

Transitional Math Resource Development

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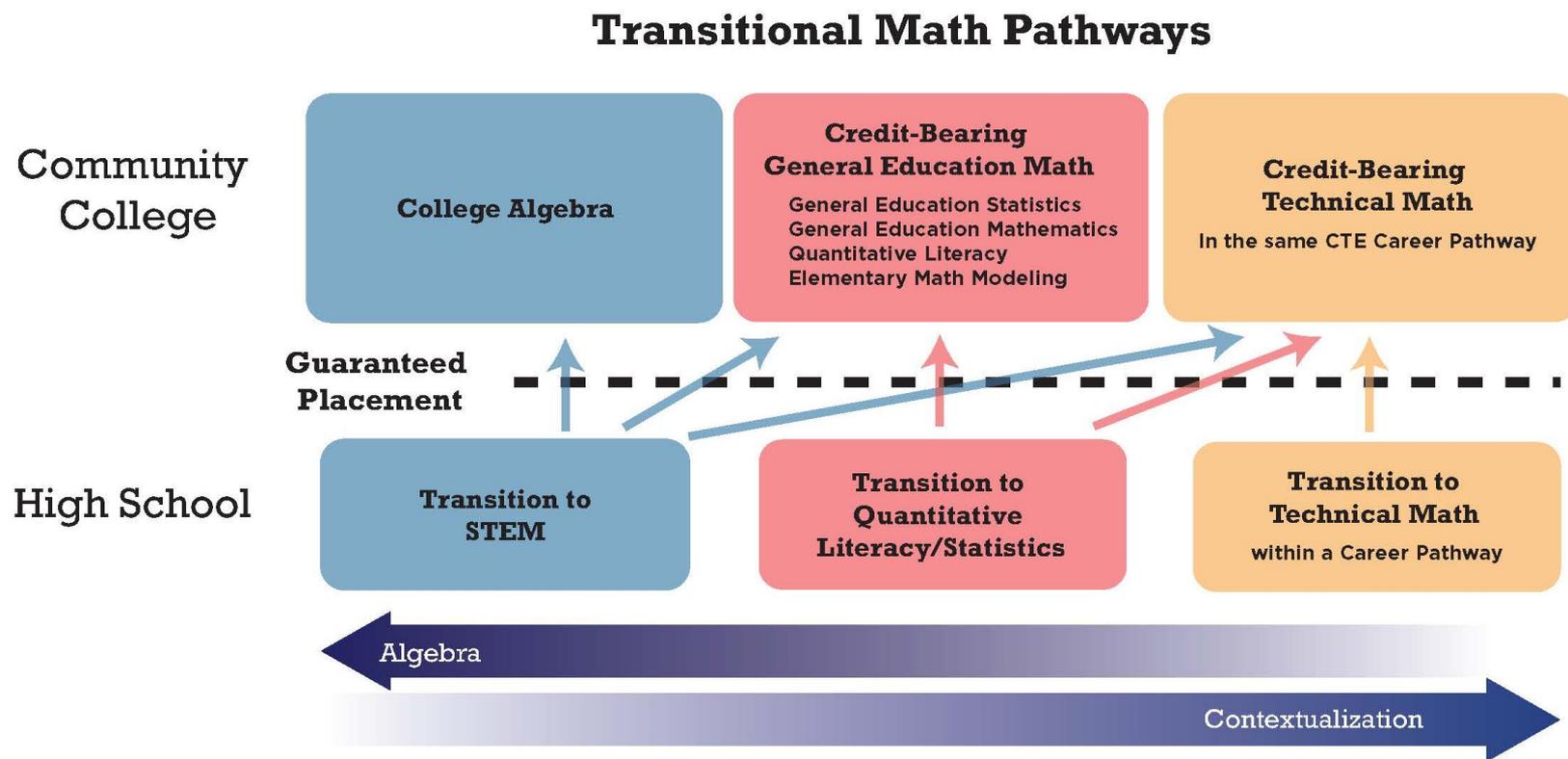
CENTER FOR P20 ENGAGEMENT, NIU

Postsecondary and Workforce Readiness Act (PWR Act)

Public Act 99-0674 (HB 5729); signed by Governor on 7/29/16

1. Postsecondary and Career Expectations (PaCE)
2. Pilot of Competency-based High School Graduation Requirements
3. College and Career Pathway Endorsements on High School Diplomas
- 4. Transitional Math Courses**
 - 4th year high school math courses designed to smooth transition to college and reduce remediation rates
 - Not dual credit or AP courses
 - Not for college credit

Transitional Math Pathways



Students who change to a path requiring more algebra may take a placement test or use alternative options, such as bridge courses or co-requisite courses, to accelerate that change.

Transitional Math Experience

- Designed for seniors to give them a different experience their last year (from first 3 years or traditional dev math)
 - The content is not new, so the experience must be.**
- Integrate contextualized learning, problem solving, and college and career readiness
- Students get to “do math”
 - See how math comes together and applies to their lives, work, and courses
 - Career exploration with authentic situations

Authenticity and problem solving are paramount.

