Swim, Don’t Sink!
Wake Tech’s Maiden Voyage
on the USS Corequisite

A Co-requisite Model for WTCC’s RISE Implementation
(Reinforced Instruction for Student Excellence)

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NC Math Completion

Passes a gateway level math course within two years of enrollment
Why a Co-requisite Model?

• Statewide Initiative

• Students requiring remediation for college level English and mathematics courses were “getting stuck”

• Students must make it through gateway courses in order to complete programs

• Previous model of placement and pre-requisite remediation was actually impeding program completion
Wake Tech’s Current and Most Recent Model
Current Gateway Courses

- MAT 110 – Mathematical Measurement and Literacy
- MAT 121 – Algebra/Trigonometry I
- MAT 143 – Quantitative Literacy (AA)
- MAT 152 – Statistical Analysis (AA)
- MAT 171 – Pre calculus Algebra (AA/AS/AE)
Previous Developmental Modules

- DMA 010 - Operations with Integers
- DMA 020 – Fractions and Decimals
- DMA 030 – Proportions/Ratios/Rates/Percents
- DMA 040 – Expressions, Linear Equations, Linear Inequalities
- DMA 050 – Graphs and Equations of Lines
- DMA 060 – Polynomials and Quadratics Applications
- DMA 070 – Rational Expressions and Equations
- DMA 080 – Radical Expressions and Equations
These Models vs. RISE

Previous

- HS GPA < 2.6
  - NCDAP
    - DMA 010
    - DMA 020
    - DMA 030
    - DMA 040
    - DMA 050
    - DMA 060
    - DMA 070
    - DMA 080

RISE

- HS GPA < 2.2
  - MAT 003
    - MAT 110 *
    - MAT 143 *
    - MAT 152 *
    - MAT 121 *
    - MAT 171 *
### Three Paths to Gateway Courses

<table>
<thead>
<tr>
<th>Path</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>HS GPA &lt; 2.2</strong></td>
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<tr>
<td></td>
<td>- Transition Center (MAT003)</td>
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<tr>
<td></td>
<td>- Different levels of mastery allow direct placement into gateway course</td>
</tr>
<tr>
<td></td>
<td>- Units 1-8: Tier 1</td>
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<tr>
<td></td>
<td>- Units 9-12: Tier 2</td>
</tr>
<tr>
<td></td>
<td>- Units 13-17: Tier 3</td>
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<tr>
<td></td>
<td>- Mastery level determines if co-requisite course required</td>
</tr>
<tr>
<td>2.</td>
<td><strong>2.2 ≤ HS GPA &lt; 2.799</strong></td>
</tr>
<tr>
<td></td>
<td>- ACT Benchmark score</td>
</tr>
<tr>
<td></td>
<td>- Prior developmental coursework for current WTCC students</td>
</tr>
<tr>
<td></td>
<td>- RISE placement test if more than 10 years of out high school or international</td>
</tr>
</tbody>
</table>
Three Paths to Gateway Courses Cont.

3. **HS GPA ≥ 2.8**

- Any Gateway level math course *without* a corequisite.
- **GPA < 2.2**
  - MAT 003 developmental

- **GPA 2.2-2.799**
  - MAT 110 with co-requisite
  - MAT 121 with co-requisite
  - MAT 143 with co-requisite
  - MAT 152 with co-requisite

- **GPA > 2.8**
  - Any Gateway Course without co-requisite
Transition Course
GPA < 2.2

MAT003

Tier 1 Mastery
- MAT 110
- MAT 143 with co-req
- MAT 152 with co-req

Tier 2 Mastery
- MAT 143
- MAT 152

Tier 3 Mastery
- MAT 121 with co-req
- MAT 171 with co-req
- MAT 121
- MAT 171
New Options for Moving Up

• If a student successfully passes MAT 143 or MAT 152 he/she may register for MAT 171 with a co-requisite.

• If a student successfully passes MAT 110 he/she may register for MAT 143 or MAT 152 with a co-requisite.
Planning for and Implementing RISE
# A New Paradigm

<table>
<thead>
<tr>
<th>Previously</th>
<th>RISE</th>
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<tbody>
<tr>
<td>• Remediation completed prior to gateway classes</td>
<td>• Remediation may now occur synchronously</td>
</tr>
<tr>
<td>• Developmental instruction completely independent of gateway instruction</td>
<td>• Developmental instructors and gateway instructors must coordinate instruction</td>
</tr>
<tr>
<td>• Developmental scheduling completely independent of curriculum scheduling</td>
<td>• Cohort - All students from corresponding co-requisite section in same section of gateway***</td>
</tr>
</tbody>
</table>
Separate Academic Areas

Academic Foundations Department (Academic Success & Transition Resources)
- DMA 010
- DMA 020
- DMA 030
- DMA 040
- DMA 050
- DMA 060
- DMA 070
- DMA 080

Math & Physics Department (Arts & Sciences)
- MAT
  - MAT 110
  - MAT 121
  - MAT 143
  - MAT 152
  - MAT 171+
Assumptions

- Math & Physics department uses course team structure
  - Common Pacing
  - Common Tests
  - Common Learning Objectives
- Cohort Structure between gateway and co-requisite
- Gateway course no more than 2/3 from co-requisite
- Cross-department communication required for each RISE instructor pair
Preparing for the Fall 2019 Pilot

