INSTITUTE OF CLASSICAL
ARCHITECTURE & ART

CONTINUING EDUCATION PROGRAM IN CLASSICAL ARCHITECTURE

COURSE SYLLABUS 2022

1. **Term:** Fall Oct 22, 2022; ICAA FL Chapter

2. **Submitted by:** Steve Bass

3. **Proposed Instructor(s):** Steve Bass

4. **Course Title: Constructive Geometry**

5. **Course Description:**

   The elements of classical architecture are described in the canonical works in geometrical terms. This workshop course reviews the basic definations of 2-dimensional Euclidean geometry and presents constructions of lines, regular polygons, conic sections and spirals. These lead up to constructions of architectural elements including moulding profiles and volutes. Each construction will be demonstrated live in step by step manner; participants should come prepared to draw these in their own notes.

   Learning goals - after the course the student will be able to -
   1 - understand the nature of basic geometrical elements such as point, line, plane, etc.
   2 - construct any regular polygon
   3 - recognize the geometrical basis of the canonical architectural elements
   4 - construct architectural elements such as the quirked Doric echinus and the Ionic volute with geometrical certainty.

6. **Date(s), Times, Number of Sessions:** Fall Oct 22, 2022 - Total 4 hours - two 2 hour sessions - on a single day

7. **Target Audience and Class Size:** regional/local - no maximum

8. **Course Type:** *select all that apply*

   - Core Curriculum Subject Category (select one):
     - Elements
     - Design & Composition
     - Proportion **XXXXX**
     - Drawing and Rendering
     - History/Precedent Study/Theory
     - Building Arts
   - Professional Practice
   - Master Class
   - Field Study (specify location)
   - Other (specify)

9. **Course Level (if applicable):**

COURSE SYLLABUS 2022

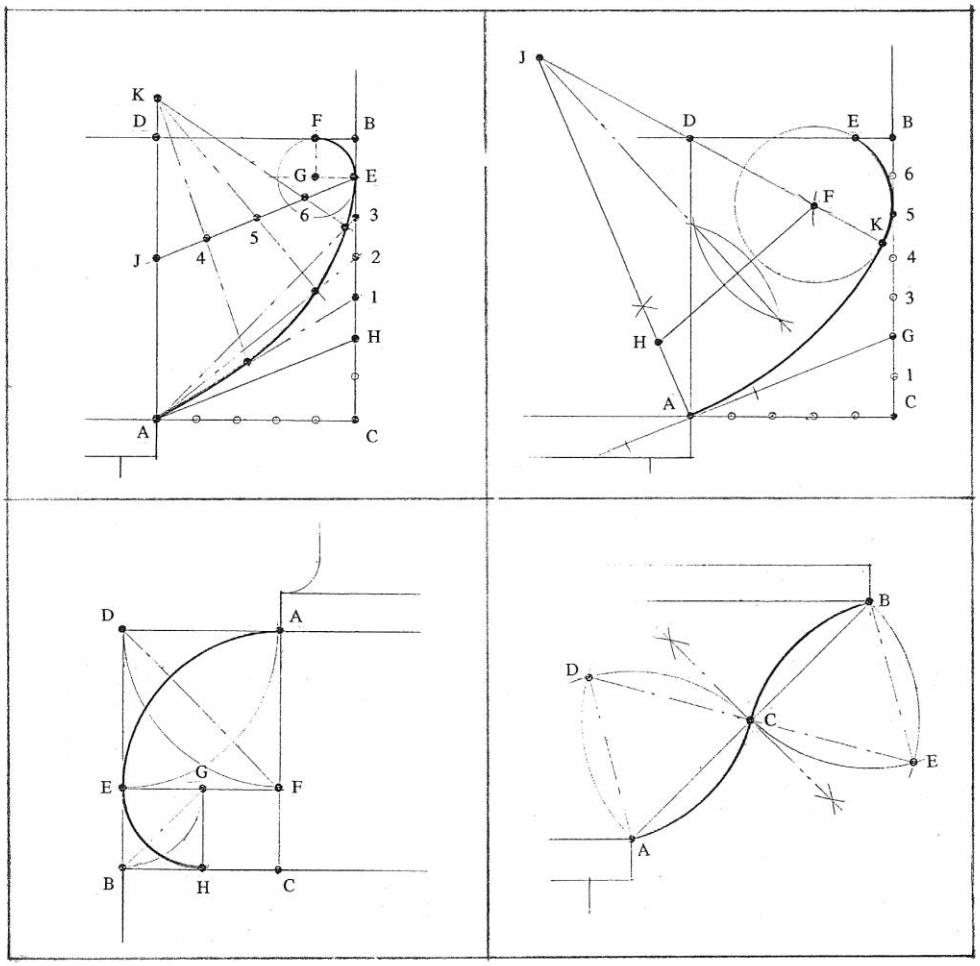
- Introductory **XXXXX**
- Advanced
- Pre-requisites (if any): none