Contrived problems, traditional applications, and juvenile settings are not to be included.

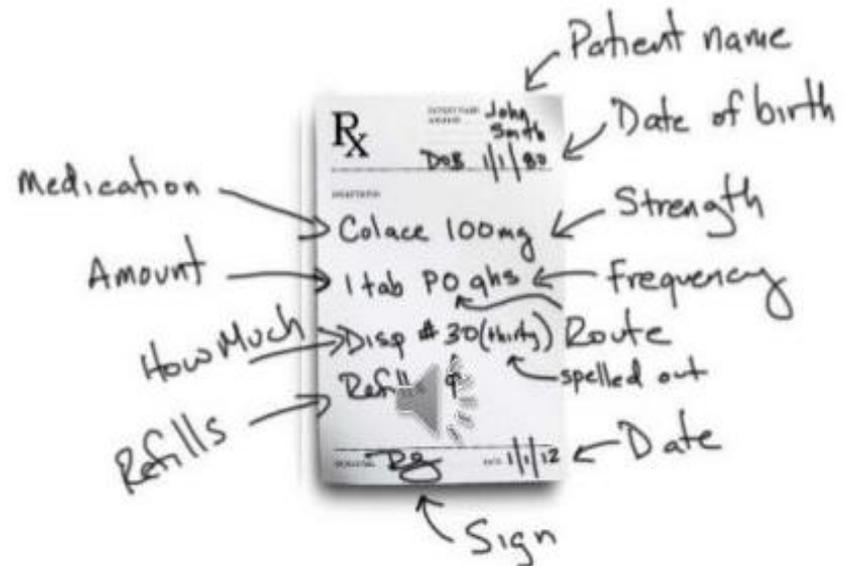
TM Problem Example: Technical Math

A doctor orders dicloxacillin sodium 125 mg p.o. q.6.h. for a child who weighs 55 lb. The recommended dosage of dicloxacillin sodium for children weighing less than 40 kg is 12.5 to 25 mg/kg/day p.o. in equally divided doses q.6.h for moderate to severe infections. Is the dosage safe?

Abbreviation definitions

p.o. – medication is taken orally

q.6.h. – frequency of medication taken (every 6 hours in this case)



TM Task Example: QL/Statistics

Buying a House

It is a very big decision to become a first-time homeowner. There are many things that need to be considered. Three important factors are the price of a home, mortgage interest rates and a person's salary. In this summative task, students will explore salary possibilities for their career field, describe desired home features, conduct a market analysis of home values, calculate mortgage costs, and analyze affordability.

Notes

1. Any unit maps, rubrics, and/or scope/sequence charts made at the state level are optional for school use.
2. Schools have local control and can edit what the state provides or create their own.
3. Resource development using OER items removes the cost issue many districts would face, but they are not required for use.

Resource Development

Resource development status

QL/Stats and Technical Math:

Have framed unit maps with some OER tasks

STEM:

Experienced challenges in creating coherent, contextual units during this summer.

Two steps to deal with this issue:

1. Short term: a separate workgroup will create a linear set of STEM units based on the function families (linear, polynomial, rational, radical, exponential) with new authentic summative tasks. This supports the conversion of existing intermediate algebra courses for fall 2019 pilots.
2. Long term: the STEM team will frame unit maps with integrated units built around careers. Resource development will happen one year from now with pilots using this approach starting fall 2020.

Writers needed

An application link will be provided.

A variety of applicants are encouraged. It is not required to teach math. PLTW, CTE, STEM, and other professionals are welcome to apply.

Forward the link to someone who would be a good candidate.

Deadline for applications: September 13

Application components: what you're interested in doing, your background with curriculum

Writers will receive a stipend of \$1000 as well as travel expenses for the Oct 4 event.

Timeline

Late September: training webinar, complete paperwork for stipend

Oct 4: Training event in Normal with employer interviews

October-December: Write with weekly Zoom webinar check-ins (Tuesdays, 3:30 – 5)

January: arrange for pilots

February – April: edit tasks based on pilot feedback, create additional unit elements like a preassessment and inclusion of student success piece

May: Finalize edits

June 1: Deadline

Resource development teams

QL/Stats Team: (5 people) Duties include evaluating existing unit maps, finding additional open resources, writing additional open resources, and writing assessment items such as a unit pre-assessment and summative task. Team members will also edit tasks based on piloting feedback.

Technical Math Team: (7 people) Duties include evaluating existing unit maps, finding additional open resources, writing additional open resources, and writing assessment items such as a unit pre-assessment and summative task. Team members will also edit tasks based on piloting feedback.

STEM Team: (6 people) Duties include creating new integrated STEM unit maps. Development of new content is not needed at this stage, but members will be asked to curate existing OER tasks when possible and identify where writing needs to occur for the next workgroup.

Quality Control Manager (QC): One person is needed to edit all content across all pathways for consistency of formatting and language.