Stevens Institute of Technology

School of Business

**AACSB  
ASSURANCE OF LEARNING**

**Master of Science in Information Systems**

**LEARNING GOAL # 5**

**Students can analyze a business situation and design an integrated process and data model to satisfy strategic organizational goals.**

**Responsibility: Ted Stohr**

February 26, 2018

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# 1. INTRODUCTION: LEARNING GOAL MIS #5

*Students can recognize strategic organizational goals and develop process goals that satisfy one or more strategic goals*

This goal is assessed in MIS 710 Process Innovation and Management, which is one of the required “integration courses” in the MIS core curriculum. This learning goal requires students to think analytically and to synthesize material from other courses in the curriculum – notably, MIS 620 Analysis and Development of Information Systems and MIS 630 Data and Knowledge Management. Because this is a design exercise, students are required to think creatively.

The assessment exercise requires individual students to take an initial “as-is” process description and to redesign (or “reengineer”) it. A typical assessment exercise is included in the Appendix.

To complete this exercise successfully, students need to master a number of process representation techniques including: process narratives, relationship diagrams, process maps using Business Process Management Notation (BPMN) and entity relationship data models.

Students are assessed on their ability: to use the above tools effectively; relate the goals of the process to organizational goals; develop the conceptual data model for the process; describe the process logic; employ relevant “reengineering principles” and develop the associated job roles.

# 2. LEARNING OBJECTIVES AND TRAITS

|  |  |
| --- | --- |
| **Objective 1:** | *Students can recognize strategic organizational goals and develop process goals that satisfy one or more strategic goals* |
| **Traits** |  |
| Trait 1: | Given an organizational problem statement, the student recognizes appropriate strategic goal(s) |
| Trait 2: | Develops process goals that are relevant to the strategic goal(s) |
| Trait 3: | Provides sound rationale explaining the linkage between the strategic goal and the process goals |
| **Objective 2:** | *The student is able to design a sound "to be" or "should" process map* |
| **Traits** |  |
| Trait 1: | Uses a formal method |
| Trait 2: | The process map is syntactically correct |
| Trait 3: | Given the process goals, the process map is semantically correct |
| Trait 4: | Student correctly identifies the organizational entities that are involved |
| Trait 5: | Correctly identifies the system and technical entities that are needed to support the process |
| **Objective 3:** | *The student can apply process improvement (reengineering) principles to achieve process goals* |
| **Traits** |  |
| Trait 1: | Explicitly identifies one or more process improvement (reengineering) principles (or invents their own principle) |
| Trait 2: | Applies the reengineering principles correctly |
| Trait 3: | Provides explanation of how goals are applied |
| **Objective 4:** | *The student can identify and design the data that is consumed and created by the process* |
| **Traits** |  |
| Trait 1: | Uses formal method (e.g., an entity relationship map) |
| Trait 2: | Student can develop a syntactically correct data model |
| Trait 3: | Given the process requirements, the data model is semantically correct |
| Trait 4: | The data model is appropriately linked to the process |

# 3. RUBRICS

**Objective 1:** *Students can recognize strategic organizational goals and develop process goals that satisfy one or more strategic goals*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Trait** | **Poor** | **Good** | **Excellent** |
|  | **Value** | **0** | **5** | **10** |
| Trait 1: | Given an organizational problem statement, the student recognizes the appropriate strategic organizational goal(s) | Does not mention strategy | Identifies an organizational strategy that is relevant to the process | Identifies one or more appropriate organizational |
| Trait 2: | Develops process goals that are relevant to the strategic goal(s) | Does not mention process goals | Develops at least one process goal | Develops several process goals that are relevant to organization |
| Trait 3: | Presents a sound rationale explaining the linkage between the strategic goal and the process goals | Does not mention strategy | Identifies strategy relevant to process | Develops a convincing argument linking to strategic goals |

**Criterion: Does not meet expectations: 0 – 15; Meets: 16-25 ; Exceeds: 26-30**

**Objective 2:** *The student is able to design a sound "to be" or "should" process map*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Trait** | **Poor** | **Good** | **Excellent** |
|  | **Value** | **0** | **5** | **10** |
| Trait 1: | Uses a formal method | Does not use a formal method | Uses a formal representation | Uses formal representation correctly |
| Trait 2: | The process map is syntactically correct | No process map | Process map is correctly drawn | Process map uses correct semantics |
| Trait 3: | Given the process goals, the process map is semantically correct | Process unrelated to goals | Goals clearly articulated at process level | Task goals specified and articulated with process goals |
| Trait 4: | Student correctly identifies the organizational entities that are involved | Does not identify organizational entities | Correctly identifies organizational entities | Correctly analyzes organizational changes |
| Trait 5: | Correctly identifies the system and technical entities that are needed to support the process | Does not identify system and technical entities | Identifies system and technical entities | Correctly specifies system and technical entities. |

**Criterion: Does not meet expectations: 0 – 30; Meets: 31-40 ; Exceeds: 41-50**

**Objective 3:** *The student can apply process improvement (reengineering) principles to achieve process goals*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Trait** | **Poor** | **Good** | **Excellent** |
|  | **Value** | **0** | **5** | **10** |
| Trait 1: | Explicitly identifies one or more process improvement (reengineering) principles (or invents their own principle) | Does not identify any reengineering principles. | Correctly identifies one or more reengineering principles | Develops a new principle for process improvement |
| Trait 2: | Applies the reengineering principles correctly | Does not relate identified principles to process design | Relates identified principles to process design | Exploits principles to achieve a major process improvement |

**Criterion: Does not meet expectations: 0 – 10; Meets: 11-15 ; Exceeds: 16-20**

**Objective 4:** *The student can identify and design the data that is consumed and created by the process*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Trait** | **Poor** | **Good** | **Excellent** |
|  | **Value** | **0** | **5** | **10** |
| Trait 1: | Uses formal method (e.g., an entity relationship diagram.) | No formal method | Attempts formal model but incorrect syntactically | Correct syntax for established model |
| Trait 2: | Student can develop a correct data model (e.g., an entity relationship map) | No data model | Uses a formal representation | Uses formal representation correctly |
| Trait 3: | The data model is syntactically and semantically correct | Data model is developed | Data model is syntactically correct | Data model is syntactically and semantically correct |
| Trait 4: | The data model is appropriately linked to the process | The data model is not linked to the process | Data model is correctly linked to process | Organizational linkages to data are specified |

**Criterion: Does not meet expectations: 0 – 20; Meets: 20-30 ; Exceeds: 30-40**

# 4. ASSESSMENT PROCESS

|  |  |  |
| --- | --- | --- |
| **Where and when measured?** | **How measured?** | **Criterion** |
| Course-embedded design assignment in required course *MIS 710 Process Innovation and Management* | Sampling: All MIS 710 students from fall and/or spring sections of the course. Description: MIS 710 instructors grade a reengineering exercise using a rubric (see Appendix A.) | 85% of students get a grade of GOOD or better as measured by the rubric for this learning goal. |

# 5. RESULTS OF LEARNING GOAL ASSESSMENT - INTRODUCTION

The results of the initial learning goal assessments carried out to date are included below.

**Explanation**

Each learning goal has a number of learning objectives and performance on each objective is measured using a rubric that in turn contains a number of desired “traits”. Students are scored individually on each trait.

The grading sheets for each student are used to develop a Summary Results Sheet for each learning goal objective. A selection of these Summaries is included below.

The first table in the Summary Results Sheet for a learning objective and trait gives the counts of students falling in each of the three categories:

- Does not meet expectations  
- Meets expectations  
- Exceeds expectations

The right-hand column in the table is used to record the average score of the students on each trait. This table provides an indication of the relative performance of students on each trait.

The second table on each sheet provides the counts of students who fall in each of the above three categories for the overall learning objective.

The person doing the assessment provides explanatory comments and recommendations on the bottom of the Results Summary Sheet. The recommendations improve content or pedagogy changes for the next time the course is given.

# 6. RESULTS OF ASSESSMENT: SPRING 2008

**LEARNING GOAL # 5:** Each student can analyze a business situation and design an integrated process and data model to satisfy strategic organizational goals.

**LEARNING OBJECTIVE # 1:** Students can recognize strategic organizational goals and develop process goals that satisfy one or more strategic goals.

**ASSESSMENT DATE: April, 2008 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 16 COURSE: MIS 710 A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Given an organizational problem statement, the student recognizes the appropriate strategic organizational goal(s) | 3 | 10 | 3 | 5 |
| 2: Develop Process goals that are relevant to the strategic goal(s) | 0 | 11 | 5 | 6.56 |
| 3: Presents a sound rationale explaining the linkage between strategic goal and the process goals. | 9 | 6 | 1 | 2.5 |
| **Average Grade (Maximum 10)** | | | | **4.68** |

Does not meet expectations 0; meets 5; exceeds 10

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **6** | **9** | **1** |
| **Students meeting or exceeding expectations:** | | **63%** | |

**COMMENTS:** Students did not in general do a good job in linking the strategy of the organization to the goals of the process they were analyzing.

