Math problem/skill type

Graphing on the number line or Interval notation
Exponents, including negative and fractional exponents
Solving systems of linear equations
Rewriting expressions using the laws of exponents
Graphing in the coordinate plane
Slopes and y-intercepts of lines
Graphing linear equations, 2 variables (lines), by hand
Parallel and/or perpendicular lines
Writing equations of lines
Graphing exponential functions by hand
Writing exponential functions from a graph
Modeling with exponential functions
Solving exponential equations with logarithms
Solving logarithmic equations
Simplifying square roots
Rationalizing denominators
Solving linear inequalities, 1 variable (Ex: $3x + 7 < 4 - 1.2x$)
Solving absolute value equations or inequalities, 1 variable (Ex: $|3x + 7| = 4$, or $|3x + 7| < 4$)
Arithmetic with polynomials (Ex: Multiplying $(3x + 7)(4 - 1.2x)$ to get $-3.6x2 + 3.6x + 28$)
Solving quadratic equations by factoring
Solving quadratic equations using quadratic formula, answers involving square roots
Graphing quadratic equations, 2 variables (parabolas), by hand
Vertex and roots of parabolas
Writing equations of parabolas
Rational Functions: Arithmetic with, Simplifying
Graphing rational functions, domain, range
Applications of rational functions (Ex: Average rate of change)
Solving radical equations or inequalities by hand
Functional notation (Ex: $F(t) = 3t3$)
Functions (general concepts)
Finding domains and ranges of functions
Modeling with linear, quadratic, or polynomial functions (applied problems)

Note. Values greater than 2.0 indicate responses including "somewhat" or "definitely"

Means of Extent of Struggle with Math Skills by Course

Item pre-req	BUSTC 150	ECON& 201	MATH 099	MATH& 107	MATH& 146	PHIL& 120	ASTR& 101
98	1.0	1.7	3.0	3.0	2.4	0.0	1.0
98	2.0	1.7	2.5	3.0	2.4	0.0	3.0
98	1.0	1.7	3.0	2.0	1.8	0.0	1.0
98	1.0	1.0	1.5	2.0	1.6	0.0	2.0
98	1.5	1.3	1.5	2.0	1.4	0.0	2.0
98	1.0	1.7	1.5	1.0	1.8	0.0	2.0
98	1.0	1.7	1.5	1.0	1.4	0.0	2.0
98	1.0	1.3	1.5	1.0	1.0	0.0	1.0
98	1.0	1.7	2.0	1.0	1.8	0.0	2.0
98	1.0	1.3	1.5	3.0	1.0	0.0	1.0
98	1.0	1.0	1.5	2.0	1.0	0.0	1.0
98	1.0	1.0	2.0	3.0	1.2	0.0	1.0
98	1.0	1.0	2.5	3.0	1.2	0.0	2.0
98	1.0	1.0	2.5	3.0	1.2	0.0	2.0
99	1.0	1.0	1.5	2.0	1.0	0.0	1.0
99	1.0	1.3	1.5	1.0	1.0	0.0	1.0
99	1.0	1.3	2.0	2.0	1.2	0.0	1.0
99	1.0	1.3	2.0	3.0	1.2	0.0	1.0
99	1.0	1.0	1.5	1.0	1.0	0.0	1.0
99	1.0	1.0	2.5	2.0	1.0	0.0	1.0
99	1.0	1.0	2.5	2.0	1.0	0.0	1.0
99	1.0	1.0	2.5	3.0	1.0	0.0	1.0
99	1.0	1.0	1.5	3.0	1.0	0.0	1.0
99	1.0	1.0	1.5	3.0	1.0	0.0	1.0
99	1.0	1.0	2.0	2.0	1.2	0.0	1.0
99	1.0	1.3	2.0	3.0	1.0	0.0	1.0
99	1.0	2.0	1.5	2.0	1.2	0.0	2.0
99	1.0	1.3	2.0	2.0	1.0	0.0	1.0
99_98	1.5	1.3	1.5	2.0	1.6	0.0	2.0
99_98	2.5	1.7	1.5	2.0	1.2	0.0	2.0
99_98	1.0	1.0	2.0	2.0	1.0	0.0	2.0
99_98	1.0	1.7	2.0	3.0	1.6	0.0	2.0

CHEM 171	CHEM& 121	CS 121	MATH 111	MATH& 141	PHYS 110	
1.0	2.0	2.0	2.0	2.7	1.0	22.7
3.0	4.0	1.0	3.0	3.2	1.0	29.7
3.0	4.0	3.0	2.7	2.2	1.0	26.3
1.0	3.0	2.0	1.7	1.5	1.0	19.3
1.0	2.0	1.0	1.3	1.8	1.0	17.9
2.0	2.0	1.0	1.3	1.7	1.0	18.0
1.0	1.0	1.0	1.3	1.0	1.0	14.9
1.0	1.0	1.0	1.0	1.2	1.0	13.0
1.0	2.0	2.0	1.7	2.2	1.0	19.3
2.0	1.0	2.0	1.3	1.7	1.0	17.8
1.0	1.0	2.0	1.3	1.5	1.0	15.3
1.0	1.0	2.0	1.7	2.0	1.0	17.9
1.0	1.0	2.0	1.3	1.7	1.0	18.7
2.0	1.0	2.0	1.7	2.0	1.0	20.4
1.0	2.0	2.0	1.3	1.7	1.0	16.5
1.0	2.0	2.0	1.3	1.5	1.0	15.7
1.0	2.0	2.0	1.3	1.5	1.0	17.4
2.0	2.0	2.0	1.0	1.8	1.0	19.4
1.0	2.0	2.0	1.3	1.3	1.0	15.2
1.0	1.0	2.0	1.3	1.5	1.0	16.3
1.0	1.0	2.0	2.0	1.5	1.0	17.0
1.0	1.0	2.0	1.3	1.5	1.0	17.3
1.0	1.0	2.0	1.3	1.7	1.0	16.5
1.0	1.0	2.0	1.3	1.5	1.0	16.3
1.0	1.0	2.0	1.7	1.8	1.0	16.7
1.0	1.0	2.0	1.7	2.5	1.0	18.5
1.0	2.0	2.0	1.3	1.8	1.0	18.9
1.0	3.0	1.0	1.3	1.7	1.0	17.3
1.0	2.0	2.0	1.3	1.5	1.0	18.8
2.0	2.0	2.0	1.7	1.5	2.0	22.0
1.0	1.0	1.0	1.7	1.8	1.0	16.5
1.0	3.0	2.0	1.7	2.3	1.0	22.3