

Class Series: Philosophy Through Geometry

~ 4-Week Series: Mar. 8th, 15th, 22nd & 29th ~

(Tuesday Evenings – 6:30pm-8:30pm)

Led by philosopher David Nowakowski, Merlin CCC

Class Series Description



Ancient authors tell us that, at the door to Plato’s Academy, there was a sign which read “Let no one who does not geometrize enter here.” Regardless of the literal truth of that story, the practice of geometry clearly held an important place in the Academy, and in the ancient Greek philosophical tradition more generally. Over the course of four weeks together, we’ll explore some of the reasons why.

We see geometric themes throughout Plato’s dialogues: from the divided line of the *Republic*; to the extended scene in the *Meno* where Socrates helps an uneducated servant solve challenging geometric problems; and throughout the *Timæus*, which begins with Socrates asking “One, two, three; where’s the fourth?”, and proceeds to the harmony of the celestial spheres, and the construction of fire, air, water, and earth from special triangles!

This exploration will combine hands-on, practical, collaborative work in doing geometry, with philosophical reading and reflection on what we’re doing, and why it matters.

In order to take seriously the message on the sign, each and every week, we’ll combine four different elements:

- **Practical exercises in geometry:** constructing figures with a pencil, straightedge, and compass, in order to discover and demonstrate geometric and philosophic truths.

- **Short readings from the dialogues of Plato**, where we see the application of geometric methods and ideas in philosophy.
- **Ideas drawn from other ancient philosophers** like Aristotle, Euclid, Iamblichus, and Proclus, who explicitly reflect on the place of geometry within philosophy.
- **Lively and active conversation and collaboration**, as a community of learners, exploring together the interplay of these philosophical and geometrical themes.

In other words, we'll geometrize, and we'll reflect on why we're doing so.

Some of our important themes and questions will include:

- The **ethos** of geometry: What is it like to geometrize, especially when we're working together in a community? We'll see that for the ancients, rather than being a competition, or something done by private individuals alone in their rooms, geometry was a **community practice**.
- Why is geometry so special, compared to all the other arts and sciences? We'll see how this geometry has a special way of bridging the gap between other branches of knowledge.
- The relation between geometric truths and metaphysical truths—the fundamental realities that create, sustain, and explain the cosmos. How can the interplay between bound and infinite, definite and indefinite, which gives order and structure to geometry, also help us to explain the well-ordered world in which we live?
- The “flash of insight” that is so essential to both geometric discoveries, and to philosophical wisdom, as the Platonic tradition understands it. Think of Archimedes jumping out of his bathtub and running naked through the city, shouting “Eureka!” ... but keeping our clothes on!
- The methods and approaches of geometry: How does a geometer approach a new problem, and how can similar methods be used more broadly by philosophers? How can doing geometry help us to **notice and appreciate the harmony of nature**?

Through all of this active, collaborative practice, we will first and foremost be trying to “think ourselves into” the mindset of the Platonic tradition of philosophy, for whom geometry was so highly valued. Some of the ideas we consider may seem foreign or counter-intuitive, while others may be quite familiar. We'll

be trying these ideas on, not as some final dogma that anyone should blindly accept, but as something worth exploring on its own terms, to see what unexpected vistas it might lead us to.

Our goal is that we will all come away with a new perspective and deeper appreciation for geometry and the ancient traditions of philosophy.

Is This for Me?

If you've read this far, then probably yes! There is **no special background or experience required**, just a willingness to explore unfamiliar ideas, in the company of other eager seekers for truth.

This is not a "math class." There will no algebra. There won't even be any numbers higher than we can count on our fingers. If Meno's untutored servant can do it (in Plato's dialogue of that name), then so can we!

The practical exercises will not involve measuring anything, or doing any kind of complex arithmetic. The exercises are primarily **visual and tactile**: draw a line that connects A to B, draw a circle around this point, use a ruler to extend the side of this triangle, and then reflect in conversation about what we've done, and what it teaches us.

While the program is primarily geared toward adults, curious and responsible teenagers are warmly welcome with a parent or guardian.

What Do I Need?

Just curiosity, eagerness to learn, and respect for the ancient authors and our fellow learners. **We'll provide each participant with the basic tools:**

- Pencils
- A compass (for drawing circles)
- A straightedge (for drawing lines)
- Paper (to do the drawing on)

We'll also provide a printed handout each week, with one or more short readings from Plato that we'll be looking at together. *All of these tools will be yours to take home and keep, if you so desire.*

If you can manage it, we'll ask for a small donation to help with the cost of materials and preparation. But everyone of good will is warmly welcome, with or without that donation.

Topics & Readings

There is **no required "homework" outside of our weekly meetings**. All the readings will be very short (a few pages or less), and we'll introduce them together, during the session. The pace and order of topics may change, based on the needs and interests of our group.