**REMEDIAL ACTIONS:** Add more material and a class exercise on linking strategy to processes.

**LEARNING OBJECTIVE # 2:** The student is able to design a sound “to be” or “should” process map

**ASSESSMENT DATE: April, 2008 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 16 COURSE: MIS 710 A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Use of formal method | 2 | 8 | 6 | 6.25 |
| 2: The process map is syntactically correct | 1 | 10 | 5 | 6.25 |
| 3: Student correctly identifies the organizational entities that are involved | 3 | 8 | 5 | 5.62 |
| 4:Correctly identifies the system and technical entities that are needed to support the process | 6 | 5 | 5 | 4.68 |
| **Average Grade (Maximum 10)** | | | | **5.7** |

Does not meet expectations 0; meets 5; exceeds 10

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **3** | **8** | **5** |
| **Students meeting or exceeding expectations:** | | **81%** | |

**COMMENTS:** Process mapping is an art rather than a science**.**

**REMEDIAL ACTIONS:** The notes are being revised to use BPMN, a more formal notation that should address the issue in trait 2.

**LEARNING OBJECTIVE # 3:** The student can apply process improvement (reengineering) principles to achieve process

**ASSESSMENT DATE: April, 08 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 16 COURSE: MIS 710 A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Explicitly identifies one or more process improvement (reengineering) principles (or invents their own principle) | 0 | 14 | 2 | 5.62 |
| 2: Applies the reengineering principles correctly | 4 | 10 | 2 | 4.38 |
| **Average Grade (Maximum 10)** | | | | **5.0** |

Does not meet expectations 0-3; meets 4-8; exceeds 8- 10

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **4** | **10** | **2** |
| **Students meeting or exceeding expectations:** | | **75%** | |

**COMMENTS:**

Students need to understand that they must supply a rationale for their use of the BPR principles rather than just list the ones that they use.

**REMEDIAL ACTIONS:**

State this requirement explicitly in the problem statement**.**

**LEARNING OBJECTIVE #4:** The student can identify and design the data that is consumed and created by the process.

**ASSESSMENT DATE: April, 2008 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 16 COURSE: MIS 710 A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Student can develop a correct data model (e.g., an entity relationship map) | 1 | 11 | 4 | 6.56 |
| 2: The data model is syntactically and semantically corrected | 6 | 7 | 3 | 4.06 |
| 3: The data model is appropriately linked to the process | 9 | 4 | 3 | 3.12 |
| **Average Grade (Maximum 10)** | | | | **4.58** |

Does not meet expectations 0 - 10; meets 11-20; exceeds 21 - 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **9** | **3** | **4** |
| **Students meeting or exceeding expectations:** | | **44%** | |

**COMMENTS:**

Students do not understand how to develop data models and how to link them to the processes they are redesigning. Some students have not taken MIS 630 Data Modeling before they take this class. Even those that have taken the course seem to perform poorly.

**REMEDIAL ACTIONS:**

Students must take MIS 630 Data Management before MIS 710. Improve the teaching of data modeling in MIS 630 – give more homework in this area?

# 7. SPECIFIC STEPS TAKEN IN FALL 2008

**LEARNING OBJECTIVE # 1: Students can recognize strategic organizational goals and develop process goals that satisfy one or more strategic goals.**

**SPECIFIC STEPS**

1. An in-class exercise requiring students to link strategy and process goals for a hypothetical organization was added to help students use the Balanced Score Card approach to make this linkage. This exercise was administered in session 4 and is worth 1% of the final course grade.

**LEARNING OBJECTIVE # 2: The student is able to design a sound “to be” or “should” process map**

**SPECIFIC STEPS**

1. An in-class exercise in using the more precise BPMN process mapping notation was administered in lecture 9-Process/Workflow Design.

**LEARNING OBJECTIVE # 3: The student can apply process improvement (reengineering) principles to achieve process**

**SPECIFIC STEPS**

1. This requirement was included in the problem statement and the requirement was discussed in class.

**LEARNING OBJECTIVE #4: The student can identify and design the data that is consumed and created by the process.**

**SPECIFIC STEPS TAKEN IN FALL-SPRING 2008-09**

1. A revised version of the MIS 630 course was taught for the first time in fall 2008. As a result, the data modeling skills of our students should be improved. It is still the case that some students in some majors will not taken MIS 630 before taking MIS 710.

# 8. RESULTS OF ASSESSMENT: SPRING 2009

**LEARNING GOAL # 5: Each student can analyze a business situation and design an integrated process and data model to satisfy strategic organizational goals.**

**LEARNING OBJECTIVE # 1: Students can recognize strategic organizational goals and develop process goals that satisfy one or more strategic goals.**

**ASSESSMENT DATE: June 2009 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 27 COURSE: MIS 710 A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Given an organizational problem statement, the student recognizes the appropriate strategic organizational goal(s) | 0 | 15 | 12 | 7.0 |
| 2: Develop Process goals that are relevant to the strategic goal(s) | 2 | 11 | 14 | 7.2 |
| 3: Presents a sound rationale explaining the linkage between strategic goal and the process goals. | 1 | 14 | 12 | 7.0 |
| **Average Grade (Maximum 10)** | | | | **7.1** |

Does not meet expectations 0 - 10; meets 11 - 20; exceeds 21 - 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **2** | **8** | **17** |
| **Students meeting or exceeding expectations:** | | **93%** | |

**COMMENTS:** Students did a better job this year in linking the strategy of the organization to the goals of the process they were analyzing.

**REMEDIAL ACTIONS:** In 2009-10, we will add a simple hierarchical representation to help students more explicitly link process goals to organizational goals.

**LEARNING OBJECTIVE # 2: The student is able to design a sound “to be” or “should” process map**

**ASSESSMENT DATE: June 2009 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 27 COURSE: MIS 710 A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Use of formal method | 0 | 10 | 17 | 8.1 |
| 2: The process map is syntactically correct | 0 | 15 | 12 | 7.2 |
| 3. Given the process goals, the process map is semantically correct | 3 | 14 | 10 | 6.3 |
| 4 Student correctly identifies the organizational entities that are involved | 7 | 10 | 8 | 5.2 |
| 5. Correctly identifies the system and technical entities that are needed to support the process | 11 | 8 | 8 | 4.4 |
| **Average Grade (Maximum 10)** | | | | **6.3** |

Does not meet expectations 0 -25; meets 26-40; exceeds 41 - 50

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **6** | **12** | **9** |
| **Students meeting or exceeding expectations:** | | **78%** | |

**COMMENTS:** Process mapping is an art rather than a science**.**  Students continue to have difficulty in this area. In particular, a relatively large number of students failed to insert a “system swim lane” in their process maps.

**REMEDIAL ACTIONS:** An additional process mapping exercise using BPMN, a more formal process mapping notation, seems to have been helpful. In future, we will provide explicit instruction on how to model the computerized system/database in process maps.

**LEARNING OBJECTIVE # 3: The student can apply process improvement (reengineering) principles to achieve process**

**ASSESSMENT DATE: June 2009 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 27 COURSE: MIS 710 A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Explicitly identifies one or more process improvement (reengineering) principles (or invents their own principle) | 0 | 4 | 8 | 8.0 |
| 2: Applies the reengineering principles correctly | 0 | 4 | 8 | 8.3 |
| 3. Explains how the reengineering principles are used | 1 | 6 | 5 | 7.2 |
| **Average Grade (Maximum 10)** | | | | **7.8** |

Does not meet expectations 0 - 10; meets 11 - 20; exceeds 21 - 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **0** | **12** | **15** |
| **Students meeting or exceeding expectations:** | | **100%** | |

**COMMENTS:**

There is an improvement over the performance in 2007-08 (see page 13). Students now understand that they must supply a rationale for their use of the BPR principles rather than just list the ones that they use.

**REMEDIAL ACTIONS:**

No remedial action is contemplated on this objective.

**LEARNING OBJECTIVE #4: The student can identify and design the data that is consumed and created by the process.**

**ASSESSMENT DATE: June 2009 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 27 COURSE: MIS 710 A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1. Uses formal method (e.g., an Entity-Relationship Map) | 4 | 5 | 17 | 7.5 |
| 2: Student can develop a correct data model (e.g., an entity relationship map) | 3 | 8 | 15 | 7.3 |
| 3: The data model is syntactically and semantically corrected | 4 | 9 | 13 | 6.7 |
| 4: The data model is appropriately linked to the process | 3 | 3 | 8 | 6.8 |
| **Average Grade on Trait (Maximum 10)** | | | | **7.1** |

Does not meet expectations 0 - 20; meets 21 - 30; exceeds 31 - 40

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **5** | **8** | **14** |
| **Students meeting or exceeding expectations:** | | **81%** | |

**COMMENTS:**

Although these scores are better than those in 2007-08 (see page 14), it is still the case that some students do not understand how to develop data models and how to link them to the processes they are redesigning. Some students have not taken MIS 630 Data Modeling before they take this class. Those that have are probably benefitting from the additional data modeling drills given in that class.

