Corequisite Design that Supports Strong & Equitable Completion of Transfer-level Math

CMC³ Fall 2021

Tammi Marshall, Ed.D. - Math Department Chair
Multiple Measures Placement
Redesigned Placement Process

Step Two - Placement Questionnaire

Information on Math and English or ESL Questionnaire
Please read the following information carefully about the series of questions that will give you a placement in Math and English or ESL. Below is a PREVIEW of four of the questions to help you prepare.

At the bottom of this page is a link that will take you to the actual questionnaire.

Which of the following is the closest approximation of your overall UN-WEIGHTED grade point average (GPA) in high school?

a) Under 2.6.
b) Between 2.6 and 2.79
c) Between 2.8 and 2.99
d) Between 3.0 and 3.29
e) 3.3 or higher
f) No high school GPA

* Note: You will find it easier to answer this question if you have your high school transcript handy. If you do not have a high school transcript, or if you attended the majority of your schooling in another country, and you are uncertain about your GPA we are happy to help.

Of the courses listed below, which is the HIGHEST you have completed in high school or are currently passing with a C or better?

a) Algebra I
b) Algebra II
c) Integrated Math II
d) Integrated Math III
e) PreCalculus
f) Calculus

* Note: This question is asking you to tell us the HIGHEST level math from the list you completed in high school, which may not necessarily be the most recent class. If you are unsure how to answer this question, we are happy to help.

What is/was your grade in the HIGHEST level math course identified above?

a) A
b) B
Redesigned Placement Process

You can only take this questionnaire once.
If you are NOT ready, click on one of the links below for assistance.

Grossmont Placement
Cuyamaca Placement

If you ARE ready to answer the questions click below.
Placement Questionnaire (link to questionnaire)
Redesigned Placement Process

Placement Questionnaire FAQ

Placement gives recommendations for courses in math, English and English as a second language (ESL). This will determine where you start in the sequence of courses and how long it will take to complete them to get your degree or transfer. A new law in California (AB 705) has made transfer level math and English courses accessible in your first year.

If you do not see an answer to your question below, contact the Placement Center

How to access the Placement Questionnaire

- Login to WebAdvisor
- Click the Students tab
- Under "Orientation/Placement/Advise," Click the "Step 2 - Placement Questionnaire"
- Fill out the form and click submit
- Review your recommended placement

How to answer the GPA question

Office Information
- Monday: 8:00am to 6:00pm
- Tuesday - Thursday: 8:00am to 5:00pm
- Friday: 9:00am to 1:00pm

cuyamaca.placement@gcccd.edu
Redesigned Placement Process

Step Two - Placement Questionnaire

Please answer the following questions. Once you have submitted your answers, your placement score will be calculated and you will not be permitted to respond again.

* = Required

You have previously submitted this questionnaire and cannot re-submit it. Please contact the Assessment Center at (619) 644-7200 (Grossmont College) or (619) 660-4426 (Cuyamaca College) for assistance.

1. Did you attend a U.S. high school for three or more years?

2. Which of the following is the closest approximation to your overall UN-WEIGHTED grade point average (GPA) in high school?

3. Is English your native or primary language?

4. Do you sometimes have trouble reading and writing in English because English is not your native or primary language?

5. Of the courses in this selection, which is the HIGHEST you have completed or are currently passing with a C or better?

6. What is/was your grade in that course?

7. In which of the following areas are you thinking of majoring (studying)?

Submit
Redesigned Placement Process

Question 7: Guided Pathways/Math Pathways Placement

In which of the following areas are you thinking of majoring (studying)?

- Engineering/Math/Computer Science/Science (Physics, Chemistry, Biology, Pre-Med, etc.)
- Teaching (Elementary Education)
- Social Science/Allied Health (Nursing, Social Work, Administration of Justice, Psychology, Sociology)
- Business (Accounting, Economics, Finance, Management, Marketing, etc.)
- Arts & Humanities (History, English, Literature, Languages, Philosophy, Communication, etc.)
- I am thinking of something else
Redesigned Placement Process

Placement Results

Please answer the following questions. Once you have submitted your answers, your placement score will be calculated and you will not be permitted to respond again.

Recommended courses:

<table>
<thead>
<tr>
<th>Submitted:</th>
<th>28 Feb 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended Math:</td>
<td>Math 180</td>
</tr>
<tr>
<td>Recommended English:</td>
<td>Engl 120</td>
</tr>
<tr>
<td>Recommended ESL:</td>
<td></td>
</tr>
</tbody>
</table>

You were placed in math and English classes or are recommended to take the ESL placement based on the answers you provided. Your math placement in these classes was also partially based on your field of study.

If you are unsure which course(s) to enroll in, we are happy to help.

- Ask a Counselor (Grossmont)
- e-Counseling (Cuyamaca)

If you believe you were placed incorrectly, contact the appropriate campus below.

- Grossmont Placement
- Cuyamaca Placement
Open Access
What percentage of students place into transfer-level math?

