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INTERNATIONAL
UNDERGRADUATE PROGRAM

URBAN AND REGIONAL PLANNING

Department of Architecture and Planning
Faculty of Engineering
Universitas Gadjah Mada

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Profile Of The Study Program

Vision

To become the frontier of Urban and Regional Planning study program in Asia, focusing on spatial engineering imbued with humanitarian values, empowerment, and justice to contribute for the sustainability of human civilization.

Mission

1. Provide education to produce a professional urban and regional planner
2. Engage in academic developments to bridge the gap between planning theory and practice in urban and regional planning field
3. Actively contribute to the development of human civilization through urban and regional planning

Programme educational objective

Urban and regional planning study program is striving to produce a professional spatial planner with high integrity and proficiency in research and innovation and adept to recent and future planning issues

Programme outcomes

Graduates of urban and regional planning study program are expected to:

1. Adhere to moral values as mandated by Pancasila (national identity and philosophy) and religious beliefs
2. Able to work individually and in a multidisciplinary team adhering to academic integrity
3. Able to have logical, critical, creative, and systematic thinking and contextualize it
4. Able to develop insights and perform well in a professional environment
5. Able to elaborate and communicate ideas in a professional network at local, national, and global levels
6. Have a proficient understanding and able to apply urban and regional planning theories and concepts, including able to contextualize them into empirical practices
7. Mastering the norms, standards, procedures, criteria, techniques, and methods for urban and regional planning
8. Able to formulate planning issues and the appropriate concepts to address them, both spatial and non-spatial, in an urban and regional planning context
9. Able to apply innovative formal and informal planning procedures in formulating alternatives and decision making processes
10. Able to recommend solution through spatial planning interventions in a communicative, comprehensive, and sustainable manners

Structure Of The Curriculum

The curriculum of the urban and regional planning program comprises of (minimum) 151 credits that normally can be completed within 4 years. Mandatory courses cover 137 credits and elective courses cover 14 credits. Students may take up more electives if their grade points allow for more credits in a given semester.

The structure of the curriculum can be seen in Figure 1. Studio is the main backbone and must be taken in the first 6 semesters in a predefined sequence. In the first two studios, students will be introduced to the concept of places and spaces at various scales. Starting on the third semester, each studio will produce a planning document: studio in the third semester focuses on the neighbourhood scale, the fourth semester works on the urban (city) scale, the fifth semester explores the regional scale, and the sixth semester specializes on certain planning topic (thematic). Following the national curriculum for Indonesia higher education, students have to take four mandatory courses (namely *Bahasa Indonesia*, *Pancasila*, Civics, and Religion) in the 4th, 5th, or 6th semester (ideally on the 6th semester as in the curriculum). At the end of the semester, students have to take Community Service and three of its supporting courses (total 10 credits, managed by the University) and Final Project. The four mandatory courses and Community Service are conducted in *Bahasa Indonesia*. When taking Final Project, students are not allowed to take any theoretical courses (except Community Service and its supporting courses). In the Final Project, students can choose whether to either work on a research or a planning project.

Students of international undergraduate program must participate in the International Exposure program, taken during either Semester 6 or semester 7 (Scheme 1) or Semesters 6 and 7 (Scheme 2). Credits taken from partner universities can be converted to the UGM's curriculum based on the working hours required to complete certain courses.

List of elective courses (2 credits each):

1. Real estate planning and management
2. Urban housing management and policy
3. Transit oriented development
4. Urban regeneration
5. Smart city
6. Landscape planning and design
7. Sustainable tourism planning
8. Rural planning and development
9. Public transportation planning
10. Infrastructure management
11. Management of urban informal sector
12. Urban *kampung*
13. Maritime spatial planning
14. Resilient city
15. Place branding
16. Environmental valuation
17. Space and behavior

Figure 1. Structure of the curriculum

Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6	Semester 7	Semester 8
Spatial Studio: Basics	Data Analytics Studio	Neighbourhood Planning Studio	Urban Planning Studio	Regional Planning Studio	Thematic Planning Studio	Internship	Community Service
4 SKS	4 SKS	5 SKS	5 SKS	5 SKS	4 SKS	3 SKS	4 SKS
Methods and Tehniques for Spatial Studio	Methods and Techniques for Data Analytics	Methods and Techniques for Neighbourhood Planning	Methods and Techniques for Urban Planning	Methods and Techniques for Regional Planning	Research Methods	Pre-Final Project	Final Project
2 SKS	2 SKS	2 SKS	2 SKS	2 SKS	3 SKS	3 SKS	6 SKS
Spatial Theory	Demographics	Environment and Resources	Urban Economics	Regional Economics	Planning Ethics	Elective 3	Supporting Course for Community Service 1
3 SKS	2 SKS	3 SKS	2 SKS	2 SKS	2 SKS	2 SKS	2 SKS
Planning Theory	Social and Development Theory	Urban Design	Development Management and Financing	Monitoring and Evaluation	Bahasa Indonesia	Elective 4	Supporting Course for Community Service 2
3 SKS	2 SKS	2 SKS	3 SKS	2 SKS	2 SKS	2 SKS	2 SKS
Planning Process	Site and Landscape Planning	Land Use and Spatial Planning	Transportation and Logistics Planning	Planning of Infrastructure System: Energy	Pancasila	Elective 5	Supporting Course for Community Service 3
2 SKS	3 SKS	3 SKS	3 SKS	2 SKS	2 SKS	2 SKS	2 SKS
Planning Information System	Mathematics for Planning	Planning of Infrastructure System: Clean Water and Sanitation	Housing and Settlement Development Planning	Planning Law	Civics	Elective 6	
2 SKS	3 SKS	2 SKS	2 SKS	2 SKS	2 SKS	2 SKS	
Development Issues	Community Development	Planning of Infrastructure System: Green Infrastructure	Planning of Infrastructure System: Solid Waste	Statistics	Religion	Elective 7	
2 SKS	2 SKS	2 SKS	2 SKS	3 SKS	2 SKS	2 SKS	
	Engineering Ethics	Creative Thinking for Innovative Planning	Planning of Infrastructure System: Irrigation and Drainage	Elective 1	Elective 2		
	2 SKS	2 SKS	2 SKS	2 SKS	2 SKS		
18 SKS	20 SKS	21 SKS	21 SKS	20 SKS	19 SKS	16 SKS	16 SKS

