# OUTCOME-BASED CURRICULUM OF MASTER OF URBAN AND RURAL PLANNING

**Urban and Rural Planning Discipline**
**Khulna University**
**August 2022**

## TABLES OF CONTENTS

# OUTCOME-BASED CURRICULUM

## 01. Title of the Academic Program

Master of Urban and Rural Planning

| Program Overview | |
|---|---|
| Degree | Master of Urban and Rural Planning<br><br>Modes of Degree:<br>• Master's by Coursework<br>• Master's by Mixed-mode (Dissertation Group: Coursework + Dissertation)<br>• Master's by Mixed-mode (Project Group: Coursework + Project)<br>• Master's by Mixed-mode (Internship Group: Coursework + Internship)<br>• Master's by Research |
| Abbreviated form of the Degree | MURP |
| Discipline/Program Offering Entity (POE) | Urban and Rural Planning Discipline |
| School | Science, Engineering and Technology School |
| Awarding Institution | Khulna University |
| Location | Khulna, Bangladesh |
| Bangladesh National Qualifications Framework (BNQF) Level | 9 |
| International Standard Classification of Education (ISCED) Code | 0731 |
| Mode of Study | Full Time |
| Language of Study | English |
| Applicable Session | 2022-23 and onwards |

## 02. Name of the University

Khulna University

## 03. Vision of the University

Creation of global leaders who will contribute to make knowledge-based just society through accelerating inclusive and transformative growth of Bangladesh and the world. The university aims to achieve this vision through scholarly enquiry and contribution to the global knowledge pool.

## 04. Mission of the University

| Sl. No. | Mission |
|---|---|
| UM1 | Explore human potential to the fullest extent and produce self-motivated, aspiring leaders to work for the betterment of the humankind based on wisdom, freethinking, creativity and unhindered intellectual exercises; |
| UM2 | Ensure a transformative educational experience that enables creative learning, entrepreneurship and inquisitiveness among the students; |
| UM3 | Create an inclusive research environment that enables graduates to make demonstrable economic and social impacts through translating knowledge and innovation into practice driven by moral values and professional ethics. |

**UM = University Mission**

## 05. Name of the Discipline/Program Offering Entity (POE)

Urban and Rural Planning Discipline

## 06. Vision of the Discipline/POE

Urban and Rural Planning Discipline aspires to be a centre of excellence in training, research and professional guidance in the field of urban and rural studies both locally and globally.

## 07. Mission of the Discipline/POE

| Sl. No. | Mission |
|---|---|
| M1 | To produce high level professional skills for the nation and the region in the field of urban and rural planning and development through training, research and professional guidance; |
| M2 | To engage in academic and applied research that advances planning thought and practice for enhancing the quality of place; |
| M3 | To integrate disciplinary knowledge with application so that students can gain both knowledge and skills for building their careers; |
| M4 | To transform information into knowledge, knowledge into judgment, and judgment into action that addresses complex problems related to planning issues. |

**M = Mission of the Discipline/POE**

## 08. Objectives of the Discipline/POE

| Sl. No. | Objective |
|---|---|
| O1 | To provide students with a coherent understanding of the built environment and its key challenges; |
| O2 | To enable students to combine a sound theoretical foundation with an awareness of professional aptitude; |
| O3 | To create a sense on contemporary patterns of urban and rural development, and the processes that contribute to change across cities and rural areas; |
| O4 | To offer both planning and development solutions to manage human activities encompassing the social, political, cultural, economic, and technological factors into an interdisciplinary framework; |
| O5 | To provide opportunities for students to develop and demonstrate the knowledge and understanding in conducting professional activities in major streams of urban and rural planning. |

**O = Objective of the Discipline/POE**

## 09. Name of the Degree

Master of Urban and Rural Planning

## 10. Description of the Program

As per the Section 3 of the 'ORDINANCE FOR MASTER'S PROGRAMS – 2022' of Khulna University, Urban and Rural Planning Discipline is offering three types of Master's program, namely:
(i) Master's by Coursework; (ii) Master's by Mixed-mode [(a) Dissertation Group (course work + dissertation), (b) Project Group (course work + project), (c) Internship Group (course work + internship)] and (iii) Master's by Research. The program's curriculum has been designed to empower each student to complete the degree with great personal flexibility. Students may pursue the degree on an accelerated basis in two terms (One Year) under the Master's by Coursework mode, which allows for concurrent employment or full-time engagement in professional planning practices. Students having Bachelor degree in Urban and Rural/Regional Planning have to complete 42 credits in order to get MURP degree under the Master's by Coursework mode. Students having bachelor degree in other allied fields have to complete 48 credits in order to get MURP degree under the Master's by Coursework mode.