**REMEDIAL ACTIONS:**

From a scheduling point of view it may not be possible for all students to take MIS 630 Data Management before MIS 710. In addition to an in-class exercise on data modeling given in this course (MIS 710), we will develop a web-based “voice-over” lecture on data modeling that all students must take.

# 9. SPECIFIC STEPS TAKEN IN FALL-SPRING 2009-10

**LEARNING OBJECTIVE # 1: Students can recognize strategic organizational goals and develop process goals that satisfy one or more strategic goals.**

**Specific Steps**

1. An in-class exercise requiring students to link strategy and process goals for a hypothetical organization was added to help students use the Balanced Score Card approach to make this linkage. This exercise was administered in session 4 and is worth 2% of the final course grade.

**LEARNING OBJECTIVE # 2: The student is able to design a sound “to be” or “should” process map**

**Specific Steps**

1. An in-class exercise in using the more precise BPMN process mapping notation was administered in lecture 9-Process/Workflow Design.

**LEARNING OBJECTIVE # 3: The student can apply process improvement (reengineering) principles to achieve process**

**Specific Steps**

1. This requirement was included in the problem statement and the requirement was discussed in class.

**LEARNING OBJECTIVE #4: The student can identify and design the data that is consumed and created by the process.**

**Specific Steps**

1. A revised version of the MIS 630 course was taught for the first time in spring 2009. As a result, the data modeling skills of our students should be improved. It is still the case that some students in some majors will not taken MIS 630 before taking MIS 710.

# 10. RESULTS OF ASSESSMENT: SPRING 2010

**LEARNING GOAL # 5: Each student can analyze a business situation and design an integrated process and data model to satisfy strategic organizational goals.**

**LEARNING OBJECTIVE # 1: Students can recognize strategic organizational goals and develop process goals that satisfy one or more strategic goals.**

**ASSESSMENT DATE: June 2010 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 20 COURSE: MIS 710 A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Given an organizational problem statement, the student recognizes the appropriate strategic organizational goal(s) | 0 | 12 | 8 | 7.0 |
| 2: Develop Process goals that are relevant to the strategic goal(s) | 0 | 7 | 13 | 8.3 |
| 3: Presents a sound rationale explaining the linkage between strategic goal and the process goals. | 0 | 6 | 14 | 8.0 |
| **Average Grade (Maximum 10)** | | | | **7.8** |

Does not meet expectations 0 - 10; meets 11 - 20; exceeds 21 - 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **0** | **13** | **5** |
| **Students meeting or exceeding expectations:** | | **100%** | |

**COMMENTS:** Students did a better job this year in articulating organizational goals and linking the strategy of the organization to the goals of the process they were analyzing.

**REMEDIAL ACTIONS:** The remedial action taken last year (improved lecture notes and more attention in class) seems to have worked at least to some extent. No further change is anticipated.

**LEARNING OBJECTIVE # 2: The student is able to design a sound “to be” or “should” process map**

**ASSESSMENT DATE: June 2010 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 20 COURSE: MIS 710 A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Use of formal method | 1 | 8 | 11 | 7.3 |
| 2: The process map is syntactically correct | 1 | 11 | 8 | 6.8 |
| 3. Given the process goals, the process map is semantically correct | 0 | 14 | 6 | 6.5 |
| 4 Student correctly identifies the organizational entities that are involved | 0 | 13 | 7 | 6.8 |
| 5. Correctly identifies the system and technical entities that are needed to support the process | 7 | 3 | 10 | 6.0 |
| **Average Grade (Maximum 10)** | | | | **6.7** |

Does not meet expectations 0 -25; meets 26-40; exceeds 41 - 50

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **7** | **11** | **2** |
| **Students meeting or exceeding expectations:** | | **65%** | |

**COMMENTS:** Students continue to have difficulty in this area. More students are using software to assist them in drawing syntactically correct BPMN process maps. Moving the lecture on process mapping earlier in the semester is helpful.

**REMEDIAL ACTIONS:** Provide more examples of good process maps in class.

**LEARNING OBJECTIVE # 3: The student can apply process improvement (reengineering) principles to achieve process improvement.**

**ASSESSMENT DATE: June 2010 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 20 COURSE: MIS 710 A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Explicitly identifies one or more process improvement (reengineering) principles (or invents their own principle) | 1 | 6 | 13 | 8.1 |
| 2: Applies the reengineering principles correctly | 1 | 8 | 11 | 7.5 |
| 3. Explains how the reengineering principles are used | 2 | 8 | 10 | 7.0 |
| **Average Grade (Maximum 10)** | | | | **7.5** |

Does not meet expectations 0 - 10; meets 11 - 20; exceeds 21 – 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **1** | **9** | **10** |
| **Students meeting or exceeding expectations:** | | **95%** | |

**COMMENTS:**

Students do quite well in rationalizing the process improvements that they suggest.

**REMEDIAL ACTIONS:**

No remedial action is contemplated on this objective.

**LEARNING OBJECTIVE #4: The student can identify and design the data that is consumed and created by the process.**

**ASSESSMENT DATE: June 2010 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 20 COURSE: MIS 710 A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1. Uses formal method (e.g., an Entity-Relationship Map) | 5 | 8 | 7 | 5.5 |
| 2: Student can develop a correct data model (e.g., an entity relationship map) | 6 | 9 | 5 | 2.8 |
| 3: The data model is syntactically and semantically corrected | 7 | 8 | 5 | 4.5 |
| 4: The data model is appropriately linked to the process | 7 | 7 | 6 | 4.3 |
| **Average Grade on Trait (Maximum 10)** | | | | **4.8** |

Does not meet expectations 0 - 20; meets 21 - 30; exceeds 31 – 40

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **9** | **5** | **6** |
| **Students meeting or exceeding expectations:** | | **55%** | |

**COMMENTS:**

Although these scores are better than those in 1008-08, it is still the case that some students do not understand how to develop data models and how to link them to the processes they are redesigning. Some students have not taken MIS 630 Data Modeling before they take this class. Those that have are probably benefitting from the additional data modeling drills given in that class.

**REMEDIAL ACTIONS:**

Because MIS630 is being phased out, it may not have been possible for all students to take MIS 630 Data Management before MIS 710. In addition to an in-class exercise on data modeling given in this course (MIS 710), we will develop a web-based “voice-over” lecture on data modeling that all students must take.

# 11. SPECIFIC STEPS TAKEN IN FALL 2010

**LEARNING OBJECTIVE # 1: Students can recognize strategic organizational goals and develop process goals that satisfy one or more strategic goals.**

**Specific Steps**

Student performance has improved. No additional changes are contemplated.

**LEARNING OBJECTIVE # 2: The student is able to design a sound “to be” or “should” process map**

Drawing a correct process map is a cognitively difficult task. We will continue to work on this objective of learning goal 5.

**Specific Steps**

Provide additional examples of good process maps.

**LEARNING OBJECTIVE # 3: The student can apply process improvement (reengineering) principles to achieve process**

No remedial action required.

**LEARNING OBJECTIVE #4:** The student can identify and design the data that is consumed and created by the process.

Unfortunately, the MIS curriculum committee dropped the MIS 630 database course as requirement this year to allow more freedom for students to take a broader range of concentrations.

**Specific Steps**

Continue the tutorial on database design and the associated graded exercise.