SKS = Indonesian credit semester

1 sks equals to 170 hours study load (50 minutes teaching or classical learning, 60 minutes planned activities, e.g., working on assignments, and 60 minutes independent study)

Syllabus

I. First Semester

Spatial studio: Basics

This course introduces students to various planning scales and how spatial phenomenon differ at each scale (i.e., neighbourhood, city, and region). Students mainly work in group to observe spatial dynamics and learn how to perform a field survey and observation at different scales. For each scale, students have to present the result of their observation through maps, sketches, diagrams, and a short or brief description. In this course, each group will be assigned a supervisor to assist in spatial observation and presentation. Course learning outcomes:

- Able to observe spatial dynamics at various scales and explain them using relevant theories or concepts
- Able to identify spatial characteristics and elements at different scales
- Able to explain the results of field observation and how to use them in urban and regional planning
- Able to present and communicate the results of field observation at different scales
- Able to work in team and individually

Methods and techniques for spatial planning

This course equips students with methods and techniques for understanding spatial dynamics and phenomenon at different scales. Parallel with Spatial Studio: Basics, the course learning outcomes are:

- Able to identify and explain elements and factors affecting certain spatial dynamics or phenomenon at different scales and relate them to relevant theories or concepts
- Able to utilize various methods and techniques for understanding spatial characters at different scales
- Able to use appropriate methods and techniques for data collection at certain spatial scale (able to differentiate between neighbourhood, urban, and regional scale)

Spatial theory

This course provides the theoretical understanding of spatial patterns and processes, both from classical (e.g., central place, optimum location theory, spatial interaction) and contemporary perspectives (e.g., urban village theory by Mc.Gee, regional specialty of Michael Douglas, and Rondinelli's village-town interaction theory). Topics covered in this course are: (1) terminologies and elements of urban and regional space, (2) spatial manifestations (spatial structure and organization, space vs place, interaction between various actors and activities in space), (3) the development of spatial theory and concept, (4) spatial engineering methods and approaches, and (5) spatial planning and strategies (policy and institution). Course learning outcomes:

- Able to explain various spatial concepts in cities and regions
- Able to identify spatial problems and phenomenon
- Able to decompose relations of people, place, and activity and provide critical analysis of such relations

Planning theory

This course provides students with the understanding of the history and development of planning theories, paradigms, and practices, covering theory *of* planning, theory *in* planning, and theory *for* planning. Topics in this course covered blueprint planning, disjointed incremental planning, comprehensive planning, advocacy planning, participatory planning, and gender issues in planning. Students will also be required to work in group to discuss various planning systems and practices across the globe and the relevance of such concepts in Indonesian context. Course learning outcomes:

- Able to understand, contextualize, and explain various planning paradigms and theories
- Able to examine the development of planning theories at regional and global context
- Able to discuss various planning theories and relate them using empirical evidences

Planning information system

This course offers a systematic mastery of the principles and management of planning information systems to support planning formulation and decision making processes. It covers topics of (1) system approach, (2) utilization of ICT in urban and regional planning, (3) spatial data and models as a real world representation, (4) non-spatial data and information, (5) data source and collection methods, (6) data management in information systems, and (7) GIS – Geographic Information System. Course learning outcomes:

- Able to explain principles and components of a planning information system
- Able to prepare data and information in a correct procedure using a planning information system to produce a good analysis for urban and regional planning
- Able to perform basic operation of GIS-based planning information system and present the results

Planning process

This course provides the understanding of the concepts and processes behind the formulation of spatial plans and development plans. Students will be familiarized with various planning products across scales (e.g., detailed plan, city plan, national plan) using the context of Indonesian cities. Various planning approaches will also be introduced. Course learning outcomes:

- Able to explain and differentiate various approaches affecting a planning process
- Able to explain the process behind the formulation of a regional and city planning and identify problems that may arise during the planning process
- Able to provide critical reflection on certain urban and regional planning process
- Able to communicate and present their ideas about an effective planning process

Development Issues

This course aims for students to have understanding and sensitivity toward issues and problems in the development process, including spatial and sectoral issues and problems in rural and urban areas such as poverty. Critical theories of development and case studies on multi-faceted development issues are introduced in this course. Course learning outcomes:

- Able to identify priority of development issues at various levels (i.e., local and global)
- Able to explain development paradigms and relate them to certain development issues
- Able to recommend practical insights to address development issues

II. Second Semester

Data analytics studio

This course focuses on data collection and analysis required at different scales, i.e., neighbourhood, urban, and regional scale, to support a planning process. Both spatial and non-spatial data (e.g., demographic, economic) will be discussed, especially on how they shape planning processes. In this course, students mostly work in group on predefined cases or areas. Course learning outcomes:

