

# Common Core Mathematics Teacher Leadership Program at LMU



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# Agenda



- Why LMU is shifting
- How LMU is responding to teaching in the changing Common Core State Standards (CCSS) world
- LMU Next Steps

# Loyola Marymount University



- The School of Education (SOE) offers Master's, credential, and certificate programs, as well as a Doctorate in Educational Leadership for Social Justice.
- SOE currently has approximately 250 undergraduates and 1500 graduate students enrolled



# Why LMU is shifting



- Conversations about Common Core in the field:
  - What do we want our K-12 students to learn to be college and career ready in STEM
  - How do we know if K-12 students are college and career ready for STEM
  - What will we do if K-12 students are not college and career ready for STEM



**Need to address and support this need!**

# Our training



- Fall 2011: Learned of Common Core Black Belt Certification
  - <http://commoncoreinstitute.org/BlackBelt.aspx>
- 1.5 years of training
  - Webinars
  - Homework assignments
  - 4 Practicums
- 4 clinical faculty completed the certificate



The  
**Common Core**  
Institute

# How LMU is responding to teaching in the changing CCSS world



1. Common Core Math Teacher Leadership Certificate
  - ✦ Experiential Learning with a focus on fieldwork
2. SOE Math Methods Course (at LMU)
  - ✦ Part of the 2042 CA Credential
3. Math Leadership Common Core Network
  - ✦ Hybrid: interactive PLC online and monthly seminars on site



# 1. Common Core Math Teacher Leadership Certificate



Finding the joy in our content and teaching to inspire our students to find joy in the content and their learning

We are working together as a team to collaborate and support each other

CCSS/NGSS is still something that we're learning and finding resources for, but we're jumping in together

School-wide goal is for Math and Science to use data to adapt strategies learned in the past two years to reflect the needs of our students

Support teachers in using data to implement strategies connected to the goals and collective agreements of our PD/PLC

# Professional Development Focus Areas



- Emphasize the process versus the standards
- How to strategically plan, implement, and assess CCSS & Math Practices (MPs)
- Learning Progressions: Major concepts of units (K-5), ratios (6-8), and functions (9-12)
- SBAC/PARCC assessments: Shift to content knowledge and reasoning; writing a logical argument (MP 3) using precise language (MP 6)
- College and Career Readiness: Assessment FOR Learning and Self-Regulation



# Sharing CCSS Resources



- <http://www.illustrativemathematics.org/>
- <http://map.mathshell.org/materials/index.php>
- <http://sbac.portal.airast.org/practice-test/>

# Training the Teacher Leaders



- Clinical Faculty design professional development curriculum that teaches teacher leaders how to demonstrate Common Core instruction and coach their colleagues around common practices.
- Clinical Faculty support teacher leaders through an apprenticeship model (on-site).
- Training is based on Adult Learning Theory.

# Teaching-Assessing-Learning Cycle



## 2. SOE Math Methods Course (at LMU)



- Course is part of the 2042 Credential Program
- LMU part-time Faculty is a Certified Math Teacher Leader at Dana Middle School
  - ✦ Active participant in the Math Common Core Leadership Network

### 3. Math Leadership Common Core Network (at LMU and online PLC)



- Goal: keep current, be inspired, problem solve
- Ongoing support for certified teacher leaders:
  - Engage in monthly Professional Learning Community (PLC) collaborations with other Teacher Leaders
  - Teacher Leaders collaborate with LMU Math Faculty
    - ✦ Integrate statistics from the social science perspective into professional development
    - ✦ Math Practices in action from the perspective of mathematicians
  - Math Leadership Corps Website
    - ✦ <http://mathleadershipcorps.com/>



# Math Education Clinical Faculty focus: CCSS Updates



- Recent article
  - <http://mathleadershipcorps.com/what-does-it-take-to-get-students-to-mastery/>
- SBAC information
  - <http://mathleadershipcorps.com/101013-what-is-sbac-what-will-assessment-look-like/>
- CA information
  - <http://mathleadershipcorps.com/ccss-survey-2/>



# Professional Network



## MP 7 with Dr. Jackie Dewar

Dr. Jackie Dewar, Professor Emerita, Mathematics at LMU, joined our last MLC Network collaboration. Her [presentation](#) focused on Mathematical Practice #7: Look for and make use of structure.

**What mathematical terms or short phrases do you associate with “structure?”** Add your comments below. Here is Dr. Dewar’s list:

### Here is my list ...

- Shape (e.g., polygonal, conic, circular, ...)
- Organization (e.g., organized lists, ways of counting, ...)
- Category/Type of Something
  - equation (e.g., polynomial, degree, exponential, trigonometric, standard form, ...)
  - function (e.g., linear, quadratic, cubic, polynomial, power, exp, trig, increasing, decreasing, (dis)continuous, differentiable, integrable, ...)
- Pattern - my favorite word for what math is all about!

**Where do you find and use structure in math problems?** See Dr. Dewar’s [problem set](#) and add your comments below.

# Next Steps



- We are re-thinking our teacher preparation programs:
  - Transformative learning to support teachers in embracing a perspective that is different from how they learned
  - Rigor re-defined: Webb's Depth of Knowledge (DOK)
  - Technology as a medium: when to teach students how to engage with graphs, tools, etc. on the computer
  - Professional Development in Common Core Mathematics for all fieldwork supervisors





# Contact Information



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