

# Remediation Data in Illinois' Higher Education System

Senate Joint Resolution 41 Taskforce,  
September 9, 2019

Harold Washington College, Chicago, IL

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# Remediation Data in Illinois' Higher Education System

- ICCB and IBHE Data Systems Overview
- Remediation in the Illinois Community College System
  - Defining Remediation
  - Context Data
  - Progress & Outcome Measures
  - National Comparison
- Upcoming Research Project: ICCB-College Board SAT Benchmark Project
- Transition of IL HS Graduates into IL Higher Education (ISBE Illinois Report Card)
- Remediation in Illinois 4-year Illinois Colleges and Universities
- Questions

# Illinois Community College Board Remedial Data Collection

## **ICCB Centralized Data System:**

- ICCB collects credit student-level enrollment, demographic, curriculum, course, characteristics, and credential information, as well as staff and financial data.
- ICCB collects non-credit student-level demographic, course, characteristics, and completion information.
- ICCB is the State of Illinois Administrator for Adult Education and collects adult education student-level enrollment, demographic, course/curriculum, characteristics, credential, staff and financial information via the web-based Data and Information System – Illinois (DAIS-I).
- ICCB collects High School Diploma Equivalent student demographic, attainment, and testing site information.

## **ICCB Survey Data Collection**

# Illinois Community College Board

## Remedial Data Collection

- For each student, via the annual curriculum-based collection, ICCB collects remedial hours enrolled and earned by broad area of remedial instruction:
  - **Mathematics** - Courses designed to develop math skills. Courses may be related to basic arithmetic, math applications, elementary algebra, pre-algebra, intermediate algebra, geometry, and mathematical literacy.
  - **Writing/Communications (English)** - Courses designed to develop writing and speaking skills. Courses may be related to fundamentals of writing, communication skills development, and language skills development.
  - **Reading** - Courses designed to develop college reading skills. Courses may be related to reading fundamentals, reading comprehension, and literacy.
- For each student, via the annual course-based collection, ICCB collects college unique remedial course prefix/number/section, hours attempted and earned, and course grade awarded.

# Illinois Board of Higher Education Data System

- **IBHE's Fall Enrollment I**- preliminary fall enrollments and unduplicated counts of students enrolled in remediation.
- **IBHE's Fall Enrollment II (partially retired)**-includes final fall enrollment disaggregated by academic program, degree-level, residency, race/ethnicity, transfer status, and gender
- **IHEIS (IBHE's Component of the Illinois Longitudinal Data System)**
  - All semester-specific enrollment records at the student level from all degree-granting entities specified in the ILDS Act
  - Annual graduation collection at the student level from all degree-granting entities specified in the ILDS act.
  - New course and teacher assignment system specific to remediation and dual credit

# Illinois Board of Higher Education

## Remedial Data Collection

### **IHEIS Enrollments**

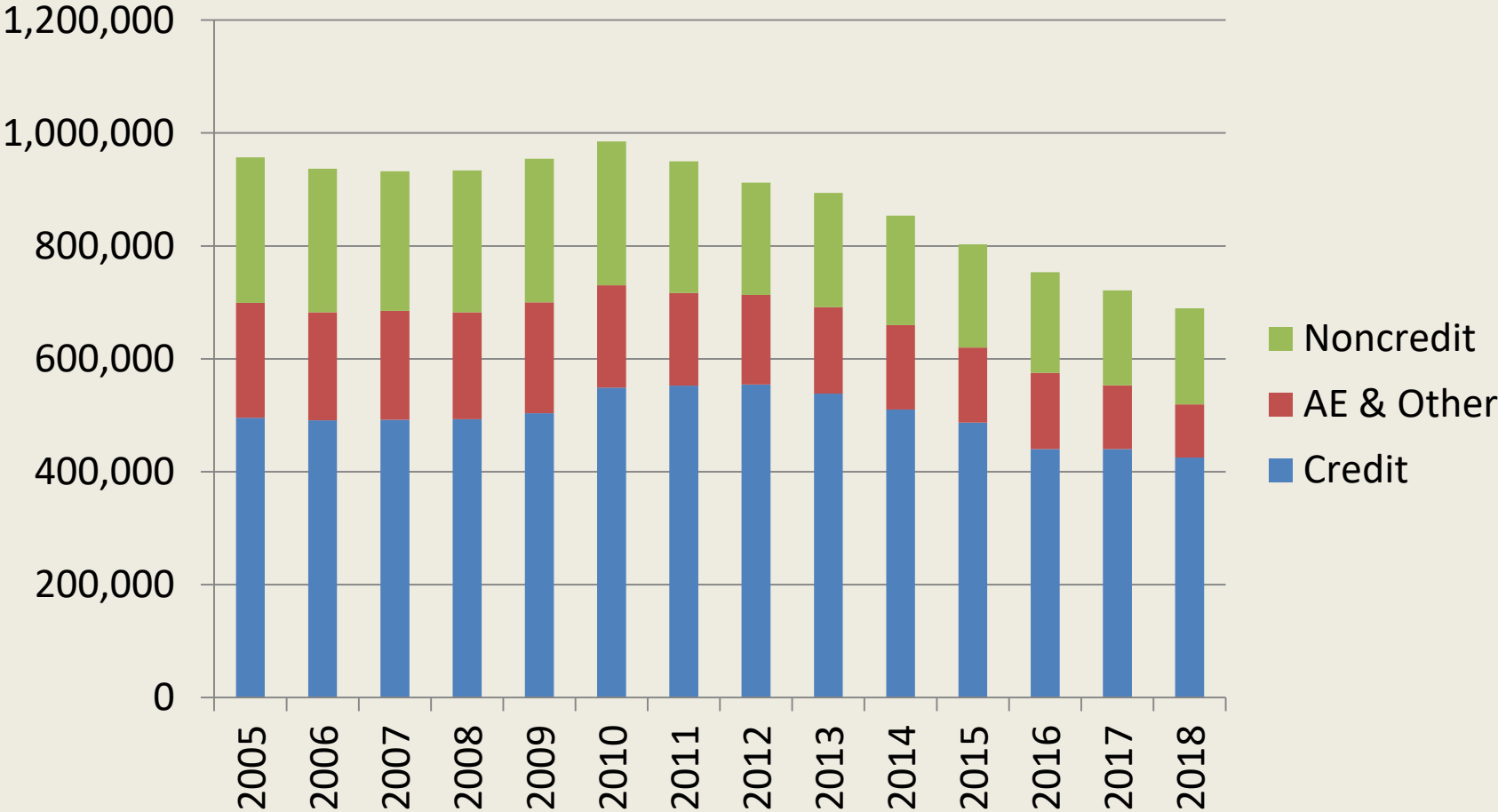
- Semester by semester enrollment information that includes whether the given student enrolled in remedial math or English.
- Examined longitudinally and linked to demographics and information on academic qualifications

### **Course Assignments (recently implemented)**

- For each student in a remedial or co-requisite course we collect the course prefix, course number, credits attempted, credits earned, grade, and information on the teacher of record
- Next year, we will collect parallel information on performance in gateway courses.

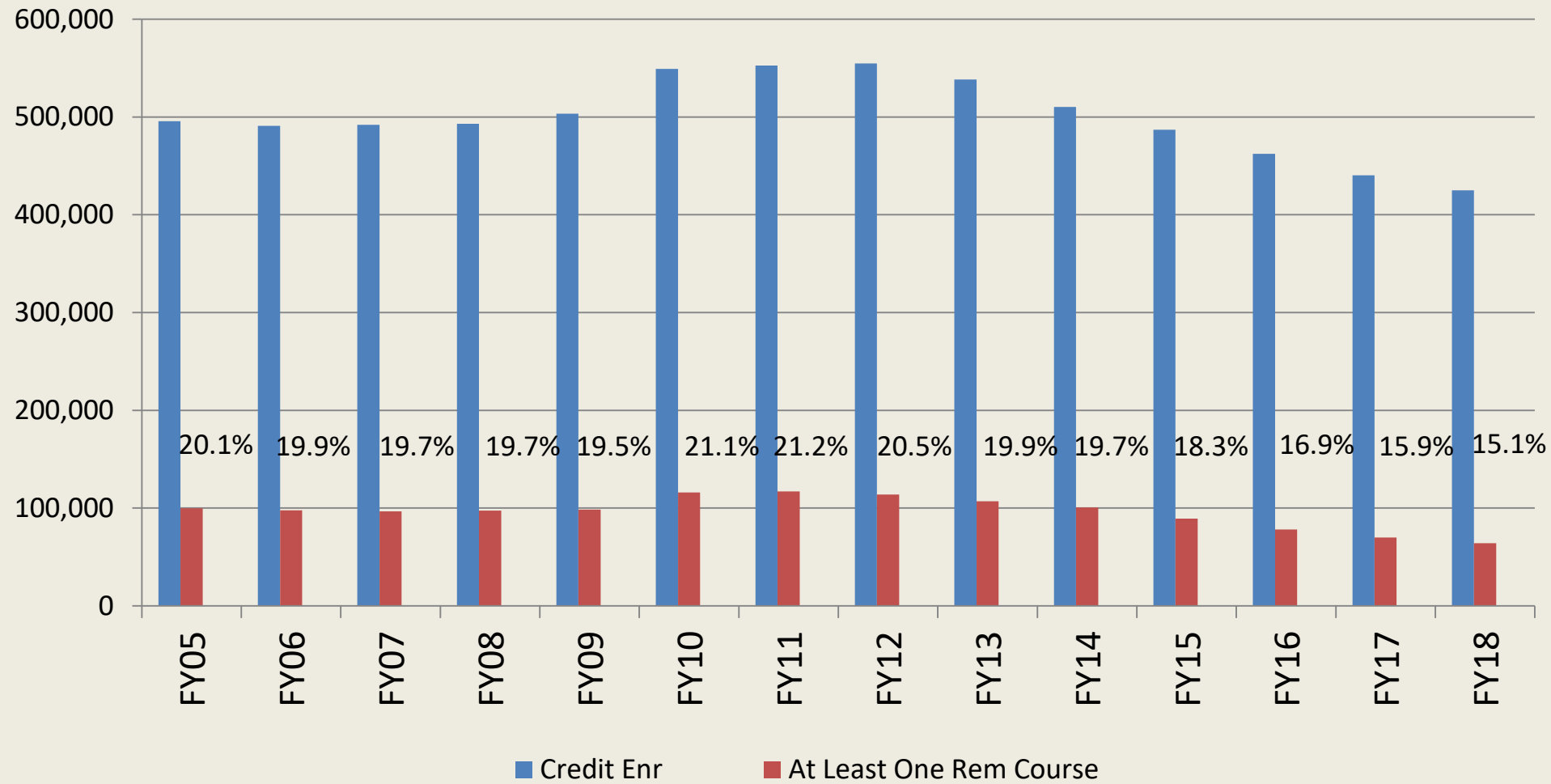
# Illinois Community Colleges Total Students Served

## Fiscal Years 2005–2018



Source: ICCB Centralized Data System

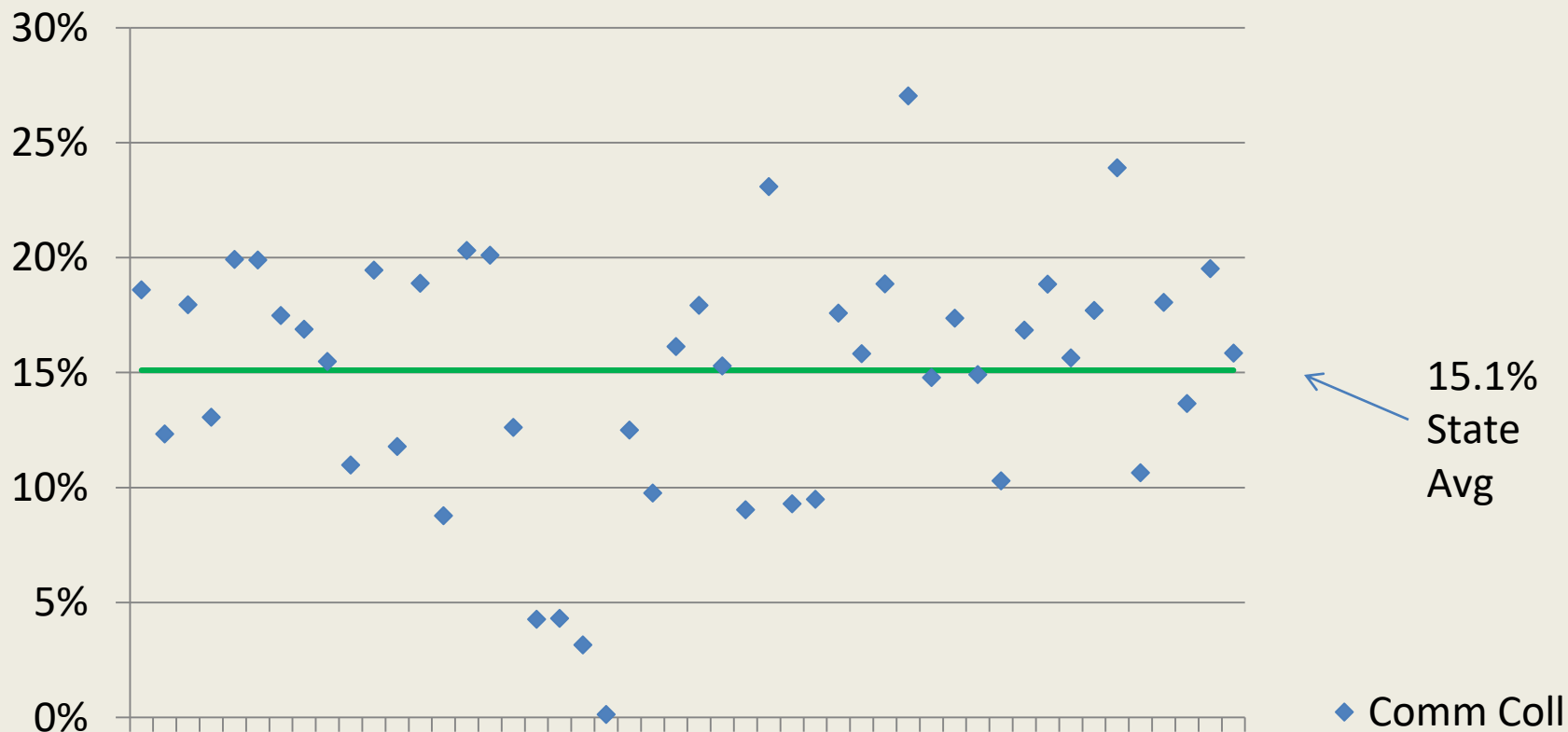
# Illinois Community College Remedial Education Proportion to Overall Credit Students, Fiscal Years 2005–2018