- Able to collect spatial and non-spatial data using appropriate methods
- Able to perform analysis and use them as information for spatial planning processes (e.g., overlay) at different scales
- Able to present the results of data analysis in a visually engaging way and easy to understand for public
- Able to work in team and individually

Methods and techniques for data analysis

Parallel to Data Analytics Studio, this course teaches students various methods and techniques for performing data analysis. Topics covered both spatial and non-spatial data analysis at different scales: neighbourhood, urban, and regional scales. Course learning outcomes:

- Able to differentiate data requirement for understanding spatial dynamics and phenomenon at different scales
- Able to use appropriate analysis methods for neighbourhood, urban, and regional scale
- Able to interpret the results of the analysis to support planning processes
- Able to utilize various visualization methods to present the results of data analysis at different scales

Site and landscape planning

This course provides understanding of concepts, processes and techniques for site and landscape planning. Topics covered in this course are: (1) landform, (2) contour - slope, elevation, and transects, (3) site hydrology, (4) microclimate and green structures, (5) visual quality, (6) land suitability analysis, (7) zoning, (8) landform processing (cut and fill), (9) circulation, parking design, and building layout. Course learning outcomes:

- Able to explain elements of site and landscape planning
- Able to interpret contour and landform for the purposes new development or arrangement of residential areas
- Able to arrange site plan / master plan for certain themes (i.e., residential, campus, industrial area or tourism area)

Demographics

This course teaches the basic principles of demographics and how it can be used to assist urban and regional planning. Topics covered in this course include concepts, definitions, and important aspects in demography; the dynamics of demography; and various techniques for demographic analysis to support urban and regional planning. Course learning outcomes:

- Able to explain various definitions and concepts of demography
- Able to identify population problems in cities/regions/countries in a given context
- Able to explain policies to address population problems, especially in Indonesian context
- Able to propose a suitable approach for solving certain population problems

Social and development theory

This course teaches the basics of social and development theories and how they can be used to understand social dynamics in certain urban and regional contexts and how they may influence a planning process. Knowledge and examples of various social engineering are introduced in this course. Topics covered include the understanding of social systems, community concept, social layers, typology of a society, socio-spatial transformations, and contemporary cases of social issues in Indonesia and global context. Course learning outcomes:

- Able to explain social and development theories in relation to process and dynamics in certain urban and regional context
- Able to use social and development theories to support urban and regional planning
- Able to propose practical insights to address certain social and development problems

Mathematics for planning

This course provides understanding and mastering of basic mathematical concepts and its application in urban and regional planning. Topics include limit and continuity, derivatives and its applications, integral, matrix, probabilities, linear equations and program. Course learning outcomes:

- Able to explain basic mathematical concepts and solve basic mathematical problems
- Able to identify variables pertaining to certain urban issues and explain their relations in a mathematical formulation or model
- Able to provide examples on the use of mathematical model to address certain urban and regional issues

Community Development

This course explains concepts and examples of a community development. The first initial weeks cover topics of poverty, social structure/stratification, social ties, social vulnerability, social networks, and social conflict. This is followed by discussions on community development theories, such as participatory planning, community empowerment, and decision-making processes. Cases of community development in Indonesia and abroad will also be elaborated through fieldwork and in-class meetings. Course learning outcomes:

- Able to explain community development theories and contextualize them in a certain context
- Able to identify community development issues
- Able to provide examples of a successful community development project and identify its success factors
- Able to recommend practical insights for a community development project

Engineering Ethics

This course is mandatory for students enrolled at the Faculty of Engineering, UGM. Coordinated by the Faculty of Engineering, students will take the class of Engineering Ethics together with students from other study programs within the Faculty. Course learning outcomes:

- Able to explain engineering ethics as a code of conduct, professional value, and learning competence of the Faculty of Engineering and relate them with real world cases
- Able to have a healthy pride in engineering works and contributions
- Able to apply and implement engineering ethics in society

III. Third Semester

Neighbourhood planning studio

This course provides theoretical understanding and practical experience required for neighborhood planning, covering the subjects of neighbourhood center, neighbourhood transect and connection, mix-use and proximity, density, accessibility and parking, and public spaces. In this course, students will be working in group (7-8 students) to generate a masterplan, though each student also has to individually plan or design on selected or certain topic or area. Course learning outcomes:

- Able to assess a certain neighbourhood using human senses and design precedents
- Able to perform analysis required to generate a neighbourhood masterplan (e.g., overlay)
- Able to create a neighbourhood masterplan and professionally present them (e.g., through 2d map, 3d animation)
- Able to work both in team and individual

Methods and techniques for neighbourhood planning

This course teaches basic principles for conducting a field observation, mapping, data visualization, and spatial analysis required for planning at the neighborhood scale. Topics covered in this course include understanding urban visual fabric, 2d maps (i.e., Nolli, block pattern, and figure ground), sequence of place, image of the city, urban functional fabric (social, economic, and environment), linkage between visual and functional fabric, experiencing and exploring place, and politics of place. Course learning outcomes:

- Able to identify relevant methods and techniques for neighborhood planning
- Able to perform planning assessment at the neighborhood scale
- Able to organize and process data and information required for a neighbourhood planning
- Able to utilize methods and techniques for neighbourhood planning in a certain case

Urban design

This course provides an understanding of urban design as a tool, methods, and profession to build a vibrant urban environment. Students will be introduced to various terminologies used in urban design, including their history, evolution, and development. Throughout this course, students will learn basic elements and dimensions of urban design from prominent scholars (e.g., Hamid Shirvani, Jan Gehl) as well as methods and techniques for urban design. Processes, products, and procedures of urban design will also be discussed in this course. The expected course learning outcomes consists of:

