2008—2009 Assessment Plan for the IU Kokomo BS in Informatics

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I. Introduction and mission statements

The Bachelor of Science degree in Informatics is one of the Bachelors degrees currently offered within the NIMS Department (Department of Natural, Information, and Mathematical Sciences). The degree was initiated in the fall of 2006 and replaced the prior Computer Information Systems (CIS) program. The Informatics degree is offered at many other IU campuses and is affiliated with the School of Informatics.

Mission Statement: We believe there is great need and opportunity for professionals trained in state-of-the-art information technology with an emphasis on the organizational and human issues of technology. There is an urgent need in our society for graduates with education and experience in informatics, particularly with interdisciplinary skills. Employers want to fill traditional jobs with people who understand the possibilities new technologies promise. Furthermore, employers also want IT people with strong communication and problem-solving abilities. The Informatics core courses and cognate specialty courses ensure that graduates will have a broad understanding of data processing as used in application areas.

Informatics is committed to student learning, innovation, regional engagement, and the interdisciplinary application of technology. These goals are consistent with IU Kokomo’s mission to “…enhance the educational and professional attainment of the residents of North Central Indiana…”

The Informatics program goals at IU Kokomo are:

Goal A: Problem-Solving
Goal B: Communication
Goal C: Information Organization and Processing
Goal D: Social/Organizational/Ethical Issue Integration
Goal E: User/Context-Centered Design
II. Program goals and learning outcomes

Goal A: Problem-Solving

Student learning Outcomes:

A1. Students will be able to analyze and design a solution to a problem.

Components:

a. Analysis
   Performance Criteria
   None
   Partial
   Complete

b. Design
   Performance Criteria
   Unsatisfactory
   Satisfactory
   Exceptional

A2. Students will be able to prototype an application design (flowchart, pseudo code, storyboard, low/high-fidelity prototype).

Components:

a. Prototype
   Performance Criteria
   Unsatisfactory
   Satisfactory
   Exceptional

A3. Students will be able to utilize a programming language to implement computer software.

Components:

a. Coding standards compliance (naming, documentation, etc.)
   Performance Criteria
   Does not comply
   Complies
   Exceeds compliance

b. Functionality
   Performance Criteria
   Does not run
   Runs, but does not implement all requirements
   Runs and implements all requirements
   Runs and implements more than required
Goal B: Communication

Student learning Outcomes:

B1. Students will be able to introduce, analyze, support, and defend positions in a written document.

Components:

a. Content
   Performance Criteria
   Superficial
   Complete
   Detailed

b. Organization
   Performance Criteria
   Unorganized
   Moderately well organized
   Well organized

c. Evidence
   Performance Criteria
   None
   Limited
   Sufficient
   Substantial

B2. Students will be able to deliver an oral presentation on a technical topic.

Components:

a. Content
   Performance Criteria
   Superficial
   Complete
   Detailed

b. Organization
   Performance Criteria
   Unorganized
   Moderately well organized
   Well organized

b. Supporting Visuals
   Performance Criteria
   None
   Not supportive of the presentation
   Supportive of the presentation
Goal C: Information Organization and Processing

Student learning Outcomes:

C1. Students will be able to understand and utilize digital representations of information for presentation and/or processing.

Components:

a. Digital representation understanding
   Performance Criteria
   Unsatisfactory
   Satisfactory
   Exceptional

b. Digital representation utilization
   Performance Criteria
   Can not utilize
   Limited mastery
   Satisfactory mastery
   Exceptional mastery

C2. Students will be able to organize information in a database.

Components:

a. Database design
   Performance Criteria
   Unsatisfactory
   Satisfactory
   Exceptional

b. Database implementation
   Performance Criteria
   No implementation
   Does not accurately implement the design
   Accurately implement the design

C3. Students will be able to organize and categorize information to improve understanding and interpretation of the information.

Components:

a. Data gathering
   Performance Criteria
   None
   Limited
   Sufficient
   Substantial

b. Data organization
   Performance Criteria
   Does not improve understanding
   Provides limited improvement in understanding
   Improves the understanding
**Goal D: Social/Organizational/Ethical Issue Integration**

**Student learning Outcomes:**

**D1.** Students will be able to analyze the social/organizational/ethical issues with the application of technology.

**Components:**

a. **Description**
   
   Performance Criteria
   
   Superficial
   
   Complete
   
   Detailed

b. **Analysis**
   
   Performance Criteria
   
   None
   
   Partial
   
   Complete

c. **Conclusion**
   
   Performance Criteria
   
   Not based on argument
   
   Partially supported
   
   Fully supported

**D2.** Students will be able to apply social/organizational issues while designing/developing an information system.

**Components:**

a. **Application of social/organizational issues**
   
   Performance Criteria
   
   Design/implementation does not reflect issues
   
   Design/implementation partially reflect issues
   
   Design/implementation fully reflect issues
Goal E: User/Context-Centered Design

Student learning Outcomes:

E1. Students will be able to analyze the user/contextual issues with the application of technology.