Source: ICCB Centralized Data System

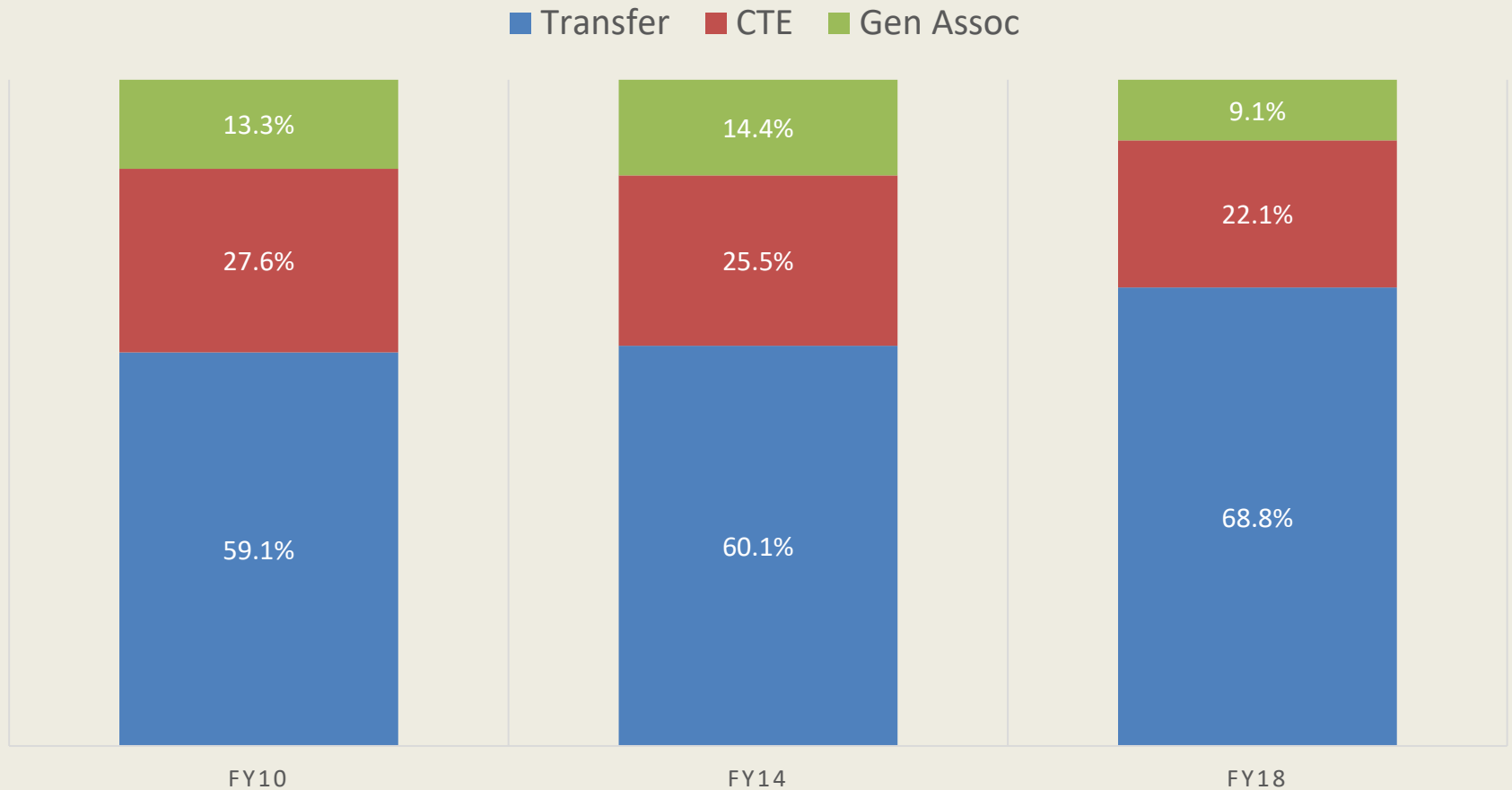


# Illinois Community College Remedial Education Proportion to Overall Credit Students By Community College Fiscal Year 2018



Source: ICCB Centralized Data System

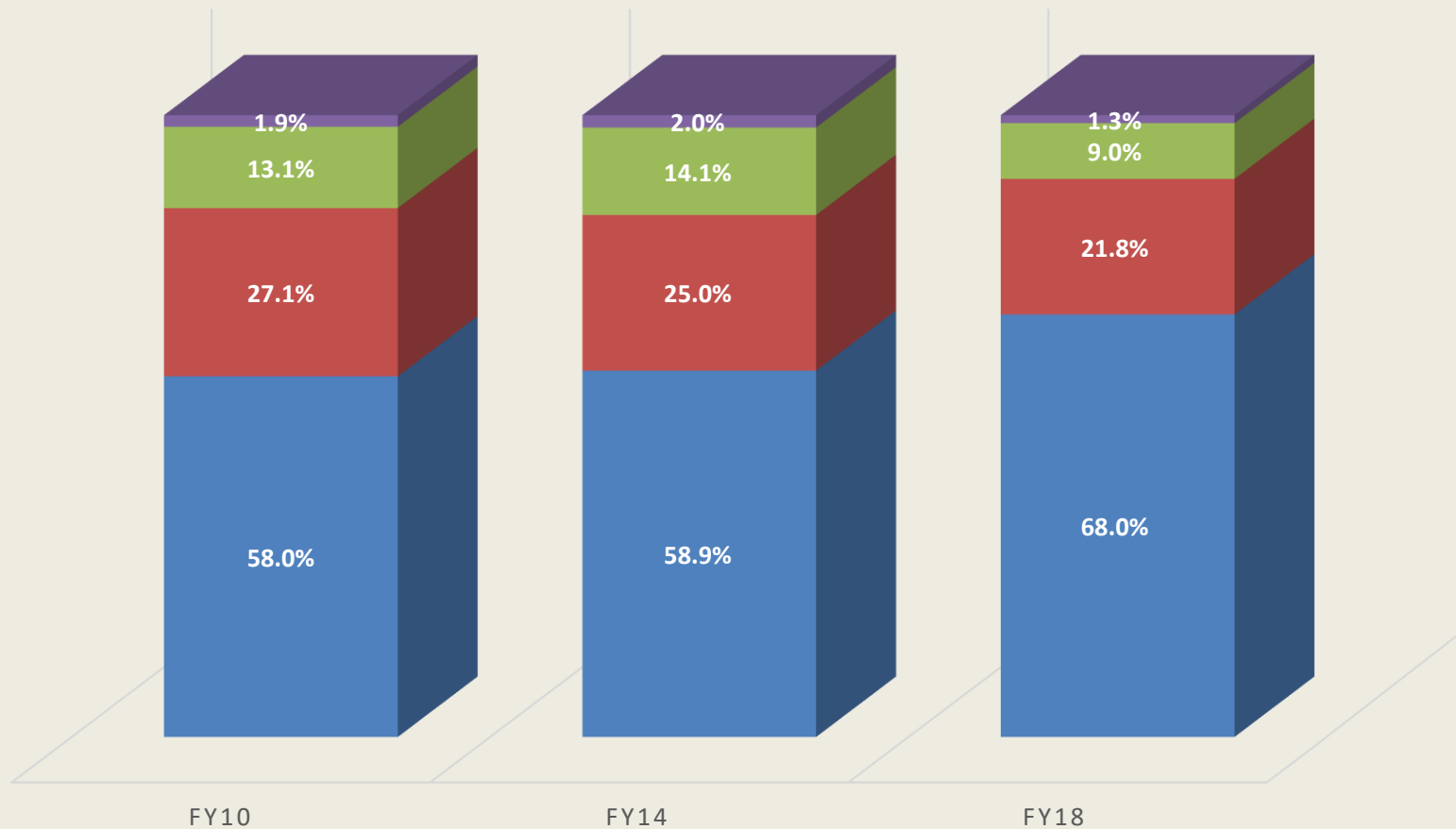
# Illinois Community College Students Enrolled in Remedial Education by Instruction Type



Source: ICCB Centralized Data System

# Illinois Community College Students Enrolled in Remedial Education by Instruction Type

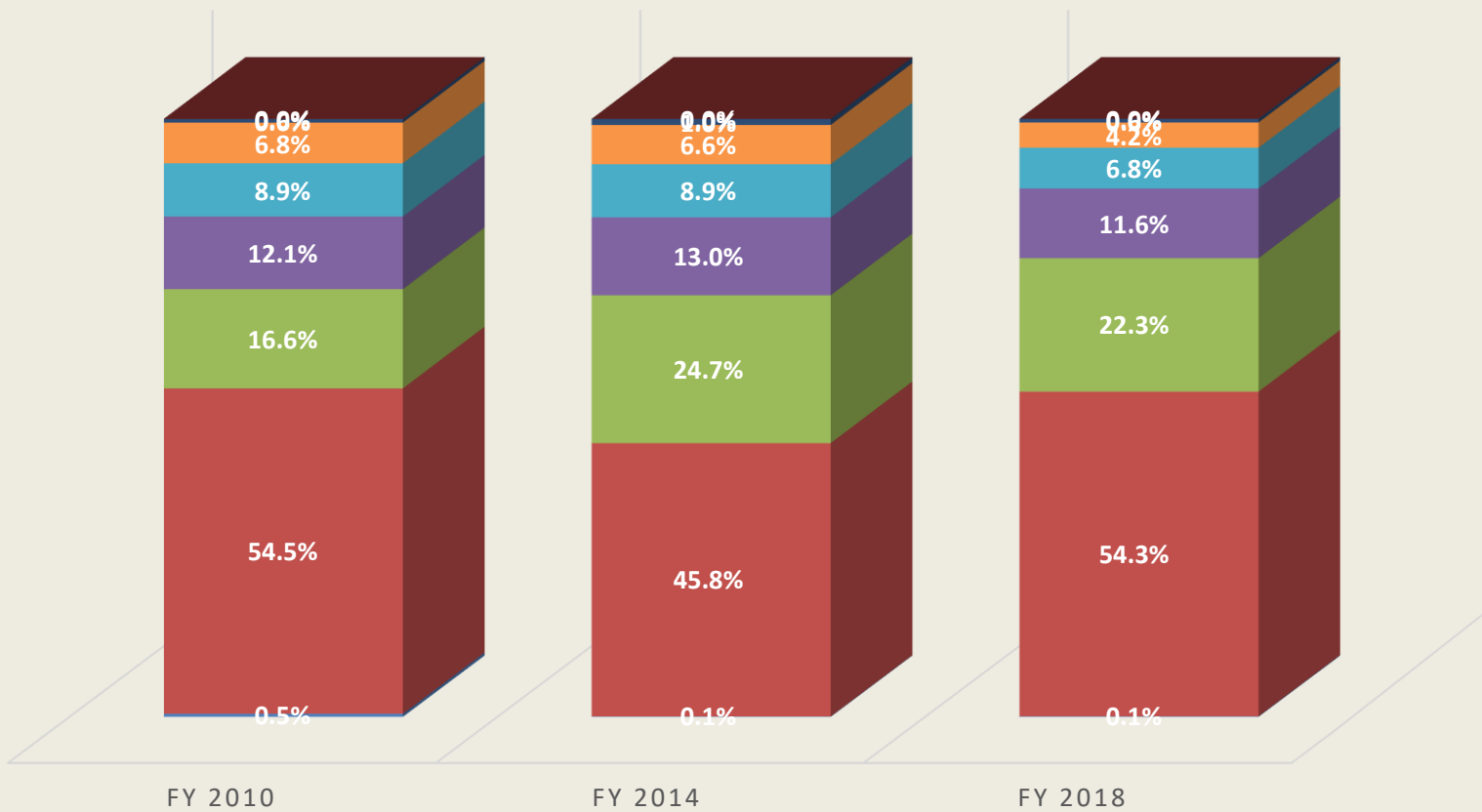
Transfer CTE Gen Assoc Other



Source: ICCB Centralized Data System

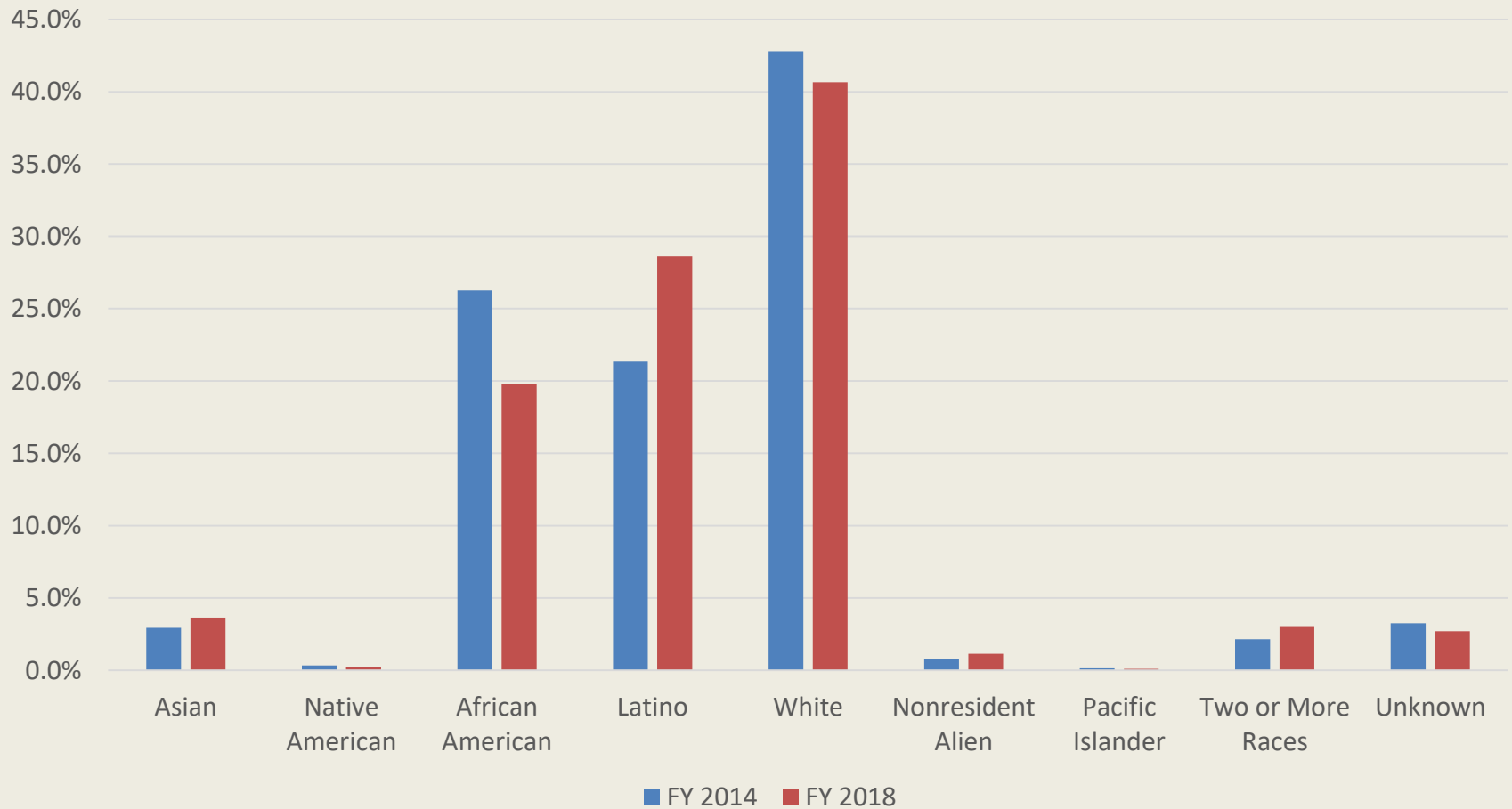
# Illinois Community College Remedial Education Students By Age Range