- Able to explain urban design flows, concepts, methods, and applications at various scales
- Able to provide a constructive criticism regarding urban design flows in a certain project or case
- Able to provide urban design recommendation

Land use and spatial planning

This course provides students with basic principles and skills to understand and analyze land use. Topics covered in this course include land changes and development, land suitability and land use analysis techniques, site requirements and land management mechanisms. Course learning outcomes:

Able to explain criteria and indicators for land use analysis (i.e., from the perspective of ecology, economic, ethic, and local policies)

- Able to explain and correctly utilize land regulations in Indonesia and contextualize them in another contexts
- Able to provide a sound and critical assessment on certain land use conditions
- Able to create a simple land use projection model
- Able to analyze land use potentials for urban and regional planning

Environment and resources

This course provides theoretical concepts of environment and resources in relation to the sustainability of cities and regions (i.e., ecosystems, socio-systems, urban ecology). This course also discusses issues of climate, disaster, green infrastructure, and environmental assessment. Course learning outcomes:

- Able to understand and explain the relations between natural resources, environment, and urban and regional development
- Able to explain sustainable development principles in spatial planning context
- Able to perform a simple environmental assessment to identify environmental problems

Planning of infrastructure system: Clean water and sanitation

This course provides the understanding of the principles, process, and techniques related to the provision of clean water and sanitation infrastructure, from neighbourhood units (house connection) to its source (for clean water) and final disposal (for sanitation). Students will learn about basic principles of clean water and sanitation, technical methods for calculating the need (demand) and capacity (supply) of clean water and sanitation infrastructure, various types of clean water and sanitation system, and challenges pertaining to implementation and the sustainability of clean water and sanitation system. Course learning outcomes:

- Able to understand and utilize technical standards for the planning and management of clean water and sanitation system
- Able to identify factors influencing clean water and sanitation system and how to mitigate them in the infrastructure planning and management
- Able to understand and utilize the knowledge of various types of water supply and sanitation system
- Able to provide a sound and critical assessment of a current clean water and sanitation system in the context of urban and regional planning
- Able to analyze demand and supply for clean water and sanitation provision
- Able to formulate recommendations for water supply and sanitation system at various scales (e.g., communities, cities and regions)

Planning of infrastructure system: Green infrastructure

This course explains concepts, principles, technical standards, of green infrastructure as well as introduces examples of green infrastructure projects using cases from Indonesian cities and other countries. Course learning outcomes:

- Able to explain underlying concepts, principles, and standards of green infrastructure and contextualize them with empirical conditions
- Able to use appropriate methods and techniques to analyze capacity and quality of current infrastructure conditions based on green infrastructure concepts
- Able to recommend practical insights to implement green infrastructure in a given context

Creative Thinking for Innovative Planning

This course encourages students to apply creative thinking in urban and regional planning, both in the planning process and the formulation of planning products. Students are also challenged to critically discuss the current conditions of urban and regional planning in Indonesia. Topics covered include system thinking, dynamic system, SSM (soft system methodology), SCAMPER (substitute, combine, adapt, modify, put into another use, eliminate, dan reverse). Course learning outcomes:

- Able to explain basic principles of creative thinking
- Able to apply methods of creative thinking (e.g., SSM, SCAMPER) in urban and regional planning context
- Able to propose a practical recommendation using innovative breakthrough from creative thinking to address certain planning issue

IV. Fourth Semester

Urban planning studio

This course provides students with the ability to identify and assess an urban area, create a spatial plan at urban scale, including zoning text and code and development plan. Topics covered in this course are: (1) formulation of planning vision and mission, (2) definition and selection of planning alternatives, (3) planning and design of spatial structure, spatial pattern (macro land use), and infrastructure systems. In this course, students will be working in group (7-8 students) to generate an urban plan, though each student also has to work on their individual project on certain topic or area. Course learning outcomes:

- Able to utilize concepts and methods required for performing spatial analysis at urban scale
- Able to formulate urban planning objectives, achievement indicators, and the concept of urban development and planning
- Able to develop recommendations of urban spatial structure and patterns and present them in both written and oral presentation
- Able to work both in team and individual

Methods and techniques for urban planning

This course teaches data analysis for planning an urban area, covering aspects of demography, geography, economy, infrastructure, and institution. Ideal examples of a good urban planning and regulations pertaining to urban planning process and products (particularly on Indonesian contexts) will also be introduced. Topics covered in this course include urban profiling and analysis from the perspectives of demography, geography, urban economic, and urban infrastructure; city budgeting; identification of potentials and problems; defining urban planning objectives, development and selection of planning alternatives, and formulation of an urban planning. This course is closely tied with Urban Planning Studio (assignments often derived from cases and issues found in Urban Planning Studio Course). Course learning outcomes:

- Able to identify and utilize regulations pertaining to urban analysis and planning
- Able to identify the role and function of a city
- Able to explain the spatial structure and dynamics of a city
- Able to utilize and select a suitable method for urban analysis in a given context
- Able to define and select planning alternatives with a sound and critical argumentation

Urban economics

This course aims to provide theoretical and contextual knowledge of urban economics, including the concept of urban growth, urban development location, land rent and land use patterns, urban economic institutions, and sectoral issues such as housing, transport, and poverty. Course learning outcomes:

- Able to explain the market mechanism (supply-demand) shaping the urban dynamics
- Able to explain the urban economic structure in a given context
- Able to explain and utilize basic urban economic theories (e.g., land rent, labor, urbanization)
- Able to assess the performance of urban economic in a given context
- Able to provide practical insights for urban economy issues

