

The three principles of Universal Design for Learning highlight providing all students with multiple modes for 1) representation, 2) expression, and 3) engagement. The principles advise to firstly provide students with different platforms and ways of content and resource sharing. This can be providing online audio, video lecture content, readings, handouts, etc. for content sharing. It can also include a crowdsourced blog writing where different students can take their topic of interest. Secondly, to provide students with different types of opportunities to exercise and show their learnings. Example of this is to provide students with choices and autonomy is selection of level of questions, mode of exams, topic, color, layout, sequence of timing, and software etc. Thirdly, UDL suggests to conduct different activities to engage and motivate students. This recommends to introduce and vary use of different ways and platforms for students to respond such as social media, written communication, clicker, online quiz, in class response, and piazza etc. UDL further suggests to design courses keeping in mind UDL principles to teach all students, so that, even in the event of a more diverse classroom, the design need not require much alteration. At the core, is also creating a supportive classroom environment where risk of failing does not become a deterring factor in student learning.

In future, I plan to take a graduate level course equivalent to Traffic Engineering CEE 6603 offered in School of Civil and Environmental Engineering at Georgia Tech. Typically, at GT, the class size is ~20. The general purpose of course is to provide graduate students with basic terms and methodologies used to study and evaluate different aspects of traffic performance such as safety, intersection capacity analysis, and signal timing etc. Another crucial purpose of this course is to provide students hands on real-world experience through lab exercises and term project. The use of real-world traffic data and case studies for the project is almost a requirement. In future, I plan to modify and add to this course, few modules or lessons to use of software platforms for traffic simulation analysis.

To create an inclusive course culture, I plan to apply strategies to include the 3 principles of UDL. I plan to provide e-copy or find a way through GT library to get e-copy of the transportation standard manual resources (such as Highway Capacity Manual, Highway Safety Manual etc.). I plan to

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share the instruction to avail soft or hard copy of these resources in class lecture and also in written on Piazza or class website or Canvas. In terms of course content sharing, I plan to create a detailed syllabus that includes course goals, outcomes, and assessment details along with rubric. I plan to order the assessments in a way that different type of assignments are conducted at different times. For example, multiple choice assignment, followed by a written subjective assignment, followed by solving problems, followed by coding assignment or use of software assignment, followed by infographic creation or concept map designing assignment. In addition, I plan to post audio transcript of the part of lecture that is not related with in class problem solving along with instructional videos of using a software with comments enabled. I also plan to keep an hourly question and answer session, if required based on clicker assessment of in-class quiz on some of the previously identified complex topics such as coordinated signal systems, traffic simulation modelling etc. The key questions identified in these session along with response open to discussion will be posted on Piazza. I plan to use Piazza as the online discussion and communication platform that allows students to voice anonymously or online too. I plan to provide assignment or assessment activities that include social media activity and written communication such as think-pair-tweet. Another assignment on creating your own infographic of a concept among a selected choice of concepts using a software of their choice will be given. The assignment will encourage sharing of this on a twitter handle or Instagram account along with an audio recording of important highlights of the infographic. A common hashtag of course name or #myinfographic will be encouraged to promote sense of community and engagement among students. Rubric on these assignment will provide guidelines on creating a good grade infographic and a well-made audio description. Further, I aim to provide students to redo an assignment based on feedback if a better grade is sought. This can be at any time during the course, thus, providing them with time flexibility considering their multiple class schedule and commitments.

Thus, by providing multiple means of content sharing, different types of assessment activities with multiple choice in topic, and providing students with choice and autonomy in choice of software,

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colors, layouts, mode of communication for discussion, I expect to create an inclusive classroom culture. I also want to provide multiple assignments with a choice to turn in later and get partial marks to lower risk especially for the topic considered more complex. I would also encourage student to ask questions and give answers in the classroom.