

**APT Alternative for Learning Improvement:
*Hypothetical Computer and Business Intelligence Systems (B.B.A.)***

The Computer and Business Intelligence Systems (CBIS) program has four student learning outcomes (SLO). We expect our graduating seniors to: 1) demonstrate proficiency in application development; 2) demonstrate proficiency in architecture, networking, and security; 3) Demonstrate an understanding of basic concepts of business intelligence; and 4) Demonstrate proficiency in business and interpersonal skills. Meeting the SLO 3 includes a) creating advanced queries and applying visualization techniques, and b) integrating data from multiple data sources and identifying and reconciling data quality issues.

The opportunity to learn SLO 3 occurs in multiple CBIS courses (e.g., CBIS 484 Info System Development and Implementation). However, the Assessment Test shows that students have consistently failed to meet faculty expectations on this SLO related to applying visualization techniques using a pre- to post-test design. Further, program faculty have routinely indicated course projects and presentations are technically sound in many areas, but not for data visualization. Alumni surveys have indicated students felt underprepared in their current position with data visualization techniques. Reiterating these concerns during a faculty meeting, the program faculty mutually agreed that the shortcoming must be addressed.

Specifically, the program has chosen to implement a three-pronged approach:

1. On the program website, a video from CBIS alumni will discuss the various employment positions CBIS graduates take, the most-used skills in each position, and the skills they wish they had more of. This is intended to emphasize the importance of data visualization for current CBIS students.
2. In BUS204 and CBIS221, two introductory core classes for the program, one lecture will be dedicated to the basics of visualization techniques and some introductory approaches. Currently, this topic is only covered to a small degree in COB204. This is intended to have students introduced to the key terminology and concepts behind data visualization, and to cultivate interest in the topic before a students' senior year when they take CBIS484.
3. A data visualization project will be added to CBIS330, CBIS331, CBIS454, and CBIS484. A rubric will be developed in order to rate the projects on the key areas of data visualization.

The APT alternative year will be used by CBIS program faculty to address the above concerns and begin to redesign the BUS204, CBIS221, CBIS330, CBIS331, CBIS454, and CBIS484, as well as partner with the Centers for Assessment and Research Studies and Faculty Innovation on creation and validation of the project rubric. It is our hope that this new curriculum can be fully implemented within two years. The website video will be completed within six months. We anticipate this programming can improve SLO3 scores on the Assessment Test from pre- to post-test so that all students are meeting the faculty-set expectation.