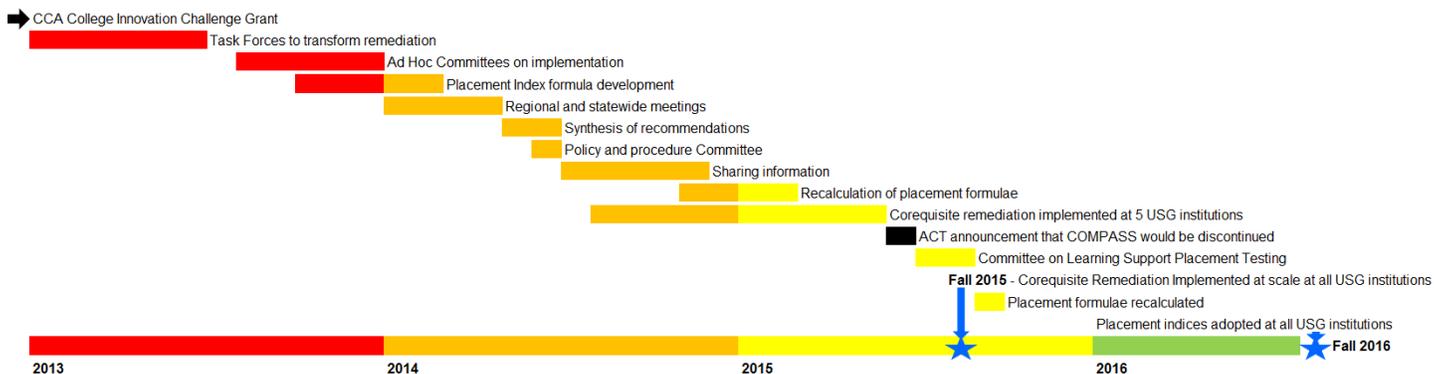


# University System of Georgia Transforming Remediation Scaling Corequisite Remediation

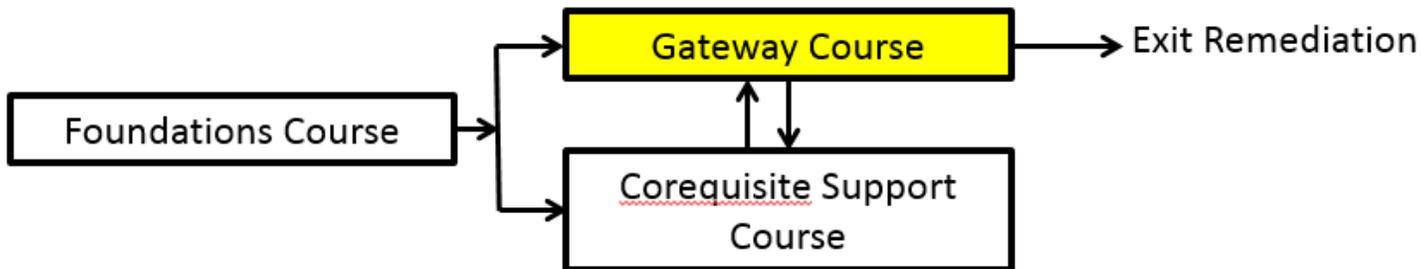


## Recommendations of the Task Forces to Transform Remediation

- Focus on supporting success in college credit-bearing, gateway courses for all students.
- Enroll most students needing support in gateway courses and implement a co-requisite approach to support student success.
- Develop year-long remedial-to-collegiate pathways for students with significant gaps in preparation.
- Align gateway mathematics course sequences with academic programs of study. College Algebra should not be the default class for non-STEM majors.
- Create a combined reading/writing course (rather than separate remediation for reading and writing).
- Use multiple measures to place students in gateway courses and appropriate supports.

## Recommendations of the Ad Hoc Committees on Implementation

- Identified multiple measures to be used in placement or exemption from remedial courses.
- Developed plans for remedial pathways consisting of Foundations and Corequisite remedial courses. Foundations courses are the beginning of two-semester sequences that begin in stand-alone remediation and end with Corequisite remedial support taken while taking gateway collegiate courses.



- Developed a remedial pathway in English that combine reading and writing.
- Developed distinct remedial pathways in mathematics for College Algebra, Quantitative Reasoning, and Mathematical Modeling.
- Established that students would exit remediation by passing the gateway collegiate course.

### By Fall 2015:

- Across the University System, the majority of students requiring remediation must be placed into corequisite courses. Such courses must be designed to provide instruction to supplement the specific gateway collegiate courses.
- Institutions may offer corequisite remediation only or corequisite remediation and year-long remedial pathways that begin with stand-alone Foundation-level courses.