Development Management and Financing

This course explains the process of urban development, management (planning, organizing, actuating and controlling), and urban financing. Topics covered in this course include conflict management and resolution (negotiation techniques); the role of government, law, and regulation in planning; comparative planning and control system; politics and planning; and community participation. Course learning outcomes:

- Able to identify the realistic conditions of certain planning process in a given social, cultural, economic, and political context.
- Able to identify factors in the planning process to achieve a successful planning
- Able to provide recommendations for specific management issues

Transportation and Logistics Planning

This course provides basic understanding, principles, and technical approaches of transportation and logistics to support urban and regional planning. Students are introduced to the classic 4-step model (i.e., trip generation, trip distribution, mode choice, and trip assignment), LUTI (land use transport integration), data collection for transport planning and modeling (e.g., transport survey), assessment of transport infrastructure performance (i.e., level of service) for both private and public transport, and the changing paradigms of accessibility and mobility. Sustainability and contemporary issues in transport and logistics will also be explained, including transport demand management, transit oriented development, transport-related social exclusion, intelligent transport system, and mobility as a service. Course learning outcomes:

- Able to explain basic principles of transportation and logistics
- Able to identify problems of transportation and logistics
- Able to use a transport model to perform analysis and assess current transport conditions
- Able to provide recommendations and practical insights to address transport and logistic problems or implement sustainable transportation

Housing and Settlement Development Planning

This course provides students with the mastery of basic principles and technical standards of housing and settlement planning. Topics covered include patterns and typologies of housing and settlement, social and public facilities, calculation of housing need and supply, economic and financial aspects of housing and settlement provision (also include the issue of affordability), institutional and policy dimensions, and various housing schemes (e.g., revitalization, resettlement, urban renewal, *kampong* improvement program). Course learning outcomes:

- Able to explain the basic principles of housing and settlement
- Able to calculate housing need and supply (housing backlog)
- Able to perform a feasibility assessment for housing and settlement planning

Planning of Infrastructure System: Solid Waste

This course provides the understanding of the complex process, sequences, and techniques of a solid waste network management system, from waste collection at the neighbourhood level to the final disposal. Topics include theoretical background (e.g., sustainability principles, 3R, zero waste), technical standards (e.g., calculating waste production, waste collection capacity, route, and timetable), financial feasibility (e.g., cost benefit analysis), and environmental issues. At the second half of the semester, students will be working in group to address solid waste management issue in a certain (pre-defined) area. Course learning outcomes:

- Able to mention and utilize the technical standards for planning a solid waste management system
- Able to identify factors to be considered in the planning of a solid waste management system
- Able to provide a sound and critical assessment of current solid waste management system
- Able to perform technical calculation and analysis required for planning a solid waste management system
- Able to deliver recommendations for improving current solid waste management system at various scales (i.e., neighborhood, city, or region).

Planning of Infrastructure System: Irrigation and Drainage

This course aims to provide students with the understanding of basic principles, process, approaches, and methods of irrigation and drainage systems at various scales (i.e., neighborhood, city, region). Topics covered theoretical concepts, technical calculation of supply and demand for irrigation and drainage systems, various types and designs of irrigation and drainage systems, and sustainable principles for irrigation and drainage systems. Course learning outcomes:

- Able to explain and utilize technical standards for irrigation and drainage systems to support urban and regional planning
- Able to identify factors influencing irrigation and drainage systems
- Able to identify various types of irrigation and drainage systems and provide critical assessment to support urban and regional planning
- Able to analyze and identify potential problems related to irrigation and drainage systems
- Able to provide recommendations for an improvement of and implementation of sustainable irrigation and drainage systems

V. Fifth Semester

Regional planning studio

This course provides students with the ability to formulate spatial and development plans at a regional scale. Topics covered in this course are: (1) formulation of planning vision and indicators of regional development in quantitative and qualitative terms, (2) concept, strategy, and idea of regional development program, (3) landuse plan and spatial structure, (4) sectoral or development plans, (4) strategic area development plans, and (5) development program. In this course, students will be working in group (7-8 students) to generate regional plan, though each student has to work on their individual project on certain topic or area. Stakeholders (e.g., local planning agency) are often invited at the middle and end of the course to give feedback on the plan. Course learning outcomes:

- Able to formulate regional development concepts
- Able to create spatial and development plans at regional scale
- Able to facilitate stakeholders ideas into planning process
- Able to work both in team and individual

Methods and Techniques for Regional Planning

Parallel to Regional Planning Studio, this course explain various methods and techniques for analysis and planning at the regional scale. The regional analysis includes aspects of geography, demography, economy, infrastructure, and institutions. Knowledge and understanding of negotiation and conflict at the regional level are discussed using a case study approach. Topics covered in this course include: (1) concept of a regional development plan, (2) formulation of vision and its indicators, both quantitative and qualitative, (3) formulation of regional development concepts, strategies, and ideas, (4) formulation of spatial structure and pattern, (5) formulation of a sectoral development plan, (6) formulation of a development plan in strategic areas, and (7) formulation of programs and projects. Course learning outcomes:

- Able to explain basic principles and factors affecting regional development
- Able to use appropriate analysis for identifying development potentials and problems at regional scale Able to evaluate current conditions of a region
- Able to provide critical evaluation of current regional development trends.
- Able to use appropriate quantitative and qualitative spatial methods to analyze regional issues such as poverty, economic disparities, disaster vulnerabilities, and infrastructure incompatibility
- Able to formulate the concept and vision of a regional development
- Able to analyze the feasibility of a development program.

