



# Transitioning Learners to Calculus in Community Colleges

<http://occr.illinois.edu/tlc3>

## Strategies to Improve STEM Student Transition to and through Calculus

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### TLC3 Principal Investigators

Helen Burn, Ph.D., Highline College,  
hburn@highline.edu

Vilma Mesa, Ph.D., University of Michigan,  
vmesa@umich.edu

J. Luke Wood, Ph.D., San Diego State University

Eboni Zamani-Gallaher, Ph.D., University of Illinois  
at Urbana-Champaign

### TLC3 Graduate Research Associates

Darielle Blevins, San Diego State University

Anne Cawley, University of Michigan

Chauntee Thrill, University of Illinois at Urbana-  
Champaign

### Introduction

Data collected through a national survey of math department chairs at associate's granting colleges provides information about the current state of the sequence of courses from Developmental math to Precalculus to Calculus II (DPC2) in the US. This data can be used to develop ideas and strategies to improve student transition into and through the DPC2 sequence at your own college.

### Your Institutional Characteristics

Strategies to improving student transition in the DPC2 sequence can vary depending on institutional characteristics. For each variable below, select the choice that best describes your college. Many of these variables come from the Carnegie Classification of Institutions of Higher Ed.

**Geographic region:** West Southwest Midwest Southeast Northeast

**Size (FTE):** Very small Small Medium Large Very Large  
<500 FTE 500-1999 2000-4999 5000-9999 10000+

**Urbanicity:** City Suburban Rural Town

**Primary degree:** Associate's, mainly transfer (< 30% Career & Technical)  
Associate's mixed Transfer/Career & Technical (30-49% Career & Technical)  
Associate's, mainly Career and Transfer (50%+ Career & Technical)  
Associate's and Bachelor's degrees, but majority Associate's

**Minority Service Institution (MSI) status:** PBI or HBCU HSI TCU AANAPISI None Unsure

PBI (Predominately Black institutions); HBCU (Historically Black Colleges and Universities); HSI (Hispanic Serving Institutions); TCU (Tribal Colleges and Universities) and AANAPISI (Asian American and Native American Pacific Islander Serving Institutions).

Interested in knowing more about your institutional characteristics? You can look up your institution in the IPEDS database at <https://nces.ed.gov/ipeds/datacenter/InstitutionByName.aspx>

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## Situating Your College in the TLC3 Data

### MATH PLACEMENT

#### Multiple options used for placement

- Not employed  Currently being proposed  Currently being implemented  Fully implemented

#### Policies to adjust placement after term begins

- Not employed  Currently being proposed  Currently being implemented  Fully implemented

#### Use local data on effectiveness of placement

- Not employed  Currently being proposed  Currently being implemented  Fully implemented

#### Use local data on effectiveness of placement disaggregated by age, gender, race/ethnicity, or FT/PT

- Not employed  Currently being proposed  Currently being implemented  Fully implemented

### COURSE OFFERINGS AND INSTRUCTION

#### Differentiated pathways for STEM and non-STEM at the developmental level

- Not employed  Currently being proposed  Currently being implemented  Fully implemented

#### Course options for students at the precalculus level (e.g., stretched out, compressed, traditional)

- Not employed  Currently being proposed  Currently being implemented  Fully implemented

#### Course options for students at the calculus level (e.g., stretched out, compressed, traditional)

- Not employed  Currently being proposed  Currently being implemented  Fully implemented

#### Use of active learning strategies in class (e.g., lecture with small group work, flipped classes)

- Not employed  Currently being proposed  Currently being implemented  Fully implemented

#### Use local data on effectiveness of courses in DPC2 sequence

- Not employed  Currently being proposed  Currently being implemented  Fully implemented

### STUDENT SUPPORT

#### Support services for STEM-interested students from underserved groups (e.g., MESA, TRIO)

- Not employed  Currently being proposed  Currently being implemented  Fully implemented

#### Space for students to informally gather to work on mathematics

- Not employed  Currently being proposed  Currently being implemented  Fully implemented

#### Tutoring at all levels of DPC2 (Dev Math, Precalc, Calc I and II)

- Not employed  Currently being proposed  Currently being implemented  Fully implemented

#### Online tutoring available at all levels of DPC2

- Not employed  Currently being proposed  Currently being implemented  Fully implemented

#### Supplemental Instruction or In-class Peer tutoring in Precalculus and/or Calculus

- Not employed  Currently being proposed  Currently being implemented  Fully implemented

#### Early-alert systems after start of the term

- Not employed  Currently being proposed  Currently being implemented  Fully implemented