■ 16 and under 
 ■ 17-20 
 ■ 21-24 
 ■ 25-30 
 ■ 31-39 
 ■ 40-55 
 ■ Over 55 
 ■ Unknown



Source: ICCB Centralized Data System

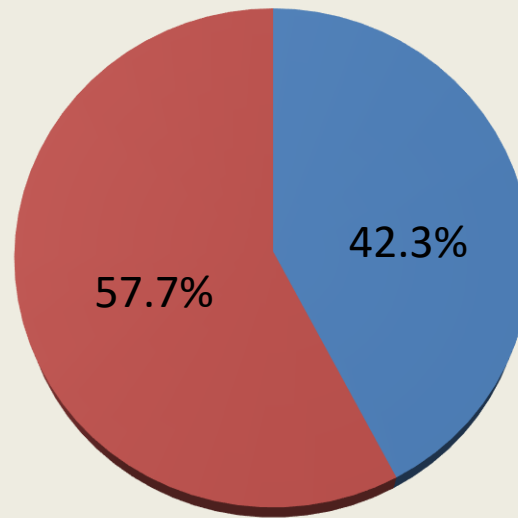
# Illinois Community College Remedial Education Students By Race/Ethnicity



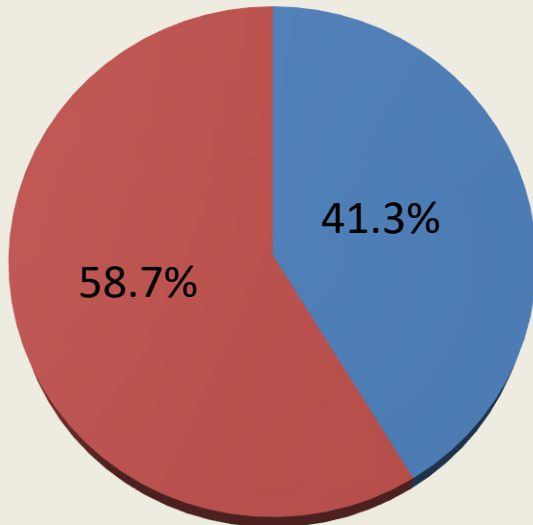
Source: ICCB Centralized Data System

# Illinois Community College Remedial Education Students By Gender

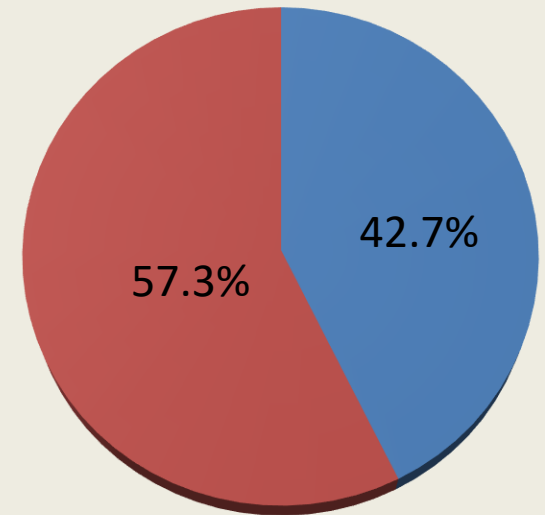
**FY 14**



**FY 10**



**FY 18**



■ Male

■ Female

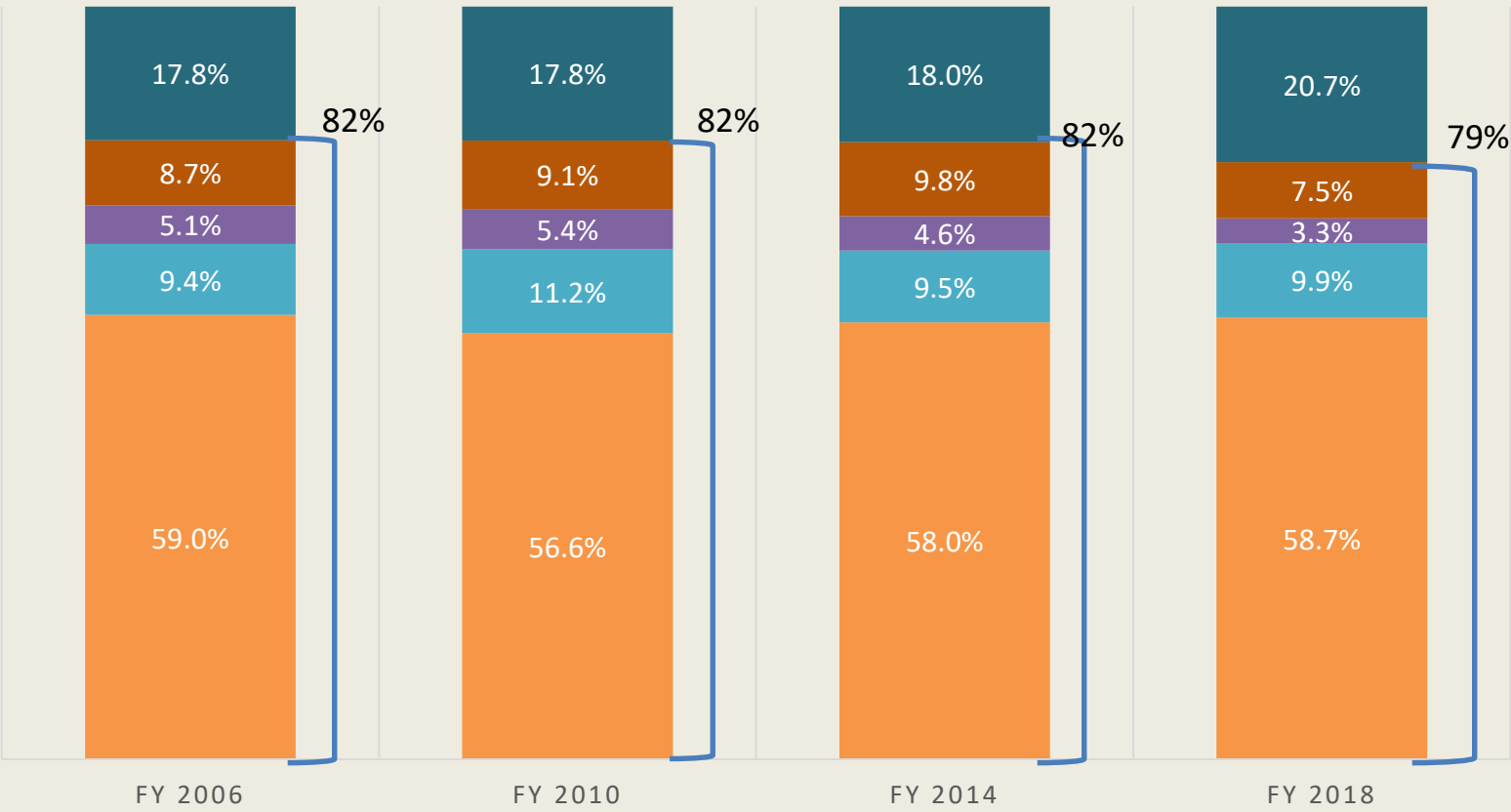
## Illinois Community College Students Enrollment by Remedial Coursework, Fiscal Years 2010, 2014, and 2018

				5-Year	10-Year
	FY2010	FY2014	FY 2018	% Change	% Change
Math Only	65,548	58,347	37,673	-35.4%	-42.5%
English Only	9,231	7,994	7,197	-10.0%	-22.0%
Reading Only	6,125	4,402	2,372	-46.1%	-61.3%
Math & English	12,942	9,588	6,320	-34.1%	-51.2%
Math & Reading	6,211	4,607	2,092	-54.6%	-66.3%
English & Reading	5,279	5,713	3,706	-35.1%	-29.8%
Math, English & Reading	<u>10,506</u>	<u>9,896</u>	<u>4,793</u>	<u>-51.6%</u>	<u>-54.4%</u>
Total	115,842	100,547	64,153	-36.2%	-44.6%

Source: ICCB Centralized Data System

# Illinois Community College Students Enrolled in Remedial Education Courses Fiscal Years 2006, 2010, 2014, and 2018

■ Math Only 
 ■ Math & English 
 ■ Math & Reading 
 ■ Math, English & Reading 
 ■ English &/Or Reading



] =  
 Of Remedial students, those that took at least one Remedial Math Course

Source: ICCB Centralized Data System

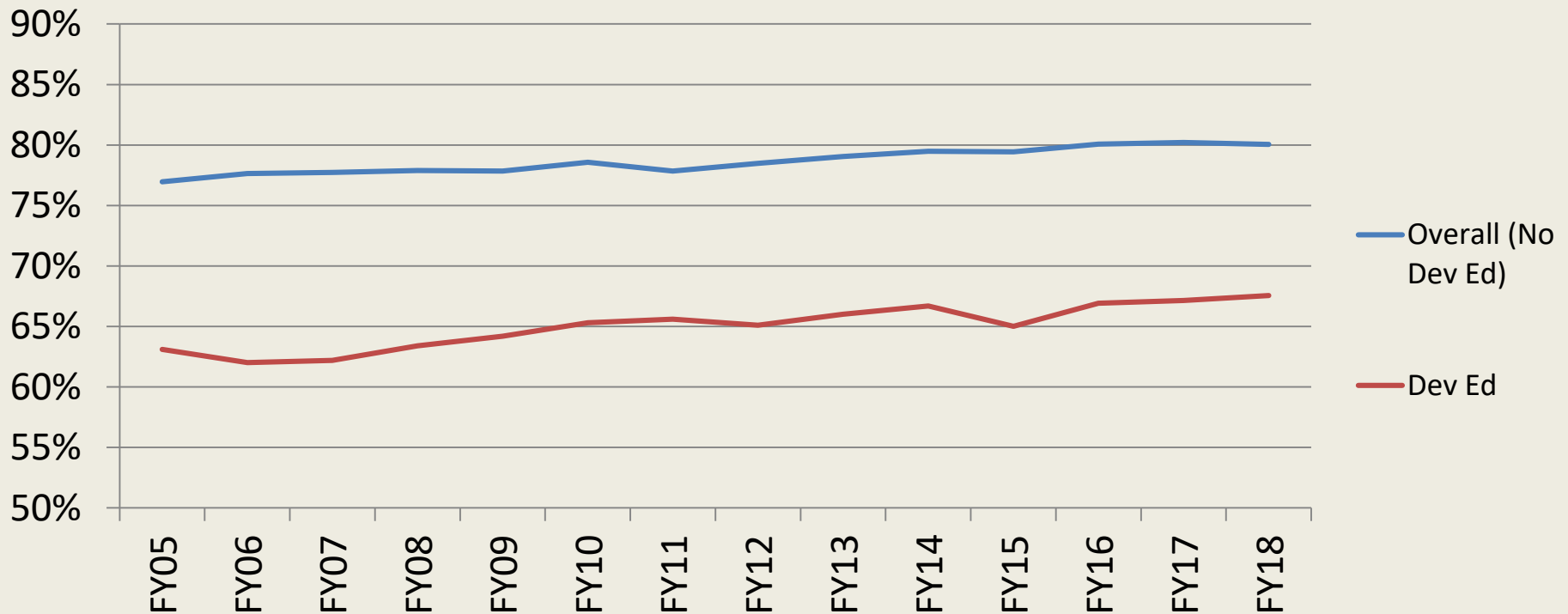


# Illinois Community College Remedial Education Enrollment Takeaways

- Remedial education decrease in enrollment has occurred in all areas and outpaced enrollment declines in credit, adult education, and noncredit programs.
- Students in Bacc/Transfer Curriculums currently accounts for nearly **70 percent** of remedial education enrollments.
- The **majority (86 percent)** of community colleges are within 8 percent of the statewide rate of students enrolling in remedial education courses.
- Approximately **80 percent** of students in remedial education take at least one Math remedial course and that has remained constant.
- **Latino and African-American remedial students are overrepresented** in remedial education courses compared to overall courses in community colleges.