**Pre-implementation**

- **African American/Black Students**: 9%
- **Latinx Students**: 21%
- **White Students**: 27%

**Post-implementation**

- **African American/Black Students**: 100%
- **Latinx Students**: 100%
- **White Students**: 100%
How Students Placed

Math recommended placement and scores

<table>
<thead>
<tr>
<th>Recommended</th>
<th>Orientation Ind</th>
<th>Ed Plan Ind</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 110</td>
<td></td>
<td></td>
<td>66</td>
</tr>
<tr>
<td>Math 120 OR Math 160</td>
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<td></td>
<td>299</td>
</tr>
<tr>
<td>Math 120+020 OR Math 160+060</td>
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<td></td>
<td>48</td>
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<tr>
<td>Math 125</td>
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<td></td>
<td>37</td>
</tr>
<tr>
<td>Math 160 OR PSY 215</td>
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<td></td>
<td>128</td>
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<tr>
<td>Math 160+060 OR PSY 215+Math 060</td>
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<td>14</td>
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<tr>
<td>Math 176 OR Math 175 AND Math 170</td>
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<td></td>
<td>80</td>
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<tr>
<td>Math 176+076 OR Math 175+075 followed by Math 170</td>
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<td></td>
<td>51</td>
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<td>Math 178 followed by Math 160</td>
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<td><strong>Total</strong></td>
<td></td>
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<td><strong>909</strong></td>
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<tr>
<td>Course</td>
<td>Fall 2015</td>
<td>Fall 2021</td>
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<td>-------------------------------</td>
<td>-----------</td>
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<td></td>
</tr>
<tr>
<td>Quantitative Reasoning</td>
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<td>3</td>
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<td>Statistics</td>
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<td>17</td>
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<td>Business</td>
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<td>3</td>
<td></td>
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<tr>
<td>PreCalculus</td>
<td>5</td>
<td>9</td>
<td></td>
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<tr>
<td>Calculus and above</td>
<td>9</td>
<td>14</td>
<td></td>
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</tbody>
</table>
What Happened?
First-time students’ one-year throughput

After corequisite implementation

<table>
<thead>
<tr>
<th>Year</th>
<th>Throughput</th>
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</thead>
<tbody>
<tr>
<td>2014-15</td>
<td>31%</td>
</tr>
<tr>
<td>2015-16</td>
<td>33%</td>
</tr>
<tr>
<td>2016-17</td>
<td>54%</td>
</tr>
<tr>
<td>2017-18</td>
<td>56%</td>
</tr>
<tr>
<td>2018-19</td>
<td>66%</td>
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<tr>
<td>2019-20</td>
<td>67%</td>
</tr>
</tbody>
</table>
STEM Data

- Calculus I: PC w/Support = 70%, PC w/o Support = 77%
- Calculus II: PC w/Support = 83%, PC w/o Support = 80%
- Calculus III: PC w/Support = 95%, PC w/o Support = 93%
- Engr Statistics: PC w/Support = 100%, PC w/o Support = 88%
- Physics I (mechanics): PC w/Support = 86%, PC w/o Support = 86%
Equity Gaps Persist
Equity Interventions
## Interventions

### 2016-2019

- Community of Practice meetings
- Professional Development conferences/workshops
- First use of disaggregated instructor-level data
- Second group to participate in the college’s Equity-Minded Teaching and Learning Institute (EMTLI)
- Slightly “moved the needle” on math equity gaps

### 2019 - present

- Community of Practice to focus on closing equity gaps
- Professional Development conferences/workshops with a focus on equity
- Updated disaggregated instructor-level data
- Participation in updated EMTLI
- Structural approaches to course fundamentals and instructor mindsets
Specific Work on Faculty Mindsets

The findings:
While all students perform better when STEM professors endorse a growth mindset belief, the racial achievement gap is almost halved when professors endorse a growth-mindset belief.
A Caution related to Mindsets

It’s not “You can do anything!”
It’s not just about effort.

Anyone can get better at anything with consistent and effective effort.
• What examples of interactions with students can you think of that could impact their motivation and performance?

• What interventions are you making to support equitable student outcomes in your programs?
Student Perspectives on Corequisite Courses
Students See the Value

We asked students: What aspects of the co-req course have been most valuable?

“A lot of people underestimate themselves. They put up walls and say, ‘I can’t do it’ and ‘I’m not good at that.’ I got bad grades in math during high school. To see myself now means anyone can succeed in math, if they work and get the right support.”

“Unlike other math classes I have taken, this class is not about passing; it’s about learning. I learned way more math than ever before.”
What We Have Learned
Continuous Cycle of Improvement

- Make structural changes alongside cultural changes.
- Address instructor mindsets.
- Secure access to quality equity-minded PD.
- Clarify messaging to students about placement, resources, etc.
- Adopt structural interventions rather than a “cafeteria style” approach.
- Engage with students about their experiences and perspectives in creating program improvements.
Thank you!

Tammi Marshall
Tammi.Marshall@gcccd.edu
Citations/Reports

- Maximizing Math Throughput of Students who Did Not Complete Algebra 2 in High School
- STEM Faculty Who Believe Ability is Fixed Have Larger Racial Achievement Gaps and Inspire Less Student Motivation in Their Classes
- Corequisite Works: Student Success Models at the University System of Georgia
- Mindset Video