Regional economics

This course provides the basic understanding of regional economics (from both classical and contemporary theories), including the concept of regional income, regional growth, inter-regional trade, and regional economic institutions. Topics covered in this course are: micro and macro economic theories, location theories, regional economic structure, spatial agglomeration and innovations, regional accounting structure, and issues in regional economic development. Course learning outcomes:

- Able to explain the principles of micro and macro economics
- Able to discuss the application of micro- and macro- economics in regional and local contexts
- Able to formulate a regional economic development policy based on econometric approaches

Monitoring and Evaluation

This course explains principles and the complex processes of the implementation of a plan, focusing on the monitoring and evaluation aspects. Various methods for monitoring and evaluation will be discussed, such as analytic hierarchical process (AHP), cost benefit analysis, delphi, and formal evaluation. Most of the course will be explained using case studies from Indonesia and overseas. Course learning outcomes:

- Able to explain basic theories of monitoring and evaluation in urban and regional planning context
- Able to identify and assess the output, outcome, and impact of a development project
- Able to provide recommendations for monitoring and evaluation of a development program or project

Planning of Infrastructure System: Energy

This course provides a complete understanding of the elements, flows, processes, management (i.e., supply and demand), and approaches of energy system and its infrastructure provision at urban and regional scales. Students will also learn the importance of energy management to support urban and regional planning as well as various energy systems, both conventional and alternative energy. Course learning outcomes:

- Able to explain various types of energy generation and their efficiency, investment cost, and advantages and disadvantages in its application in certain urban and regional planning context
- Able to explain energy transmission and storage systems to support urban and regional planning
- Able to analyze energy needs and supplies
- Able to provide a recommendation of energy supply system at various scales (neighbourhood, city, and region)

Planning law

This course provides understanding of legal system related to urban and regional planning in Indonesia, stemming from the UU 26/2007 on spatial planning. Students will be introduced to the hierarchy of law (i.e., law – regulation – permit) and the role of planning law as development control. Topics covered not only the uses of land, but also sea and airspace for development. In particular, agrarian law and zoning regulation will be discussed. Course learning outcomes:

- Able to explain planning laws and regulations in Indonesia
- Able to assess current conditions of certain urban and regions from the perspective of planning law
- Able to provide recommendations for implementing planning regulations or permits to address development issues

Statistics

This course explains various statistical methods for research and planning, covering descriptive and inferential statistics, as well as univariate, bivariate and multivariate statistical tools. Topics in this course include: probability and distribution, hypothesis testing, regression, multivariate models for association, classification, scaling and abstraction. Students will also be introduced to the use of SPSS as a statistical software. Course learning outcomes:

- Able to explain basic principles of statistical analysis
- Able to use appropriate statistic methods given a certain dataset
- Able to utilize univariate statistics, hypothesis test, and correlation given a certain dataset

VI. Sixth Semester

Thematic planning studio

As the final sequence of planning studios, Thematic Planning Studio allow students (in group) to work on certain sectoral topics, such as tourism, transportation, housing and real estate, or rural development. Each group will be assigned with one supervisor specialized in the chosen topic. Location and the working scale of the project will be defined together with the supervisor.

Course learning outcomes:

- Able to analyze specific planning issue/topic
- Able to develop a planning concept to address a specific planning issue/topic
- Able to recommend practical insights for solving specific problems
- Able to communicate planning ideas and concepts using good visuals and spatial analytics
- Able to work in team and individually

Research Methods

The ability to use research methods to prepare a final project: philosophy of science, scientific ethics, scientific language, scientific thinking methods, writing techniques, literature review and speed reading techniques, citation and bibliography techniques, conclusion-drawing methods, as well as summary and abstract techniques.

Course learning outcomes:

- Able to explain various research methods
- Able to correlate research methods and themes
- Able to apply appropriate research methods for specific research themes

Planning ethics

This course explains the evolving concepts of planning ethics along with the paradigm changes in planning theory. Students are expected to also reflect on how to apply planning ethics on their work and prepare them to have professional values as a responsible urban and regional planner.

Course learning outcomes:

- Able to explain concepts of planning ethics
- Able to contextualize planning ethics in real world
- Able to critically discuss planning and development issues using the perspective of planning ethics

VII. Seventh Semester

Internship

This course facilitates students to experience a professional planning practice and encourages students to understand and address planning problems in a real world. Students can choose the host institution for their internship as long as the scope of work include involvement in planning processes, implementing certain planning methods or techniques, or planning formulation at various levels and scales. Students are expected to gain lesson learned by comparing and contextualizing planning knowledge into action. Students may take internship in group (as planning project often requires a group work), but they have to submit an individual written report to complete this course. During the internship, students' performance in their working place will be recorded and graded by a field supervisor, appointed by the host institution. Each student will also be assigned to one internal supervisor (from UGM) to assist in writing the individual report. Final grade for this course is based on their working performance and the written report.

Course learning outcomes:

- Able to perform a professional role in their workplace
- Able to discuss and address real planning challenges and problems
- Able to internalize professional values as urban and regional planner

For internship, students have to complete Spatial Studio: Basics to Regional Planning Studio, each graded minimum C. 1 credit of internship equals to 4 working hours per week, hence the total of 192 hours in a semester (4 hours x 16 weeks x 3 credits), which usually are divided into 9 hours of administrative and preparation time, 156 hours working in the internship institution, and 27 hours of report writing. These qual to 4-5 weeks of internship work. There are 2 internship periods, which students can choose:

- In-between semester (after the 6th semester)
- In the 7th semester (it is recommended to do internship in Yogyakarta in this period).

