ARCHITECT AND HISTORY

Human experience is shaped by the built environment. This course introduces students to the interrelated fields of architecture, art history, and engineering and explores great architectural monuments from the ancient to the modern period, from India across the Mediterranean and Europe to the US. The focus will be on understanding these works in their structure and function, both as products of individual ingenuity and reflections of Zeitgeist. Questioning these monuments from a present-day perspective across the cultures will be an important ingredient, as will be podium discussions, guest lectures, excursions, and all kinds of visualizations, from digital walkthroughs to practical design exercises. No prerequisites.

Regularly taught in fall term, this course fulfills Sector IV, Humanities and Social Sciences, and it satisfies History of Art 100-level course requirements. There is only ONE recitation in this course, attached directly to Friday's class at 2-3 pm, in order to provide sufficient time for practica and field trips.

COURSE STRUCTURE

week 1

Sep. 9, 11: ‘Ancient vs. Modern’ – structural elements and principles; comparing and contrasting (key approach); the 'right angle' to look at architecture

- PARTHENON, Athens (Iktinos, 440s BC); cf. NASHVILLE PARTHENON (1920s)
- VILLA SAVOYE, near Paris (Le Corbusier, ca. 1930); cf. FARNSWORTH HOUSE, near Chicago (Mies v.d. Rohe, ca.1950)

* reading: Stuart and Revett, Antiquities of Athens (1762 ff.), esp. intro to vol.1
* basic reading throughout class: The Annotated Arch!

NB! no recitation this Friday; class ends at 2 pm.

week 2

Sep. 14, 16, 18: ‘Post and Lintel, Arch and Dome’ – stylobate to cornice, formal logic; tectonic and dynamic systems, visible and 'hidden' forces; push/pull: pressure/tension; lateral thrust; our analytical tools: observing, sketching, verbalizing

- PARTHENON and ACROPOLIS (PROPYLEA: Mnesikles, 430s BC, with TEMPLE OF NIKE; ERECHTHEION, ca. 420s ff.)
- PANTHEON, Rome (ca.120 AD, span 43 m) vs. PARTHENON (span 10.5 m) cf. TEMPLE OF MARS ULTOR (Augustus, 10s BC)

* reading: Vitruvius, De architectura (ca. 25 BC), esp. book 1.1-3, books 3 & 4
  Le Corbusier, Vers une architecture (1922)

Friday Special (9/18): excursion to SECOND BANK and MERCHANTS’ EXCHANGE, Philadelphia (Strickland, ca.1820/1830s)
week 3  
Sep. 21, 23, 25: 'Structure vs. Surface' – body building vs. metaphysical architecture; perceptions of buildings; stereometry, stereotomy; pendentive

- PANTHEON vs. HAGIA SOPHIA, Constantinople (Anthemios, Isidoros, 530s/50s AD, span 31 m)

* reading: Procopius, De aedificiis (6th c.AD) – handout

O’Gorman, ABC of Architecture: 'firmitas'

**Friday Special (9/25): discussion of De architectura vs. Vers une architecture announcing: 1-page assignment

week 4  
Sep. 30, Oct. 2: 'Language of Architecture' – trabeated vs. arcuated systems; playing with the orders and stacking them; paradigm and revival

NB! no Monday class (9/28) – to be made up on 12/4.

- ATTALOS STOA, Athens (ca.150 BC)
- COLOSSEUM, Rome (70s AD)
- CANCELLERIA, Rome (1480s-90s); Pal. RUCELLAI, Florence (Alberti, 1440s-50s)
- St. PETER's, Rome (cupola: Michelangelo, 1540-60s, span 42 m)

* reading: Summerson, Classical Language

**Friday Special (10/2): excursion to GIRARD TRUST Building (McKim etc, 1900s, span 25 m) and FINE ARTS ACADEMY (Furness, 1870s), Philadelphia.