The second type of Master's program which will be awarded as Master's by Mixed-mode comprises all the credits offered under the Master's by Coursework mode and another additional term for completing Dissertation/Project/Internship. Therefore, the duration of MURP program under Master's by Mixed-mode will be three terms. Under the Master's by Mixed-mode (Dissertation Group) students having Bachelor degree in Urban and Rural/Regional Planning have to complete 48 credits. Enrolled students from other allied discipline have to complete 54 credits to be awarded with Master's by Mixed-mode (Dissertation Group) degree. Under the Master's by Mixed-mode (Project Group) students having Bachelor degree in Urban and Rural/Regional Planning have to complete 48 credits. Enrolled students from other allied discipline have to complete 54 credits to be awarded with Master's by Mixed-mode (Project Group) degree. Under the Master's by Mixed-mode (Internship Group) students having Bachelor degree in Urban and Rural/Regional Planning have to complete 48 credits. Enrolled students from other

allied discipline have to complete 54 credits to be awarded with Master's by Mixed-mode (Internship Group) degree.

Students who will be enrolled under Master's by Research degree program for obtaining MURP degree have to take 48 credits from the research works in four terms (Two Years). Students having Bachelor degree in Urban and Rural/Regional Planning do not have to attend any coursework but students having bachelor degree in other allied fields have to complete two additional courses (06 Credits) in addition to their research work (48 Credits).

## 11. Graduate Attributes

| | Graduate Attributes | Domain |
|---|---|---|
| **GA1** | **Planning knowledge:** Graduates will have deeper understanding of planning theories, methodologies, and their application in varied urban and rural contexts. | Fundamental domain |
| **GA2** | **Application of tools and techniques:** Graduates will be able to demonstrate application of varied tools and techniques in analyzing urban and rural phenomenon. These tools will provide graduates a degree of confidence to justify their decisions rationally. | Fundamental domain |
| **GA3** | **Problem solving:** Graduates will possess skills to identify real world problems and develop solutions considering global best practices and local indigenous practices. | Thinking domain |
| **GA4** | **Information literacy:** Graduates will learn to extract, contextualize and interpret information requirements in varied planning situations, and skills in sourcing, using, and representing that information for planning practice. | Thinking domain |
| **GA5** | **Ethical conduct and social responsibility:** Graduates will have the awareness of professional and ethical responsibilities of the planning profession. In addition they will be responsive to various social and cultural influences in planning interactions. | Social domain |
| **GA6** | **Independence and collaboration:** The various learning activities undertaken during the course will provide the graduate skills to work independently and collaboratively. Graduates will have the confidence in their autonomous grasp of planning knowledge, and skills to inclusively negotiate planning outcomes with a variety of stakeholders. | Social domain |
| **GA7** | **Communication skills:** Graduates will possess skills to communicate through oral communication, report writing, statistics, maps, plans and other graphical forms. | Personal domain |
| **GA8** | **Lifelong learning:** Skills and knowledge developed during the program will foster intellectual curiosity, creativity, and critical thinking in the graduate. Well-developed cognition of planning concepts and practices developed through the program will provide a foundation for lifelong intellectual engagement with the discipline. | Personal domain |

**GA = Graduate Attributes**

## 12. Program Educational Objectives (PEOs)

The core areas of program objectives and learning outcomes of Bachelor of Urban and Rural Planning program are to achieve mastery of knowledge in the field of urban and rural planning; developing intellectual, transferable and professional skills; enhancing research ability and adoption of professional ethics.

