The Case for Corequisite Math
## KPI 04: All Students

### KPI 04: Passed (C or better) college-level math in year one (fall, winter, spring, summer)

<table>
<thead>
<tr>
<th>Institution</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>All CT State</td>
<td>31%</td>
</tr>
<tr>
<td>Asnuntuck</td>
<td>19%</td>
</tr>
<tr>
<td>Capital</td>
<td>31%</td>
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<tr>
<td>Gateway</td>
<td>34%</td>
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<tr>
<td>Housatonic</td>
<td>22%</td>
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<tr>
<td>Manchester</td>
<td>33%</td>
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<tr>
<td>Middlesex</td>
<td>39%</td>
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<tr>
<td>Naugatuck Valley</td>
<td>30%</td>
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<td>Northwestern CT</td>
<td>39%</td>
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<td>Norwalk</td>
<td>30%</td>
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<td>Quinebevg Valley</td>
<td>29%</td>
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<tr>
<td>Three Rivers</td>
<td>30%</td>
</tr>
<tr>
<td>Tunxis</td>
<td>32%</td>
</tr>
</tbody>
</table>

*Tip: Click on the elements in the college-level visualization (top) to narrow the focus in the chronological visualization (bottom).

*Notes: All records are for first time college students. Aggregations that yield <10 records will be suppressed to protect student privacy.*
KPI 04: Disaggregated by Race/Ethnicity

KPI 04: Passed (C or better) college-level math in year one (fall, winter, spring, summer)

Note: All records are for first time college students. Aggregations that yield <10 records will be suppressed to protect student privacy.
Promising Initiatives in Other States

Math Pathways

- “The equivalent content in intermediate algebra courses is not required to master the content for most college-level mathematics courses that do not lead to calculus;”
  – Position Statement of American Mathematical Association of Two-Year Colleges

Corequisite Support Courses

CT STATE COMMUNITY COLLEGE
States Implementing Co-Reqs at Scale
Key Observations
• Large increases in student success when prerequisite implementation (blue and gray) was replaced with corequisite implementation (yellow, green, red, and purple)
• All races benefited from corequisite implementation
• Equity gaps between races were closed
• Students at all levels of ACT scores benefited from corequisite implementation
Goals for Equity and Student Success in Corequisite and Gateway Courses

Engage
Engage students to actively make informed choices about their education

Challenge
Challenge all students to acquire the quantitative reasoning skills necessary for academic and professional success

Support
Support students with structures that enhance success and create academic habits they will carry on to future classes
Goal: Full implementation by fall 2025

Process: Gradual reduction of students in developmental courses

Assessment: Ongoing data collection (quantitative and qualitative against student success and equity goals)
Phase One: Fall 2023

Prerequisite developmental math courses will be available for at least one more year

Offerings of Intermediate Algebra will be significantly reduced

Non-STEM students who previously would have placed directly into Intermediate Algebra will now go directly to MATH 1100 Quantitative Reasoning or MATH 1200/1201 Statistics I

STEM students who previously would have placed directly into Intermediate Algebra will now go to corequisite College Algebra

Non-transfer students will primarily go directly to their non-transfer math course (MATH 1000 through MATH 1003)

Corequisite sections of Quantitative Reasoning and Statistics will be piloted
Next steps
Preparing Math Faculty

- Model coreq/college-level course materials
- Coreq Chat Webinars
- Professional Learning Communities
- Asynchronous Training Course
Preparing Colleges

- Department Chairs (on scheduling, support models, etc.)
- Faculty in other disciplines
- Student Support (Tutoring, Advising, Financial Aid, etc.)
Further Questions?

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The Case for Corequisite English

Andrew Sottile and James Gentile
Coordinators, ACME English
# KPI 5: All Students

KPI 05: Passed (C or better) college-level English in year one (fall, winter, spring, summer)

<table>
<thead>
<tr>
<th>Institution</th>
<th>Fall 2013</th>
<th>Fall 2014</th>
<th>Fall 2015</th>
<th>Fall 2016</th>
<th>Fall 2017</th>
<th>Fall 2018</th>
<th>Fall 2019</th>
<th>Fall 2020</th>
<th>Fall 2021</th>
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</thead>
<tbody>
<tr>
<td>All CT State</td>
<td>44%</td>
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<td>26%</td>
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<td>Capital</td>
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<td>Gateway</td>
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<td>Housatonic</td>
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<td>Manchester</td>
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<td>46%</td>
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*Note:* The graph shows the percentage of students who passed college-level English courses in their first year across various institutions from different fall semesters.
## KPI 5: Black and Latinx Students

**KPI 05: Passed (C or better) college-level English in year one (fall, winter, spring, summer)**

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<td>All CT State</td>
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</tbody>
</table>

*Note: The overall average for all institutions remains at 35% across all years.*
Achievement gaps between students who place into gateway and developmental courses
Achievement gaps raise equity concerns

New Students in Fall Semesters
% Pass CL English w C or Better in 1st Year by Placement Fa15-Fa19 Cohorts