week 5  

- NOTRE DAME, Paris (1160s-1240s, span 10 m)
- REIMS cathedral, near Paris (1210 ft.), cf. Villard d’Honnecourt
- BEAUVAIS cathedral, near Paris (1220s ff.–1600s, span 15 m)

* reading: Villard d'Honnecourt, Carnet (1220s/30s)

O’Gorman, ABC of Architecture; Salvadori, Why buildings stand up

**Friday Special (10/9): film on AMIENS cathedral, near Paris (1220s-80s) announcing: architectural sketch (2 pg.)

week 6  
Oct. 12, 14: 'Periods, and -isms' – taste, style, epoch; continuity, discontinuity, and revival; style as 'predominant formal language’ (instructor: M. Andrews)

- LORSCH, abbey gate house, Germany (770s),
  cf. ARCH OF CONSTANTINE (Rome, ca. 300)
- PALATINE CHAPEL, Aachen (Odo von Metz, ca.800, span 15 m)

Carolingian – re-connecting with Roman Antiquity

  cf. Early Islamic: CAIROUAN, GREAT MOSQUE, Tunisia (ca.800);
  CORDOBA, GREAT MOSQUE, Spain (ca.800–900s)

- ST. MICHAEL, Hildesheim (1010-30s); cf. S.PAOLO (Rome, ca. 400)

Romanesque – the 'Roman' style
• S. GIORGIO MAGGIORE, Venice (Palladio, 1560s ff.)
  Renaissance – Antiquity reborn
• S. CARLO (4 Fount.), Rome (Borromini, 1630s-60s)
  Baroque – Antiquity twisted
• S. SULPICE (facade), Paris (Servandoni, 1730s-50s)
  Neo-Classicism – Antiquity 'truly' revived: back to basics!

Wednesday (10/14): **announcing 4-page paper ('First Paper')**
NB! no Friday class (10/16) – to be made up on 12/14.

*fall break, 10/17-19*

week 7  Oct. 21, 23: ‘**Periods and -isms**’ – continued; the 'leading task' of building
• PIAZZA d'ITALIA, New Orleans (Moore, 1970s)
  Post-Modernism – 'forbidden' plays (with Antiquity)
• 'PLAIN HOUSING', Amsterdam; VILLA d’AVA, St. Cloud/ France;
  FUKUOKA Project, Fukuoka/Japan (all Koolhaas, 1990s)
  GEHRY HOUSE, St. Monica (1970s); DUTCH OFFICE, Prague (1990s); BILBAO
  Museum, Spain (1990s); DISNEY HALL, L.A. (compl. 2003; all Gehry)
  Deconstructivism – 'chaotic' plays: back to basics! Where are we now?
* reading: *NewsWeek* article on Koolhaas – handout

Friday (10/23): **MIDTERM EXAM (1-3 pm) – mark this mandatory date!**

week 8  Oct. 26, 28, 30: ‘**How To ...**' – plans and planning of buildings
• DIDYMA, Temple of Apollo, Turkey (3rd c.BC ff.)
• PANTHEON (2nd c. AD; bell towers: Borromini, 1600s)
• COLOGNE CATHEDRAL (1250s ff.–19th c.); YORK CATHEDRAL (13\textsuperscript{th} c.)
* reading: *Sc. American* article on Pantheon – handout

**Friday Specials** (10/30): film on BILBAO Museum;
  design exercise "shaping a square" (**Practicum I**)

week 9  Nov. 2, 4, 6: **Numbers and Proportions** – 'calculating’ a building;
  proportion and module; transmission of design; role of treatises
• Polycleitos' *Canon* and *Doryphoros* (5th c. BC)
• ‘Vitruvian Man’ (Da Vinci, 1480s), cf. R. Mapplethorp, 1980s
• C. Cesariano’s *Vitruvius* (1521) and Milan cathedral ((1380s-1480s)
• Palladio, *Quattro libri dell'architettura* (1570) and
  VILLA ROTONDA, Vicenza (1550s-90s)
  cf. Alberti (1485), Serlio (1537 ff.), Vignola (1562)
• Le Corbusier's *Modulor* (1950s) and
  L'UNITE D'HABITATION, Marseilles (ca. 1950)
* reading: Pollitt's article on Polykleitos – handout
Palladio, Quattro libri