| | **Program Educational Objectives** | **Domain of the Skills** | **Type of the Program** |
|---|---|---|---|
| **PEO1** | To develop a specialised knowledge regarding theory and practice of planning across public, private and community expectations as a vehicle for change in urban, rural and regional environments; | Fundamental, Social, Thinking | MC, MM(D), MM(P), MM(I), MR |
| **PEO2** | To develop a general set of planning skills that includes visual, oral, and written communication techniques, methodological approaches to gather and critically analyse data, and a general understanding of spatial dynamics, market economies, governmental processes, and issues of social inclusion in diverse societies; | Fundamental, Thinking, Social, Personal | MC, MM(D), MM(P), MM(I), MR |
| **PEO3** | To develop professionals skills for making plans, assessing and evaluating the impact of plans and major developments, weighing social, economic and environmental considerations, synthesising and communicating planning arguments; | Fundamental, Thinking, Social, Personal | MC, MM(D), MM(P), MM(I), MR |
| **PEO4** | To develop professionals who will act responsibly, ethically and professionally as a practitioner in the planning field, displaying autonomous expert judgement in making decisions; | Social, Personal | MC, MM(D), MM(P), MM(I), MR |
| **PEO5** | To develop professionals who will identify, create and employ policies, tools, and strategies that lead to a sustainable built, human, and natural environment; | Fundamental, Thinking, Social, Personal | MC, MM(D), MM(P), MM(I), MR |
| **PEO6** | To undertake academic research projects relevant to the planning field, utilising relevant research principles and methods. | Fundamental, Thinking, Social, Personal | MM(D), MR |

**PEO = Program Educational Objective**

**Type of Program: MC=** Master's by Coursework; **MM(D) =** Master's by Mixed-mode (Dissertation Group: Coursework + Dissertation); **MM(P) =** Master's by Mixed-mode (Project Group: Coursework + Project); **MM(I) =** Master's by Mixed-mode (Internship Group: Coursework + Internship); **MR =** Master's by Research.

## 13. Program Learning Outcomes (PLOs)

After successful completion of the degree, the learners will be able to:

| | |
|---|---|
| **A. Fundamental Skills** | |
| PLO1 | Demonstrate an understanding of planning theory and make appropriate connections between planning theory and practice; |
| PLO2 | Evaluate and effectively utilise a varied process of spatial analysis, plan making and implementation methods; |
| PLO3 | Exhibit competence and creativity in carrying out graduate research. |
| **B. Social Skills** | |
| PLO4 | Demonstrate the concept of professional ethics and social responsibility within the planning community; |
| PLO5 | Work in a multi-disciplinary and multi-cultural working environment; |
| PLO6 | Conduct trans-disciplinary research work. |
| **C. Thinking Skills** | |
| PLO7 | Demonstrate an understanding of planning as a multidisciplinary discipline that integrates spatial planning and design, economic issues relating to development, environmental challenges, rural and regional planning challenges and legal and institutional frameworks; |
| PLO8 | Reflect critically on planning challenges with an understanding of the need for lifelong learning. |
| **D. Personal Skills** | |
| PLO9 | Take responsibility regarding time management, learning and professional development; |
| PLO10 | Prepare and present arguments and illustrative materials in a variety of presentation formats; |
| PLO11 | Facilitate leadership, advocacy and networking skills. |

**PLO** = Program Learning Outcome
**Type of Program: MC=** Master's by Coursework; **MM(D) =** Master's by Mixed-mode (Dissertation Group: Coursework + Dissertation); **MM(P)** = Master's by Mixed-mode (Project Group: Coursework + Project); **MM(I) =** Master's by Mixed-mode (Internship Group: Coursework + Internship); **MR =** Master's by Research.

## 14. Mapping Mission of the University with PEOs

| PEOs \ Missions | UM1 | UM2 | UM3 |
|---|---|---|---|
| PEO1 | 3 | 3 | 3 |
| PEO2 | 3 | 3 | 3 |
| PEO3 | 3 | 3 | 2 |
| PEO4 | 3 | 3 | 2 |
| PEO5 | 3 | 3 | 2 |
| PEO6 | 2 | 2 | 3 |

**Level of association: 3=High, 2=Medium, 1=Low**

## 15. Mapping PLOs with PEOs

| Program Learning Outcomes (PLOs) | | Program Educational Objectives (PEOs) | | | | | |
|---|---|---|---|---|---|---|---|
| | | PEO1 | PEO2 | PEO3 | PEO4 | PEO5 | PEO6 |
| **A. Fundamental Domain** | PLO1 | ● | ● | ● | | ● | |
| | PLO2 | ● | ● | ● | | ● | |
| | PLO3 | ● | ● | | | ● | ● |
| **B. Social Domain** | PLO4 | ● | ● | | ● | ● | |
| | PLO5 | ● | ● | ● | ● | ● | |
| | PLO6 | ● | ● | | | | ● |
| **C. Thinking Domain** | PLO7 | | ● | ● | | ● | ● |
| | PLO8 | ● | ● | ● | | ● | ● |
| **D. Personal Domain** | PLO9 | | ● | ● | ● | | ● |
| | PLO10 | | ● | ● | ● | | ● |
| | PLO11 | | ● | ● | ● | ● | ● |