# Illinois Community College Student Course Completion in Remedial Education

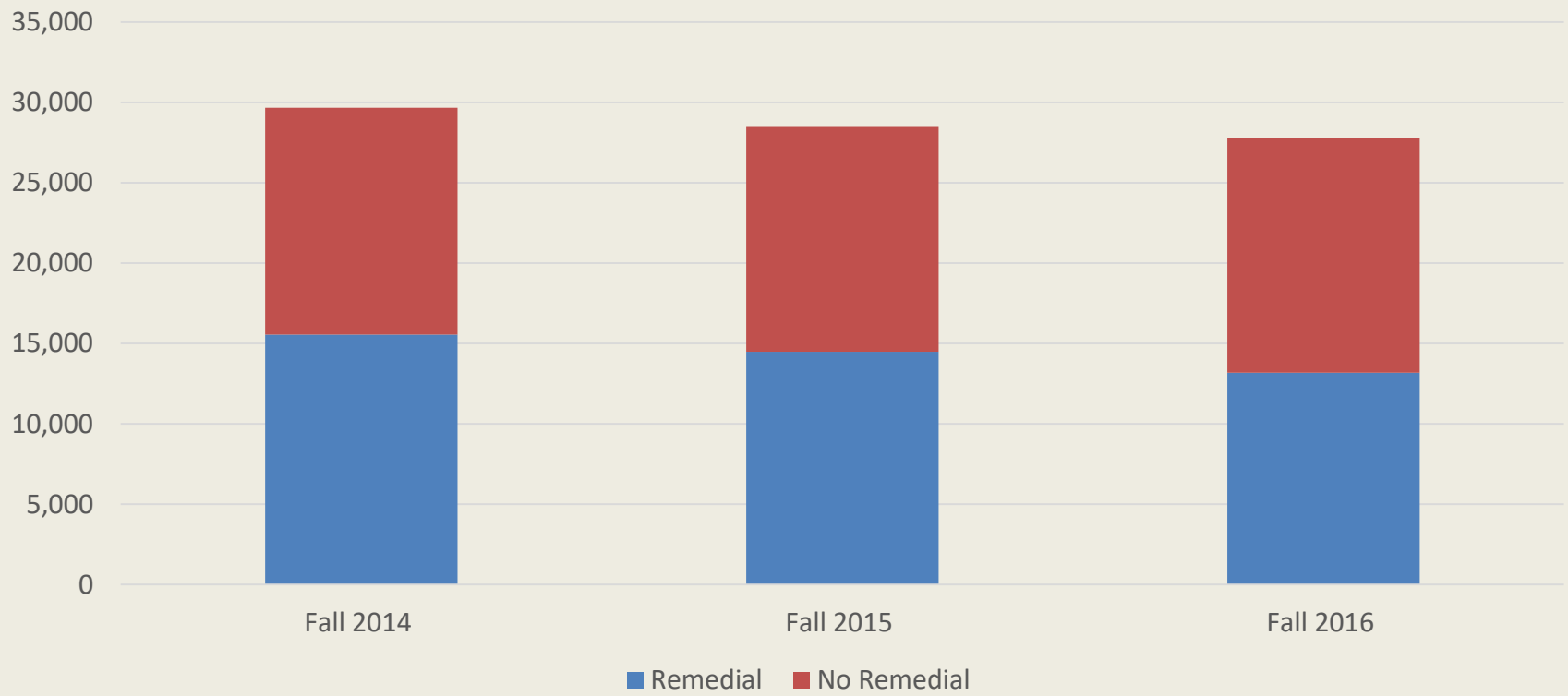
## Remedial Education Course Completion Rate Compared to Overall Rate, Fiscal Years 2005-2018



Source: ICCB Centralized Data System

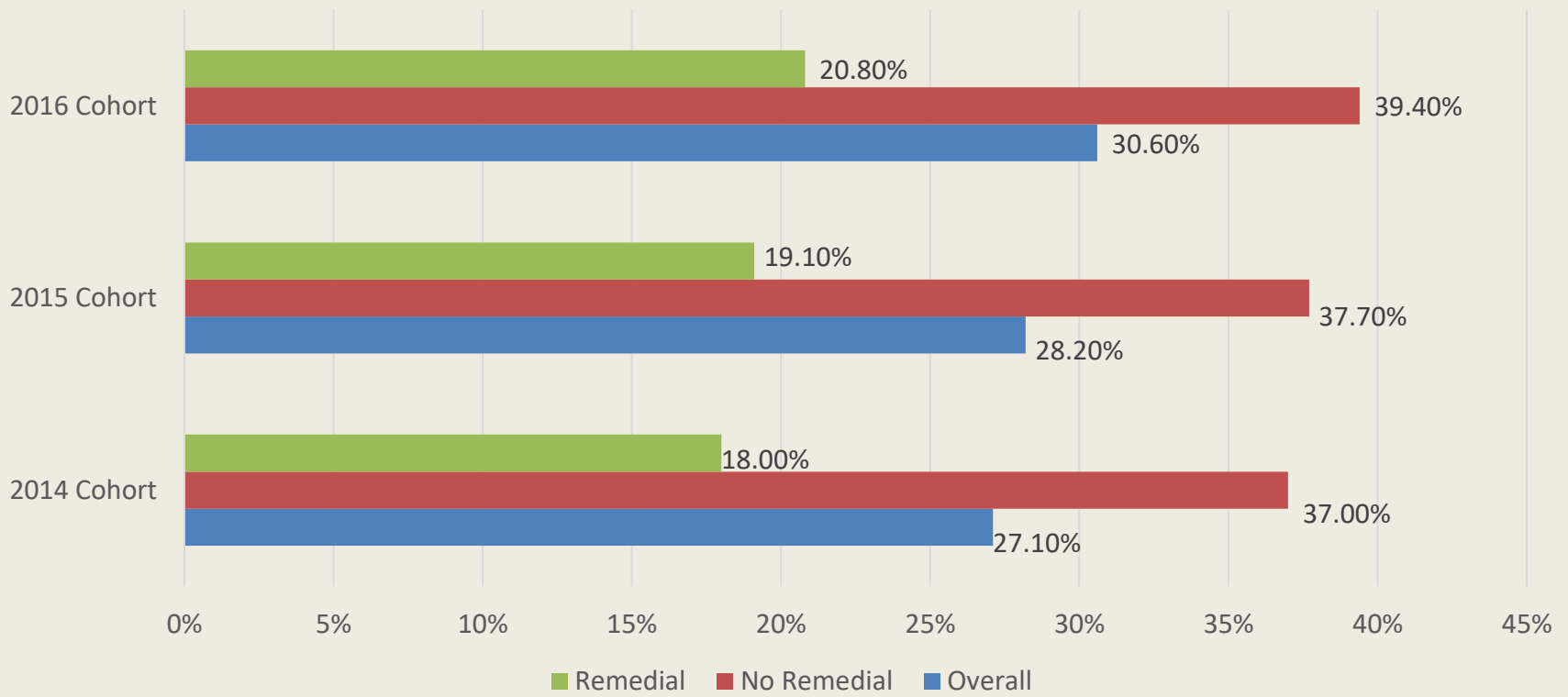
# Illinois Community College Rate of Remedial Education

Full-time, First-time Degree or Certificate-Seeking Students Enrolling in One or More Remedial Courses in Entering Fall Term



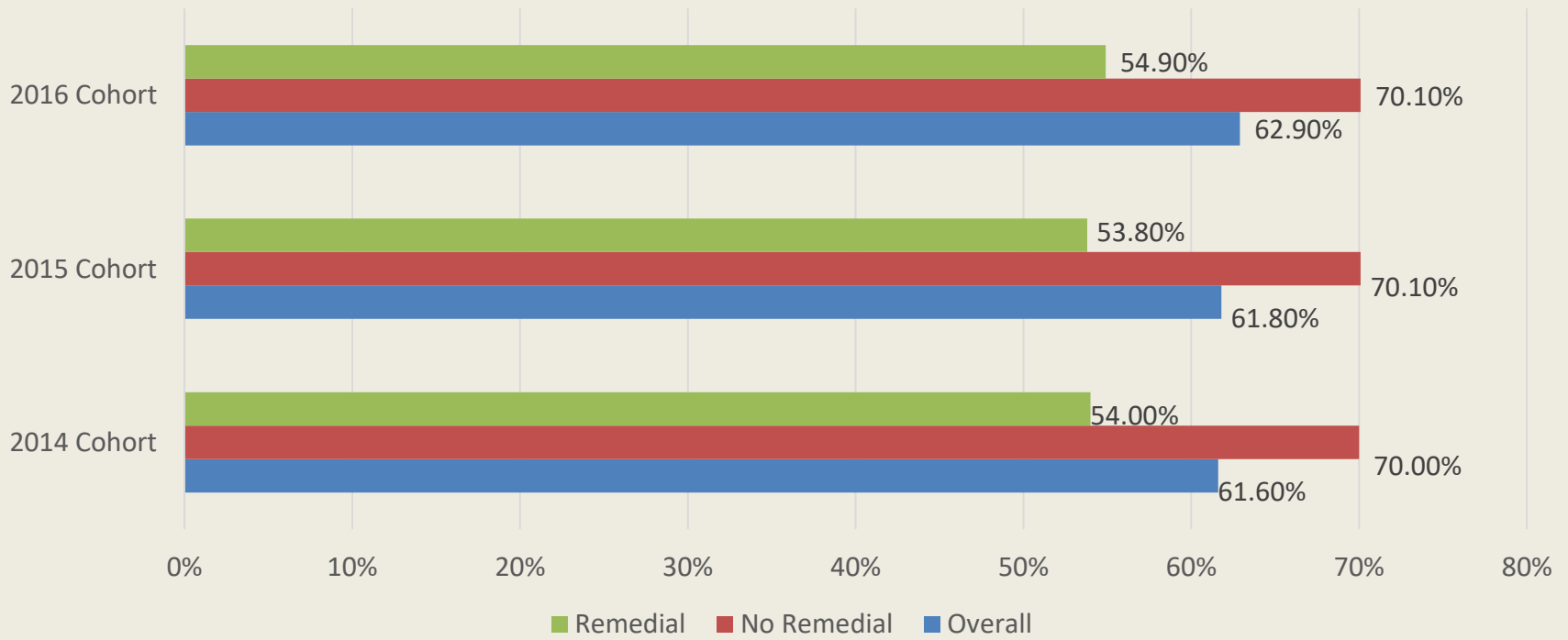
# Illinois Community College Student Graduation Rates

Full-time, First-time Degree or Certificate-Seeking Students Completing within 150% of Normal Time



# Illinois Community College Student Advancement Rates

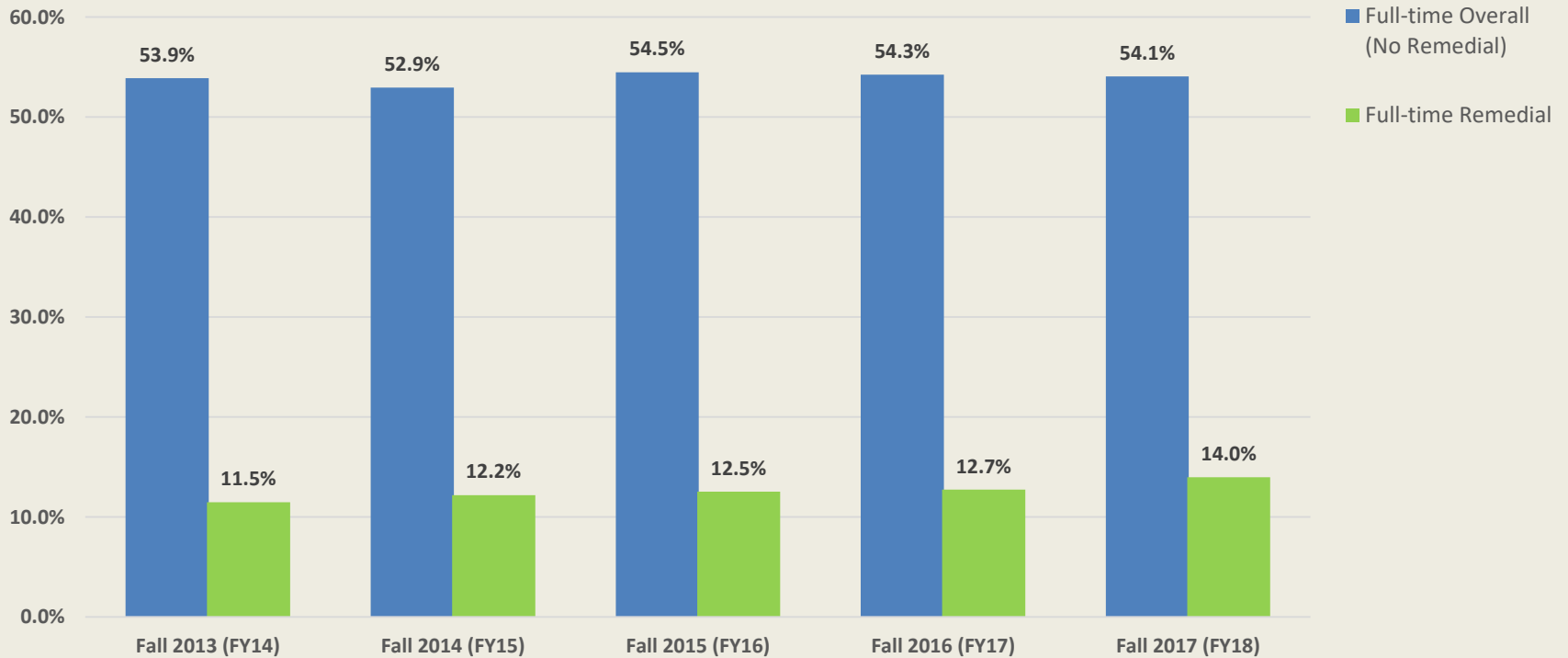
Full-time, First-time Degree or Certificate-Seeking Students  
Completing, Still Enrolled, or Transferring within 150% of Normal  
Time



# Illinois Community College Student Credit Accumulation in First Year

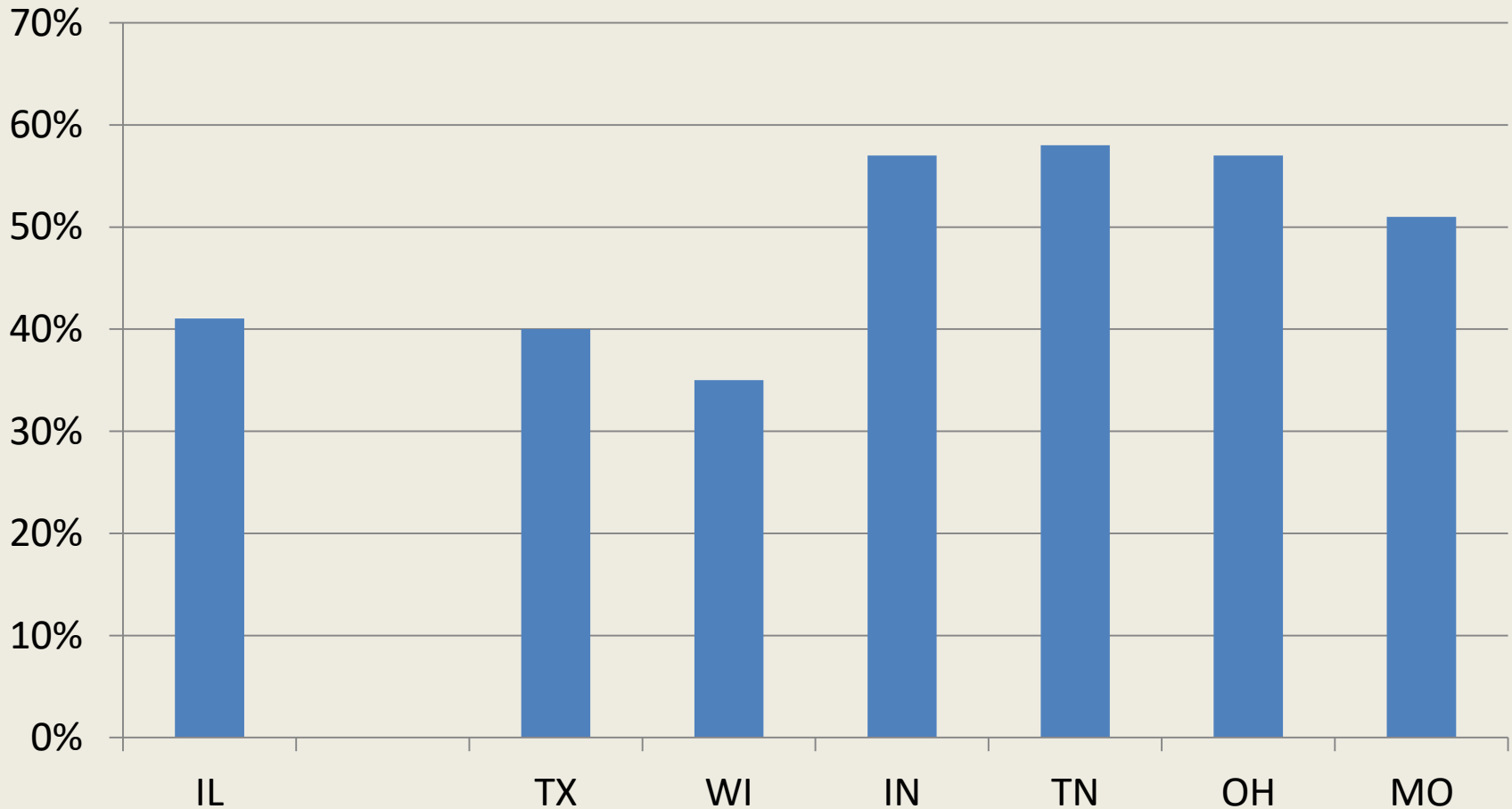
Fall First-Time Degree or Certificate-Seeking Students Completing 24 Credit Hours Within First Academic Year