### By Fall 2016:

- Changes in the way that we place students into (or exempt students from) remedial courses.
- Intent to use multiple measures (vs. a single Compass score) to provide students with appropriate supports for completing college courses.
- A Mathematics Placement Index (MPI) and an English Placement Index (EPI) will be calculated based on High School Grade Point Average (HSGPA), SAT or ACT and, when indicated, COMPASS.

## Key Challenges

- Institutions start admitting students about a year in advance.
  - New placement indices have to be ready and entered in the Student Information System about a year prior to implementation.
- Initial errors in formulae for Placement Indices that forced recalculation of formulae.
- Upcoming loss of COMPASS tests that will force USG to find a replacement tests and to incorporate scores in formulae.
- Changes to staffing and scheduling will be required to implement corequisite remediation at scale across the entire University System of Georgia.
- Need to provide professional development opportunities for faculty teaching corequisite courses.

## Key Lessons Learned to Date

- Faculty will support changes to remediation when they see the point of changing.
- Developing new ways to place students in (or exempt students from) Learning Support is hard work.
- It is important to be open to identifying mistakes in your plan and to making midcourse corrections.

## Results from Pilots 2014 – 2015 Academic Year

Completed Foundations in 1 semester				Started Foundations, Completed Collegiate in 1 year (1 institution reporting)					
Fall 2014 - Spring 2015									
	#placed	#passed	%passed	# Foundations	# Passed/ABC	# Collegiate	# Passed/ABC	Started % Passed	Took Collegiate % Passed
English	388	312	80%	English 109	96	81	68	62%	84%
Mathematics	1320	849	64%	Math 280	219	189	133	48%	70%

## Corequisite Remediation: University System of Georgia

### 2014-2015

#### Vanguard Institutions "At Scale" for Corequisite Remediation 2014 – 2015

- Albany State University
- Bainbridge State College
- College of Coastal Georgia
- Georgia Highlands College
- Gordon State College

For the cohort of remedial students entering in Fall 2010, only **21%** completed gateway courses within 2 years.

#### Placement in Corequisite Remediation 2014 - 2015

	# in Remediation	# in Corequisite	% in Corequisite
English	912	494	<b>54%</b>
Mathematics	2453	1132	<b>46%</b>

#### Success in Collegiate Courses 2014 - 2015

	# Enrolled	# Passed	% Passed
<b>ENGL 1101 (English Composition 1)</b>			
LS Coreq	494	351	<b>71%</b>
No LS	3231	2368	<b>73%</b>
<b>Gateway Collegiate Mathematics</b>			
LS Coreq	1132	720	<b>64%</b>
No LS	2919	1953	<b>67%</b>

## Using Multiple Measures for Determining Placement in or Exemption from Remediation

- For most students, placement/exemption will no longer be determined by a single test score.
- Mathematics (MPI) and English (EPI) Placement Indices will be calculated based on: High School Grade Point Average, SAT or ACT scores, and/or COMPASS test scores.
- Two measures are needed. COMPASS scores are only needed if only one measure is available or if no other measures are available.

COMPASS Tests Selected:

- eWrite 2 – 12 – requires writing an essay, which is scored by a computer
  - COMPASS Reading
  - COMPASS Mathematics (Algebra)
- If both SAT or ACT and HSGPA are available:
  - Math and English Placement indices are calculated as weighted products of the appropriate test scores and HSGPA. COMPASS testing is optional, and can be used to raise (or lower) students placement indices.

Student applies with:	EPI	MPI
<b>SAT and HSGPA (sh)</b>	$EPI_{sh} = (1603 * HSGPA) + SATV$	$MPI_{sh} = (291 * HSGPA) + SATM$
<b>with COMPASS added (shc)**</b>	$EPI_{shc} = EPI_{sh} + (.08 * (EPIc - EPI_{sh}))$	$MPI_{shc} = MPI_{sh} + (.25 * (MPIc - MPI_{sh}))$
<b>ACT and HSGPA (ah)</b>	$EPI_{ah} = (1553 * HSGPA) + (34 * ACTE)$	$MPI_{ah} = (298 * HSGPA) + (25 * ACTM)$
<b>with Compass added (ahc)**</b>	$EPI_{ahc} = EPI_{ah} + (.08 * (EPIc - EPI_{ah}))$	$MPI_{ahc} = MPI_{ah} + (.25 * (MPIc - MPI_{ah}))$

- If only SAT or ACT is available:
  - Math and English Placement indices are calculated as weighted products of the appropriate test scores and COMPASS test scores. COMPASS testing is required.

