

Dec 3, 2022

ICAA FL Chapter – Introduction to Architectural Proportion with Rachel Fletcher  
Student Handout

**SCHEDULE:**

**Lecture :**

Why proportion? Why the compass? (11-16); the circle (19-21); vesica piscis (21-22); symmetry; Pythagorean theorem (25-27); Bramante's Tempietto elevation (42-43); theorem of Thales, law of similar triangles (38-39); 6+1 circles, circle and hexagon, star of David, six directions (45-49); swallowtail butterfly (69); snow crystals (49-50); elements of dynamic symmetry, incommensurable ratios, diagonal, reciprocal,  $\sqrt{2}$ ,  $\sqrt{3}$ , and  $\Phi$  (29, 219-22); root-two applications: Temple of Theseus (Hephaistos) (268-72); *ad quadratum* (78-83); sacred cut (85-92); Bramante's Tempietto plan (93-94); Notre Dame de Paris South Rose Window (95-97); tetractys (98-111); Thomas Jefferson's Poplar Forest (278-89); golden section (133-34); pentagon and golden ratios (134-137); golden triangle (138-39); whirling square rectangle (141); *phi* and human anatomy, Le Corbusier's Modulor (156-57, 162); golden mean applications: triton shell, grass-of-Parnassus (162-63); history of golden ratio (154-55); Palladio's Villa Emo (184-91); Thomas Jefferson's Rotunda and the Pantheon of Rome; Velika Planina (169-74)

**Drawings:**

drawing fundamentals III-1a (72)

how to draw a perpendicular line

how to find a midpoint

circle I-1a (19)

vesica piscis I-1b (21)

vesica piscis and incommensurable ratios  $\sqrt{2}$ ,  $\sqrt{3}$ , and  $\Phi$  I-2, I-3, I-5 (23-25, 27-29)

$\sqrt{3}$  proportional system from a vesica piscis I-7a-c (30-37)

theorem of Thales I-9 (38-39) and demonstration of similarity I-8h-i (40-41)

six plus one circles (II-1) (46-47)

$\sqrt{3}$  proportional system from Star of David II-4a, 5 (55, 57), VI-5a (221-22), VIII-1a-d (291-93)

$\sqrt{2}$  proportional system from square (III-1, 71-73) (VII-2, 248-51)

*ad quadratum* constructions and spirals III-3 (79-83)

sacred cut constructions III-5 (85-92)

pentagon, golden triangle and approximate spiral IV-2a-k (135-40)

golden mean proportional system from whirling square rectangle IV-3 (141-46)

divide a line in golden section IV-4 (147-48)

how to draw golden mean proportional dividers IV-15 (164-68)

Numbers in red indicate page numbers in the recommended text *Infinite Measure* where a topic or drawing is covered.