## No Remedial vs Remedial

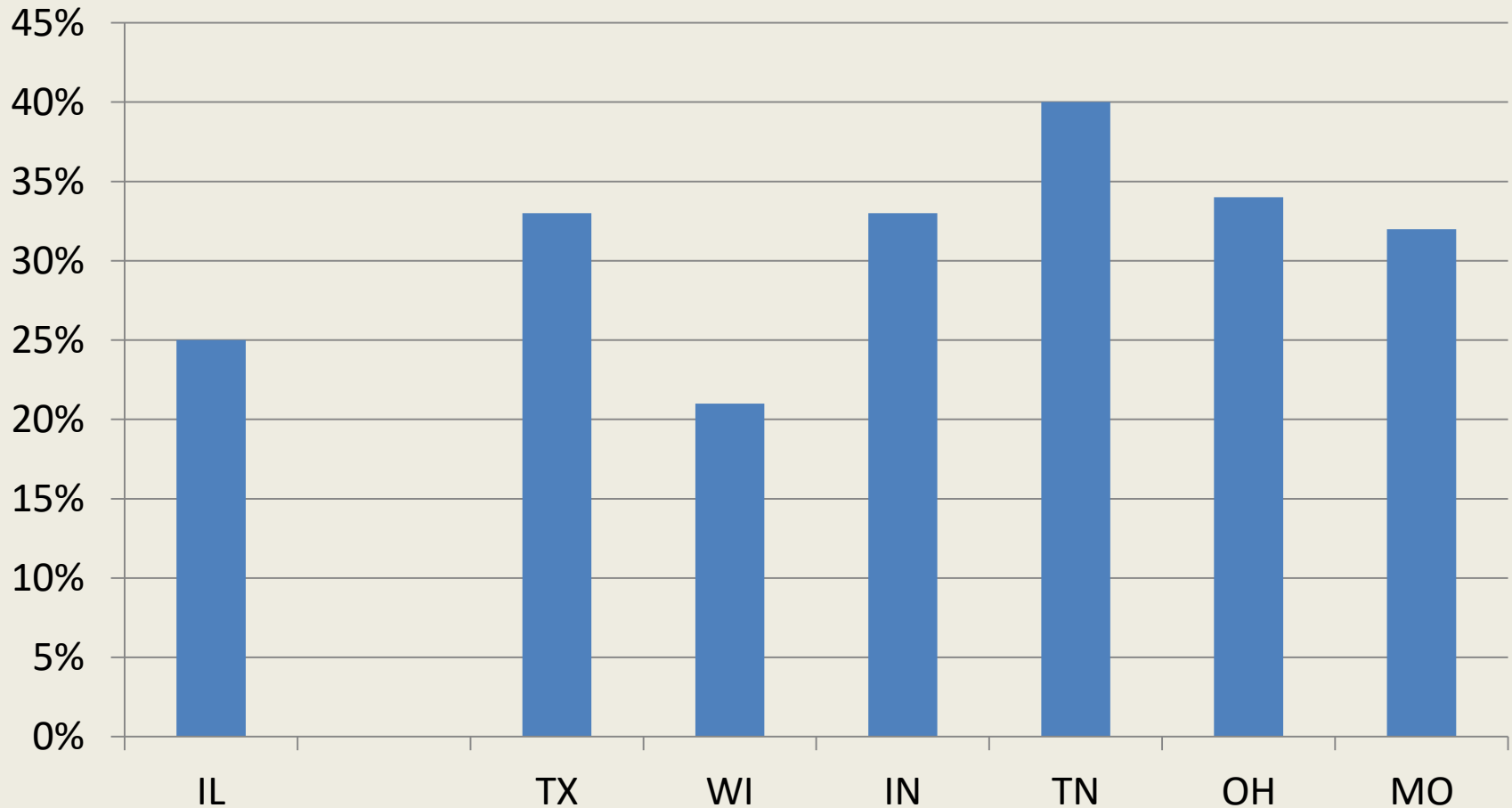


Source: ICCB Centralized Data System

# Percentage of First-Time, Credential-Seeking Freshmen Who Enroll in Math Remedial Education in First year



# Percentage of First-Time, Credential-Seeking Freshmen Who Enroll in English Remedial Education in First year





# Illinois Community College Student Success Takeaways

- Students enrolled in remedial courses complete **13 percent less** of their courses compared to non-remedial courses.
- **5 out of 10** incoming students enroll in remedial education course(s).
- Incoming students initially enrolling in remedial education course(s) have **substantially lower outcomes** related to Graduation Rate, Advancement Rate, and Credit Accumulation.
- Nationally (for other state data that are available) **Illinois compares favorably** in relation to rate of incoming students enrolling in a remedial course(s).

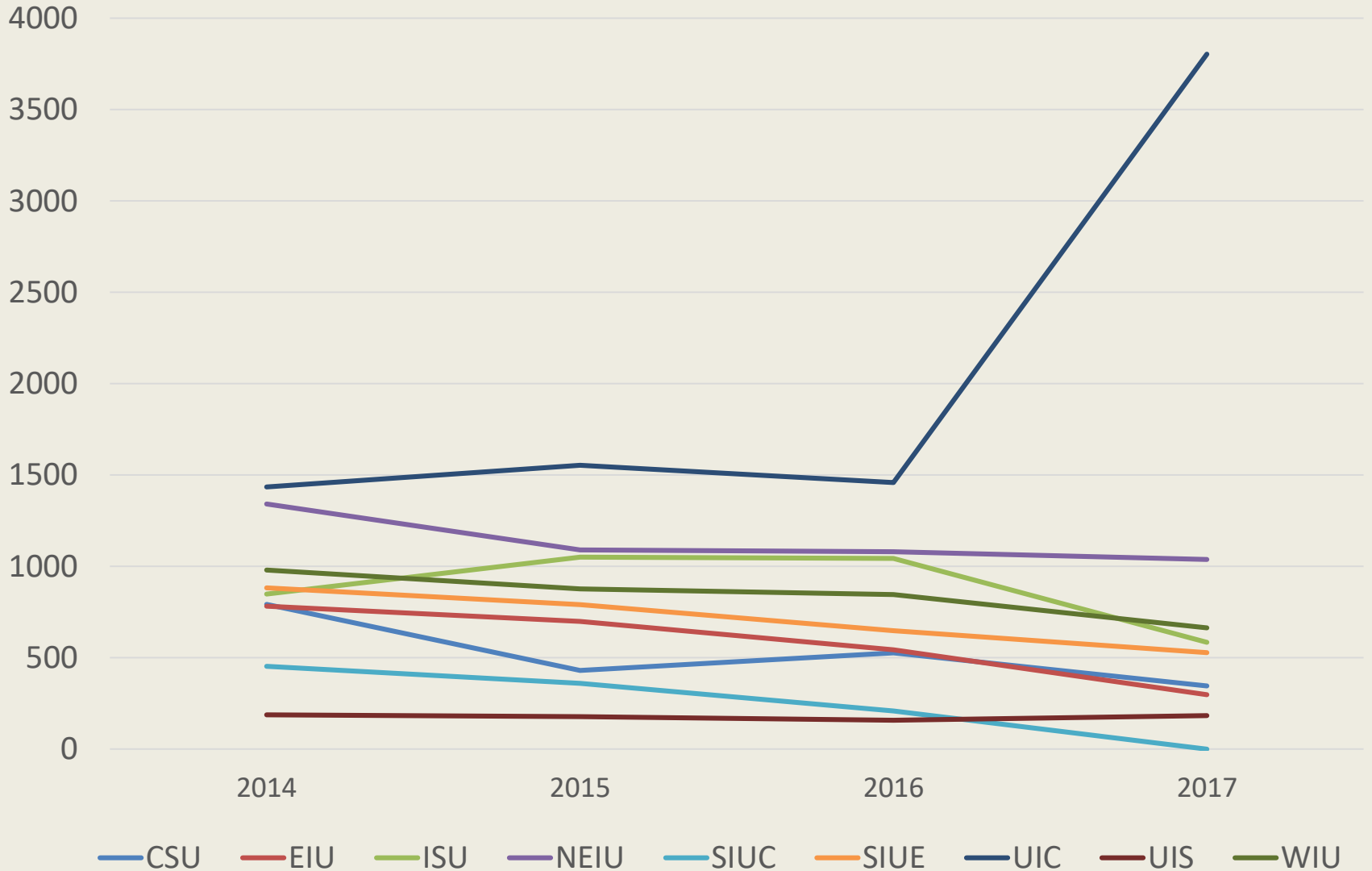
# ICCB and College Board SAT College Readiness Research Project

- ICCB in the process of executing a data agreement with The College Board.
  - Illinois began administering the College Board SAT to all 11th-grade public school students in the 2016-17 school year.
  - Linking College Board SAT Evidence-Based Reading and Writing and Math section scores from individual records with ICCB student records will allow ICCB and the Illinois Community College System to analyze college readiness related to SAT benchmarks.

# Transition of IL HS Graduates into IL Higher Education

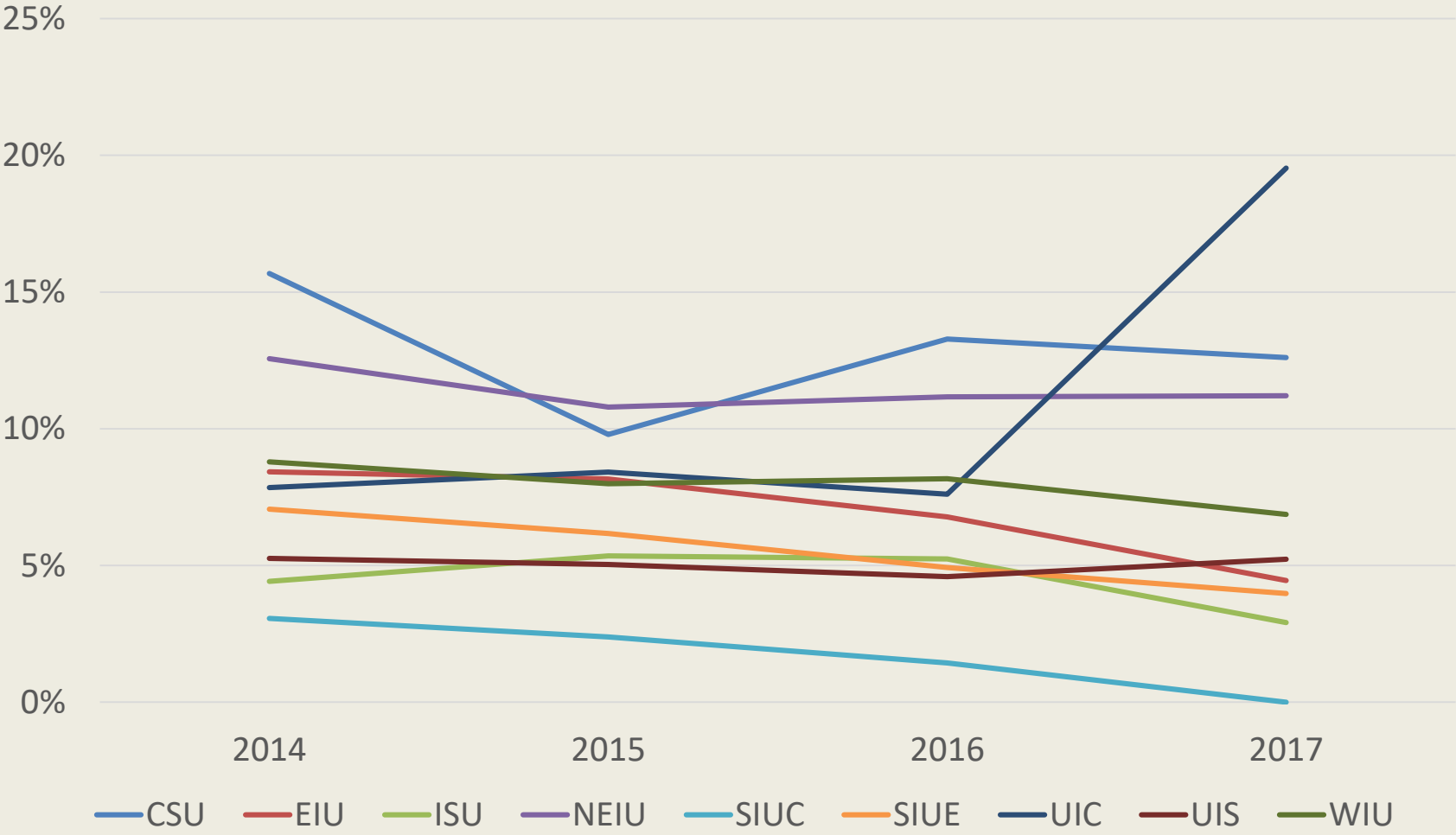
<b>IL HS Graduating Class</b>	<b>Graduates (N)</b>	<b>Attending Illinois Community College (N)</b>	<b>Attending Illinois Community College (%)</b>	<b>Enrolled in Remedial Courses (N)</b>	<b>Enrolled in Remedial Courses (%)</b>
2013	138,520	39,922	28.8	19,427	48.7
2014	132,661	42,256	31.9	20,894	49.4
2015	128,527	41,464	32.3	19,388	46.8
2016	137,548	42,703	31.3	19,506	45.7