- Hispanic/Latino: CollegeLevel 59%, Developmental 25%
- Asian: CollegeLevel 62%, Developmental 33%
- Black or African American: CollegeLevel 56%, Developmental 22%
- White: CollegeLevel 67%, Developmental 36%
Percent of Remedial Students Who Complete an Associated Gateway Course

<table>
<thead>
<tr>
<th>State</th>
<th>Prerequisite</th>
<th>Corequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorado</td>
<td>64%</td>
<td>31%</td>
</tr>
<tr>
<td>Georgia</td>
<td>71%</td>
<td>16%</td>
</tr>
<tr>
<td>Indiana</td>
<td>55%</td>
<td>37%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>64%</td>
<td>31%</td>
</tr>
<tr>
<td>West Virginia</td>
<td>68%</td>
<td>37%</td>
</tr>
</tbody>
</table>

(In two years for prerequisite models, in first year for corequisites)

Phase-in: 2023
Goal: Full implementation by fall 2025

Process: Gradual increase of students in gateway courses; gradual reduction of students in developmental courses

Assessment: Ongoing data collection, quantitative and qualitative, focused on student success and equity goals
In Fall 2022 the twelve colleges offered the following seats for English courses at the twelve colleges:

- ENG 101: 4981
- ENG 101 embedded: 1667
- Dev. ENG: 1735
Fall 2023

Directed Placement

Prerequisite
Corequisite
Gateway
Based on the current proposal*, we project the following seats systemwide for Fall 2023:

- ENG 1010: ~5500
- ENG 1010W: ~1500
- ENG 0930: ~580
- ENG 0960: ~440

* which is still awaiting final input from the English team and approval from leadership
Curriculum

• ENG 1010 outcomes:
  • Respond to rhetorical situations
  • Engage with and use authoritative sources
  • Craft logical arguments
  • Apply language conventions

• ENG 1010 W outcomes:
  ▪ Apply critical reading strategies for understanding, analyzing, and interpreting texts
  ▪ Apply writing strategies for developing thesis-driven essays with textual support
  ▪ Apply language and documentation conventions consistently
  ▪ Apply affective skills that support the reading and writing processes
  ▪ Develop independent reading, writing, and revising processes
The Corequisite Course: ENG 1010W

Application of ENG 1010 Outcomes

Same Instructor

ENG 1010W

Embedded Tutor

Access to Technology
Transitional Supports

- Comprehensive case management system.
- Proposed orientation for all students.
- Bridge programming for students who self-identify as unready for college-level work.
- Recommended support, including use of campus writing centers, tutoring, library services, and other campus programming.
- Embedded professional tutor in the workshop class (ENG 1010W).
Next Steps
Preparing English Faculty

- PL course (online; optional)
- Learning communities
- Repository of faculty-designed materials
- Webinars that feature and highlight faculty expertise
Preparing Colleges

Department Chairs (on scheduling, support models, etc.)

Faculty in other disciplines

Student support (Tutoring, Advising, Financial Aid, etc.)
Andrew Sottile
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James Gentile
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ACME ESOL

Melanie Majeski
&
Hannah Moeckel-Rieke
Background
Rising number of immigrants in the US

(Source: Migration Policy Institute)
# Immigrant youth in CT High Schools

<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>Percentage of ELs</th>
<th>Rate of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spanish is Native Language</td>
<td>72%</td>
<td>23%</td>
</tr>
<tr>
<td>Percent of all ELs in High-Incidence Districts</td>
<td>59%</td>
<td>19%</td>
</tr>
<tr>
<td>Districts With at Least One EL</td>
<td>187 districts</td>
<td>+16 districts</td>
</tr>
<tr>
<td>Grade Distribution of ELs</td>
<td>PK-5 (60%), 6-8 (19%), 9-12 (21%)</td>
<td>PK-5 (19%), 6-8 (35%), 9-12 (28%)</td>
</tr>
<tr>
<td>Immigrant</td>
<td>23%</td>
<td>30%³</td>
</tr>
<tr>
<td>Students with Disabilities</td>
<td>21%</td>
<td>39%</td>
</tr>
<tr>
<td>Eligible for Free or Reduced Price Meals</td>
<td>73%</td>
<td>19%</td>
</tr>
<tr>
<td>Qualified for an Alternate Assessment</td>
<td>1%</td>
<td>22%</td>
</tr>
<tr>
<td>Section 504</td>
<td>2%</td>
<td>105%</td>
</tr>
<tr>
<td>Homeless</td>
<td>1%</td>
<td>26%</td>
</tr>
<tr>
<td>Gifted or Talented</td>
<td>&lt;1%</td>
<td>61%⁶</td>
</tr>
<tr>
<td>In a Military Family</td>
<td>&lt;1%</td>
<td>120%³</td>
</tr>
<tr>
<td>Male</td>
<td>55%</td>
<td>25%</td>
</tr>
<tr>
<td>In a Bilingual Program</td>
<td>27%</td>
<td>21%</td>
</tr>
</tbody>
</table>

¹Rate of change refers to the rate of increase or decrease in the number of ELs from SY 2015-16 to 2019-20.

