

# **Integration of Methods to Implement a Hybrid Flipped Classroom for Cybersecurity Education**

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The exploration of novel approaches to undergraduate courses in the field of Information Technology requires strong collaboration with other instructors within and outside a college/university system. The collaborative effort leads to the experimentation and then to the integration of methods in teaching the materials. The traditional means of presenting the subject of IT is becoming quite a challenge nowadays, and the results are seen when assessing the student's learning outcomes. The wide spread of information available at ones reach suggest a more dynamic and systematic approach to teaching Information Technology, this includes the integration of several components, such as: the flipped classroom approach, combination of hybrid delivery of the lectures, make use of case studies etc. A flipped classroom is a pedagogical paradigm in which the typical lecture/laboratory portions of a course is reversed. Students must review course content each week on their own time, and then devote class time with the instructor to a discussion of the required material and hands-on laboratory experiments. The flipped classroom draws on such concepts as active learning, student engagement, and hybrid course design. The discussion of Cybersecurity teaching for Computer Engineering Technology students at New York City College of Technology (NYCCT) of the City University of New York (CUNY) using a version of the flipped classroom will be presented. A version of the flipped classroom has proved to be an effective way of engaging the students in the study of Computer Security. Learning objectives, class resources, and results of recent student information security projects will be presented. Discussion of opportunities for academic and industry partnership collaboration with the New York State Cloud Computing and Analytics Center at Marist College will also be presented.