# Annual Enrollments in Remediation/ Development Education at Illinois Public Universities (2014-2017)



Source: IBHE Fall Enrollment Survey I

# Proportion of 12-month Undergraduate Enrollments in Remedial Coursework (2014-2017)



Source: IBHE Fall Enrollment Survey I and IPEDS 12-Month Enrollment

# What Happened at Southern Illinois University Carbondale?

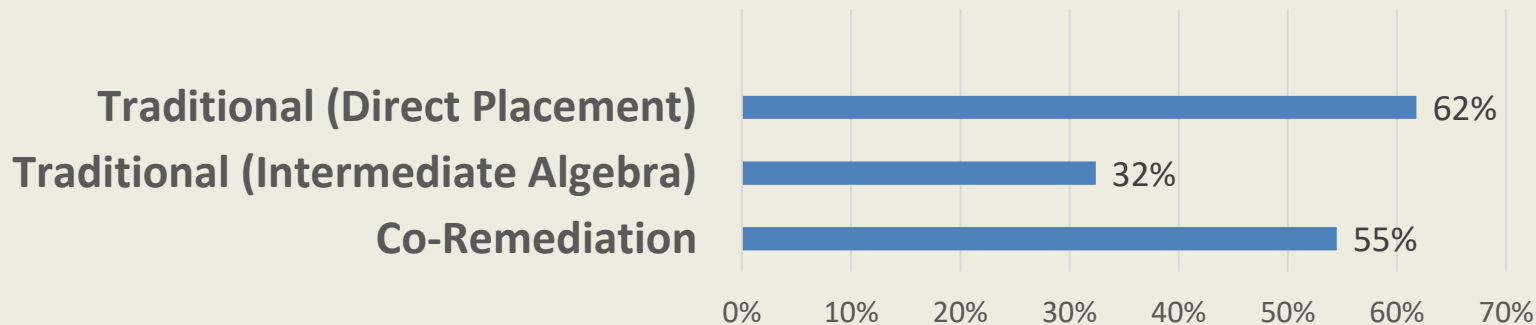
- SIUC Mathematics employed a two-pronged approach
  - 1) SIUC improved and expanded the variety of math courses to meet the needs of students in non-quantitative fields to satisfy university core requirements.
    - State-of-the-art liberal arts mathematics course
    - Data science course
  - 2) For students in majors requiring a higher level of mathematics, they moved to a co-requisite model and eventually found it no longer had to schedule their non-credit intermediate math course.

# Co-requisite Modeling at SIUC

- For college algebra, they introduced a co-remediation class, in which students lacking the requisite math skills were able to master college algebra and the prerequisite material in a single semester.
- SIUC is applying this same method at higher levels as well.
  - Although college algebra and trigonometry are credit bearing courses, sometimes the long sequence to get into Calculus I prevents STEM majors from graduating in four-years
  - SIUC integrated many of the algebra and trigonometry prerequisites with a traditional Calculus I course into a single semester course

# Results at SIUC

## Pass Rates in College Algebra



- College-ready students still have an advantage, but for a student lacking the requisite preparation for direct placement in college algebra, co-remediation has an overwhelming advantage.
- The other issue is the conditional aspect of taking the traditional intermediate algebra to college algebra math pathway.
  - Before, getting into college algebra was conditional upon passing intermediate algebra and the pass rate in that course had been around 27%.
  - The conditional probability of passing college algebra for someone taking intermediate algebra was only 8.7%.

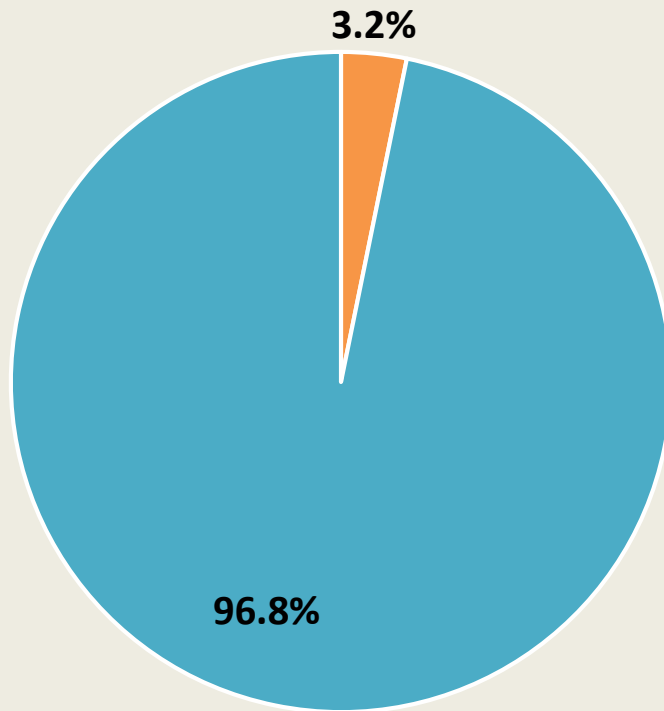


# Sample of Undergraduate Students Enrolled in Remedial Coursework in fall of 2018-19

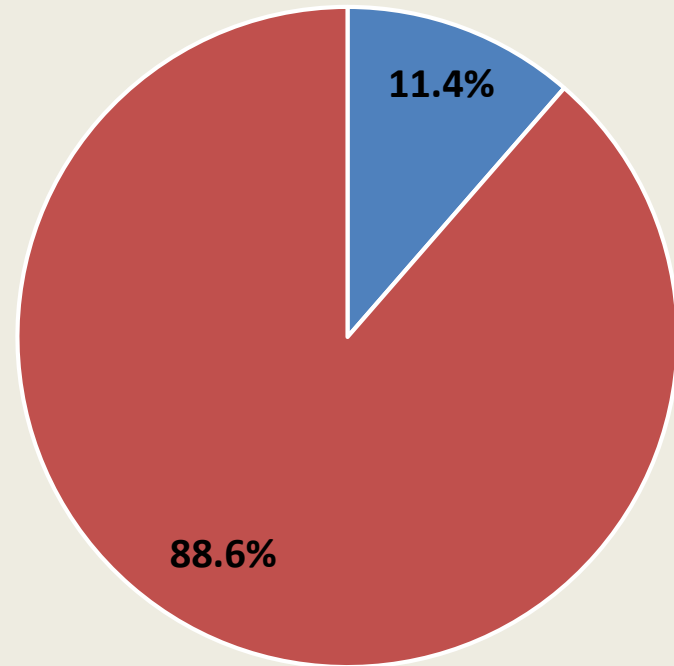
- Inclusive of the seven Illinois public universities: CSU; EIU; ISU; SIUE; UIC; UIS; and WIU
- The information is limited to Language Arts/English and Math remediation
  - If a public university is offering remediation in another subject area, we didn't collect it
  - Fall only, so it is possible that some students (non-freshmen) took remediation prior or could have taken it subsequently

# Remediation in Fall of 2018-19

Remediation Status for all Undergraduates (n=65,854)



Remediation Status for New Freshmen (n=15,165)

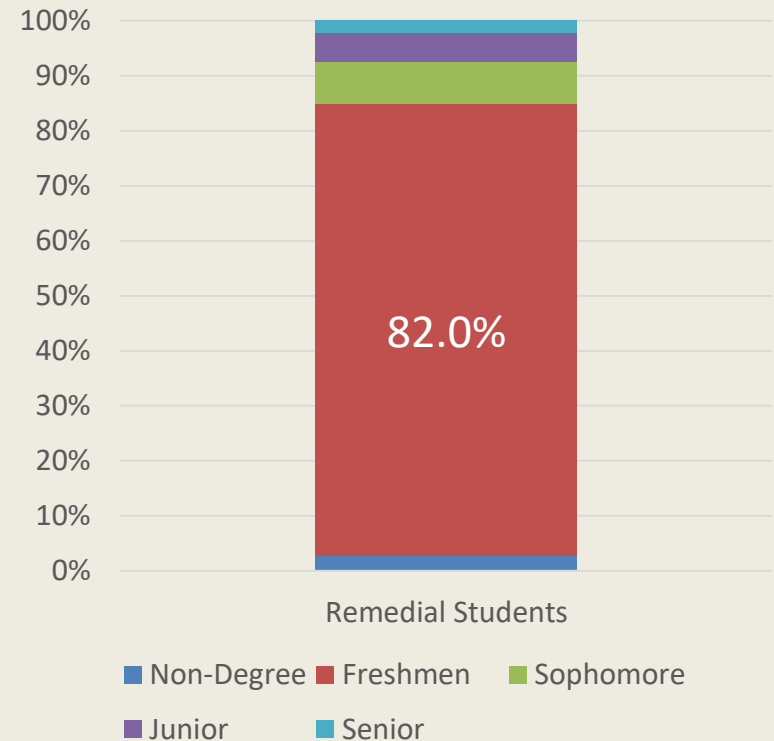


■ Remediation in either Math or English   ■ No Remediation   ■ Remediation in either Math or English   ■ No Remediation

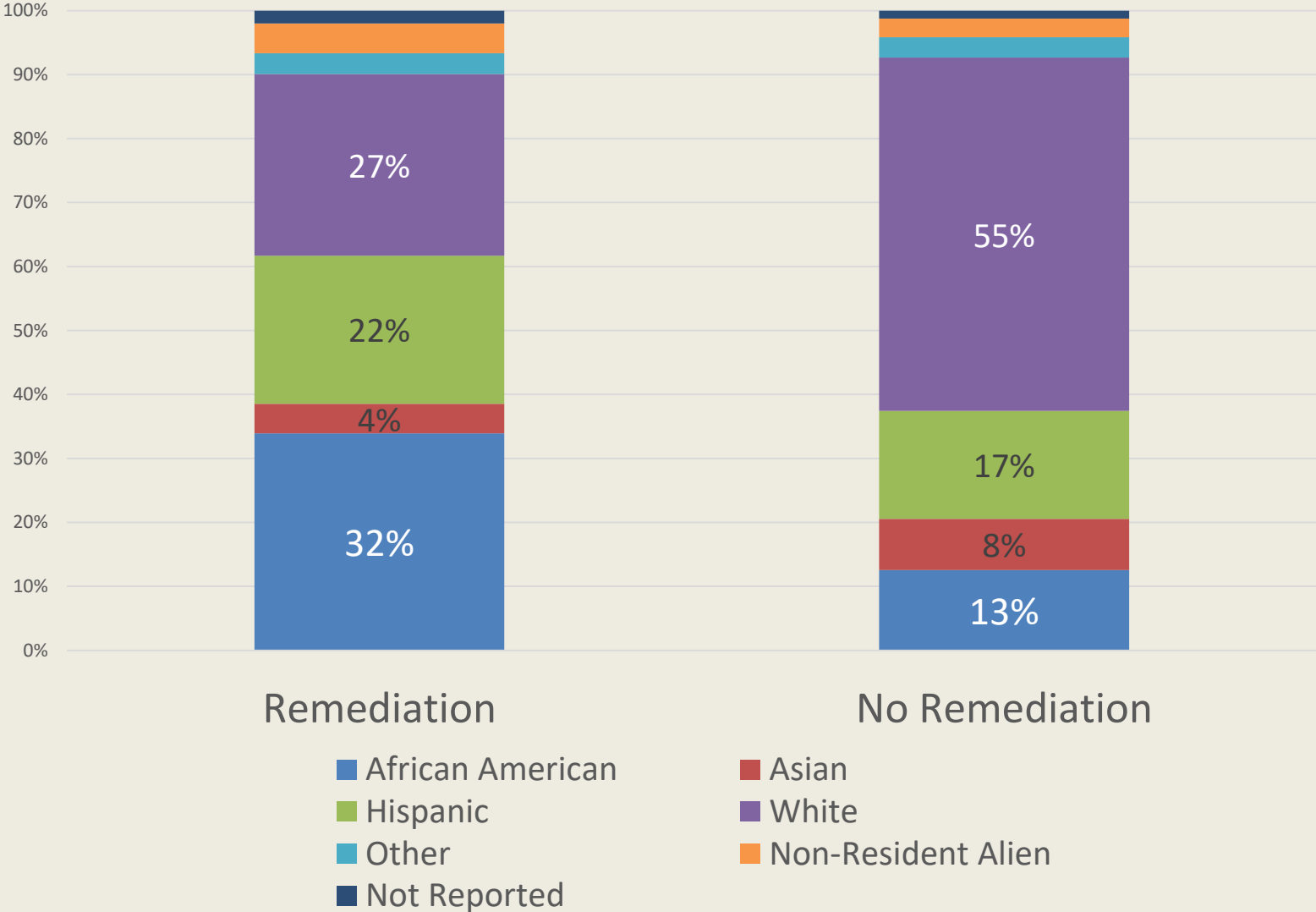
# Remediation Status and Class Level

Class Level	Remediation Rate
Non-Degree Seeking	5.6%
Freshmen	11.4%
Sophomore	1.3%
Junior	0.7%
Senior	0.2%

Class Level Distribution of Students Enrolled in Remedial Education in fall of 2018-19

