

Learning Goal Assessed: Reasoned Judgement

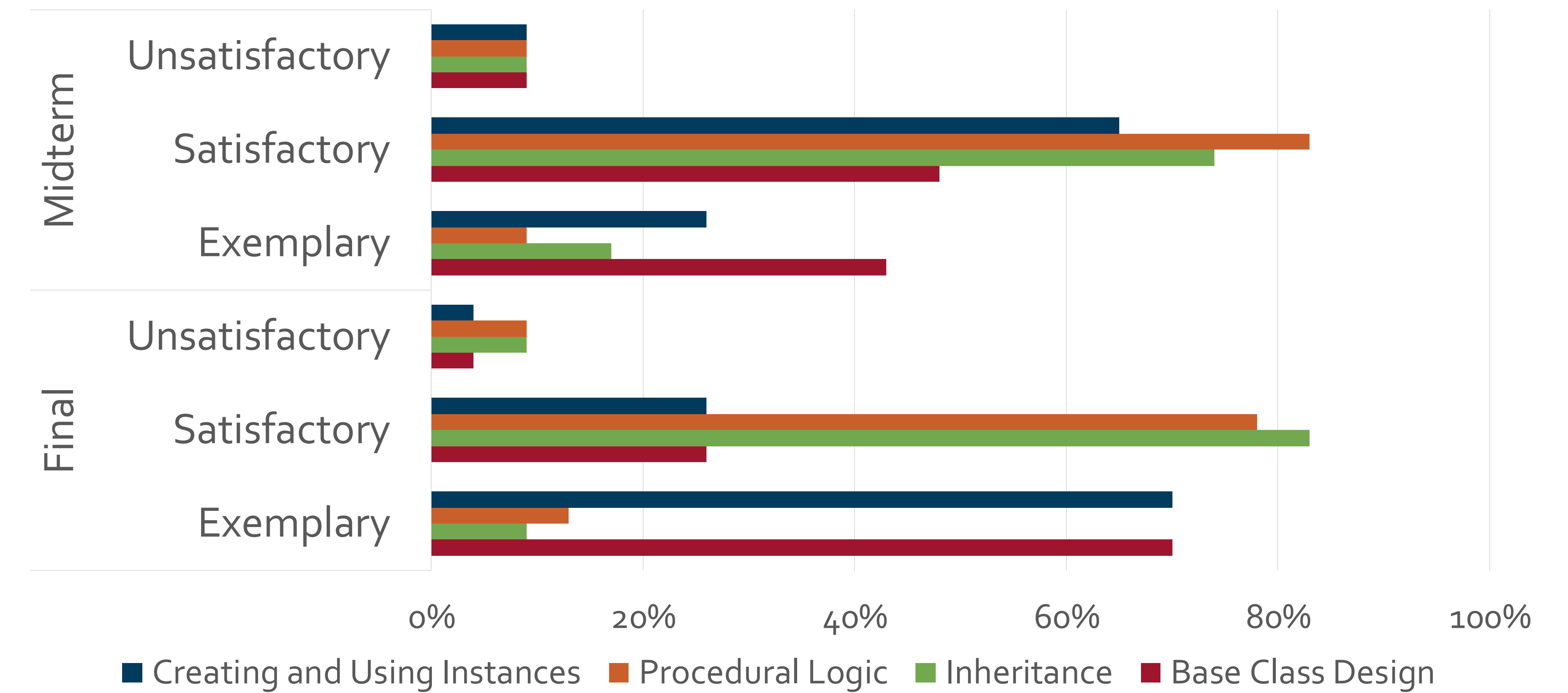
Outcome Assessed: "Understand and apply the concepts of object-oriented systems."

**Management Information Systems
Assessment Report, 2017-18
College of Business, Economics, and Computing
Assessment Liaison: Suresh Chalasani**

Abstract: In 2017-18 we assessed the third learning goal for the MIS program: "MISLG3: Undergraduate MIS majors will be able to understand and apply the concepts of object-oriented systems." This goal closely aligns with the shared learning goal Reasoned Judgment. In MIS 322: Business Programming II, students learn how to design and implement object oriented programs in the programming language C# .NET. In fall 2017, Prof. Chalasani used the midterm exam and the final exam to collect assessment results for MISLG3. The same rubric with four dimensions was used uniformly for collecting results from the midterm and the final exams. The rubric was designed collectively by the MIS faculty and discussed in the MIS faculty meetings in prior years.

Criteria	Exemplary 4 points	Satisfactory 3 points	Unsatisfactory 2 points	
Base Class Design	The base class solves the problem by correctly defining the needed variables and methods.	The base class solves the problem by correctly defining at least 75% of the needed variables and methods.	More than 25% of the variables and methods are incorrectly defined.	
Inheritance	The solution includes the required derived classes with correct use of overriding, inheritance and superclass methods. If the derived classes introduce redundant variables, methods or procedural logic already available in the superclass, it cannot be rated above satisfactory.	The solution includes the required derived classes with correct use of overriding, inheritance and superclass methods in at least 75% of situations.	More than 25% of the situations calling for overriding, inheritance and invocation of superclass methods are improperly defined.	
Procedural Logic	The solution correctly implements procedural logic throughout all methods.	The solution correctly implements 75% or more of the procedural logic.	Less than 75% of the procedural logic is implemented correctly.	
Creating and Using Instances	Students correctly create instances of their classes and use the methods of the classes to solve business problems.	Students correctly create instances of their classes and use the methods of the classes to solve business problems in 75% or more of the cases.	More than 25% of the time, students do not correctly create instances and use their methods.	
Overall Score	Exemplary 14 or more	Satisfactory 11 or more	Unsatisfactory 6.5 or more	Fail 0 or more

Student Performance



Results: Overall, student performance in various rubric dimensions is very good. The unsatisfactory rates in various rubric dimensions are 9% for the midterm and ranged from 4% to 9% for the final exam. For the "Base Class Design" rubric dimension, the unsatisfactory rates dropped from 9% to 4% from the midterm to the final exam. This is to be expected since students have had many more programming exercises (through homework assignments and in-class lab work) between the midterm and the final exam, and had many opportunities to practice this in the classroom. Further, the instructor provided feedback and spent a significant amount of time with the students in the lab, beyond the normal office hours, to address their questions regarding object-oriented programming. Students have to first design the base classes prior to progressing with almost any other aspects of object-oriented programming such as inheritance and creating instances. Perhaps because this fundamental concept was emphasized in the lab and the lecture by the instructor, it may be the reason why the student performance improved from the midterm to the final exam, with 70% of the students in the "Exemplary" category for the final exam compared to 43% for the midterm. After "Base Class Design" the next less complex concept is creating and using instances. The student performance improved in this dimension as well. Student performance is almost unchanged for the "Procedural Logic" and "Inheritance" dimensions, with 9% of the students in the unsatisfactory category for both the final exam and the midterm. Implementing coding logic and using classes to implement inheritance accurately are some of the more difficult object-oriented concepts, and more practice and more examples is perhaps one way to improve students' critical thinking skills in these dimensions.