

Minutes of Math Issues Committee
Friday, April 18, 2008
University of Connecticut
CUE Building, Room 134

Present — Larisa Alikhanova (Three Rivers), Jean-Marc Cenet (Tunxis), Elaine Dinto (Naugatuck Valley), Paul Edelen (Manchester), Teresa Foley (Housatonic), Andre Freeman (Capital), Miguel Garcia (Gateway), David Gross (UConn, guest), Pat Hirschy (Asnuntuck), Joy Mark (Quinebaug Valley), Rachael Schettenhelm (Gateway), Pam Wahl (Middlesex)

The meeting unofficially commenced at 11:10 a.m. with the **collection of Intermediate Algebra outcomes data** from all 12 campuses. Note: representatives from Northwestern and Norwalk were unable to attend the meeting, but had sent their information electronically; all other colleges were represented. **Special thanks is due to David Gross**, our UConn host, who kindly reserved for us a high-tech room in the Center for Undergraduate Education Building, and assisted us in the setup of the computer and ceiling projector.

Miguel officially called the **meeting to order** at 11:35 a.m.

Minutes from February 18, 2008 and March 14, 2008 meetings were **unanimously approved**.

The committee conducted an initial analysis to identify the objectives with greatest frequency and reorganized the chart accordingly. Guided by Pat and Miguel, discussion focused on agreement as to what exactly each of the stated outcomes means; some revisions were made in the language. Please see pages 3-5 of these minutes for the revised grid, Draft #3, showing collected data. Our task is to **identify from the chart something to which we can agree 100%, and to have this represent 80% of our intermediate algebra courses**.

Questions/concerns for discussion on all campuses —

With Pat and Miguel facilitating, the following questions were brought up and/or discussed, and should now be discussed by faculty in each campus Math Department, to include folks in Developmental Departments teaching math courses —

1. What does the 80% "core" mean? How do we determine the 80%?
2. Should intermediate algebra courses all be the same, if students from some campuses go from intermediate algebra directly to precalculus, and students from other campuses take college algebra plus trigonometric functions as preparation for calculus?

3. How does the use of technology impact on learning outcomes?
 - What is your campus policy on technology use in intermediate algebra?
 - Paul shared with the group results from a discussion at Manchester; MCC had added a column to the draft #2 grid, titled "use technology extensively in pedagogy." At Manchester, extensive technology use is integrated throughout the course, regarding all outcomes for linear, quadratic, rational, radical, and exponential functions.

4. How does emphasis on functions impact on learning outcomes?

Additional homework for Math Issues campus reps, besides facilitating campus discussion, and bringing back information, regarding the above questions —

- Review the grid (Draft #3) to determine its accuracy.
- Bring the grid to your Department for revisions/approval.
- Send any changes to Elaine by Friday, May 2 (EDinto@nvcc.commnet.edu).

The **next meeting** will be at Central Connecticut State University on May 9.

The **meeting adjourned** at 12:55 p.m.

Respectfully submitted,
Elaine Dinto

MAT 13* OUTCOMES, DRAFT #3

At the completion of MAT 13*, the student will be able to do the following —

College	ACC 1	CCC 2	GWCC 3	HCC 4	MCC 5	MXCC 6	NVCC 7	NWCC 8	NCC 9	QVCC 10	TRCC 11	TXCC 12	Σ
Outcomes re: linear functions and/or expressions													
Provide multiple representations of linear functions or expressions	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	12
Determine identifying characteristics of linear functions or expressions	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	12
Evaluate, simplify, and perform operations on linear functions or expressions	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	12
Solve linear equations and inequalities algebraically and graphically	Y	Y	Y	Y, alg only	Y	Y	Y	Y	Y	Y	Y	Y	12
Model real world applications with linear expressions and equations	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	11
Solve systems of linear equations	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	11

College	ACC 1	CCC 2	GWCC 3	HCC 4	MCC 5	MXCC 6	NVCC 7	NWCC 8	NCC 9	QVCC 10	TRCC 11	TXCC 12	Σ
Outcomes re: quadratic functions and/or expressions													
Provide multiple representations of quadratic functions or expressions	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	12
Determine identifying characteristics of quadratic functions or expressions	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	12
Evaluate, simplify, and perform operations on quadratic functions or expressions	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	12
Solve quadratic equations algebraically and graphically	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	12
Model real world applications with quadratic expressions and functions	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	11
Solve systems of quadratic equations	Y						Y/N						2