# 12. RESULTS OF ASSESSMENT: SPRING 2011

**LEARNING GOAL # 5: Each student can analyze a business situation and design an integrated process and data model to satisfy strategic organizational goals.**

**LEARNING OBJECTIVE # 1: Students can recognize strategic organizational goals and develop process goals that satisfy one or more strategic goals.**

**ASSESSMENT DATE: June 2011 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 20 COURSE: MIS 710 A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Given an organizational problem statement, the student recognizes the appropriate strategic organizational goal(s) | 0 | 0 | 13 | 10.0 |
| 2: Develop Process goals that are relevant to the strategic goal(s) | 0 | 1 | 12 | 9.6 |
| 3: Presents a sound rationale explaining the linkage between strategic goal and the process goals. | 0 | 2 | 11 | 9.2 |
| **Average Grade (Maximum 10)** | | | | **9.6** |

Does not meet expectations 0 - 10; meets 11 - 20; exceeds 21 - 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **0** | **8** | **12** |
| **Students meeting or exceeding expectations:** | | **100%** | |

**COMMENTS:** Students did an excellent job this semester.

**REMEDIAL ACTIONS:** No remedial actions are required.

**LEARNING OBJECTIVE # 2: The student is able to design a sound “to be” or “should” process map**

**ASSESSMENT DATE: June 2011 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 20 COURSE: MIS 710 A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Use of formal method | 0 | 4 | 9 | 8.5 |
| 2: The process map is syntactically correct | 0 | 6 | 7 | 7.7 |
| 3. Given the process goals, the process map is semantically correct | 0 | 5 | 7 | 7.9 |
| 4 Student correctly identifies the organizational entities that are involved | 0 | 6 | 7 | 7.7 |
| 5. Correctly identifies the system and technical entities that are needed to support the process | 0 | 7 | 6 | 7.3 |
| **Average Grade (Maximum 10)** | | | | **7.8** |

Does not meet expectations 0 -25; meets 26-40; exceeds 41 - 50

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **3** | **3** | **7** |
| **Students meeting or exceeding expectations:** | | **77%** | |

**COMMENTS:** Students continue to have difficulty in this area.

**REMEDIAL ACTIONS:** Provide additional class time.

**LEARNING OBJECTIVE # 3: The student can apply process improvement (reengineering) principles to achieve process**

**ASSESSMENT DATE: June 2011 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 20 COURSE: MIS 710 A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Explicitly identifies one or more process improvement (reengineering) principles (or invents their own principle) | 0 | 5 | 8 | 7.7 |
| 2: Applies the reengineering principles correctly | 0 | 6 | 7 | 7.7 |
| 3. Explains how the reengineering principles are used | 2 | 5 | 6 | 6.5 |
| **Average Grade (Maximum 10)** | | | | **7.3** |

Does not meet expectations 0 - 10; meets 11 - 20; exceeds 21 - 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **2** | **3** | **8** |
| **Students meeting or exceeding expectations:** | | **85%** | |

**COMMENTS:**

Students now understand that they must supply a rationale for their use of the BPR principles rather than just list the ones that they use.

**REMEDIAL ACTIONS:**

No remedial action is contemplated on this objective.

**LEARNING OBJECTIVE #4: The student can identify and design the data that is consumed and created by the process.**

**ASSESSMENT DATE: June 2011 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 20 COURSE: MIS 710 A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1. Uses formal method (e.g., an Entity-Relationship Map) | 2 | 7 | 4 | 5.8 |
| 2: Student can develop a correct data model (e.g., an entity relationship map) | 2 | 6 | 5 | 6.2 |
| 3: The data model is syntactically and semantically corrected | 2 | 8 | 2 | 5.0 |
| 4: The data model is appropriately linked to the process | 2 | 6 | 4 | 5.8 |
| **Average Grade on Traits (Maximum = 10)** | | | | **5.7** |

Does not meet expectations 0 - 20; meets 21 - 30; exceeds 31 - 40

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **7** | **3** | **3** |
| **Students meeting or exceeding expectations:** | | **46%** | |

**COMMENTS:**

Data modeling is a major area of weakness. Because MIS 630 Database Management is no longer a required MIS course, fewer students had a background in database this semester and the assessment results are worse than in previous years.

**REMEDIAL ACTIONS:**

The proposed new curriculum for the Howe School will restore a modified version of MIS 630 Database Management as a requirement for MIS students, which should help address this problem.

# 13. RESULTS OF ASSESSMENT: FALL 2011

**LEARNING GOAL # 5: Each student can analyze a business situation and design an integrated process and data model to satisfy strategic organizational goals.**

**LEARNING OBJECTIVE # 1: Students can recognize strategic organizational goals and develop process goals that satisfy one or more strategic goals.**

**ASSESSMENT DATE: Fall 2011 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 43 COURSE: MIS 710A and 710B**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Given an organizational problem statement, the student recognizes the appropriate strategic organizational goal(s) | 0 | 30 | 12 | 6.4 |
| 2: Develop Process goals that are relevant to the strategic goal(s) | 0 | 19 | 23 | 3.5 |
| 3: Presents a sound rationale explaining the linkage between strategic goal and the process goals. | 0 | 20 | 22 | 3.5 |
| **Average Grade (Maximum 10)** | | | | **4.4** |

Does not meet expectations 0 - 10; meets 11 - 20; exceeds 21 - 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **1** | **23** | **19** |
| **Students meeting or exceeding expectations:** | | **98%** | |

**COMMENTS:** In general, **s**tudents were unable to distinguish between organizational and process goals and the link between the two.

**REMEDIAL ACTIONS:** Emphasize more in class and more clearly frame the question in the reengineering homework that is the basis for this assessment.

**LEARNING OBJECTIVE # 2: The student is able to design a sound “to be” or “should” process map**

**ASSESSMENT DATE: Fall 2011 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 43 COURSE: MIS 710A and 710B**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Use of formal method | 2 | 24 | 17 | 6.7 |
| 2: The process map is syntactically correct | 1 | 23 | 19 | 7.1 |
| 3. Given the process goals, the process map is semantically correct | 1 | 21 | 21 | 7.3 |
| 4 Student correctly identifies the organizational entities that are involved | 0 | 25 | 18 | 7.1 |
| 5. Correctly identifies the system and technical entities that are needed to support the process | 7 | 17 | 19 | 6.5 |
| **Average Grade (Maximum 10)** | | | | **7** |

Does not meet expectations 0 -25; meets 26-40; exceeds 41 - 50

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **6** | **19** | **18** |
| **Students meeting or exceeding expectations:** | | **86%** | |

**COMMENTS:** Students did a better job this year, because more of them used free software to help define their process maps.

**REMEDIAL ACTIONS:** Continue the current emphasis on process mapping principles.

**LEARNING OBJECTIVE # 3: The student can apply process improvement (reengineering) principles to achieve process**

**ASSESSMENT DATE: Fall 2011 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 43 COURSE: MIS 710A and 710B**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Explicitly identifies one or more process improvement (reengineering) principles (or invents their own principle) | 1 | 30 | 12 | 6.3 |
| 2: Applies the reengineering principles correctly | 1 | 30 | 12 | 6.3 |
| 3. Explains how the reengineering principles are used | 1 | 27 | 15 | 6.6 |
| **Average Grade (Maximum 10)** | | | | **6.4** |

Does not meet expectations 0 - 10; meets 11 - 20; exceeds 21 - 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **1** | **30** | **12** |
| **Students meeting or exceeding expectations:** | | **98%** | |

**COMMENTS:**

Students now understand that they must supply a rationale for their use of the BPR principles rather than just list the ones that they use.

**REMEDIAL ACTIONS:**

No remedial action is contemplated on this objective.

**LEARNING OBJECTIVE #4: The student can identify and design the data that is consumed and created by the process.**

**ASSESSMENT DATE: Fall 2011 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 43 COURSE: MIS 710A and 710B**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1. Uses formal method (e.g., an Entity-Relationship Map) | 2 | 33 | 7 | 5.6 |
| 2: Student can develop a correct data model (e.g., an entity relationship map) | 5 | 32 | 5 | 5.0 |
| 3: The data model is syntactically and semantically corrected | 6 | 32 | 4 | 4.6 |
| 4: The data model is appropriately linked to the process | 8 | 30 | 4 | 4.4 |
| **Average Grade on Trait (Maximum 10)** | | | | **4.9** |

Does not meet expectations 0 - 20; meets 21 - 30; exceeds 31 - 40

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **34** | **5** | **4** |
| **Students meeting or exceeding expectations:** | | **21%** | |

**COMMENTS:**

Data modeling remains a major area of weakness. MIS 630 Database Management has been reintroduced as a required course in the MSIS curriculum. Unfortunately, because of logistical issues associated with the introduction of the new curriculum, most students in the fall 2011 MIS 701A and B sections had not taken MIS 630 prior to MIS 710.

**REMEDIAL ACTIONS:**

The proposed new curriculum for the Howe School will restore a modified version of MIS 630 Database Management as a requirement for MIS students, which should help address this problem. In addition, MIS 630 has been redesigned to place a greater emphasis on data modeling and a Database tutorial has been introduced as a refresher in MIS 710.

# 14. RESULTS OF ASSESSMENT: Fall 2012& Spring 2013

**LEARNING GOAL # 5: Each student can analyze a business situation and design an integrated process and data model to satisfy strategic organizational goals.**

**LEARNING OBJECTIVE # 1: Students can recognize strategic organizational goals and develop process goals that satisfy one or more strategic goals.**

**ASSESSMENT DATE:** **Fall 2012 and Spring 2013 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 14 COURSE: MIS 710A and 710B**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Given an organizational problem statement, the student recognizes the appropriate strategic organizational goal(s) | 0 | 5 | 9 | 8.2 |
| 2: Develop Process goals that are relevant to the strategic goal(s) | 0 | 3 | 11 | 8.9 |
| 3: Presents a sound rationale explaining the linkage between strategic goal and the process goals. | 3 | 1 | 10 | 7.5 |
| **Average Grade (Maximum 10)** | | | | **8.2** |

Does not meet expectations 0 - 10; meets 11 - 20; exceeds 21 - 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **0** | **4** | **10** |
| **Students meeting or exceeding expectations:** | | **100%** | |

**COMMENTS:** In general, **s**tudents were unable to distinguish between organizational and process goals and the link between the two.

