Assessment for Mathematics Skills

The assessment for curriculum courses consisted of an end of course departmental, standardized test that determined mastery of each competency and an evaluation of results from the 2004 Graduate Exit Survey.

Indirect Student Outcomes

Students graduating in December responded to the several statements on the Graduate Exit Survey relative to math skills and math instruction.

1. Please indicate how well OCtech's academic program prepared you in mathematical skills.
    - Of all respondents to the survey, 60% indicated that the preparation was excellent, and 30% indicated the preparation was good
2. As a result of your experience at OCtech, to what extent do you feel you have gained or made progress in developing mathematical skills and statistical trends to analyze information?
    - Of all respondents to the survey, 58% indicated, "To a great extent," and 36% indicated, "To some extent."

Direct Student Outcomes

To achieve mastery in any competency the student must correctly answer at least 60% of the questions in that competency. No partial credit was given. We tested only those courses that were required in a program that were not a part of the Transfer Program. (The transfer program courses are assessed in the Transfer program review) Only three courses had a sufficient audience to make a significant assessment. We analyzed the percent completion of each competency to determine specific problems, if any, in each course.

Results:

MAT 101	
Competency	% meeting benchmark
1. Review of arithmetic principles	72
2. Simplify expressions and solve linear equations	28
3. Manipulate Exponents	17
4. Learn basics of Factoring	17
5. Simplify Rational Expressions and solve Rational equations	8

MAT 155	
Competency	% meeting benchmark
1. Perform basic operations on Rational numbers	65
2. Simplify expressions and solve linear equations	47
3. Learn basic concepts of Geometry	43
4. Read and interpret graphs	64
5. Solve problems dealing with ratio and proportion, the US system and metric system of measure.	44
6. Learn basic techniques of percentages.	52

MAT 170	
Competency	% meeting benchmark
1. Establish competence in arithmetic operations using whole numbers, decimals and integers and their application.	70
2. Establish competence using arithmetic operations involving fractions and percents and applications.	67
3. Solve Problems with Percents and Direct Measurement	30
4. Solve problems with Area and Distance, Data Interpretation, Simple Linear Equations, Ratio and Proportion	37
5. Learn the basics of Exponents, Scientific Notation, Formulas	54
6. Identify Concepts from Geometry and Right-Triangle Trigonometry	54

Recommendations:

Mat 101

1. Competency 2: We recommend that students be increasingly encouraged to seek tutorial assistance from faculty or the Step Lab.

2. Competency 3: We recommend that students use on-line assistance or software (Smartthinking or Plato)

3. Competency 4: We recommend that students seek tutorial assistance from faculty or the Step Lab.

4. Competency 5: We recommend that this competency be moved to Mat 102 to allow a smoother transition from Mat 101 to Mat 102.

Mat 155

1. Competency 2: We recommend that students be increasingly encouraged to seek tutorial assistance from faculty or the Step Lab.

2. Competency 3: We recommend that students use on-line assistance or software (Smartthinking or Plato)

3. Competency 5: We recommend that students be increasingly encouraged to seek tutorial assistance from faculty or the Step Lab.

4. Competency 6: We recommend that students be increasingly encouraged to seek tutorial assistance from faculty or the Step Lab.

Math 170

1. Competency 3: We recommend that students be increasingly encouraged to seek tutorial assistance from faculty or the Step Lab.

2. Competency 4: We recommend that students be increasingly encouraged to seek tutorial assistance from faculty or the Step Lab. We recommend that students use on-line assistance or software (Smartthinking or Plato)

3. Competency 5: We recommend that students be increasingly encouraged to seek tutorial assistance from faculty or the Step Lab.

4. Competency 6: We recommend that students be increasingly encouraged to seek tutorial assistance from faculty or the Step Lab. We recommend that students use on-line assistance or software (Smartthinking or Plato)