborative Work: None

Course Coordinator: Juan Vargas

Class/Laboratory Schedule:
Lecture: 3 periods of 50 minutes or 2 periods of 75 minutes per week

Modification and Approval History
New description June 2005 by Manton Matthews and Caroline Eastman.