1. Catalog description
   a) Course number: CIS 2000
   b) Title: Problem Solving with Visual Basic
   c) Meeting times and credit: (3-0-3)
   d) Terms to be offered: (F, S)
   e) Short title – Visual Basic
   f) Course description: An introduction to the tools and methods of formal logic mandatory to produce business application programs including: basic conjunctions, truth tables, compound conjunctions and programming structure. **Object-oriented design methodology is introduced.** Includes the application of Visual Basic.NET to illustrate and extend the methodology being presented.
   g) Prerequisite: Sophomore standing.
   h) Initial term of course offering: Fall 2004

2. Student Learning Objectives and Evaluation
   a) Upon successful completion of this course, students will be able:
      • To utilize formal logic tools in program-design.
      • To apply logic skills in the creation of Visual Basic programs.
      • To understand business requirements needed to successfully write applications programs.
      • To use Visual Basic as an application language to solve business problems.
      • To design graphical user interface (GUI) based on **Object Oriented Design (OOD)** principles.
      • To demonstrate the basics of computer programming.
      • **To utilize object-oriented design and methodology**
   b) The students’ achievement of the stated objectives will be assessed and grades will be earned on the basis of examinations, programming projects, in-lab exercises, homework assignments and quizzes.

<table>
<thead>
<tr>
<th>Exams (50 %)</th>
<th>Homework assignments</th>
<th>Final Exam (20%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>utilize formal logic tools</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>apply logic skills</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>business requirements needed to successfully write applications programs</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Visual Basic as an application language to implement logic and solve problems</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>design graphical user interface (GUI) based on <strong>Object Oriented Design (OOD)</strong> principles</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>demonstrate the basics of computer programming.</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>utilize <strong>object-oriented design and methodology</strong></td>
<td>X</td>
<td>X</td>
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</tbody>
</table>

c) This course is not technology delivered.
d) This course is not offered for graduate credit.
e) This course is not writing-active, writing-intensive or writing-centered.

3. Outline of the Course
   Week
   1 Introduction to course. Introduction to Structured Design: basic control structures.
   2 Simple sequence control structure. Data hierarchy. Program design, review, testing.
   3 IFTHENELSE control structure. CASE control structure. Character-string considerations.
   4 DOWHILE control structure. Counter-controlled loops. Header and trailer record logic.
   5 MODULARIZATION. Design techniques including structured programming and modularization techniques.
   6 Fundamentals of programming in VB.NET. Controls and events. Numbers and strings. Input and output.
7 Procedures and subprograms.
8 Decisions. Relational and logical operators. If blocks. Select CASE blocks.
9 Repetition. Do loops. For..Next loops.
10 Arrays. Creating and accessing single dimension arrays. Sorting and searching arrays.
11 Sequential File processing.
12 Controls and Objects. List boxes, combo boxes, file-opening control. Multiple document interface.
13 Introduction to Object-oriented design.

4. Rationale
   a) Purpose and need: Students need logic skills throughout the curriculum. Students need an understanding of business requirements, and the ability to implement and solve these requirements. This class provides that opportunity.
   b) Justification of the level of the course and of course prerequisites. This course is a prerequisite for CIS3000, CIS3300, CIS3320. Since this is an introductory course, a sophomore standing is required.
   c) Similarity to existing courses: N/A
   d) Impact on Program: This course is a required class for all Computer Information Systems majors and minors.

5. Implementation
   a) Faculty member(s) to whom the course may be assigned: Norm Garrett, Harrison Green, Abdou Illia, Karen Ketler
   b) Additional Cost to Students: Students will be expected to submit projects in hard copy (paper) format and on either a 3 1/2" diskette or ZIP disk. Additional costs to students will be minimal.

6. Community College Transfer
   A community college course may be judged equivalent to this course.

7. Date approved by the department or school ___February 25, 2004___
8. Date approved by the college curriculum committee __April 22, 2004___
9. Date approved by CAA __August 26, 2004___