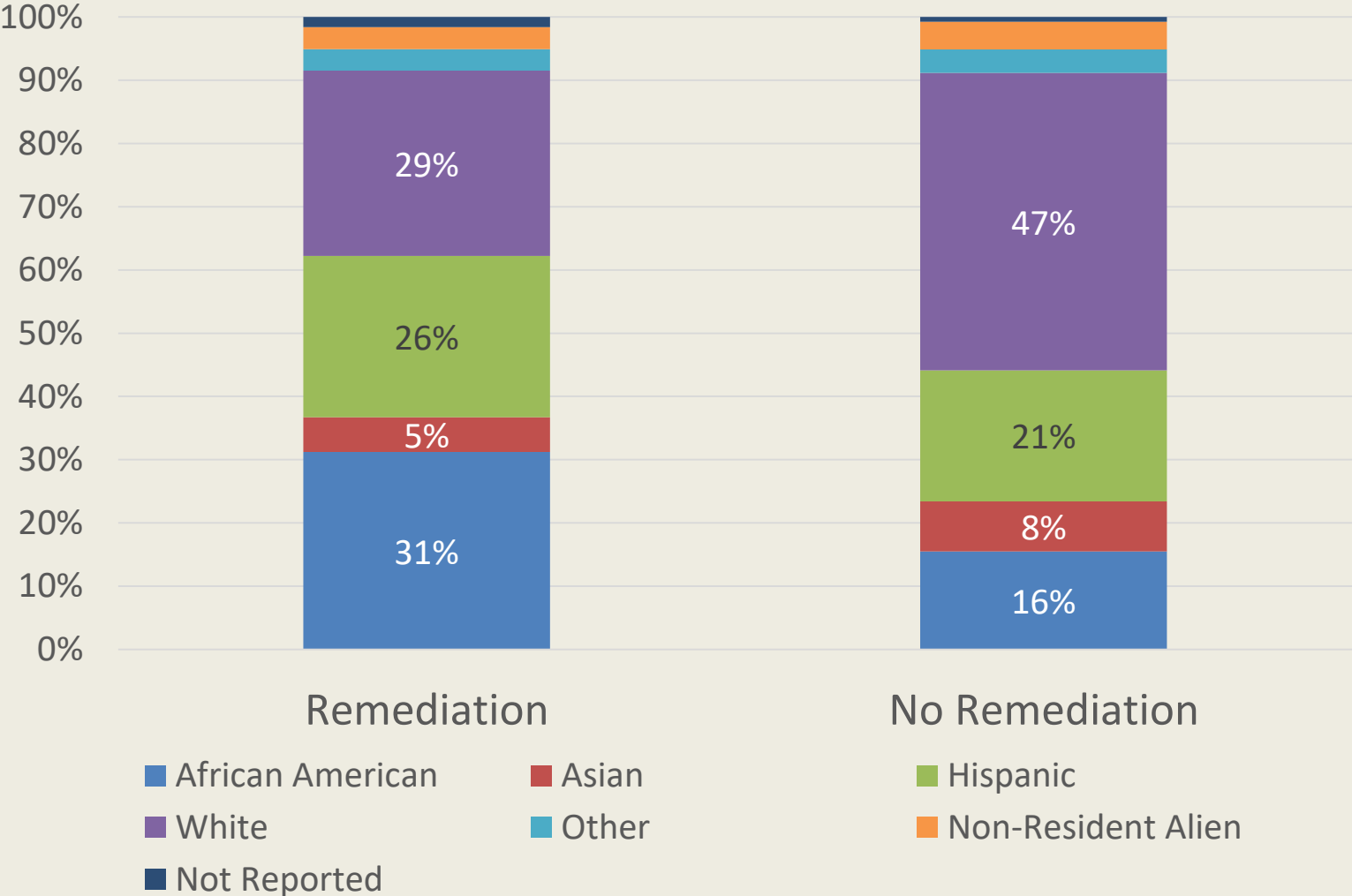


# Racial/Ethnic Distribution of All Undergraduates in Fall of 2018-19 by Remediation Status



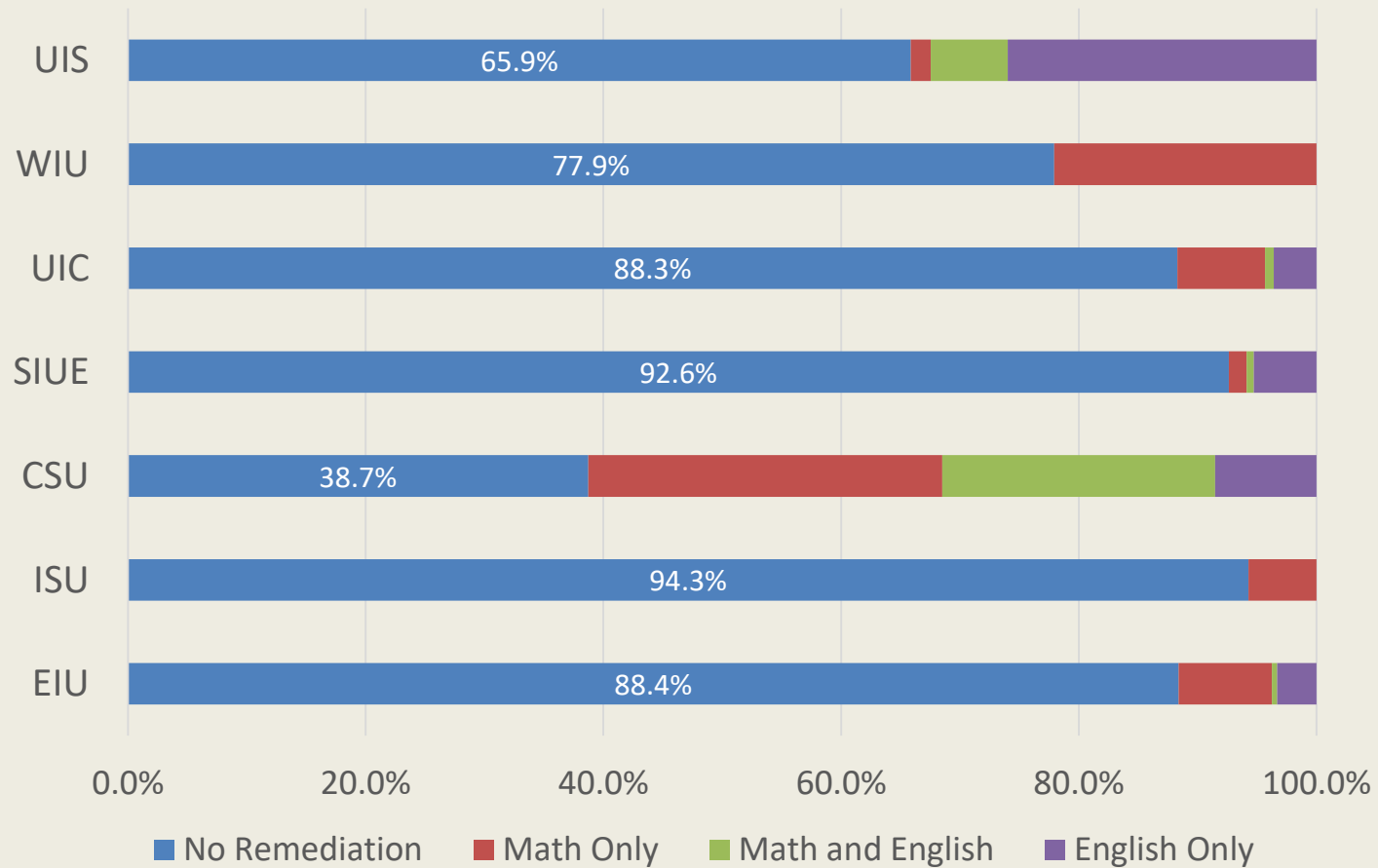
Source: IBHE's IHEIS Fall Enrollment Collection

# Racial/Ethnic Distribution of First-Year Undergraduate Students by Remediation Status



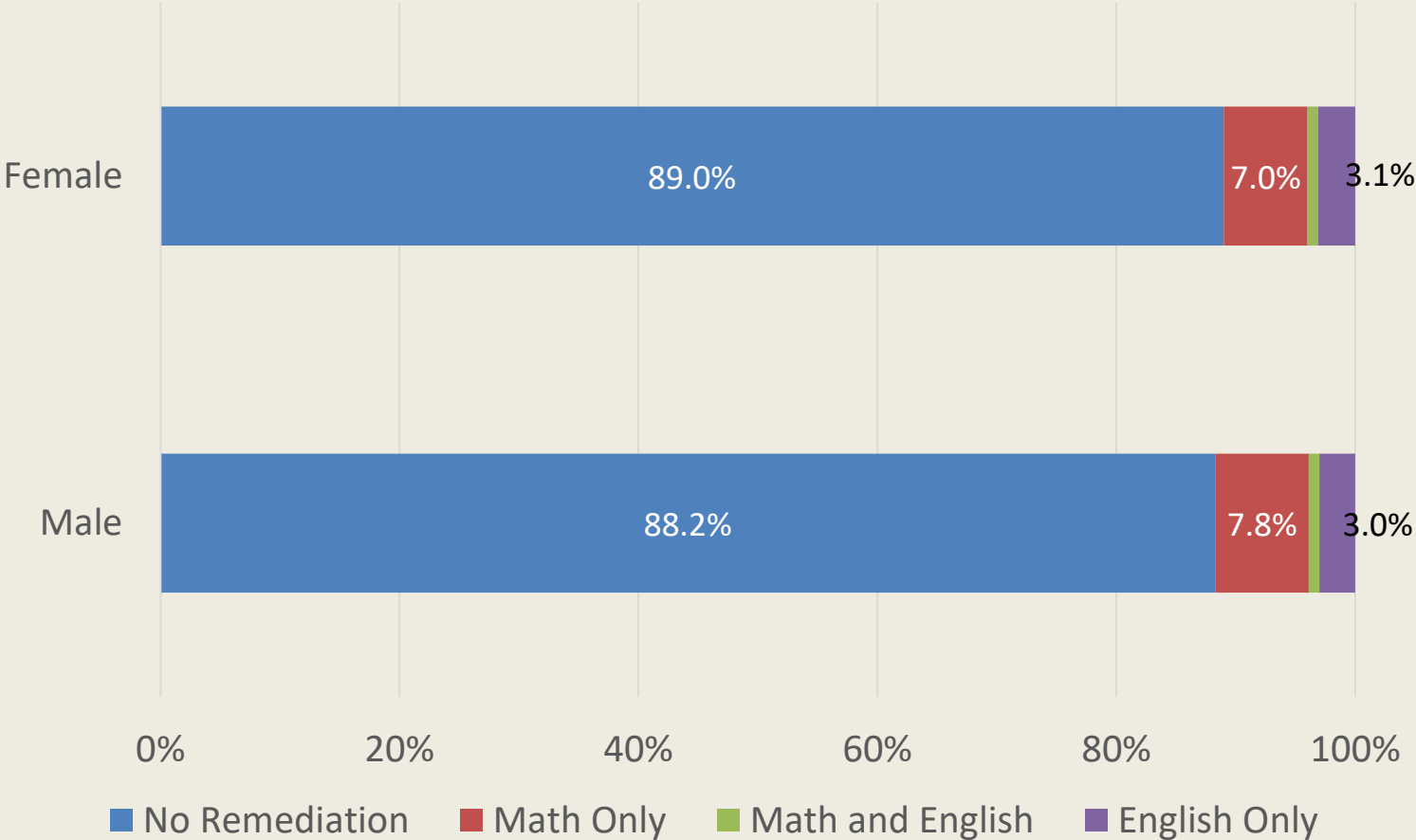
Source: IBHE's IHEIS Fall Enrollment Collection

## Detailed Remediation Status for Freshmen by Public University in Fall of 2018-19



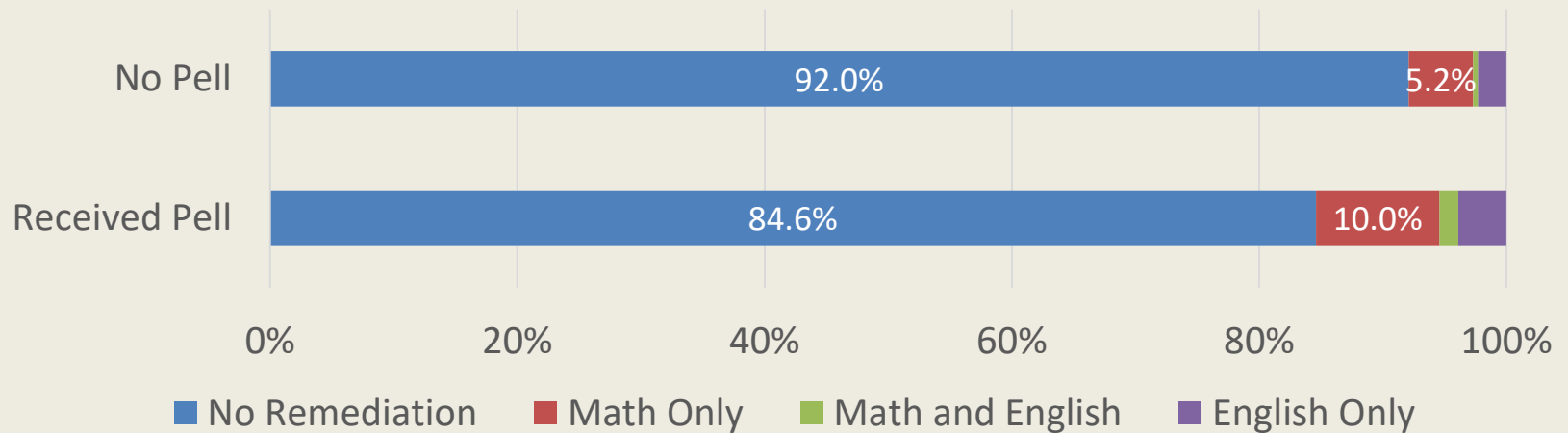
Source: IBHE's IHEIS Fall Enrollment Collection

# Gender and Detailed Remediation Status for Freshmen at Illinois Public Universities in Fall of 2018-19

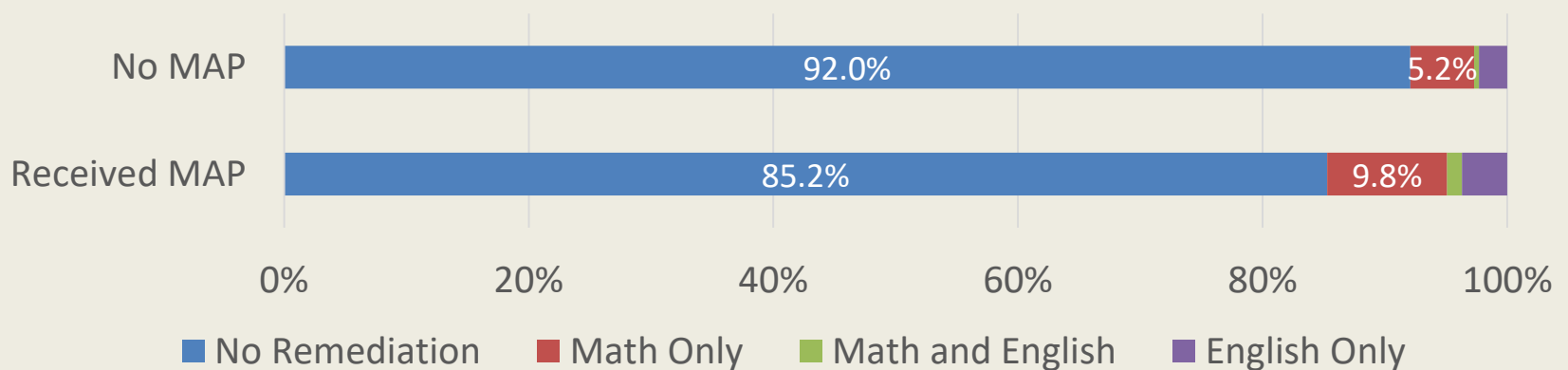


Source: IBHE's IHEIS Fall Enrollment Collection

## Pell Receipt and Detailed Remediation Status for Freshmen at Illinois Public Universities in Fall of 2018-19



## MAP Receipt and Detailed Remediation Status for Freshmen at Illinois Public Universities in Fall of 2018-19



Source: IBHE's IHEIS Fall Enrollment Collection



# Detailed Remediation Status and High School Academic Qualifications

	ACT Comp	ACT English	ACT Math	SAT Comp	SAT Math	SAT Critical Reading	High School GPA
No Remediation	22.55	22.48	22.04	1117.27	561.22	566.88	3.33
Math Only	19.91	19.90	18.67	1009.06	486.67	532.76	3.09
Math and English	17.75	17.90	17.23	943.79	477.91	471.45	3.15
English Only	19.54	18.03	19.97	997.03	510.30	489.20	3.16

