# Exploring Computer Science

## Overview

**About:** ECS professional development is connected directly to course implementation, supports teachers as learners and reflective practitioners and builds a national learning community of ECS teachers.

**Institution:** UCLA  
**Data for:** 2012/13

**PI/Leader:** Jane Margolis  
**Age of Program:** 5

**Location:** UCLA  
**School Districts:** Los Angeles Unified School District

## Teachers Served

**Served:** Varies by number of first and second year teachers teaching in a given year  
**Dosage:** 80

**Grade(s):** 9-12  
**Characteristics**  
In-Service ECS teachers (prior to first and second year teaching the course)

## Program Budget

**Sources:** NSF  
**Budget:** {Annual Budget}
Learning Goals

Teachers will be able to:

• Use engaging pedagogy to make explicit to their students the intersection of computer science knowledge and computational thinking practices.

• Become reflective about ECS classroom teaching practices.

• Understand how issues of access, instructional practices, assessment, and culturally relevant curriculum all have the ability to impact participation.

• Participate in a teacher professional community that can provide support, guidance, and mentorship for one another.
PD Structure

- Connected directly to supporting ECS course implementation
- Two year model: Summer week long institutes + quarterly PDs
- Three focus areas of PD: equity, inquiry, and CS content
- ECS Teacher-Learner-Observer Model: teachers co-plan and co-teach ECS lessons, followed by lesson debrief discussion to discuss lesson strengths and areas for growth.
- *Stuck in the Shallow End* research shapes discussions on equity and belief systems in computing classrooms and how this relates to equitable teaching practices in ECS
- Reflection on student work, student learning, and formative assessment.
- On-going teachers’ learning community online and face to face
Successes and Challenges

• Student engagement increases when teachers follow curriculum and use inquiry strategies
• Teachers are positive about both the PD and how it is impacting practice
• Teachers becoming more reflective on their practice

• Falling back into old habits of teaching when pressed for time
• Hard to change classroom norms
• Teacher turnover
Measures of Success

- Observations of classroom practice
- Feedback on PD surveys
- Student and Teacher interviews
ECS PD Guiding Philosophy

Teachers learning is a *process* with growth over time.