**Friday Special (11/6):** excursion to PMA, Philadelphia (Borie, Trumbauer, and Zantzinger, 1910s-20s) and FAIRMOUNT WATERWORKS (Graf, 1810s)

**week 10**

Nov. 9, 11, 13: '**Constructing Curves and Cupolas**' – intended 'deviations' and refinements, entasis; semicircular/pointed arch and parabola; catenary and structural engineering; constructing and rescuing domes; inclined supports

- DIDYMA (*entasis* curve, 3rd c. BC)
- ST. PETER'S (rescue operations: Poleni, *Memorie istoriche della gran cupola del tempio Vaticano*, 1748)
- ST. PAUL'S, London (Wren, 1670s-1700s, span 31 m)
- US CAPITOL, cupola (Walter, ca. 1860, span ... m)
- SAGARDA FAMILIA, Barcelona (Gaudi, 1880s–pres.)
- PALAZZETTO / PALAZZO DELLO SPORT (span 100 m), Rome (Nervi, 1950s/60s)

* reading: *Sc.American* article on Didyma – handout
Poleni, *Memorie*

**Friday Special (11/13):** constructing a curve (**Practicum II**: instructor M. Andrews)
announcing: **5-page paper** ('Second Paper')

**week 11**

Nov. 16, 18, 20: '**Naissance of Renaissance**' – emergence and evolution of a period. Pointed arch and 'quinto acuto'

"*Structure and emulation, not style --> Renaissance"*

- VITRUVIUS' rediscovery (ca.1420, St.Gall); cf. Vitruvian Man
- FOUNDLING HOSPITAL, Florence (Brunelleschi, ca.1420)
- S. MARIA DEL FIORE, Florence (beg. 1290s; Campanile: Giotto, 1330s-50s):
  - cupola (ca.1420-30s, span 43 m! 1440s lantern, Brunelleschi)
  - cf. S. Miniato, Florence (ca.1020)
    - MILAN cathedral (1380s-1480s, with Cesariano)
- S. PIETRO IN MONTORIO, Rome (Bramante, ca.1500)
- ST. PETER'S, Rome (Bramante, Michelangelo, and Della Porta, 1500s)
  - cf. VILLA ROTONDA (Palladio)

"*Baroque – twisted Renaissance"*

- BALDACHINO, St.Peter's (Bernini, 1620-30s)
- ST. PETER'S PIAZZA, Rome (Bernini, 1650s-60s)

* reading: King, *Brunelleschi's Dome*

**Friday Special (11/20):** Rare Book Exploration: Van Pelt, Fisher Fine Arts, Architectural Archives (Vitruvius, Desgodetz, Borromini, Haviland, et al.)

**week 12**


- Early Islamic: DOME OF THE ROCK, Jerusalem (ca. 690, span 20 m)
**Early and Classical Ottoman Turkey**

- **GREEN MOSQUE**, Iznik; **GREEN MOSQUE**, Bursa (ca. 1400)
- HAGIA SOPHIA – the turning point
- **SEHZADE MOSQUE**, Istanbul (Sinan, 1540s, span 19 m)
- **SÜLEYMANİYE**, Istanbul (Sinan, 1550s, span 27 m)
- **SELIMİYE**, Edirne (Sinan, 1560s-70s, span 31 m!)