Further information on internship can be found in <https://pwk.archiplan.ugm.ac.id/kerja-praktik>

Pre-final project

This course prepares students for their final project by explaining in a more detail on how to write a good proposal, literature review, presenting result and conclusion, tips on data collection, challenges during writing and conducting a final project, and how to prepare a convincing presentation on the topic. At the beginning of the course, students will be asked to write their topic and a brief summary of their final project. In the following weeks, each student is assigned with one supervisor to assist them in preparing proposal and final presentation. Students' performance will be graded based on their written proposal and final presentation.

Course learning outcomes:

- Able to write a final project proposal that adheres to scientific writing principles
- Able to formulate research problem or planning problem and provide a sound argument of the significance of their final project
- Able to present and defend a final project proposal

VIII. Eight semester

Final project

This course allows students to develop and execute their research or planning project independently. Each student will be assigned one supervisor who provides consultation to perform the final project. For completion, students have to submit a written report, present their work and defend their idea/result to the examiner. Ideally, there will be two presentations: pre-defence (1 examiner, revision allowed) and final defence (2 examiners, no revision allowed).

Course learning outcomes:

- Able to apply relevant theories and concepts to support their Final Project
- Able to write an academic report based on their research or planning/design project
- Able to defend his/her Final Project

Requirements to take Final Project:

- Has completed theoretical courses, studio, and internship, with the minimum final grade of D
- The proportion of course credits with a final grade of D is less than 25% (from the total courses taken)
- Final Project is listed in the study plan, which has been approved by the academic supervisor
- Register online through: <https://sites.google.com/ugm.ac.id/tgapwkugm>
- Students is not allowed to take any other courses in the same semester as Final Project, except Community Engagement (KKN) and its supporting courses.

Further information on Final Project can be found in <https://sites.google.com/ugm.ac.id/tgapwkugm>; inquiries can be addressed to Andi Purwanto +62 811-264-0414, email: andycoklat@ugm.ac.id cc tgapwk.ft@ugm.ac.id

IX. Mandatory courses in Bahasa Indonesia

Bahasa Indonesia

Course learning outcomes:

- Mampu memahami teknik-teknik dasar membaca (scanning dan skimming) dan menulis tulisan akademik
- Mampu menunjukkan kelancaran berbahasa (ketepatan pemilihan terminologi) dalam konteks perencanaan wilayah dan kota
- Mampu mendiskusikan penggunaan bahasa dan komunikasi akademik dalam perencanaan wilayah dan kota

Agama (Religion)

Course learning outcomes:

- Mampu memahami dan mempraktikkan prinsip dasar agama dalam praktik perencanaan wilayah dan kota
- Mampu melihat dari sudut pandang keagamaan pada konteks perencanaan wilayah dan kota
- Mampu menjelaskan pendekatan perencanaan wilayah dan kota yang terinspirasi dari agama

Kewarganegaraan (Civics)

Course learning outcomes:

- Mampu memahami dan mempraktikkan nilai-nilai kewarganegaraan dalam perencanaan wilayah dan kota
- Mampu menjelaskan hak dan kewajiban warga negara dalam pembangunan wilayah dan kota
- Mampu membahas peran warga negara dalam perencanaan wilayah dan kota

Pancasila

Course learning outcomes:

- Mampu menjelaskan peran Pancasila dalam mengatur bangsa, negara, dan masyarakat.
- Mampu mendiskusikan nilai Pancasila dalam mengatur pemanfaatan dan alokasi sumber daya alam dan ruang.
- Mampu mengusulkan contoh implementasi nilai Pancasila dalam perencanaan wilayah dan kota.

Kuliah kerja nyata (Community service)

Course learning outcomes:

- Mampu berperan untuk mendorong aktivitas pembangunan di masyarakat lokal.
- Mampu bekerja sama termasuk dengan masyarakat lokal.
- Mampu menginternalisasi nilai-nilai profesionalisme.
- Mampu membuat produk dan menyusun laporan dari aktivitas di masyarakat.

Academic Regulations

1. Re-registration:

Students are required to re-register themselves each semester to be actively engaged in academic activities. The re-registration schedule and procedures can be found in <https://akademik.ugm.ac.id>. Students who do not re-register are considered inactive and cannot be allowed to participate in any class in the following semester.

2. Credit system (SKS/Satuan Kredit Semester)

1 credit semester equals to 50 minutes in-class meeting (25 minutes in an online class) per week per semester, 60 minutes assignment or structured discussion per week per semester, and 60 minutes independent work per week per semester. For a *studio*, 1 credit semester equals to 170 minutes per week per semester. Note: 1 semester consists of 16 weeks, including mid-term and final-term exams.

3. Academic supervisor and study plan

Each student is assigned with 1 academic supervisor. Students are required to get approval from their academic supervisor for their study plan in each semester. Any cancellation or adjustment of the study plan also has to get approval from the academic supervisor. When submitting the study plan, please be aware to follow the academic calendar in each semester (posted by the university). In the making of the study plan, students academic performance in the previous semester is considered (see table below, exception for the 1st and 2nd semester whereby students have to take certain credit stipulated by the curriculum). If student experiences issues in their academic performance, please contact the academic supervisor.

