Workshop Proposal - How to tackle student cheating, made easy by the use of technology, in a first-year engineering classroom? (RESUBMISSION)

Dr. Ashish D Borgaonkar, New Jersey Institute of Technology

Dr. Ashish Borgaonkar works as Asst. Professor of Engineering Education at the New Jersey Institute of Technology's Newark College of Engineering located in Newark, New Jersey. He has developed and taught several engineering courses primarily in first-year engineering, civil and environmental engineering, and general engineering. He has won multiple awards for excellence in instruction; most recently the Saul K. Fenster Award for Innovation in Engineering Education. He also has worked on several research projects, programs, and initiatives to help students bridge the gap between high school and college as well as preparing students for the rigors of mathematics. His research interests include engineering education, integration of novel technologies into the engineering classroom, excellence in instruction, water, and wastewater treatment, civil engineering infrastructure, and transportation engineering.

Dr. Jaskirat Sodhi, New Jersey Institute of Technology

Dr. Jaskirat Sodhi is interested in first-year engineering curriculum design and recruitment, retention and success of engineering students. He is the coordinator of ENGR101, an application-oriented course for engineering students placed in pre-calculus courses. He has also developed and co-teaches the Fundamentals of Engineering Design course that includes a wide spectra of activities to teach general engineering students the basics of engineering design using a hands-on approach which is also engaging and fun. He is an Institute for Teaching Excellence Fellow and the recipient of NJIT's 2018 Saul K. Fenster Innovation in Engineering Education Award.

FYEE2021 Workshop Proposal

How to tackle student cheating, made easy by the use of technology, in a first-year engineering classroom?

Research shows that engineering students are most likely to engage in academic dishonesty, with as much as 80% reporting to have cheated at least once. Research also shows that students who engage in cheating in college are more likely to engage in the violation of professional ethics when they enter the workplace. Students nowadays have access to new sets of technological tools including third party problem solving services like Chegg.com ("online tutors") and extensive online availability of materials (including solution manuals) which make it an increasingly difficult and challenging to monitor and restrict cheating. Dealing with and addressing academic integrity violation issues can be challenging, demanding, time consuming and often times exhausting for faculty. However, research shows faculty members play an important role in promoting academic integrity among students. Engineering profession requires high ethical standards due to its impact on society at large. Thus, strategies and practices to encourage academic integrity in engineering education is the focus of this workshop.

This proposed workshop will discuss how students are using easily accessible technology, especially online tutoring websites such as Chegg.com, to cheat during exams. The presenters will discuss some of the best practices and tips to minimize cheating in the classroom and also facilitate a discussion on strategies and tips used by other attendees. There will also be a session to discuss how first year courses can incorporate professional ethics and academic integrity so that students are made aware of these as early as possible in their academic life.

Proposed Schedule:

- 5 minutes – Overview of the workshop and Our encounter with fantastic cheats and leveraging of technology to achieve excellence in cheating.
- 10 minutes – Break out into groups to discuss strategies for responding to cheating through the use of third party services like Chegg etc.
- 5 minutes – Share ideas
- 10 minutes – Break out into groups to discuss how to incorporate professional ethics and academic integrity in first-year classroom discussions
- 5 minutes – Share ideas
- 10 minutes – The best practices and tips to minimize cheating in your classroom.
- 10 minutes – Break out into groups to discuss and then share ideas on best practices to tackle cheating
- 5 minutes – Open discussion