10. Credits towards Certificate in Classical Architecture (if unknown, leave blank):

- Core Credit (specify category) **Proportion**
- Elective Credit

11. Required Course Materials: participants should bring a bow type compass, straight edge, paper or notebook, pen or pencil. Course materials will include a handout of about 80 pages illustrating each of the class constructions, giving some of their philosophical history and their appearances in the canons of classical architecture. This can be distrubuted digitally or in hardcopy.

12. Proposed image for course promotion: attach examples



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CONTINUING EDUCATION PROGRAM IN CLASSICAL ARCHITECTURE

COURSE SYLLABUS 2022

Course: **Constructive Geometry - Syllabus**

Instructor: Steve Bass

Class Dates: October 22, 2022 - 10:00 AM-12:00 noon and 12:30 AM-2:30 PM; - Total 4 hours

COURSE DESCRIPTION:

In the canonical works of classical architecture, the elements are described in geometrical terms. This workshop course reviews the basic definitions of 2-dimensional Euclidean geometry and presents constructions of lines, regular polygons, conic sections and spirals. These lead up to constructions of architectural elements, including molding profiles and volutes. Each construction will be demonstrated live in step-by-step manner. Participants should come prepared to repeat these constructions in their own notes.

LEARNING OBJECTIVES: After taking this course, students will be able to:

1 - Understand the nature of basic geometrical elements such as point, line, plane, etc.

2 - Construct any regular polygon

3 - Recognize the geometrical basis of the canonical architectural elements

4 - Construct architectural elements such as the quirked Doric echinus and the Ionic volute with geometrical certainty.

COURSE FORMAT:

The course will be presented live in lecture and demonstration form.

PRE-REQUISITES:

There are no strict pre-requisites, but it is recommended that students have had some exposure to the Classical Orders and the vocabulary of the elements. The student should also be prepared to draw in class.

SCHEDULE OF CLASSES:

Session I

1 bisect a line, 2 perpendicular from a point on a line, 3 perpendicular from a point off a line, 4 bisect an angle, 5 construct a parallel to a line, 6 equilateral triangle given a side, 7 equilateral triangle in a circle, 8, 9 a square given a side, 10 square in a circle, 11 pentagon in a circle, 12 pentagon given a side, 13 a golden-section rectangle and 14 spiral, 15 hexagon in a circle, 16 hexagon given a side, 17 octagon in a circle 18 octagon in a square.

Session II
19 heptagon given a side, 20 4-centered elipse, 21 cyma moulding, 22 compound torus., 23 Quirked echinus, 24 Ionic volute, 25 Gibbs volute.

TEXT AND MATERIALS:

Materials:

Participants should bring a bow compass, straight edge and/or drafting triangles, $30/60^0$ and 45^0, paper or notebook, 8.5 x 11" or 11 x 17", pen or pencil.
Course materials will include a handout of about 80 pages illustrating each of the class constructions, giving some of their philosophical history and their appearances in the canons of classical architecture. This can be distributed digitally or in hardcopy.

Required Texts: There is no required reading.

Recommended Reading: Participants might want to be familiar with Euclid, mostly book I,

The Elements, Heath translation, Dover, 1956, SBN 486-60088-2.

Euclid's Elements, Green Lion Press, 2013, ISBN 978-1-888009-19-4 with a 'mini' edition called '**The Bones**', ISBN 978-1-888009-21-7

Drawing Geometry, Jon Allen, Floris Books, 2007, ISBN 978-086315-608-3

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