

CP234207 – Urban Morphology

Module Name	Urban Morphology
Module level, if applicable	Basic BoURP
Code, if applicable	CP234207
Subtitle, if applicable	-
Course, if applicable	Urban Morphology
Semester(s) in which the module is taught	2 nd Semester
Person responsible for the module	Prananda Navitas
Lecturer	I Dewa Made Frendika Septanaya Prananda Navitas Anoraga Jatayu
Language	Indonesian, English
Relation to curriculum	Compulsory Courses for undergraduate program in Urban and Regional Planning
Type of teaching, contact hours	M1: Group discussion M6: Project-based learning Lecture (Face to face lecture): 1.5 hours x 12 weeks per semester
Workload	Regular (2 SKS) Class: 1.5 hours x 12 weeks = 18 hours Structured activities: 2.83 hours x 12 weeks = 34 hours Independent Study: 2.83 hours x 12 weeks = 34 hours Exam: 1.5 hours x 4 time = 6 hours Total = 92 hours
Credit points	2 SKS ~ 3.2 ECTS
Requirements according to the examination regulations	Registered in this course Minimum 80% attendance in this course
Recommended prerequisites	-
Module objectives/intended learning outcomes	General Knowledge: 1. Able to understand the theoretical concepts of urban and regional planning in the aspects of urban studies, regional studies, coastal studies, spatial science, planning science, data science, built

	<p>environment design, infrastructure and transportation systems, environmental management, social systems, economics, management studies , and research/projects.</p> <ol style="list-style-type: none"> 2. Able to understand spatial and non-spatial planning methods in making decisions in the field of urban and regional planning. 3. Able to understand the techniques and processes of urban and regional planning qualitatively, quantitatively, and spatial modeling (geographical information systems) and presentation techniques. <p>Specific Knowledge:</p> <ol style="list-style-type: none"> 1. Students are able to understand the history and stages of urban development as well as the principles, objectives and scope of urban morphology studies. 2. Students are able to understand various schools of thought and basic concepts of urban morphology. 3. Students are able to understand the physical and non-physical aspects that influence the process of forming and transforming the physical city. 4. Students are able to understand various approaches in the study of urban morphology. 5. Students are able to understand qualitative and quantitative approaches in analyzing urban patterns and shapes. 6. Students are able to understand the impact or influence of urban morphology.
<p>Content</p>	<ol style="list-style-type: none"> 1. School of thoughts in urban morphology. 2. Basic concepts of urban morphology. 3. Physical aspects that affect the process of formation and physical transformation of the city. 4. Non-physical aspects that affect the process of formation and physical transformation of the city (social, cultural, religious; economic). 5. Non-physical aspects that affect the process of formation and physical transformation of cities (defense, political ideology). 6. Various approaches in the study of urban morphology. 7. Qualitative approach in analyzing urban patterns and forms (surface, boundary, and openings; multi-level diagrams; urban tissue). 8. Qualitative approach in analyzing urban patterns and forms (visual-historical urban morphology). 9. Quantitative approach in analyzing urban patterns and forms (Spatial Metric and Space Syntax).

