Summer Investigations in Mathematics

During July, TCNJ Professors Cathy Liebars and Sharon Sherman provided a weeklong professional development institute that introduced Trenton teachers to the new Scott Foresman Investigations math series. The institutes, one for grades K-2 and the other for grades 3-5, were offered twice during the summer and each class was at capacity. Teacher enthusiasm was high.

Some Teacher comments were:

“It opened our eyes to the other teaching strategies and helping students to explain how they know they understand the skill being taught.”

“The workshop was very helpful to me. When we went through the whole picture, the mathematics really came together for me” and “I benefited from seeing the pacing of lessons, the materials needed as well as the curriculum mapping chart” and “I would like to see the institutes continue.”

“I learned that this curriculum is brain-compatible and will allow more (or all) students to meet with success.”

“I learned how to use manipulatives to demonstrate math concepts, how to use games to apply math concepts, and how to tie activities to the curriculum objectives.”

Graduate Math Course

Math 591-90 Number Theory and Systems for Middle School Teachers is this semester’s graduate level math course being offered to Trenton teachers. The course began on September 2nd and will go through December 16th on Thursday afternoons from 4-6:30 p.m. Currently there are 26 Trenton teachers participating in the course.

By the completion of the course, teachers will be able to demonstrate the following:

• Deeper understanding of the concepts, processes and algorithms, and the purpose beneath them, found in the middle school mathematics curriculum, with a focus on number systems and number theory.

• Improved ability to communicate mathematical ideas appropriately using the language of mathematics.

• Improved ability to reason mathematically and begin developing mathematical proofs.

• Ability to approach problem involving number systems and number theory from multiple perspectives.

• Knowledge of the relationship of mathematics to other subjects, in application in society, and relationships within mathematics itself.

• Increased understanding of how children learn number concepts, the developmental and psychological foundations of how one teaches number concepts, and national and state standards relating to number operations.

• Knowledge of the use of concrete manipulative materials, technology, and pictorial representations necessary in the development of number concepts and skills.

• Ability to construct strategies, which are supported by current research, for teaching number concepts to students of differing abilities.

• Increased ability to implement the five (NCTM) Process Standards: problem solving, reasoning and proof, communication, connections, and representation.