• Cross-department committees formed in Fall 2018 to develop a communication process and materials for new co-requisite classes
  o Committees: pre-curriculum faculty with 1 or 2 curriculum faculty
    ▪ Some pre-curriculum instructors had already been teaching gateway courses
    ▪ Statistics was new for pre-curriculum

• Administration from both departments collaborated on scheduling
Administrative Challenges

• Estimate number of RISE sections to offer of each course
  – Current students’ GPAs
  – Developmental courses’ enrollment
  – Enrollment trends
• Need to offer (many) more gateway classes as compared to previous year
• RISE gateway and co-requisite course naming scheme
  – MAT1XX-SSSS/G (Gateway section)
  – MAT0XX-SSSS/G (Corresponding Co-req section)
    • SSSS – section numbers are shared in most cases
    • Suffix of ‘G’ indicates RISE section
Our Scheduling Approach

• Most gateway and co-requisite sections alternate days
• Same time block (as close as possible)
• Same room
• A few sections offer gateway and co-requisite back to back in same day
• One section of each co-requisite class to be taught by a curriculum instructor
Other Scheduling Considerations

Best Practice

– Use of a developmental education instructor for co-requisite course

• Weekly cross-department communication for each gateway/co-requisite pair.

• Co-requisite courses are offered in the same modality as the gateway course
A lot of Math!

<table>
<thead>
<tr>
<th>Type</th>
<th>Course</th>
<th>Contact (Credit) Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gateway</td>
<td>MAT 110</td>
<td>4 (3)</td>
</tr>
<tr>
<td>Co-requisite</td>
<td>MAT 010</td>
<td>2 (1)</td>
</tr>
<tr>
<td>Gateway</td>
<td>MAT 121</td>
<td>4 (3)</td>
</tr>
<tr>
<td>Co-requisite</td>
<td>MAT 021</td>
<td>3 (2)</td>
</tr>
<tr>
<td>Gateway</td>
<td>MAT 143</td>
<td>4 (3)</td>
</tr>
<tr>
<td>Co-requisite</td>
<td>MAT 043</td>
<td>3 (2)</td>
</tr>
<tr>
<td>Gateway</td>
<td>MAT 152</td>
<td>5 (4)</td>
</tr>
<tr>
<td>Co-requisite</td>
<td>MAT 052</td>
<td>3 (2)</td>
</tr>
<tr>
<td>Gateway</td>
<td>MAT 171</td>
<td>5 (4)</td>
</tr>
<tr>
<td>Co-requisite</td>
<td>MAT 071</td>
<td>4 (2)</td>
</tr>
<tr>
<td>TIME</td>
<td>Monday</td>
<td>Tuesday</td>
</tr>
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<td>-------</td>
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</tr>
<tr>
<td></td>
<td>MAT 152.2212G</td>
<td>MAT 052.2212G</td>
</tr>
<tr>
<td></td>
<td>C: 8:00-8:50 L: 8:51-9:41</td>
<td>C: 8:00-8:50 L: 8:51-9:41</td>
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<td>8:00</td>
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<td>8:50</td>
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<tr>
<td>9:00</td>
<td>MAT 152.2230G</td>
<td>MAT 110.2211</td>
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<tr>
<td>10:00</td>
<td>C: 10:00 - 10:50 L: 10:51 - 11:41</td>
<td>MAT 052.2230G</td>
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<td>10:50</td>
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<td>11:00</td>
<td>MAT 152.2240G</td>
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<td>C: 12:00-12:50 L: 12:51-1:41</td>
<td>C: 12:00-12:50 L: 12:51-1:41</td>
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<tr>
<td>12:00</td>
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<tr>
<td>12:50</td>
<td>MAT 152.2250G</td>
<td>MAT 052.2250G</td>
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<tr>
<td>1:00</td>
<td>C: 2:00-2:50 L: 2:51-4:20</td>
<td>C: 1:00-1:50 L: 1:51-2:41</td>
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<tr>
<td>1:50</td>
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<tr>
<td>2:00</td>
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<tr>
<td>2:50</td>
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<td>4:50</td>
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</tbody>
</table>
This course provides opportunities for students to build a stronger foundation for success in their Gateway Course by obtaining skills through a variety of instructional strategies.

Emphasis is placed on developing a growth mindset and building foundational skills as well as concepts, skills, vocabulary and definitions necessary to master student learning outcomes in the Gateway Course.
North Carolina Community College System Guidelines

Upon completion, students should be able to apply mathematical concepts and critical thinking skills to solve problems relevant to the Gateway Course they are taking.
Evaluation/Assessment

- Students will be assessed on group activities, quizzes, and participation.
- *Limit out of class of assignments
Recommended Course Activities

• Mini Recap Lessons
• Group work
• Engaging Problem Solving Activities
• Q & A Sessions
• Test Prep Sessions
• Hot Topic Sessions (dedicated to discussing common misunderstandings/misconceptions of math topics covered that week in the Gateway Course)
Grading Scale

Students will be assigned a grade of P (for Pass) or F based on their overall course grade. The grading scale is as follows:

<table>
<thead>
<tr>
<th>Course Grade</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>70 – 100</td>
<td>P</td>
</tr>
<tr>
<td>Below 70</td>
<td>F</td>
</tr>
</tbody>
</table>
Grading and Attendance

• Students cannot miss more than 10% of the class time
• Pass the co-requisite course but fail the gateway course
  – Retake the corresponding gateway course
• Pass the gateway, but fail the co-requisite
  – Unlikely
• Drop one...drop 'em both