   Components:

   a. Description
      Performance Criteria
      Superficial
      Complete
      Detailed

   b. Analysis
      Performance Criteria
      None
      Partial
      Complete

   d. Conclusion
      Performance Criteria
      Not based on argument
      Partially supported
      Fully supported

E2. Students will be able to apply user/contextual issues while designing/developing an information system.

   Components:

   a. Application of user/contextual issues
      Performance Criteria
      Design/implementation does not reflect issues
      Design/implementation partially reflect issues
      Design/implementation fully reflect issues
## III. Curriculum map

The following summary provides an overview of the alignment of each Outcome to the curriculum. This indicates where Outcomes are introduced (I), expanded upon (E), and reinforced (R).

### Student Learning Outcomes

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Description</th>
<th>I101</th>
<th>I201</th>
<th>I202</th>
<th>I210</th>
<th>I211</th>
<th>I300</th>
<th>I303</th>
<th>I308</th>
<th>I450</th>
<th>I451</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>analyze and design a solution to a problem.</td>
<td>I</td>
<td>I</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A2</td>
<td>prototype an application design.</td>
<td>I</td>
<td></td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A3</td>
<td>utilize a programming language to implement computer software.</td>
<td>I</td>
<td></td>
<td>E</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td>introduce, analyze, support, and defend positions in a written document.</td>
<td>I</td>
<td></td>
<td>E</td>
<td>E</td>
<td>R</td>
<td></td>
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<tr>
<td>B2</td>
<td>deliver an oral presentation on a technical topic.</td>
<td>I</td>
<td></td>
<td>E</td>
<td>E</td>
<td>R</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>C1</td>
<td>understand and utilize digital representations of information for presentation and/or processing.</td>
<td>I</td>
<td></td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2</td>
<td>organize information in a database.</td>
<td>I</td>
<td></td>
<td>E</td>
<td>E</td>
<td>R</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>C3</td>
<td>organize and categorize information to improve understanding and interpretation of the information.</td>
<td>I</td>
<td></td>
<td>I</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>E</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D1</td>
<td>analyze the social/organizational/ethical issues with the application of technology.</td>
<td>I</td>
<td></td>
<td></td>
<td>E</td>
<td>E</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D2</td>
<td>apply social/organizational issues while designing/developing an information system.</td>
<td>I</td>
<td></td>
<td></td>
<td>E</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E1</td>
<td>analyze the user/contextual issues with the application of technology.</td>
<td>I</td>
<td></td>
<td></td>
<td>E</td>
<td>E</td>
<td>R</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>E2</td>
<td>apply user/contextual issues while designing/developing an information system.</td>
<td>I</td>
<td></td>
<td></td>
<td>E</td>
<td>R</td>
<td>R</td>
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</tbody>
</table>

I101: Introduction to Informatics  
I201: Mathematical Foundations of Informatics  
I202: Social Informatics  
I210: Information Infrastructure I (Introduction to Computer Programming)  
I211: Information Infrastructure II (Object-Oriented Computer Programming)  
I300: Human Computer Interaction  
I303: Organizational Informatics  
I308: Information Representation  
I451: Design and Development of an Information System I  
I450: Design and Development of an Information System II
IV. Assessment of student learning activities planned for 2008—2009

A. Outcome to be assessed

Students will be able to utilize a programming language to implement computer software (Outcome A3).

B. When, where, and how students will demonstrate their achievement

Informatics students enrolled in the fall 2008 offering of I210 will be evaluated. The most significant programming assignment of the semester will be used for this assessment evaluation.

C. Performance characteristics or criteria for successful achievement

The performance criteria that will be used are:
- The program does not run
- The program runs, but does not implement all requirements
- The program runs and implements all requirements
- The program runs and implements more than required

D. Benchmark level of performance that will be considered acceptable

The level of performance where the student creates a program that runs and implements all of the requirements will be considered acceptable.
V. Ongoing assessment

Informatics faculty will review the assessment measures described above and will discuss ways to improve student learning. Faculty will also participate in national and regional conferences in order to bring new ideas into the curriculum to promote student learning.

A. Data Collection and analysis

1. Faculty will analyze each student’s progress in the program annually.

2. Faculty will analyze graduating student exit interview data collected by the NIMS Chairperson.

3. Faculty will submit recommendations for improvements in courses to the NIMS Chairperson, with consultation with the School-level representatives.

4. Faculty will prepare the annual Assessment Report.

B. Feedback and Analysis

1. After recommendations have been submitted, faculty will receive suggestions, comments and feedback from the Chairperson.

2. The annual assessment report will be circulated to NIMS department members for comments.

3. The annual assessment report will be circulated to NIMS adjunct Informatics faculty members for review.

4. The annual assessment report will be submitted to the Indiana University Kokomo Assessment Committee.