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To: Dr. Mary Jo Goedeke  
Undergraduate Curricula Management and Assurance of Learning Committee

From: Dr. Jae Choi, Professor of Computer Information Systems  
Instructor of CIS 420 at Kelce Undergraduate School of Business

Re: CIS 420 Management Information Systems – Information Technology Assessment

Date: August 22, 2022

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Assessment results from Fall 2021 clearly illustrate that students accomplished reasonably well in performing operations with business process management tools (90% of the students met or exceeded expectations), but some deficiencies were recognized in the area of analyzing business data using data science tools (61% of the students met or exceeded expectations) and developing IT systems (64% of the students met or exceeded expectations). Upon the request of Undergraduate Curricula Management and Assurance of Learning Committee, the instructor of CIS 420 (Management Information Systems) contemplated how students' knowledge can be improved specifically in those two areas and came up with the following strategies that can be implemented in Fall 2022.

**Video Clips for Step-By-Step Procedural Instruction:** The instructor understand that the teaching and learning environment during the pandemic is unprecedentedly challenging to both instructors and students. In Fall 2021, attendance couldn't be strictly enforced due to the pandemic and was largely optional for both lecture classes and computer lab activities. Although students who missed classes were able to review lecture materials on Canvas, hands-on activities with instructor's step-by-step instructions couldn't be substituted. As navigation of software tools plays a critical role in analyzing business data and developing IT systems, the instructor conducted a set of experiments and solicited feedbacks from students in order to devise the best possible solution given the situation. The instructor prepared a series of screen capture video clips for Microsoft Access database management systems to be compared with conventional approaches using instructor's face-to-face demonstration. Students unanimously voted for video clips demonstrating step-by-step procedural instruction as they can go over as many times as they need if a particular step is challenging or ambiguous. Of course, it is assumed that instructor's help is at hand while they are working on hands-on activities right after watching those video clips. A number of screen capture video clips to demonstrate procedural steps using the tools for system development and data analysis are being prepared and will be readily implemented in Fall 2022.

**More Hands-on Activities:** A model of "learning through doing by themselves" is a proven way of providing effective computing education. The total number of hands-on computer lab activities is currently thirteen (one per each week), representing nearly four hands-on computer lab activities for each area. However, it is decided that more hands-on activities will be developed and implemented

based on student feedbacks. Student comments from course evaluation predominantly report that they enjoyed computer labs and learned how to use software tools for developing systems, analyzing data, and managing business processes mainly by doing their hands-on lab activities. Some students mentioned they wanted to do more activities especially in data analytics. New activities are being developed for system development and data analytics. The number of new activities is not determined yet as it keeps growing at the moment, but they will represent covered areas in both system development and data analytics.

**Adopting New Contents Reflecting Contemporary IT Environment:** Due to the rapidly changing nature of the Information Technology (IT) environment, it is paramount to periodically update the curriculum in CIS 420. The instructor recently secured a partnership with SAP, the leading Enterprise Resource Planning system vendor and developed new course content through the one-on-one collaboration between Pittsburg State University and the University of Wisconsin-Milwaukee (one of two SAP University Competence Centers in North America). Experimental content using new tools such as SAP Analytics Cloud will be introduced in Fall 2022 and fully adopted in steps over the coming several semesters.

**Continuous Improvement and Concluding Remarks:** Although complete overhaul of the course contents was made in the last couple of years, more updates are expected due to the planned adoption of new tools. The instructor is aware of the challenges and difficulties as course contents and tools used in the class constantly changes and is aiming at continuous improvement in every aspect of student experience. New approaches and strategies explained above will help engage students in active learning and improve student performance. Due to the newly adopted tools and approaches, students could experience hands-on IT skills in a realistic business environment. This is a unique pedagogical setting where students can enjoy learning the complicated and challenging aspects of enterprise application.