Title: How to conduct oral exams as a more equitable and inclusive alternative format for knowledge assessment

During the 2020 pandemic, remote classes became the standard for engineering and technology courses across the country. Oral exams have been frequently deployed as a means to ensure academic honesty. This presentation explores, analyzes, and discusses multiple factors that makes oral exam a more equitable and inclusive alternative format for knowledge assessment. The focus is on the loosely-structured, dialogue-type oral exams evaluated by the course instructor.

Oral exams are known to help improve students' oral communication skills and performance under pressure, but it is also known to be very time consuming and subjective. Another concern is that it might disadvantage students who do not have strong oral communication skills to start with. To address these concerns, an effective assessment rubric is needed to reduce subjectivity and improve efficiency for the instructors. Well-designed question lists and question sequences can not only help reduce the inequity, but also enhance students' confidence in their own ability and understanding of the material.

Another important topic addressed is how to design the overall course content to better prepare students for the oral exam format so that the overall course assessment is comprehensive and fair, and that students receive the maximum learning benefit. Peering instruction and self-recorded video presentations are two potential effective methods explored.

The specific courses being discussed as examples are upper-level electrical engineering required courses. The goal is to assess both students' "knowledge & understanding" as well as "applied problem solving ability". Some important general recommendations are made for engineering/technology courses regarding how to conduct and enhance oral exams to be equitable and inclusive in addition to being effective and efficient. An engineering/technical content focused oral exam rubric will be shared during the presentation.