²Note: High-Incidence Districts are based on the number of ELs, not the number of schools.

³Rate of change calculated as the percentage increase from SY 2015-16 to SY 2019-20.

⁴Alternate assessment is an assessment that is not aligned with the state's standards and is used for students who are unable to meet the standards.

⁵Section 504 is a federal law that protects the rights of individuals with disabilities to participate in or benefit from the services, programs, or activities of school districts.

⁶Rate of change calculated as the percentage increase from SY 2015-16 to SY 2019-20.

⁷Rate of change calculated as the percentage increase from SY 2015-16 to SY 2019-20.
Initiatives

ESL Council developed common numbers

New courses were not vetted through the ESL Council

Curriculum alignment for all campuses
ESOL vs. Developmental English

• **Developmental English**
  - focuses on literacy skills, extended reading, and essay writing
  - caters to native speakers who need more exposure to academic language

• **English for Speakers of Other Languages (ESOL)**
  - focuses on language acquisition, vocabulary development, grammatical accuracy and oral and written fluency
  - caters to non-native speakers who are learning English for the first time
ESOL Terminology - FYI

- **ESOL** – English for Speakers of other Languages
- **ELLs** – English Language Learners
- **MLLs** – Multilingual Learners
- **Early arrival and late arrival immigrants**
  (elementary/ middle school vs. high school)
- **BICS** – Basic Interpersonal Communication Skills
- **CALP** – Cognitive Academic Language Proficiency
Types of ELLs entering CCs

Early arrival high school students
- Immigrants with 4 or more years in the American school system
- Great BICS
- CALP varies

Late arrival high school students
- Immigrants with less than 4 years in American high schools
- BICS & CALP need work

International students; F1 visa students
- Mostly with partial or completed undergraduate or graduate degree
- BICS & CALP unknown

non-traditional students
- A wide variety of language learning and academic backgrounds
- BICS & CALP will vary
Fall 2023

Phase In
Placement process – aligned Fall 2023

• The placement of ELLs is complicated
  • Coming from other countries, many students don’t have a GPA.
  • Late-arrival immigrants have little time to accumulate a GPA that represents their skills in English
  • ELLs may be graded on a different scale than native speakers

• Research therefore suggests the most appropriate way to measure students’ language proficiency is a multiple-measure assessment including:
  • Questions to assess learning background and prior school and college experience
  • Assessment of oral and written fluency and accuracy, including a writing sample and interview
ESOL Aligned Course Framework – Fully Implemented Fall 2023

- Students enter at the level appropriate for them
- High-performing students can skip a level or take accelerated programs

ACME ESOL Framework
## Co-requisite ESOL 1010 Support

<table>
<thead>
<tr>
<th>ESOL 1602</th>
<th>ENG 1010</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 3 institutional credits</td>
<td>• 3 credits</td>
</tr>
<tr>
<td>• Taught by ESOL Instructor</td>
<td>• Taught by the same ESOL Instructor</td>
</tr>
<tr>
<td>• Focus on language and academic support</td>
<td>• Follows 1010 Learning Outcomes</td>
</tr>
<tr>
<td>• Academic vocabulary</td>
<td>• Respond to rhetorical situations</td>
</tr>
<tr>
<td>• Syntax</td>
<td>• Engage with and use authoritative sources</td>
</tr>
<tr>
<td>• Advanced grammar structures</td>
<td>• Craft logical arguments</td>
</tr>
<tr>
<td>• ELL-appropriate scaffolding for assignments</td>
<td>• Apply language conventions</td>
</tr>
</tbody>
</table>
2024-2025

Next Steps
New aligned curriculum

ESOL curriculum focuses on Integrated skills; other classes are electives for support as needed and Immersion option.

Students have access to mainstream classes while working on their English skills. Less reading and writing intensive classes first.
Future Programming

- Summer bridges
- High school partnerships
- Immersion programs for refugees

- Accelerated tracks available at intermediate and advanced levels – students complete two levels in one semester (cohort model)

- Learning Communities at top levels with content classes such as: SOC, HIS, BIO, BBG that line up with meta majors
Sample Data Accelerated LC

Completion of ENG 101 after completing regular ESL

- Completion 101 1 semester after ESL
- Completion 101 2-3 semesters after ESL
- do not continue

ENG 101 completion in first semester after ACE II

- ENG 101 completion
- not completed
- ENG 101 completed later
Time required for completion

Chart Title

Traditional sequence
Traditional plus ALP
Accelerated
Accelerated plus ALP

ESL  ENG 101
Professional Learning

• Repository materials for ESOL 162 support course
• Norming sessions across campuses
• Learning community training retreats
• WAC training: supporting multilingual learners
A final thought:

TESOL (Teaching English to speakers of other languages) is a complex field, and students take time to develop their language skills.

It is crucial that the entire college works together to support ELLs. We are looking forward to continuing our collaboration with you all!
Further Questions?

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  - Hmoeckel-Rieke@norwalk.edu

- Melanie Majeski
  - mmajeski@nv.edu