Urban morphology curriculum

i. Elements of urban form

ii. Agents and processes of change

iii. History of urban form

iv. Contemporary urban forms

v. The study of urban form: different approaches

vi. From description to prescription

vii. Cross-disciplinary links with different bodies of knowledge
1. Elements of urban form

   i. Urban tissue
   ii. Natural context
   iii. Streets and street blocks
   iv. Plots and plot series
   v. Buildings
   vi. Other elements (rooms or spaces, structures, materials)
Urban tissue

Brasília Brazil
Djenné Mali
Venice Italy
New York USA
Barcelona Spain
Paris France
Rome Italy
Sana’a Yemen
Machu Picchu Peru
Masada Israel
Saint-Michel France
Lhasa Tibet
Groningen Netherlands
Venice Italy
Varanasi India
Hong-Kong China

Natural context
Broadway (New York)  
Champs-Élysées (Paris)  
Via Rinaldini (Siena)  
Reguliersgracht (Amsterdam)

Streets and street blocks
Plots and plot series. Barcelona, New York, Rome

Buildings. Chicago, Djenné, Stockholm, New York
2. Agents and processes of change

i. Agents responsible for the transformation of urban landscapes

ii. Processes of transformation of urban landscapes
Agents responsible for the transformation of urban landscapes

Developers
Architects
Property owners
Planners
Politicians
Processes of transformation of urban landscapes

Planning (public activity)

Development control (guidance of private activity)
3. History of urban form

   i. The Greek city
   ii. The Roman city
   iii. The Medieval city
   iv. The Renaissance city
   v. The Baroque city
   vi. The 19th century city
   vii. The 20th century city
Miletus

The Greek city

Timgad

The Roman city

Aigues Mortes

The Medieval city
Palmanova - The Renaissance city

Vatican City - The Baroque city

Vienna - The 19th century city
The 20th century city
4. Contemporary urban forms

   i. New York

   ii. Rome

   iii. Sana’a
5. The study of urban form: different approaches

i. Classics in urban morphology

ii. Different morphological approaches

iii. Comparative studies
i. Classics in urban morphology

Saverio Muratori  M.R.G. Conzen  Kevin Lynch  Gordon Cullen  Jane Jacobs  Aldo Rossi  B. Hillier, J. Hanson
ii. Different morphological approaches

*Conzenian School*

Origins in German geography (Schluter, Geisler)

Michael R.G. Conzen
Universities of Manchester and Newcastle upon Tyne
*1960 - Alnwick Northumberland: a study in town-plan analysis*

Jeremy Whitehand
Universities of Newcastle upon Tyne, Glasgow and Birmingham
*1974 - Urban Morphology Research Group (UMRG) – University of Birmingham*

http://www.birmingham.ac.uk/research/activity/urban-morphology/index.aspx

The tripartite division of the townscape:

i. Town plan
   streets
   plots
   block plans of buildings

ii. Building fabric

iii. Land and building utilization
Muratorian School

Urban morphology and building typology

*Saverio Muratori* 1910-73
Universities of Venice and Rome
Concepts: Type, tissue, organism, operative history
Studies on Venice (1959) and Rome (1963)
The importance of context (space and time)

*Gianfranco Caniggia* 1933-87
Universities of Rome, Reggio Calabria, Genoa and Florence
Study on Como (1963)
Venice: Quartiere di S. Bartolomio

11th and 12nd centuries

20th century
Space syntax

1970s  
*Unit for Architectural Studies*  
University College London

1984.  
**Bill Hillier, Julienne Hanson**  
*The social logic of space*  
a theory of space as a dimension of social life

1996  
Bill Hillier  
*Space is the machine*

A theory of space as a dimension of social life

A focus on the street system of a city…

… on the system where people move and interact
Cartography (street system)

Design of the axial lines

Analysis of the axial map
Other quantitative approaches

Michael Batty
Fractals
Cellular automata
Agent-based models
Complexity theory

1994. *Fractal cities: a geometry of form and function*
2005. *Cities and Complexity*

Centre for Advanced Spatial Analysis (CASA)
http://www.bartlett.ucl.ac.uk/casa

Environment and Planning B: Planning and Design
http://www.envplan.com/B.html
Fractals
Mandelbrot (1982)

Milan cathedral
Temple in India
6. From description to prescription

i. Urban morphology and planning

ii. Urban morphology, building typology and architecture
i. Urban morphology and planning

[Map of Mennecy with labels and outlines]

**Outline**
- Frontage dimension: min 8; max 15;
- Total plot area: min 135m²; max 250m²;

**Buildable Area**
- Buildable area: up to 30m from frontage;
- Coverage: up to 80% of buildable area.

**Arrangement**
- Type 1A: building type 2.1 or 2.1v1;
  - Facade on frontage;
  - Gables on lateral plot boundaries;
  - With or without porte cochère.
1998. Trafalgar Square Norman Foster

Before

After
2000. Millennium Bridge. Norman Foster
ii. Urban morphology, building typology and architecture

Saverio Muratori

Cortoghiana – Sardinia. 1939

Rome (Tuscolano). 1954

Pisa. 1947

Bologna. 1957
Gianfranco Caniggia

Teramo. 1963

Genoa (Costa degli Ometti). 1982
7. Cross-disciplinary links with different bodies of knowledge

i. Urban morphology and society

ii. Urban morphology and economy

iii. Urban morphology and environment
iii. Urban form and energy

Production and transformation of energy

Energy consumption – buildings, transports and industry

Carbon dioxide emissions, Carbon capture and storage

London                         Toulouse                            Berlin

passive zones

urban horizon angle
Teaching urban morphology: definition of a curriculum

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