Chapter 1: Problem

1.       Introduction - Aaron

When registering for courses in a new semester at UMSL, students are expected to operate within guidelines to graduate in an expected timeline. Over their education, many classes are contingent on previous skills and knowledge to progress so that proper context can be gleaned from the material. In order to meet these requirements, UMSL provides charts to visibly show general order that courses should be taken along with additional credits necessary to fulfill criteria to achieve a B.S. in Computer Science. This task can be confusing however and may not account for discrepancies in both competency and performance in cases where courses may need to be retaken or credits have been transferred from other departments or schools, or cases where students cannot attend classes in particular semesters. Additionally, courses will be identified as core courses, general education, and electives while meeting the course and credit requirements for each of these categories.

Our system will focus on recognizing individual student requirements and preferences within their map towards graduation and accurately recommend an order in which courses should be taken. This will help students smoothly navigate towards expected graduation timelines and assist campus facility such as academic advisors prior to registering for classes each semester.

1.5   Significance of the Work - Aaron

As of Fall 2022, UMSL has an undergraduate body size of 12,431 students according to <https://www.usnews.com/best-colleges/umsl-2519/student-life>. According to <https://apps.umsl.edu/webapps/ITS/financial-life/>, the estimated tuition for two 15 credit hour semesters per year is $14,400.00. Additionally <https://www.umsl.edu/stratplan/community-campus.html> states that UMSL employs 800 faculty. Assuming this is representative across all degrees, this demonstrates that students are expected to take serious financial risks regarding course selection and the faculty necessary to help mitigate these losses is radically smaller than the student body. This software would help effectively bridge the gap by allowing academic advisors to help provide clearer guidelines toward graduation maps while helping students streamline their path to success. In educating students and allowing them to communicate their individual needs, we can to mitigate potential fiscal damage and help ensure the graduate in a manner appropriate to their expectations.