

Calculus Readiness Workshop Report—Summer, 2006

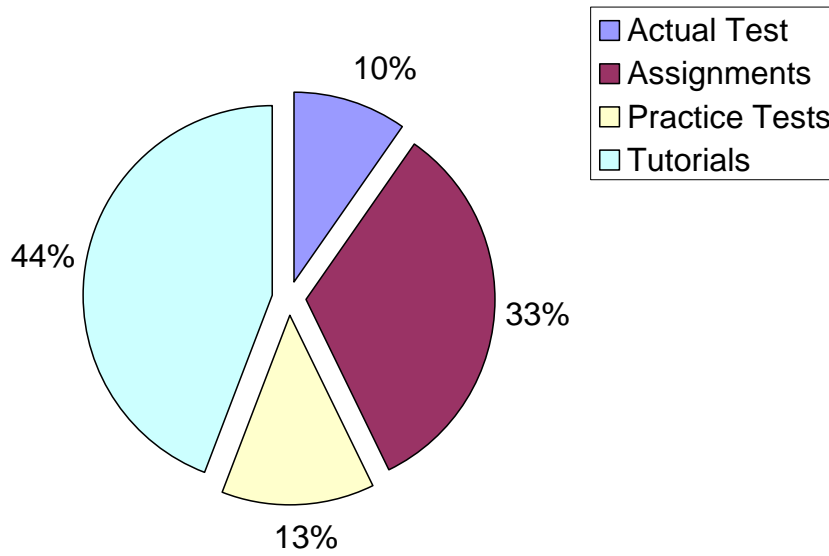
During the period of June 26-July 14, 2006, a calculus readiness workshop was held for 23 students. This workshop was a rigorous “boot-camp” like summer experience. The 23 students comprised 12 new freshmen students in the engineering programs, 5 returning advanced freshmen at NSU, 2 freshmen students matriculating at a rival HBCU engineering program and 4 high school seniors, all of whom we expect to matriculate at NSU in the fall of 2007. The workshop was organized by Dr. Arlene Maclin, Professor of Engineering, with partial support from a Department of Education grant called Integrated Design Engineering and Activity –Based Learning (IDEAL) #P120A050069. Other support for the program was provided by the Department of Engineering. The first week of the workshop was conducted by Dr. Mary H. Johnson, who is a nationally recognized teacher of developmental mathematics with an outstanding track record for coaching numerous students to gain perfect scores on the mathematics portion of the SAT examination. Dr. Johnson is also President of the “Success in Learning Mathematics” Center located in Prince George’s County, Maryland. Dr. Johnson has more than 35 years of experience teaching developmental mathematics. She serves as a consultant to numerous other colleges and universities including George Washington University, Georgia Institute of Technology (Pre-engineering SECME Program), University of the District of Columbia and Howard University. She also serves as a consultant to Educo Software, which is a nationally recognized mathematics software with rigorous computerized tutorials in mathematics from algebra through calculus.



Educo software was used in the summer workshop and it has been adopted by a large number of universities throughout the United States and other countries. Dr. Johnson administered a diagnostics pre-test and a post test to each of the students. Each of her test questions is correlated to learning objectives that each student must meet through homework assignments, tutorials, quizzes and actual tests on topics indicating a mastery of all requisite topics for pre-calculus. At the end of the first week, each student was given a “prescription for success”, which indicates the areas of weaknesses for each student. The students were given rigorous exercises to address their particular weaknesses.

Furthermore, during the first week each student had an individual conference with Dr. Johnson to discuss any perceived or actual areas of weakness in mathematics that they had. During the 2nd and 3rd weeks of the workshop, Dr. Sharooz Moosavizadeh reinforced the concepts that were introduced in the 1st week using very typical pedagogy with the students to get them ready for calculus for the fall, 2006. The students were engaged in more than 150 hours of supervised learning of mathematics during the summer workshop. All of the NSU student participants are enrolled in “E” designated courses, which form a part of the integrated curriculum for students in engineering. The courses currently included in the integrated curriculum are calculus, physics, chemistry, introduction to engineering and communication skills or English.

Time Spent by Participants on Various Activities



Final Grades of Participants in Calculus Readiness Workshop - Summer 2006