Previous academic performance (IP/ <i>Indeks Prestasi</i>)	Normal credit allowed	Maximum credit allowed
>3.00	21	24
2.50 – 2.99	18	21
2.00 – 2.49	15	18
1.50 – 1.99	12	15
< 1.50	--	12

4. Leave permit and withdrawal

Students are allowed to apply for a leave permit for the following reasons: (i) sick leave, provided a letter from doctor/clinic/hospital is submitted, (ii) death of immediate family member, provided a signed letter by parent/elder, or (iii) formal assignment by the university, such as participating in an international competition, provided a letter signed by the Director of the study program or the respective lecturer. For reason (i) and (ii), the necessary documents for a leave permit has to be submitted maximum 3 days after the intended leave.

Leave permit for a whole semester can be submitted for certain reasons, e.g., sickness requiring a long-term recuperation, family or personal matter. This can only be applied by the 3rd year (or above) students before the re-registration period. Leave permit is only allowed for 2 consecutive semesters.

Withdrawal: regardless of the reasons, students are required to submit a formal withdrawal request if they choose to discontinue the learning process in Urban and Regional Planning study program.

5. Exam

Students are required to have 75% attendance to participate in a final exam. In a final exam, if students are late more than 30 minutes, he/she will be counted as absent and are not allowed to take a resit. A resit exam is allowed for reasons as in leave permit, provided the necessary documents are submitted in no more than 3 days after the absence (except for a formal assignment by university, the letter has to be submitted beforehand).

6. Grading

The final grade follows the conversion below.

Course grades are converted from numerical scores to letter grades according to the table below.

SCORE	GRADE
85 – 100	A
80 – 84,99	A-
75 – 79,99	A/B
70 – 74,99	B+
65 – 69,99	B
60 – 64,99	B-
55 – 59,99	B/C
50 – 54,99	C+
45 – 49,99	C
40 – 44,99	D
> 40	E

The Grade Point Average (GPA), which ranges from 0 to 4, is calculated by assigning numerical weights to letter grades, as illustrated in the table below.

GRADE	WEIGHT
A	4.00
A-	3.75
A/B	3.50
B+	3.25
B	3.00
B-	2.75
B/C	2.50
C+	2.25
C	2.00
D	1.00
E	0.00

The calculation of final grade to academic performance index follows the formula:

$$\text{GPA} = \frac{\text{Sum of (number of credits x grade weight for each course taken)}}{\text{Total number of credits for all courses taken}}$$

7. Re-taking of a course

Students are allowed to re-take courses which graded below B-. The transcript will calculate the grade from the last course taken (not the best grade).

8. Student evaluation and graduation

In the first four semesters, students who are underperformed (only has 30 credits with grade below D and academic performance index below 2) will be automatically dropped out (DO).

Students who are not graduated by the 11th semester (excluding the leave permit), are required to apply for a study extension, provided that he/she only needs to take the Final Project. After the 14th semester, student will be automatically dropped out (DO).

Graduation: to be considered for a graduation, students have to pass a minimum of 151 credits with the following details:

- Academic performance index > 2.5
- No courses graded E

- The final grade of university-mandatory courses minimum C, which include Pancasila, Bahasa Indonesia, Religion, Civics, and Community Engagement (KKN) and its supporting courses
- Courses with a final grade of D are less than 25% (of total credits taken)
- Have completed the Final Project
- Note: only 14 credits of elective courses are calculated for the final academic performance index (IP). If students take more than 14 credits of elective courses, these will be acknowledged in the accompanying document of the graduation certificate (SKPI)

Based on the final academic performance index (IP), students' graduation is given the following remarks:

- Satisfactory: IP between 2.76 – 3.00
- Very satisfactory: IP between 3.01 – 3.50
- With honors (*cum laude*): IP > 3.50 with study length is less than 11 semesters and no re-taking of any courses.

9. Administration services

If needed, formal academic letters such as transcript, approval for scholarship application form, proof of student's enrollment, recommendation letter for internship or competition, survey permit, approval for proposal, or any other formal letter can be requested through <https://sms.ft.ugm.ac.id/persuratan> (please login using your student account). Further inquiries, please contact academic staff, Pak Maryanto +62 852-2819-6642 email: maryanto@ugm.ac.id

Students can book a classroom for academic or extracurricular activities. If the participants are more than 20 people, students are required to obtain a permit from the administration office, minimum 3 days before the event/activity.

Students can also propose a financial subsidy if they participate in a national or international competition. However, the amount of this subsidy may differ as it will be given on a *first come, first serve* basis. Please contact the Director or the Secretary of the study program for more inquiries.

10. Academic ethics

Urban and Regional Planning study program adheres to academic ethics stipulated by UGM and the Ministry of Education. Amongst other, plagiarism, in any form, is considered a heavy breach of academic conduct and can result in the annulment of graduation certificate or dropped out.

Comprehensive Exit Exam

A comprehensive exit exam is a requirement to apply for scheduling a pre-defence of a Final Project. Students may take a comprehensive exit exam starting from the 7th semester, as part of pre-Final Project course. If failed, students can retake the comprehensive exit exam, which will be held in every mid-term and final exam. There is no maximum numbers of retake, students can retake the comprehensive exit exam as many as possible given the allowed study length of 14 semesters.

The comprehensive exit exam is a multiple-choice computer-based test. The examination covers all subjects thought in mandatory courses, except for Pancasila, Civics, Religion, Bahasa Indonesia, Internship, and KKN. The exam is a closed-book, hence students are not allowed to bring any notes in the exam room.

The passing grade of comprehensive exit exam is 60%, with the following grading system:

- Correct answer : +4
- Wrong answer : -1
- Blank/no answer : 0

The result of comprehensive exit exam will be announced within 1 week after the exam takes place.

Contact

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