# **Rubric for CMSC 508 Fall 2021**

# **Student Learning Outcome (#1)**

**ABET Criteria Addressed:** SLO(#1) **Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.**

**Performance Indicator – Problem Specification and Design:**

PI-1a Describe the environment and user groups for a specific database project

PI-1b Identify the entities that need to be stored within the database

PI-1c Describe the potential uses for the database in the form of 20 queries

PI-2 Create an entity-relationship diagram for the database for the specified project

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| --- | --- | --- | --- | --- |
|  | **Poor** | **Fair** | **Good** | **Excellent** |
| PI-1a | Mentions an environment and lists a few types of users | Briefly describes the environment in which the database will be used. Just lists user groups | Briefly describes the environment in which the database will be used. Clearly defines roles of some possible user groups | Clearly describes the environment in which the database will be used. Clearly defines roles of all possible user groups |
| **Assessment** | **0 (0%)** | **0 (0%)** | **8 (8.7%)** | **84 (91.3%)** |
| PI-1b | Lists just a few possible entities – omitting several obvious ones | Lists some entities that would need to be included in database implementation; but omits some obvious ones | Lists most entities that would need to be included in database implementation | Lists all entities that would need to be included in database implementation |
| **Assessment** | **4 (4.3%)** | **0 (0%)** | **0 (0%)** | **88 (95.7%)** |
| PI-1c | Potential uses listed as queries that don’t relate to entities in database. | Potential uses listed as simplistic queries based on single entities. | Potential uses listed as queries but without regard to type of user. Queries are reasonably complex and realistic. | Potential uses listed as queries for each type of user. Queries are reasonably complex and realistic. |
| **Assessment** | **0 (0%)** | **0 (0%)** | **12(13%)** | **80 (87%)** |
| **Average** | **1.4%** | **0%** | **7.2%** | **91.3%** |
| PI-2 | E/R diagram includes a few needed entities and relationships. Diagram cannot be used to show how to answer most queries. | E/R diagram includes some needed entities and relationships. Most relationships have the correct functionality. Diagram can be used to show how to answer some queries. | E/R diagram includes most needed entities and relationships. Most relationships have the correct functionality. Diagram can be used to show how to answer most queries. | E/R diagram includes all needed entities and relationships. All relationships are of correct functionality. Diagram can be used to show how to answer all queries. |
| **Assessment** | **4(4.3%)** | **4 (4.3%)** | **8 (8.7%)** | **76 (82.6%)** |

92 students were used for this assessment.

**Direct Assessment from the Phase 1 Deliverable of Semester Project**

1. Problem statement: a 1-2-page document with the definition of the real-world problem, providing contextualization, scope of the system, and listing all expected information and functionality. This should include 20 queries that could be asked of the database.
2. Entity-relationship diagram (ERD). Created using proper software tools and consistent notation.

**Criterion for Performance Indicator Success**

At least 80% of the students rate at Fair or better for all performance categories.

**Evaluator:**

**Date:**

**Evaluator comments and recommendations:**