**REMEDIAL ACTIONS:** Emphasize more in class and more clearly frame the question in the reengineering homework that is the basis for this assessment.

**LEARNING OBJECTIVE # 2: The student is able to design a sound “to be” or “should” process map**

**ASSESSMENT DATE: Fall 2012 and spring 2013 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 14 COURSE: MIS 710A and 710B**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Use of formal method | 1 | 3 | 10 | 8.2 |
| 2: The process map is syntactically correct | 2 | 3 | 9 | 7.5 |
| 3. Given the process goals, the process map is semantically correct | 1 | 6 | 7 | 7.1 |
| 4 Student correctly identifies the organizational entities that are involved | 0 | 7 | 7 | 7.5 |
| 5. Correctly identifies the system and technical entities that are needed to support the process | 6 | 0 | 8 | 5.7 |
| **Average Grade (Maximum 10)** | | | | **7.2** |

Does not meet expectations 0 -25; meets 26-40; exceeds 41 - 50

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **4** | **0** | **10** |
| **Students meeting or exceeding expectations:** | | **71%** | |

**COMMENTS:** Students did a better job this year, because more of them used free software to help define their process maps.

**REMEDIAL ACTIONS:** Continue the current emphasis on process mapping principles.

**LEARNING OBJECTIVE # 3: The student can apply process improvement (reengineering) principles to achieve process**

**ASSESSMENT DATE: Fall 2012 & spring 2013 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 14 COURSE: MIS 710A and 710B**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Explicitly identifies one or more process improvement (reengineering) principles (or invents their own principle) | 1 | 7 | 6 | 6.8 |
| 2: Applies the reengineering principles correctly | 2 | 6 | 6 | 6.4 |
| 3. Explains how the reengineering principles are used | 7 | 2 | 5 | 4.3 |
| **Average Grade (Maximum 10)** | | | | **5.8** |

Does not meet expectations 0 - 10; meets 11 - 20; exceeds 21 - 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **6** | **3** | **5** |
| **Students meeting or exceeding expectations:** | | **57%** | |
|  |  |  |  |

**COMMENTS:**

Some students do not understand that they must supply a rationale for their use of the BPR principles rather than just list the ones that they use.

**REMEDIAL ACTIONS:**

Emphasize more in class - no specific remedial action is contemplated on this objective.

**LEARNING OBJECTIVE #4: The student can identify and design the data that is consumed and created by the process.**

**ASSESSMENT DATE: Fall 2012 & spring 2013 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 14 COURSE: MIS 710A and 710B**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1. Uses formal method (e.g., an Entity-Relationship Map) | 3 | 6 | 5 | 5.7 |
| 2: Student can develop a correct data model (e.g., an entity relationship map) | 3 | 6 | 5 | 5.7 |
| 3: The data model is syntactically and semantically corrected | 2 | 5 | 7 | 6.1 |
| 4: The data model is appropriately linked to the process | 1 | 4 | 9 | 7.9 |
| **Average Grade on Trait (Maximum 10)** | | | | **6.3** |

Does not meet expectations 0 - 20; meets 21 - 30; exceeds 31 - 40

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **6** | **3** | **5** |
| **Students meeting or exceeding expectations:** | | **57%** | |

**COMMENTS:**

Data modeling remains a major area of weakness. MIS 630 Database Management has been reintroduced as a required course in the MSIS curriculum. Unfortunately, because of logistical issues associated with the introduction of the new curriculum, most students in the fall 2014 MIS 701A and B sections had not taken MIS 630 prior to MIS 710.

**REMEDIAL ACTIONS:**

The proposed new curriculum for the Howe School will restore a modified version of MIS 630 Database Management as a requirement for MIS students, which should help address this problem. In addition, MIS 630 has been redesigned to place a greater emphasis on data modeling and a Database tutorial has been introduced as a refresher in MIS 710.

# 

# 15. RESULTS OF ASSESSMENT: Fall 2013

**LEARNING GOAL # 5: Each student can analyze a business situation and design an integrated process and data model to satisfy strategic organizational goals.**

**LEARNING OBJECTIVE # 1: Students can recognize strategic organizational goals and develop process goals that satisfy one or more strategic goals.**

**ASSESSMENT DATE: Fall 2013 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 31 COURSE: MIS 710A and 710B**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Given an organizational problem statement, the student recognizes the appropriate strategic organizational goal(s) | 0 | 20 | 11 | 6.8 |
| 2: Develop Process goals that are relevant to the strategic goal(s) | 0 | 3 | 28 | 9.5 |
| 3: Presents a sound rationale explaining the linkage between strategic goal and the process goals. | 0 | 5 | 26 | 9.2 |
| **Average Grade (Maximum 10)** | | | | **8.5** |

Does not meet expectations 0 - 10; meets 11 - 20; exceeds 21 - 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **0** | **6** | **25** |
| **Students meeting or exceeding expectations:** | | **100%** | |

**COMMENTS:** Students performed well on this objective – almost all students understand how to link process and organizational goals.

**REMEDIAL ACTIONS:** No remedial action – continue the current approach.

**LEARNING OBJECTIVE # 2: The student is able to design a sound “to be” or “should” process map**

**ASSESSMENT DATE: Fall 2013 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 31 COURSE: MIS 710A and 710B**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Use of formal method | 0 | 12 | 19 | 8.1 |
| 2: The process map is syntactically correct | 0 | 3 | 28 | 9.5 |
| 3. Given the process goals, the process map is semantically correct | 0 | 12 | 19 | 8.1 |
| 4 Student correctly identifies the organizational entities that are involved | 1 | 15 | 15 | 7.3 |
| 5. Correctly identifies the system and technical entities that are needed to support the process | 3 | 12 | 16 | 7.1 |
| **Average Grade (Maximum 10)** | | | | **8.0** |

Does not meet expectations 0 -25; meets 26-40; exceeds 41 - 50

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **0** | **13** | **18** |
| **Students meeting or exceeding expectations:** | | **100%** | |

**COMMENTS:** Students did a better job this year, because more of them used free software to help define their process maps.

**REMEDIAL ACTIONS:** Continue the current emphasis on process mapping principles.

**LEARNING OBJECTIVE # 3: The student can apply process improvement (reengineering) principles to achieve process**

**ASSESSMENT DATE: Fall 2013 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 31 COURSE: MIS 710A and 710B**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Explicitly identifies one or more process improvement (reengineering) principles (or invents their own principle) | 2 | 7 | 22 | 8.2 |
| 2: Applies the reengineering principles correctly | 3 | 7 | 21 | 7.9 |
| 3. Explains how the reengineering principles are used | 5 | 4 | 22 | 7.7 |
| **Average Grade (Maximum 10)** | | | | **8.0** |

Does not meet expectations 0 - 10; meets 11 - 20; exceeds 21 - 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **5** | **4** | **22** |
| **Students meeting or exceeding expectations:** | | **84%** | |

**COMMENTS:**

Students now understand that they must supply a rationale for their use of the BPR principles rather than just list the ones that they use.

**REMEDIAL ACTIONS:**

Although 5 students did not meet objectives on this objective, no remedial action is contemplated on this objective beyond continuing the emphasis that is placed on reengineering.

**LEARNING OBJECTIVE #4: The student can identify and design the data that is consumed and created by the process.**

**ASSESSMENT DATE: Fall 2013 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 31 COURSE: MIS 710A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1. Uses formal method (e.g., an Entity-Relationship Map) | 1 | 12 | 18 | 7.7 |
| 2: Student can develop a correct data model (e.g., an entity relationship map) | 2 | 18 | 11 | 6.5 |
| 3: The data model is syntactically and semantically corrected | 2 | 20 | 9 | 6.1 |
| 4: The data model is appropriately linked to the process | 1 | 11 | 19 | 7.9 |
| **Average Grade on Trait (Maximum 10)** | | | | **7.1** |

Does not meet expectations 0 - 20; meets 21 - 30; exceeds 31 - 40

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **8** | **15** | **8** |
| **Students meeting or exceeding expectations:** | | **74%** | |

**COMMENTS:**

Student performance on data modeling remains a concern.

**REMEDIAL ACTIONS:**

MIS 630 has been redesigned to place a greater emphasis on data modeling and more examples in SQL querying will be introduced in MIS 630 this semester. Additional examples will be introduced into the online database tutorial in MIS 710.