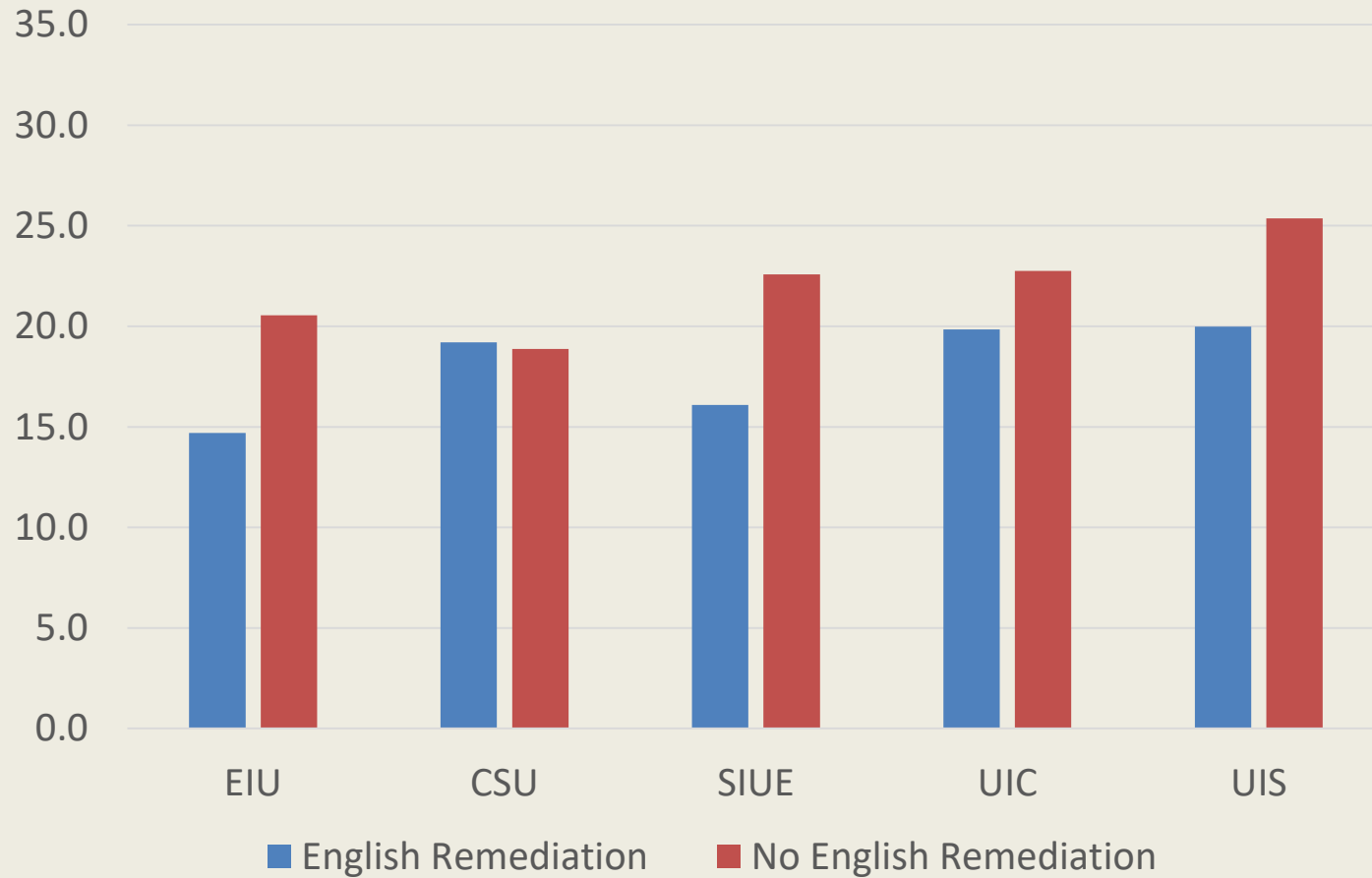
Source: IBHE's IHEIS Fall Enrollment Collection

# Differences in Academic Qualifications in Freshmen by Remediation Status

	High School GPA			ACT Composite		
	Remed.	No Remed.	Diff.	Remed.	No Remed.	Diff.
EIU	2.92	3.11	-0.19	18.38	20.68	-2.30
CSU				18.12	19.42	-1.30
ISU	3.12	3.29	-0.17	20.65	22.80	-2.15
SIUE	3.04	3.39	-0.35	18.31	22.98	-4.67
UIC	3.24	3.30	-0.06	21.03	22.94	-1.91
WIU	3.02	3.27	-0.25	18.93	20.60	-1.67
UIS	3.20	3.66	-0.46	20.18	25.55	-5.37

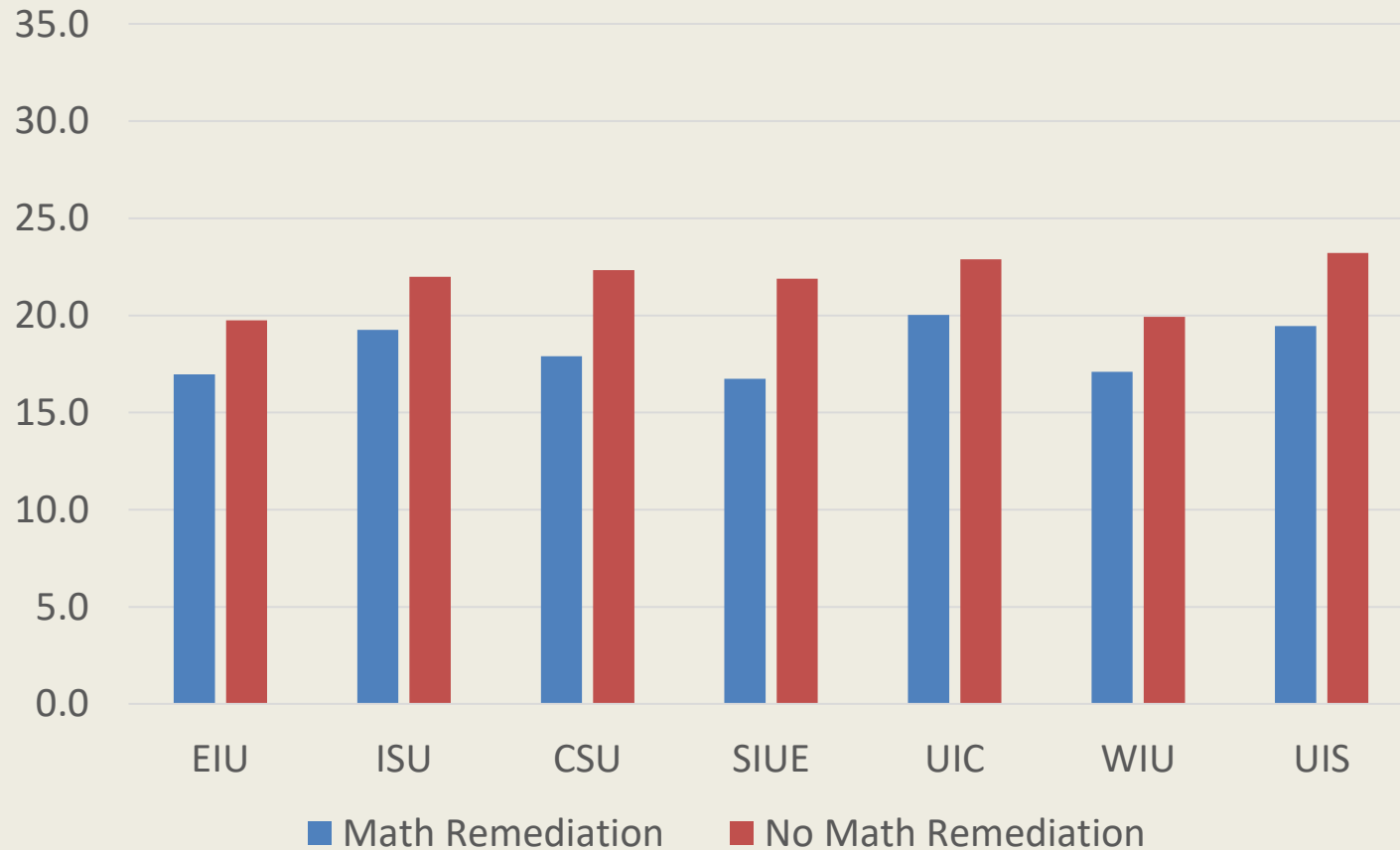
Source: IBHE's IHEIS Fall Enrollment Collection

## Performance on ACT English Subject Test for Freshmen by Remediation Status



*Source: IBHE's IHEIS Fall Enrollment Collection*

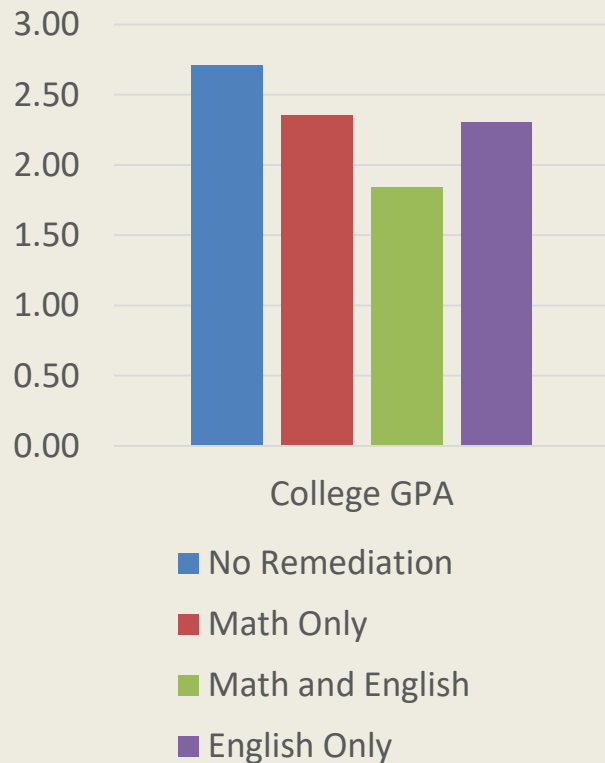
## Performance on ACT Math Subject Test for Freshmen by Remediation Status



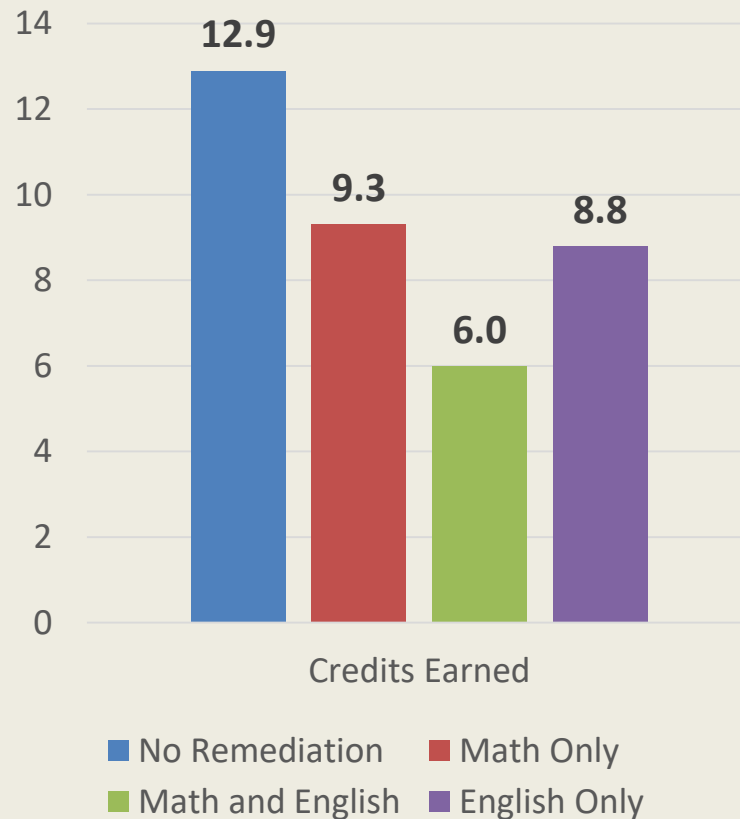
Source: IBHE's IHEIS Fall Enrollment Collection

# Academic Performance in College among First-Time/ Full-Time Students by Detailed Remediation Status

College GPA by Detailed Remediation Status



Credits Earned by Detailed Remediation Status



Source: IBHE's IHEIS Fall Enrollment Collection

# Has there been evidence of misplacement into remediation courses?

- National research has established that 18% of students at public universities who took remediation (either math or English) were well academically qualified
- Defined as having two or more of the following:
  - 3.5+ high school GPA
  - 24 or higher on the ACT
  - Calculus as their highest math course in HS

Chen, X. & Simone, S. (2016). *Remedial Coursetaking at U.S. Public 2- and 4-Year Institutions: Scope, Experiences, and Outcomes*. Institute for Education Sciences, National Center for Education Statistics: Washington, DC.

# Was there evidence of misplacement with the sample of undergraduates at Illinois Public Universities?

- Using a similar framework, we found only 40 cases of well academically qualified first-year students enrolled in remediation (2.3% of the freshmen taking remedial coursework in fall of 2018-19).
- However, this doesn't account for potential deficits in particular subject areas. For example, a student could perform well in all subjects but math, and still have a 3.5 or higher GPA and/or a 24 or higher on the ACT.
- With a more math-specific measure, there were only 14 cases of well-academically qualified first-year students being enrolled in remediation in math (1.1%).
- With a more English-specific measure, there were only 9 cases of well-academically qualified first-year students enrolling in English remediation (1.5%).

# Key Takeaways

- Among the sample, disproportionately more African American and Latinx students took remedial coursework at Illinois public universities.
- There were no discernable gender differences.
- There was a lot of variation in the rates of remediation across the public universities.
- Not all Illinois public universities offer the same remedial coursework.
- There were only a few instances of well- academically qualified students being placed in remedial coursework at Illinois public universities.
- Non-remedial students academically outperform remedial students at college.



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