College	ACC 1	CCC 2	GWCC 3	HCC 4	MCC 5	MXCC 6	NVCC 7	NWCC 8	NCC 9	QVCC 10	TRCC 11	TXCC 12	Σ
Outcomes re: degree 3 or higher polynomial functions and/or expressions													
Evaluate, simplify, and perform operations on degree 3 or higher polynomial functions or expressions	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	12

College	ACC 1	CCC 2	GWCC 3	HCC 4	MCC 5	MXCC 6	NVCC 7	NWCC 8	NCC 9	QVCC 10	TRCC 11	TXCC 12	Σ
Outcomes re: rational functions and/or expressions													
Provide multiple representations of rational functions or expressions	Y		Y		Y	Y	Y	Y	Y	Y	Y	Y	10
Determine identifying characteristics of rational functions or expressions	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	12
Evaluate, simplify, and perform operations on rational functions or expressions	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	12
Solve rational equations algebraically and/or graphically	Y		Y	Y	Y	Y	Y	Y	Y/N	Y	Y	Y	11
Model real world applications with rational functions	Y	Y	Y/N		Y	Y	Y		Y	Y/N	Y	Y	10
Solve systems of rational equations			Y/N				Y/N						

College	ACC 1	CCC 2	GWCC 3	HCC 4	MCC 5	MXCC 6	NVCC 7	NWCC 8	NCC 9	QVCC 10	TRCC 11	TXCC 12	Σ
Outcomes re: radical functions/ and/or expressions													
Provide multiple representations of radical functions or expressions	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	12
Determine identifying characteristics of radical functions or expressions	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	12
Evaluate, simplify, and perform operations on radical functions or expressions	Y	Y	Y	Y	Y	Y	Y/N	Y	Y	Y	Y	Y	12
Solve radical equations algebraically and/or graphically	Y	Y				Y	Y	Y	Y/N	Y	Y	Y	9
Model real world applications with radical functions	Y	Y			Y	Y	Y/N		Y		Y	Y	8
Solve systems of radical equations													

College	ACC 1	CCC 2	GWCC 3	HCC 4	MCC 5	MXCC 6	NVCC 7	NWCC 8	NCC 9	QVCC 10	TRCC 11	TXCC 12	Σ
Outcomes re: exponential functions and/or expressions													
Provide multiple representations of exponential functions or expressions	Y	Y	Y		Y		Y	Y			Y		7
Determine identifying characteristics of exponential functions or expressions	Y	Y	Y		Y		Y	Y			Y		7
Evaluate, simplify, and perform operations on exponential functions or expressions	Y		Y		Y		Y/N	Y			Y	Y/N	7
Solve exponential equations algebraically and/or graphically	Y				Y		Y/N	Y			Y		5
Model real world applications with exponential functions	Y	Y			Y		Y				Y		5
Solve systems of exponential equations													

College	ACC 1	CCC 2	GWCC 3	HCC 4	MCC 5	MXCC 6	NVCC 7	NWCC 8	NCC 9	QVCC 10	TRCC 11	TXCC 12	Σ
Outcomes re: logarithmic functions and/or expressions													
Provide multiple representations of logarithmic functions or expressions	Y	Y						Y			Y		4
Determine identifying characteristics of logarithmic functions or expressions	Y	Y						Y			Y		4
Evaluate, simplify, and perform operations on logarithmic functions or expressions	Y/N							Y			Y		3
Solve logarithmic equations algebraically and graphically	Y							Y			Y		3
Model real world applications with logarithmic functions	Y												1
Solve systems of logarithmic equations													

College	ACC 1	CCC 2	GWCC 3	HCC 4	MCC 5	MXCC 6	NVCC 7	NWCC 8	NCC 9	QVCC 10	TRCC 11	TXCC 12	Σ
OTHER OUTCOMES													
Provide multiple representations of degree 3 or higher polynomial functions or expressions	Y/N		Y				Y	Y	Y	Y	Y		7
Determine identifying characteristics of degree 3 or higher polynomial functions or expressions								Y	Y				2
Solve degree 3 or higher polynomial equations algebraically (factoring) and/or graphically	Y	Y	Y				Y			Y	Y	Y	7
Model real world applications with degree 3 or higher polynomial functions	Y				Y		Y/N						3
Provide multiple representations of absolute value functions or expressions, identify characteristics, evaluate, simplify, solve algebraically and/or graphically	Y	Y	Y	Y						Y		Y	6
Identify characteristics, graph conic sections		Y											1
Solve quadratic inequalities algebraically and/or graphically		Y	Y				Y	Y	Y/N			Y	6
Solve systems of quadratic inequalities		Y								Y		Y	3