# 16. RESULTS OF ASSESSMENT: Spring 2015

**LEARNING GOAL # 5: Each student can analyze a business situation and design an integrated process and data model to satisfy strategic organizational goals.**

**LEARNING OBJECTIVE # 1: Students can recognize strategic organizational goals and develop process goals that satisfy one or more strategic goals.**

**ASSESSMENT DATE: Spring 2014 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 34 COURSE: MIS 710A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Given an organizational problem statement, the student recognizes the appropriate strategic organizational goal(s) | 4 | 15 | 16 | 6.7 |
| 2: Develop Process goals that are relevant to the strategic goal(s) | 1 | 5 | 28 | 9.1 |
| 3: Presents a sound rationale explaining the linkage between strategic goal and the process goals. | 0 | 11 | 23 | 8.4 |
| **Average Grade (Maximum 10)** | | | | **8.1** |

Does not meet expectations 0 - 10; meets 11 - 20; exceeds 21 - 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **1** | **8** | **25** |
| **Students meeting or exceeding expectations:** | | **97%** | |

**COMMENTS:** In general, **s**tudents were unable to distinguish between organizational and process goals and the link between the two.

**REMEDIAL ACTIONS:** Emphasize more in class and more clearly frame the question in the reengineering homework that is the basis for this assessment.

**LEARNING OBJECTIVE # 2: The student is able to design a sound “to be” or “should” process map**

**ASSESSMENT DATE: Spring 2015 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 34 COURSE: MIS 710A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Use of formal method | 7 | 10 | 17 | 6.5 |
| 2: The process map is syntactically correct | 3 | 11 | 20 | 7.5 |
| 3. Given the process goals, the process map is semantically correct | 5 | 9 | 20 | 7.2 |
| 4 Student correctly identifies the organizational entities that are involved | 1 | 9 | 24 | 8.4 |
| 5. Correctly identifies the system and technical entities that are needed to support the process | 15 | 4 | 15 | 5.0 |
| **Average Grade (Maximum 10)** | | | | **6.9** |

Does not meet expectations 0 -25; meets 26-40; exceeds 41 - 50

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **8** | **9** | **17** |
| **Students meeting or exceeding expectations:** | | **76%** | |

**COMMENTS:** While nearly all students used free software to help define their process maps, the performance on this objective was not as good as expected.

**REMEDIAL ACTIONS:** Continue to increase the current emphasis on process mapping principles.

**LEARNING OBJECTIVE # 3: The student can apply process improvement (reengineering) principles to achieve process**

**ASSESSMENT DATE: Spring 2015 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 34 COURSE: MIS 710A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Explicitly identifies one or more process improvement (reengineering) principles (or invents their own principle) | 0 | 8 | 26 | 8.8 |
| 2: Applies the reengineering principles correctly | 2 | 16 | 16 | 7.1 |
| 3. Explains how the reengineering principles are used | 16 | 6 | 10 | 6.8 |
| **Average Grade (Maximum 10)** | | | | **7.5** |

Does not meet expectations 0 - 10; meets 11 - 20; exceeds 21 - 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **4** | **13** | **17** |
| **Students meeting or exceeding expectations:** | | **88%** | |

**COMMENTS:**

Students now understand that they must supply a rationale for their use of the BPR principles rather than just list the ones that they use.

**REMEDIAL ACTIONS:**

Although 4 students did not meet objectives on this objective, no remedial action is contemplated beyond continuing the emphasis that is placed on this in class.

**LEARNING OBJECTIVE #4: The student can identify and design the data that is consumed and created by the process.**

**ASSESSMENT DATE: Spring 2015 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 34 COURSE: MIS 710A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1. Uses formal method (e.g., an Entity-Relationship Map) | 10 | 10 | 14 | 5.6 |
| 2: Student can develop a correct data model (e.g., an entity relationship map) | 5 | 18 | 11 | 5.9 |
| 3: The data model is syntactically and semantically corrected | 13 | 13 | 8 | 4.3 |
| 4: The data model is appropriately linked to the process | 7 | 14 | 13 | 5.9 |
| **Average Grade on Trait (Maximum 10)** | | | | **5.4** |

Does not meet expectations 0 - 20; meets 21 - 30; exceeds 31 - 40

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **20** | **6** | **8** |
| **Students meeting or exceeding expectations:** | | **41%** | |

**COMMENTS:**

Student performance on data modeling has not improved and remains a concern.

**REMEDIAL ACTIONS:**

MIS 630 has been redesigned to place a greater emphasis on data modeling and more examples in SQL querying will be introduced in MIS 630 this semester. Additional examples will be introduced into the online database tutorial in MIS 710. Students will be encouraged to take MIS 630 Database and Knowledge Management before MIS710.

# 17. RESULTS OF ASSESSMENT: Fall 2016

**LEARNING GOAL # 5: Each student can analyze a business situation and design an integrated process and data model to satisfy strategic organizational goals.**

**LEARNING OBJECTIVE # 1: Students can recognize strategic organizational goals and develop process goals that satisfy one or more strategic goals.**

**ASSESSMENT DATE: Fall 2016 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 30 COURSE: MIS 710A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Given an organizational problem statement, the student recognizes the appropriate strategic organizational goal(s) | 2 | 19 | 9 | 6.2 |
| 2: Develop Process goals that are relevant to the strategic goal(s) | 0 | 12 | 18 | 8.0 |
| 3: Presents a sound rationale explaining the linkage between strategic goal and the process goals. | 0 | 17 | 13 | 7.2 |
| **Average Grade (Maximum 10)** | | | | **7.1** |

Does not meet expectations 0 - 10; meets 11 - 20; exceeds 21 - 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **2** | **16** | **12** |
| **Students meeting or exceeding expectations:** | | **93.33%** | |

**COMMENTS:**

**REMEDIAL ACTIONS:**

**LEARNING OBJECTIVE # 2: The student is able to design a sound “to be” or “should” process map**

**ASSESSMENT DATE: Fall 2016 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 30 COURSE: MIS 710A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Use of formal method | 4 | 7 | 19 | 7.5 |
| 2: The process map is syntactically correct | 3 | 12 | 15 | 7.0 |
| 3: Process map is logically sound and complete | 1 | 12 | 16 | 7.6 |
| 4: Activity goals identified | 14 | 6 | 07 | 3.7 |
| **Average Grade (Maximum 10)** | | | | **6.4** |

Does not meet expectations 0 -20; meets 21-30; exceeds 31 - 40

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **13** | **10** | **07** |
| **Students meeting or exceeding expectations:** | | **56.66%** | |

**COMMENTS:**

**REMEDIAL ACTIONS:**

**LEARNING OBJECTIVE # 3: The student can apply process improvement (reengineering) principles to achieve process**

**ASSESSMENT DATE: Fall 2016 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 30 COURSE: MIS 710A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Explicitly identifies one or more process improvement (reengineering) principles (or invents their own principle) | 0 | 8 | 21 | 8.6 |
| 2: Applies the reengineering principles correctly | 0 | 9 | 19 | 8.4 |
| 3. Explains how the reengineering principles are used | 0 | 7 | 21 | 8.8 |
| **Average Grade (Maximum 10)** | | | | **8.6** |

Does not meet expectations 0 - 10; meets 11 - 20; exceeds 21 - 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **2** | **08** | **20** |
| **Students meeting or exceeding expectations:** | | **93.33%** | |

**COMMENTS:**

**REMEDIAL ACTIONS:**

**LEARNING OBJECTIVE #4: The student can identify and design the data that is consumed and created by the process.**

**ASSESSMENT DATE: Fall 2016 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 30 COURSE: MIS 710A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1. Uses formal method (e.g., an Entity-Relationship Map) | 4 | 18 | 08 | 5.7 |
| 2: Student can develop a correct data model (e.g., an entity relationship map) | 8 | 18 | 04 | 4.3 |
| 3: The data model is syntactically and semantically corrected | 11 | 16 | 3 | 3.7 |
| 4: The data model is appropriately linked to the process | 3 | 16 | 11 | 6.3 |
| **Average Grade on Trait (Maximum 10)** | | | | **5.0** |

Does not meet expectations 0 - 20; meets 21 - 30; exceeds 31 - 40

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **19** | **8** | **3** |
| **Students meeting or exceeding expectations:** | | **36.66%** | |

**COMMENTS:**

**REMEDIAL ACTIONS:**

# 18. RESULTS OF ASSESSMENT: Spring 2017

**LEARNING GOAL # 5: Each student can analyze a business situation and design an integrated process and data model to satisfy strategic organizational goals.**

**LEARNING OBJECTIVE # 1: Students can recognize strategic organizational goals and develop process goals that satisfy one or more strategic goals.**

**ASSESSMENT DATE: Spring 2017 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 26 COURSE: MIS 710A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Given an organizational problem statement, the student recognizes the appropriate strategic organizational goal(s) | 0 | 24 | 2 | 5.4 |
| 2: Develop Process goals that are relevant to the strategic goal(s) | 0 | 6 | 19 | 8.8 |
| 3: Presents a sound rationale explaining the linkage between strategic goal and the process goals. | 0 | 20 | 5 | 6.0 |
| **Average Grade (Maximum 10)** | | | | **6.7** |

