1. **Catalog Description of the Course.**

**IT 464 COMPUTER GRAPHICS FOR IT (3)**

Three hours of lecture in the lab per week.

**Prerequisites:** IT 151 and MATH 300

Fundamental concepts of computer graphics. Graphics devices; graphics languages; interactive systems. Applications to art, science, engineering and business. Trade-offs between hardware devices and software support.

2. **Mode of Instruction.**

<table>
<thead>
<tr>
<th>Units</th>
<th>Hours per Unit</th>
<th>Benchmark Enrollment</th>
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<tr>
<td>Lecture</td>
<td>3</td>
<td>1</td>
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<tr>
<td>Seminar</td>
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<td>0</td>
</tr>
<tr>
<td>Laboratory</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Activity</td>
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</table>

3. **Justification and Learning Objectives.**

Justification: BSIT elective.

Learning Objectives:

Students who successfully complete this course will be able to:
1. Identify the components of a computer graphics system.
2. Be able to analyze the Perspective Projection.
3. Identify the advantages of a Raster Graphics system.
4. Identify the advantages of a Vector Graphics system.
5. Be able to evaluate the trade offs between different graphic display systems.
6. Be able to compare and evaluate different computational methods in computer graphics.
7. Organize and express ideas clearly and convincingly in oral and written forms.

4. **Is this a General Education Course?**

No.

5. **Course Content in Outline Form.**

Topics:
2. Perspective Projection.
4. Raster Graphics
5. Computational Methods.
6. 2D Simulations.
7. 3D Simulations.
8. Virtual Reality.

6. **Cross-listed Courses.**

None.

7. **References.**

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Publisher</th>
<th>Year</th>
<th>ISBN</th>
</tr>
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<tbody>
<tr>
<td>2. OpenGL Game Programming</td>
<td>Kevin Hawkins, Dave Astle</td>
<td>Premier Press</td>
<td>2004</td>
<td>0761533303</td>
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<tr>
<td>4. 3D Computer Graphics</td>
<td>Watt</td>
<td>Addison-Wesley</td>
<td>1993</td>
<td>0201154420</td>
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</tbody>
</table>

8. **Faculty Qualified to Teach This Course.**

Qualified Faculty: Smith, Wolfe

9. **Frequency.**

Projected semesters to be offered: Fall, Spring

10. **New Resources Required.**

a. New Equipment needs: Use of existing computer lab.
b. New Library needs: none
c. New Space/Facilities needs: none

11. **Program Modifications.**

None.

12. **Proposer of Course.**

Proposer: Smith, Wolfe Date: 7/13/2004