	<p>10. Quantitative approach in analyzing city patterns and forms (Morphological Index System; Deep Learning; Landscape Dynamics and Patterns; Fractal Dimension).</p> <p>11. Impact of urban morphology on environmental quality.</p> <p>12. Impact of urban morphology on energy needs and socio-cultural patterns.</p> <p>13. The impact of urban morphology on the physical form of a sustainable city.</p>															
<p>Study and examination requirements and forms of examination</p>	<p>4 assessments:</p> <table border="1" data-bbox="704 621 1265 879"> <thead> <tr> <th>Evaluation</th> <th>Method</th> <th>Weight</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Mid Semester Exam</td> <td>30%</td> </tr> <tr> <td>2</td> <td>Final Exam</td> <td>35%</td> </tr> <tr> <td>3</td> <td>Weekly Presentation</td> <td>10%</td> </tr> <tr> <td>4</td> <td>Critical Review</td> <td>25%</td> </tr> </tbody> </table> <p>1. <i>Mid Semester Exam – week 8</i></p> <p>2. <i>Final Exam – week 16</i></p> <p>3. <i>Weekly Presentation – week 5 until 7 and week 9 until 15</i></p> <p>4. <i>Critical review – week 10</i></p>	Evaluation	Method	Weight	1	Mid Semester Exam	30%	2	Final Exam	35%	3	Weekly Presentation	10%	4	Critical Review	25%
Evaluation	Method	Weight														
1	Mid Semester Exam	30%														
2	Final Exam	35%														
3	Weekly Presentation	10%														
4	Critical Review	25%														
<p>Media employed</p>	<p>Classical teaching tools with white board and power point presentation, audiovisual, zoom meeting, ITS online classroom.</p>															
<p>Reading list</p>	<p>Main reference:</p> <ol style="list-style-type: none"> 1. Kropf, Karl. (1996), Urban Tissue and The Character of Towns. Urban Design International, 1, p.247-263. https://doi.org/10.1057/udi.1996.32 2. Kropf, Karl. (2017), The Handbook of Urban Morphology, First Edition. West Sussex: John Wiley & Sons Ltd. 3. Lynch, Kevin. (1960). The Image of The City. Massachusetts: The MIT Press. 4. Oliviera, V. (2016). Urban Morphology: An Introduction to the Study of the Physical Form of Cities. Springer: Switzerland. Oliviera, V. (2018). Teaching Urban Morphology. Springer: Switzerland <p>Supporting reference:</p> <ol style="list-style-type: none"> 1. Elzeni, M.M., ELMOkadem, A.A., & Badawy, N.M. (2022). Impact of urban morphology on pedestrians: A review of urban approaches. Cities, vol.129. https://doi.org/10.1016/j.cities.2022.103840 															

2. Jacobs, Jane.(1961), *The Death and Life of Great American Cities*. New York: Random House.
3. Chen, W., Wu, A.N., & Biljecki, F. (2021). Classification of urban morphology with deep learning: Application on urban vitality. *Computers, Environment and Urban System*, 90. <https://doi.org/10.1016/j.compenvurbsys.2021.101706>.
4. Mobaraki, A., & Vehbi, B.O. (2022). A conceptual model for assessing the relationship between urban morphology and sustainable urban form. *Sustainability*, vol.14, 5. <https://doi.org/10.3390/su14052884>
5. Li, B., Liu, Y., Xing, H., Meng, Y., Yang, G., Liu, X., Zhao, Y. (2022). Integrating urban morphology and land surface temperature characteristics for urban functional area classification. *Geo-spatial information science*, vol. 25, 2, p.337-352.
6. Panerai, P., Castex, J., & Depaule, J-C. (2004). *Urban forms: The death and life of the urban block*. Architectural Press: Boston.
7. Sadeghi, G., & Li, B. (2019). Urban morphology: Comparative study of different schools of thought. *Current urban studies*, 7. https://www.scirp.org/pdf/cus_2019120414130218.pdf.
8. Santos, L.G.R., Nevat, I., Pignatta, G., & Norford, L.K. (2021). Climate-informed decision-making for urban design: Assessing the impact of urban morphology on urban heat island. *Urban climate*, vol.36. <https://doi.org/10.1016/j.uclim.2021.100776>
9. Shareef, S. (2021). The impact of urban morphology and building's height diversity on energy consumption at urban scale. The case study of Dubai. *Building Environment*, vol.194. <https://doi.org/10.1016/j.buildenv.2021.107675>
10. Tong, S., Wong, N.H., Tan, C.L., Jusuf, S.K., Ignatius, M., Tan, E. (2017). Impact of urban morphology on microclimate and thermal comfort in northern China. *Solar Energy*, vol.155, p.212-223.
11. Urquizo, J., Calderon, C., & James, P. (2017). Metrics of urban morphology and their impact on energy consumption: A case study in the United Kingdom. *Energy Research & Social Science*. Vol.32, p.193-206.
12. Wei, R., Song, D., Wong, N.H., & Martin, M. (2016). Impact of Urban Morphology Parameters on Microclimate. *Procedia Engineering*, vol.169, p.142-149.

	<p>13. D'Acci, L. (2019). <i>The Mathematics of Urban Morphology</i>. Basel: Birkhäuser. https://doi.org/10.1007/978-3-030-12381-9</p> <p>14. Parolek, D., Parolek, K., Crawford, P.C. (2008). <i>Form-Based Codes: A Guide for Planners, Urban Designers, Municipalities, and Developers</i>. New Jersey: John Wiley & Sons, Inc.</p>
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