Does not meet expectations 0 - 10; meets 11 - 20; exceeds 21 - 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **1** | **20** | **5** |
| **Students meeting or exceeding expectations:** | | **96.15%** | |

**COMMENTS:**

**REMEDIAL ACTIONS:**

**LEARNING OBJECTIVE # 2: The student is able to design a sound “to be” or “should” process map**

**ASSESSMENT DATE: Spring 2017 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 26 COURSE: MIS 710A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Use of formal method | 2 | 09 | 15 | 7.5 |
| 2: The process map is syntactically correct | 1 | 07 | 18 | 8.3 |
| 3: Process map is logically sound and complete | 0 | 4 | 22 | 9.2 |
| 4: Activity goals identified | 9 | 13 | 04 | 4.0 |
| **Average Grade (Maximum 10)** | | | | **7.25** |

Does not meet expectations 0 -20; meets 21-30; exceeds 31 - 40

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **6** | **8** | **12** |
| **Students meeting or exceeding expectations:** | | **76.92%** | |

**COMMENTS:**

**REMEDIAL ACTIONS:**

**LEARNING OBJECTIVE # 3: The student can apply process improvement (reengineering) principles to achieve process**

**ASSESSMENT DATE: Spring 2017 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 26 COURSE: MIS 710A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Explicitly identifies one or more process improvement (reengineering) principles (or invents their own principle) | 1 | 3 | 18 | 8.9 |
| 2: Applies the reengineering principles correctly | 1 | 3 | 18 | 8.9 |
| 3. Explains how the reengineering principles are used | 0 | 2 | 19 | 9.5 |
| **Average Grade (Maximum 10)** | | | | **9.1** |

Does not meet expectations 0 - 10; meets 11 - 20; exceeds 21 - 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **3** | **05** | **18** |
| **Students meeting or exceeding expectations:** | | **88.46%** | |

**COMMENTS:**

**REMEDIAL ACTIONS:**

**LEARNING OBJECTIVE #4: The student can identify and design the data that is consumed and created by the process.**

**ASSESSMENT DATE: Spring 2017 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 26 COURSE: MIS 710A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1. Uses formal method (e.g., an Entity-Relationship Map) | 5 | 07 | 13 | 6.6 |
| 2: Student can develop a correct data model (e.g., an entity relationship map) | 3 | 10 | 12 | 6.8 |
| 3: The data model is syntactically and semantically corrected | 1 | 19 | 5 | 5.8 |
| 4: The data model is appropriately linked to the process | 1 | 15 | 9 | 6.6 |
| **Average Grade on Trait (Maximum 10)** | | | | **6.5** |

Does not meet expectations 0 - 20; meets 21 - 30; exceeds 31 - 40

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **9** | **12** | **5** |
| **Students meeting or exceeding expectations:** | | **68.38%** | |

**COMMENTS:**

**REMEDIAL ACTIONS:**

# 19. RESULTS OF ASSESSMENT: Fall 2017

**LEARNING GOAL # 5: Each student can analyze a business situation and design an integrated process and data model to satisfy strategic organizational goals.**

**LEARNING OBJECTIVE # 1: Students can recognize strategic organizational goals and develop process goals that satisfy one or more strategic goals.**

**ASSESSMENT DATE: Fall 2017 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 24 COURSE: MIS 710A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Given an organizational problem statement, the student recognizes the appropriate strategic organizational goal(s) | 0 | 20 | 4 | 5.8 |
| 2: Develop Process goals that are relevant to the strategic goal(s) | 0 | 4 | 20 | 9.2 |
| 3: Presents a sound rationale explaining the linkage between strategic goal and the process goals. | 0 | 9 | 15 | 8.1 |
| **Average Grade (Maximum 10)** | | | | **7.7** |

Does not meet expectations 0 - 10; meets 11 - 20; exceeds 21 - 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **0** | **9** | **15** |
| **Students meeting or exceeding expectations:** | | **100%** | |

**COMMENTS:**

**REMEDIAL ACTIONS:**

**LEARNING OBJECTIVE # 2: The student is able to design a sound “to be” or “should” process map**

**ASSESSMENT DATE: Fall 2017 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 24 COURSE: MIS 710A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Use of formal method | 0 | 8 | 16 | 8.3 |
| 2: The process map is syntactically correct | 0 | 9 | 15 | 8.1 |
| 3: Process map is logically sound and complete | 0 | 7 | 17 | 8.5 |
| 4: Activity goals identified | 8 | 9 | 7 | 4.8 |
| **Average Grade (Maximum 10)** | | | | **7.4** |

Does not meet expectations 0 -20; meets 21-30; exceeds 31 - 40

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **6** | **14** | **4** |
| **Students meeting or exceeding expectations:** | | **75%** | |

**COMMENTS:**

**REMEDIAL ACTIONS:**

**LEARNING OBJECTIVE # 3: The student can apply process improvement (reengineering) principles to achieve process**

**ASSESSMENT DATE: Fall 2017 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 24 COURSE: MIS 710A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1: Explicitly identifies one or more process improvement (reengineering) principles (or invents their own principle) | 0 | 11 | 13 | 7.7 |
| 2: Applies the reengineering principles correctly | 0 | 8 | 16 | 8.3 |
| 3. Explains how the reengineering principles are used | 0 | 8 | 16 | 8.3 |
| **Average Grade (Maximum 10)** | | | | **8.1** |

Does not meet expectations 0 - 10; meets 11 - 20; exceeds 21 - 30

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **0** | **09** | **15** |
| **Students meeting or exceeding expectations:** | | **100%** | |

**COMMENTS:**

**REMEDIAL ACTIONS:**

**LEARNING OBJECTIVE #4: The student can identify and design the data that is consumed and created by the process.**

**ASSESSMENT DATE: Fall 2017 ASSESSOR: Ted Stohr**

**NO. OF STUDENTS TESTED: 24 COURSE: MIS 710A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of Students** | | |  |
| **Learning Goal Traits** | **Not Meet Expectat-ions** | **Meet Expectat-ions** | **Exceed Expectat-ions** | **Avg. Grade on Trait** |
| 1. Uses formal method (e.g., an Entity-Relationship Map) | 2 | 07 | 15 | 7.7 |
| 2: Student can develop a correct data model (e.g., an entity relationship map) | 3 | 8 | 13 | 7.1 |
| 3: The data model is syntactically and semantically corrected | 1 | 11 | 12 | 7.3 |
| 4: The data model is appropriately linked to the process | 1 | 5 | 18 | 8.5 |
| **Average Grade on Trait (Maximum 10)** | | | | **7.7** |

Does not meet expectations 0 - 20; meets 21 - 30; exceeds 31 - 40

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Not meet Expectations** | **Meets Expectations** | **Exceeds Expectations** |
| **Total Students by Category** *(Based on Average score across all traits)* | **4** | **7** | **13** |
| **Students meeting or exceeding expectations:** | | **83.33%** | |

**COMMENTS:**

**REMEDIAL ACTIONS:**

# 20. CLOSE-THE-LOOP PROCESS - CONTINUOUS IMPROVEMENT RECORD

Assurance of Learning

Assessment/Outcome Analysis

Close Loop Process - Continuous Improvement Record

**Program:** Master of Science in Information Systems

**Goal 5:** Students can analyze a business situation and design an integrated process and data model to satisfy strategic organizational goals.

**Goal Owner:** Ted Stohr

**Where Measured:** Course-embedded design assignment in required course MIS 710 Process Innovation and Management

**How Measured:** Sampling: Random samples of 30 MIS 710 students from fall and spring sections of course.

**Description:** One or more MIS 710 instructors grade a reengineering exercise, which requires students to submit a completely new design for a given process.

