INSTITUTE OF CLASSICAL
ARCHITECTURE & ART

INTRODUCTION TO ARCHITECTURAL PROPORTION: Parts I - IV

Instructor: Rachel Fletcher

SYLLABUS:

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, √2, √3, and Φ (29, 141-46, 219-22); root-two applications: Temple of Theseus (Hephaistos) (268-71); *ad quadratum* (78-83); sacred cut (85-92); Bramante's Tempietto plan (93-97); Notre Dame de Paris South Rose Window (95-97); tetractys (98-111); Thomas Jefferson's Poplar Forest (278-89); golden section (133-134); pentagon and golden ratios (134-137); golden triangle (138-139); whirling square rectangle (141); *phi* and human anatomy, Le Corbusier's Modulor (156-157, 162); golden mean applications: triton shell, grass-of-Parnassus (162-63); history of golden ratio (154-155); Palladio's Villa Emo (184-91); Thomas Jefferson's Rotunda and the Pantheon of Rome; Velika Planina (169-174)

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 √2, √3, and Φ I-2, I-3, I-5 (23-25, 27-29)
√3 proportional system from a vesica piscis I-7a-c (30-31)
theorem of Thales I-9 (38-39) and demonstration of similarity I-8h-i (40-41)
six plus one circles (II-1) (46-47)
√3 proportional system from Star of David II-4a, 5 (55,57)
√2 proportional system from square (III-1, 71-73) (VII-2, 248-251)
ad quadratum constructions and spirals III-3 (79-83)
sacred cut constructions III-5 (85-92)
golden triangle and approximate spiral IV-2h-k (139-140)
Φ proportional system from whirling square rectangle IV-3 (141-146)
divide a line in golden section IV-4 (147-148)
how to draw golden mean proportional dividers IV-15 (164-168)

Numbers in (red) refer to pages in the workbook *Infinite Measure*

HIGHLY RECOMMENDED WORKBOOK:

Fletcher, Rachel (2013). *Infinite Measure: Learning to Design in Geometric Harmony with Art, Architecture and Nature* (GFT Publishing).

RECOMMENDED READING:

Fletcher, Rachel (2003). Thomas Jefferson's Rotunda at the University of Virginia, *Nexus Network Journal,* vol. 5 no. 2 (October 2003), 7-50.
http://link.springer.com/article/10.1007/s00004-003-0015-y

ICAA WEBSITE: www.classicist.org/articles/introduction-to-architectural-proportion-part-i/