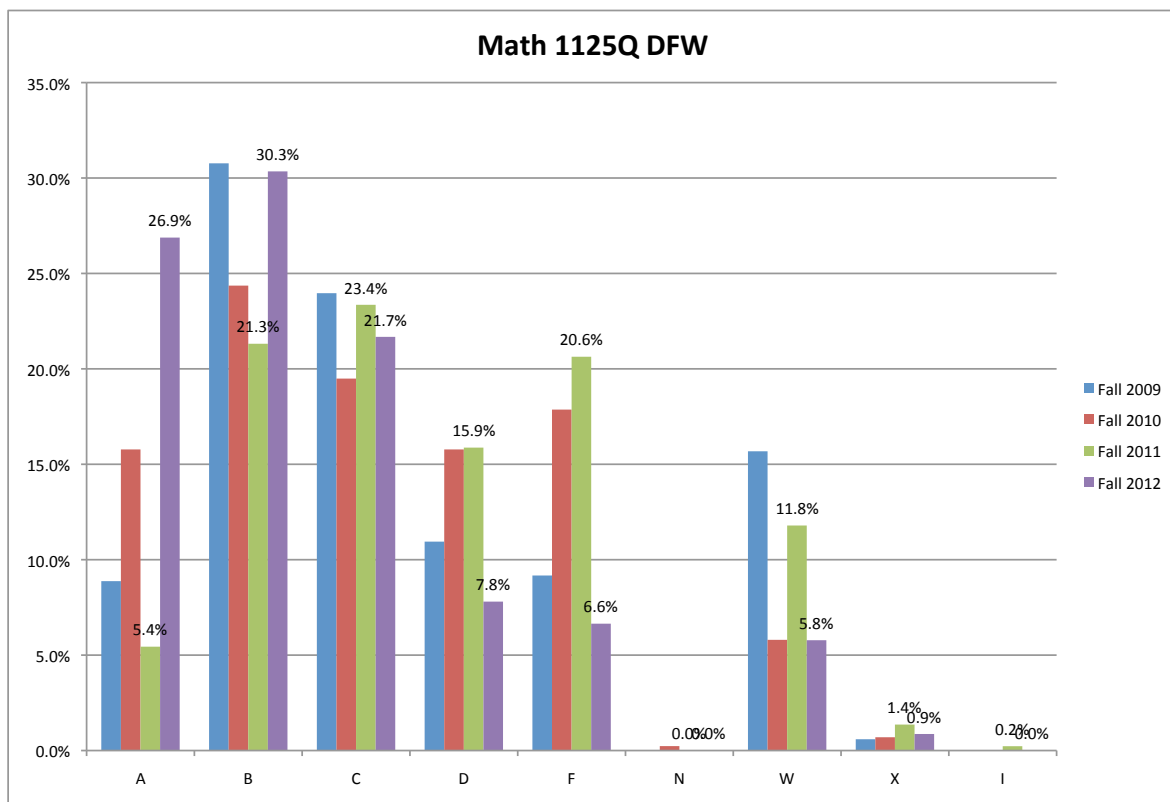


DFW Math 1125 Fall 2012
by Amit Savkar

1 DFW Rates

1. 26 % drop in DFW rates in Math 1125Q from Fall 2011 to Fall 2012



2 Fall 2011

1. Math 1125 was taught as a slow paced calculus. Pre-calculus material on the topics of algebra, trigonometry and geometry that relate to calculus were not a part of the syllabus. A meeting with the TAs, from Fall 2011 indicated that students struggled with pre-calculus material more than the calculus that was taught.
2. Syllabus: Math 1125 traditionally covered the material up to 3.9 (Derivatives of Inverse trigonometric functions). This also included implicit differentiation, derivatives of logarithmic functions and exponential functions. TAs pointed out to the fact that the students struggled with the basic idea of logs, trig and exponential functions to begin with. This primarily hampered their ability to understand derivatives of these functions.
3. Math 1125 is a coordinated course. It was pointed out that the exams which were prepared for midterm 1, 2 and finals did not reflect the manner in which the syllabus were covered over the entire semester.

3 Fall 2012

1. A TA meeting was conducted before the start of the semester. The TAs were informed of potential change in the syllabus to include pre-calculus material during the entire semester. A pretest was administered on the first day of the class to all the sections of Math 1125.
2. Based on item analysis conducted on the pre-test, topics in pre-calculus were chosen to be taught in the class. "Just-in-time" by Mueller was chosen as a reference text book to cover pre-calculus material.
3. Change in syllabus: First four weeks of the regular fall semester concentrated on teaching pre-calculus material in all the sections of Math 1125. As a result of adding these topics, implicit differentiation, derivatives of inverse trigonometric functions, logarithmic functions and exponential functions were eliminated from the syllabus. The last section covered in Math 1125 was chain rule (Section 3.6). The sections 3.7, 3.8, and 3.9 were shifted to be taught in Math 1126 during the Spring of 2013.
4. Quizzes and Exams: Another issue with the course was students ability to write during the exam. For this purpose a quiz was given every week. This quiz was made by TAs who had a better understanding of what topics the students struggled with. Based on the observations of quiz results, worksheets were created which were administered through out the course. The exam was created using inputs from the TAs. TAs conducted pre-exam review sessions to address any questions from the students.
5. Midsemester Surveys: The TAs conducted mid-semester surveys to understand student perceptions about the class. These survey brought important aspects of how the students struggled with Algebra, Trig and geometry. Based on the responses of these surveys review sessions were held by the TAs to incorporate certain requests made by the students about topics which the students found difficult to grasp.
6. Coordinating TAs: Math 1125 group met every 15 days to discuss the issues with me. These meetings allowed me to keep a close look on how the TAs and the students were doing in their respective sections.