Student applies with:	EPI	MPI
<b>SAT only (must take COMPASS); with COMPASS added (sc)</b>	$EPI_{sc} = (4.6 * SATV) + (27.5 * (COMPASSR + eWrite))$	$MPI_{sc} = (1.7 * SATM) + (13.3 * COMPASSM)$
<b>ACT only (must take COMPASS); with COMPASS added (ac)</b>	$EPI_{ac} = (122 * ACTE) + (26.3 * (COMPASSR + eWrite))$	$MPI_{ac} = (57 * ACTM) + (5.4 * COMPASSM)$

- If only HSGPA is available:
  - Math and English Placement indices are calculated as weighted products of the HSGPA and COMPASS test scores. COMPASS testing is required.

Student applies with:	EPI	MPI
<b>HSGPA only (must take COMPASS); with Compass added (hc)</b>	$EPI_{hc} = (794 * HSGPA) + (23.6 * (COMPASSR + eWrite))$	$MPI_{hc} = (323 * HSGPA) + (6 * COMPASSM)$

- If neither SAT or ACT or HSGPA is available:
  - Math and English Placement indices are calculated as weighted products of COMPASS test scores. COMPASS testing is required.

Student applies with:	EPI	MPI
<b>No info: Must take Compass (c)**</b>	$EPI_c = 51.6 * (COMPASSR + eWrite)$	$MPI_c = (10 * COMPASSM) + 795$

English	Mathematics	
<b>Minimum Collegiate Placement Index Scores</b>		
ENGL 1101	Non-College-Algebra Pathway	College Algebra Pathway
4230	1165	1265
<b>“Floor Scores (Placement Indices)” for College Admission</b>		
English	Mathematics	
3032	928	
Can be “offset” with a Math Placement Index of 1028 or higher.	Can be “offset with an English Placement Index of 3905 or higher.	

## Math Pathways in the University System of Georgia

The Task Force on Transforming College Mathematics issued the following statement in July 2013 and also indicated that “System institutions should ensure the alignment of pathways for AREA A2 Mathematics to programs of study so that students learn the mathematical content necessary for success in their majors.”

Most students in System colleges now take College Algebra as their entry-level mathematics course. College Algebra was designed explicitly to meet the needs of students who are preparing to take Precalculus and Calculus. Most students in non-STEM majors would be better served by enrolling in Quantitative Reasoning or Introduction to Mathematical Modeling, possibly followed by a statistics course in Area D (Natural Science, Mathematics, and Technology) of the core curriculum. Quantitative Reasoning and Introduction to Mathematical Modeling were designed to meet the needs of non-STEM majors and include significant real-world applications. They are appropriate, rigorous mathematics courses for a broad array of non-STEM programs of study in which deep knowledge of and facility with basic mathematics are essential to prepare students for responsible citizenship.

## Math Pathways

<b>Who?</b>	<b>All majors other than those listed to the right</b>	<b>Majors that require calculus at some point in the sequence</b>	<b>Science, Technology, Mathematics majors</b>	<b>Engineering majors and all Georgia Tech students</b>
<b>Area A2 Math course&gt;&gt;</b>	Quantitative Reasoning or Mathematical Modeling	College Algebra	Precalculus or Trigonometry	Calculus

There are four mathematics pathways in the USG. Our Academic and Student Affairs Handbook (ASAH) specifies that:

1. Students majoring in science programs must take pre-calculus in Area A2 of the core curriculum.
2. A calculus course is required in Area A2 for all engineering majors and for all programs at the Georgia Institute of Technology.

The other two mathematics pathways are not clearly defined by the ASAH. However, the statements above indicate that students planning to pursue programs requiring pre-calculus or calculus should start with College Algebra in Area A2. Students not planning to major in mathematics, sciences, or engineering would be better served by taking an alternative to College Algebra. Placement in the alternative math courses should become the default, with placement in College Algebra, Precalculus, and Calculus reserved for students whose programs specifically require precalculus or calculus.

The Board of Regents Advisory Committee on Mathematics Subjects (ACMS) issued the following explanations of their major-specific mathematics course recommendations (excerpted).

### Algebra-Calculus Pathway - MATH 1111 College Algebra

The first step in the pathway to a CALCULUS course. Students should not be entered in this pathway unless [calculus] is a prerequisite for a major requirement (either in mathematics or elsewhere). This course was designed explicitly to develop the algebra skills needed for success in calculus. Students who will not need these specific skills in a later course are usually better served in the other pathway.

### Non-Algebra Pathways - MATH 1001 Quantitative Reasoning or MATH 1101 Introduction to Mathematical Modeling

Individual institutions in the USG typically offer only one of these courses [and are not required to offer both]. Both courses include the analysis of data-centered problems with the intent of developing appropriate mathematical models and communicating results in a clear and effective fashion. The difference between the two courses is that 1001 places more emphasis on decision making in the context of problem-solving while 1101 places the emphasis on modeling real-world data with elementary functions.