**Summary Record of Assessments on each Goal 5 Objective**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Objective 1**  **Design Goals** | **Objective 2**  **Process Map** | **Objective 3**  **Reengineering** | **Objective 4**  **Data Model** |
| Spring 2008 | 4.7 | 5.7 | 5.0 | 4.6 |
| Spring 2009 | 7.1 | 6.3 | 7.8 | 7.1 |
| Spring 2010 | 7.8 | 6.7 | 7.5 | 4.8 |
| Spring 2011 | 9.6 | 7.8 | 7.3 | 5.7 |
| Fall 2011 | 4.4 | 7.0 | 6.4 | 4.9 |
| Spring 2013 | 8.2 | 7.2 | 5.8 | 6.3 |
| Fall 2013 | 8.5 | 8.0 | 8.0 | 7.1 |
| Fall 2014 | 8.1 | 6.9 | 7.5 | 5.4 |
| Fall 2016 | 7.1 | 6.4 | 8.6 | 5.0 |
| Spring 2017 | 6.7 | 7.3 | 9.1 | 6.5 |
| Fall 2017 | 7.7 | 7.4 | 8.1 | 7.7 |

**Closing the Loop: Actions taken on specific objectives**

|  |  |
| --- | --- |
| **Objective 1** | *Students can recognize strategic organizational goals and develop process goals that satisfy one or more strategic goals.* |
| **When Assessed:** | *Spring 2008, Spring 2009, Spring 2010, Spring 2011, Fall 2011, Spring 2013, Fall 2013, Fall 2014, Fall 2016, Spring 2017, Fall 2017* |
| **Remedial**  **Actions** | Over the years, the following major actions were taken **within MIS710** to improve performance on this objective:  *Spring 2008:* An in-class exercise (worth 2% of the final grade) requiring students to link strategy and process goals for a hypothetical organization was added to help students use the Balanced Score Card approach to make this linkage.  *Fall 2012:* Emphasize this objective more in class and more clearly frame the question in the reengineering homework that is the basis for this assessment. More emphasis placed on relating strategy to process goals. |
| **Outcomes from assessments:** | With the exception of fall 2011, students have generally performed well on this objective (see above table). The remedial actions have been effective and the use of the Balanced Score Card approach is now an integral part of the course. In fall 2017, the average score on this objective was 7.7/10.0. |
| **Objective 2** | *The student is able to design a sound “to be” or “should” process map* |
| **When Assessed:** | *Spring 2008, Spring 2009, Spring 2010, Spring 2011, Fall 2011, Spring 2013, Fall 2013, Fall 2014, Fall 2016, Spring 2017, Fall 2017* |
| **Remedial**  **Actions** | Over the years, the following major actions were taken **within MIS710** to improve performance on this objective:  *Spring 2008:* The notes were revised to use BPMN, a more formal notation that should address the issue in trait 4. An in-class exercise in using the more precise BPMN process mapping notation was administered in lecture 9-Process/Workflow Design.  *Spring 2009:* An additional process mapping exercise using BPMN, a more formal process mapping notation seems to have been helpful. In future, we will provide explicit instruction on how to model the computerized system/database in process maps. An in-class exercise in using the more precise BPMN process mapping notation was administered in lecture 9-Process/Workflow Design.  Fall 2010: Drawing a correct process map is a cognitively difficult task - provide additional examples of good process maps. The use of a formal process mapping software (Bizagi or Tibco) was enforced.  Fall 2011, Spring 2013 and Fall 2014: Continued the current emphasis on process mapping principles. |
| **Outcomes from Assessments** | Student performance on this objective has generally improved over time. In fall 2017, the average score on this objective was 7.4/10.0. However, only 75% of students met or exceeded expectations in fall 2017. |
| **Objective 3** | *The student can apply process improvement (reengineering) principles to achieve process improvement* |
| **When Assessed:** | *Spring 2008, Spring 2009, Spring 2010, Spring 2011, Fall 2011, Spring 2013, Fall 2013, Fall 2014, Fall 2016, Spring 2017, Fall 2017* |
| **Remedial Actions** | Over the years, the following major actions were taken **within MIS710** to improve performance on this objective:  *Fall 2008:* This requirement was included in the problem statement used for assessment and more discussion was introduced in class. |
| **Outcomes from Assessments** | Performance on this objective has generally been good in the last round of assessment in fall 2017 the average score was of 8.1out of 10 with 100% of students meeting or exceeding expectations. |
| **Objective 4** | *The student can identify and design the data that is consumed and created by the process.* |
| **When Assessed:** | *Spring 2008, Spring 2009, Spring 2010, Spring 2011, Fall 2011, Spring 2013, Fall 2013, Fall 2014, Fall 2016, Spring 2017, Fall 2017* |
| **Remedial Actions** | Data modeling is conceptually difficult and students have had trouble in this area. This was especially the case for students who had not taken MIS 630 Database Management prior to enrolling in MIS 710. The problem was exacerbated in 2010-12 because MIS 630 Database Management was temporarily phased-out of the MIS program curriculum (resulting in lower assessment scores – see above table.)  Over the years, the following major actions were taken **within MIS710 and in the MIS program** to improve performance on this objective:  *Spring 2009:* A web-based data modeling tutorial was introduced in MIS710. By spring, 2011 all students were required to take this tutorial and an associated test for 2% of their final grade.  *Fall 2012:* To improve the data modeling capabilities of our students, MIS 630 was reintroduced into the MIS program curriculum.  *Fall 2013:* Instructors in MIS 630 introduced more data modeling and SQL exercises to further improve student understanding of data modeling.  ***Fall 2016:*** As employers focus more and more on data skills in the age of big data, we have moved to improve database skills as measured by objective 4 in this goal. In particular, all students in the MIS 630 class are now required to pass a MOOC on SQL that is offered by Stanford. Presentation of a certificate by the student earns 5% of the grade in MIS 630. Informal feedback from students and the instructor indicate that this is a good pedagogical approach. |
|  | **SUMMARY: OUTCOMES FROM ASSESSMENTS** |
| **Outcomes from Assessments** | The scores on objectives 1 through 3 have generally been quite satisfactory over the years although they have not consistently reached the goal of 90% of students meeting or exceeding expectations. With regard to Objective 4 (database skills), the performance has been below expectations. Changes in MIS 710 and in the preparatory MIS 630 database course that have been outlined above improved the assessment score on this objective from a low of 4.9/10.0 in fall 2011 to a high of 7.1/10.0 in fall 2013. Unfortunately, performance fell off in the fall 2014 and fall 2016 assessments. Following the introduction of the database MOOC requirement in fall 2016, student scores on objective 4 seem to have improved substantially – although student performance does not yet meet our goal. In fall 2017, most students had taken MIS 630 before taking MIS 710. The student performance on this measure improved substantially in fall 2017 to 7.7/10. |

# The following chart provides an overview of student performance on all four objectives since fall 2011 as measured by *Percent of Students Meeting or Exceeding Expectations* on each of the four objectives.

**Figure: Percent of students meeting or exceeding expectations on the four objectives of MIS goal 5 from Fall 2011 through Fall 2017.**

# APPENDIX A

**Assessment Rubric**

(This rubric is also used to assess other aspects of process redesign that are not assessed as part of the 4 objectives for MIS Learning Goal 5.)

**Reengineering Homework**

**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |
| --- | --- | --- | --- |
| **#1 Strategic Organizational & Process Goals** | **Poor** | **Good** | **Great** |
| 1: Appropriate strategic organizational goal(s) |  |  |  |
| 2: Appropriate process goals | **OBJECTIVE 1** | | |
| 3: Valid linkage between strategic & process goals. |  |  |  |
| **#2 Functional View** | **Poor** | **Good** | **Great** |
| 1. Narrative of to-be process clear & complete |  |  |  |
| 2. Functionality adequately described |  |  |  |
| 3. Change levers (structure, human, info, tool) |  |  |  |
| **#3 Relationship Map** | **Poor** | **Good** | **Great** |
| 1. Input-output relationships between departments |  |  |  |
| **#2: Process Map** | **Poor** | **Good** | **Great** |
| 1: Use of formal method (e.g., EPC or BPMN) |  |  |  |
| 2: Process map is syntactically correct | **OBJECTIVE 2** | | |
| 3. Process map is logically sound & complete |  |  |  |
| 4: System & technical entities identified |  |  |  |
| 5. Activity goals identified |  |  |  |
| **#3: Apply Reengineering Principles** | **Poor** | **Good** | **Great** |
| 1: Identifies one or more process improvement (reengineering) principles |  |  |  |
| 2: Applies the reengineering principles correctly | **OBJECTIVE 3** | | |
| 3. Explanation of how principles are applied |  |  |  |
| **#4 Data Model** | **Poor** | **Good** | **Great** |
| 1. Use of formal method (e.g., ERD, UML) |  |  |  |
| 2: Data model syntactically & semantically correct | **OBJECTIVE 4** | | |
| 3: Data model covers all relevant data |  |  |  |
| 4: Data model relevant to process requirements |  |  |  |
| **#5 Information Requirements and Reports** | **Poor** | **Good** | **Great** |
| 1. System inputs identified |  |  |  |
| 2. System outputs for decision makers identified |  |  |  |
| **#6 Organization and Job Design** | **Poor** | **Good** | **Great** |
| 1. New goals identified for each function |  |  |  |
| 2. New job roles and objectives identified |  |  |  |
| 3. At least one job design completed |  |  |  |
| **#7 Cost-Benefit Analysis** | **Poor** | **Good** | **Great** |
| **#8 Overall Vision for New Process** | **Poor** | **Good** | **Great** |
| **TOTALS OF ATTRIBUTES** |  |  |  |

**OVERALL COMMENTS**

**Final Grade \_\_\_\_\_\_\_\_ /20**

# APPENDIX B

**Assessment Exercise – Reengineering a Business Process**