**Islamicate architecture in India**

- **TAJ MAHAL**, Agra (1630s-40s)
- **GOL GUMBAD**, Bijapur (ca.1660s, span 38 m)

* reading: Sinan – handout

**Thanksgiving break, 11/26-29**

**week 13**

Nov. 30, Dec. 2, 4: '**19/20th c. Ambivalences**' – continuations, 'affinities', and revolutions; Modern vs. Classic, or 'Modern Classic'?

- **ALTES MUSEUM**, Berlin (Schinkel, 1820s)
- **WERDER CHURCH**, Berlin (Schinkel, 1820s)
- **BAUAKADEMIE**, Berlin (Schinkel, 1830s)
- **BRITISH MUSEUM**, London (Smirke, 1820s ff., facade 1840s, Rdg. Rm.1850s/60s +1990s by Foster)
- **CRYSTAL PALACE(s)**, London and Sydenham (Paxton, 1850s)
- **AEG TURBINE FACTORY**, Berlin (Behrens, 1900s)
- **GERMAN EMBASSY**, St.Petersburg (Behrens, 1910s)
- **WEISSENHOF** house, Stuttgart (Behrens, 1920s)
- **PARK GUELL**, Barcelona (Gaudi, 1900s-10s)
- **SAGRADA FAMILIA**
- **CASA MILA** (La Pedrera), Barcelona (Gaudi, 1900s)
- **GERMAN PAVILLION**, Barcelona (Mies v.d.Rohe, 1920s, reconstr. 1980s)
- **FARNSWORTH Hs.**
- **NATIONAL GALLERY**, Berlin (Mies, 1960s)
- **AT&T Building**, N.Y. (Johnson, 1970-80s)


**Friday Special** (12/4): excursion to PSFS BUILDING, Philadelphia (Howe and Lescaze, 1930s) – NB: extended until 4:30 pm!

**week 14**

Dec. 7, 9: '**Urban Context**' – city planning in old and new worlds

- **PHILADELPHIA** (orig. plan: Penn, 1680s; B.FRANKLIN PARKWAY 1900s-20s, final design: Gréber, 1910s)
- **NEUF-BRISACH**, Alsace (Vauban, ca.1700)
- **PALMANOVA**, Italy (Scamozzi, ca.1600)
- **NEW HAVEN** (nine-square, 1630s)
- **BOSTON** (18th c., 'grown city')
- **NEW YORK** (18th/19th c. ('grown' and 'gridded' city, esp. Commissioner's Plan, 1811)
- **WASHINGTON, D.C.** (L'Enfant, 1790s, cf. VERSAILLES: LeNotre, 1660s-80s)
final exam scheduled by the registrar: Dec. 21 (Mo), 12-2 pm.

COURSE REQUIREMENTS

PREREQUISITS

• regular attendance, incl. all excursions and practica
• homework readings, sketchings, and (short) write-ups
• keeping notebook (ungraded; checked upon presentation)
• intensive image study (on Blackboard website, shortly after each class)

PAPERS

• 1-page paper ungraded, but must be accepted
• architectural sketch (ground plan: 1-2 pg.) with explanatory notes ungraded, but must be accepted
• 4-page paper (with additional sketches and illustrations) 25%
• 5-page paper (with additional sketches and illustrations) 25%

EXAMS

• mid-term exam 25%
• final exam 25%

NB! • There will be NO MAKE-UPS for either exam, unless in case of death in the immediate family or serious illness of the student; proof is required in either case.
• Absence from mid-term and final exams due to athletic commitments will not be granted under any circumstance.
• Missed practica (I-II) must be made up and presented.

BIBLIOGRAPHY
* note-book (letter size, blank pages, stich-bound, hard cover): **mandatory!** $12.–

- **recommended to buy** (available at BOOK CENTER, 34th St.)

* R. King, *Brunelleschi’s Dome* (N.Y. 2000). $13.–

- **special aspects** (on reserve, Fisher FA Library)

D.P. Billington, *The Tower and the Bridge. The New Art of Structural Engineering*
• **general** (on reserve, Fisher FA Library)