## 16. Mapping Courses with PLOs

| First Year First Term<br>Master's by Coursework and Master's by Mixed-mode | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Course Code and Course Title** | **Program Learning Outcomes (PLOs)** | | | | | | | | | | |
| | **Fundamental Domain** | | | **Social Domain** | | | **Thinking Domain** | | **Personal Domain** | | |
| | **PLO1** | **PLO2** | **PLO3** | **PLO4** | **PLO5** | **PLO6** | **PLO7** | **PLO8** | **PLO9** | **PLO10** | **PLO11** |
| 0731 04 URP 5101: Planning Theory and Practice | ● | ● | | ● | | | ● | | | | |
| 0731 04 URP 5104: Tools for Planning Techniques (Fieldwork/Lab./Project) | ● | ● | | | ● | ● | ● | | | ● | ● |
| 0731 04 URP 5107: Research Philosophy and Design | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 0731 04 URP 5127: Sustainable Cities and Neighborhood | ● | ● | | ● | | | ● | | | | |
| 0731 04 URP 5132: Geographic Information System (Lab./Project) | ● | ● | | | | | ● | | | ● | |
| 0731 04 URP 5134: Spatial Analysis in Planning (Studio/Lab./Project) | ● | ● | | | ● | | | ● | ● | | ● |
| 0731 04 URP 5143: Sustainable Urban Water and Sanitation | ● | ● | ● | | ● | | ● | ● | ● | ● | |
| 0413 04 BA 5159: Project Planning, Monitoring and Governance | ● | ● | | ● | ● | ● | ● | ● | ● | ● | ● |
| 0542 04 Stat 5177: Statistical Methods for Planning Research | | ● | | | | | ● | | | ● | |

| First Year Second Term<br>Master's by Coursework and Master's by Mixed-mode | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Course Code and Course Title** | **Program Learning Outcomes (PLOs)** | | | | | | | | | | |
| | **Fundamental Domain** | | | **Social Domain** | | | **Thinking Domain** | | **Personal Domain** | | |
| | **PLO1** | **PLO2** | **PLO3** | **PLO4** | **PLO5** | **PLO6** | **PLO7** | **PLO8** | **PLO9** | **PLO10** | **PLO11** |
| 0731 04 URP 5206: Dissertation Part-I-M | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 0731 04 URP 5213: Regional Development Planning | ● | ● | | | | | ● | ● | | ● | ● |
| 0731 04 URP 5215: Rural Poverty and Inequalities | ● | ● | | | ● | | ● | ● | | ● | ● |
| 0731 04 URP 5223: Urban Development Policy, Planning and Management | ● | ● | | ● | ● | | ● | ● | | ● | |
| 0731 04 URP 5225: Housing Policy, Program and Projects | ● | ● | | ● | | | ● | ● | | ● | |
| 0731 04 URP 5227: Managing and Financing Urban Infrastructure | ● | ● | | ● | | | ● | ● | | ● | |
| 0731 04 URP 5236: Hazards, Risk and Resilience (Field Work & Studio) | ● | ● | ● | ● | ● | ● | ● | ● | | ● | ● |
| 0731 04 URP 5239: Planning for Climate Resilient Built Environment | ● | ● | | | | | ● | ● | | | ● |
| 0731 04 URP 5241: Transport Modelling | ● | ● | | | | ● | ● | ● | | | |
| 0311 04 Econ 5257: Transport Economics | ● | ● | | | | | ● | ● | | | |
| 0542 04 Stat 5277: Advanced Quantitative and Qualitative Methods in Planning | ● | ● | ● | | ● | ● | ● | ● | | ● | |
| 0314 04 Soc 5279: Gender and Rural Development | ● | | | ● | ● | | ● | ● | | ● | ● |
| 0732 04 CE 5285: Traffic Management and Control | ● | ● | | | | | ● | ● | | | |

| First Year Second Term<br>Master's by Coursework and Master's by Mixed-mode | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Course Code and Course Title** | **Program Learning Outcomes (PLOs)** | | | | | | | | | | |
| | **Fundamental Domain** | | | **Social Domain** | | | **Thinking Domain** | | **Personal Domain** | | |
| | **PLO1** | **PLO2** | **PLO3** | **PLO4** | **PLO5** | **PLO6** | **PLO7** | **PLO8** | **PLO9** | **PLO10** | **PLO11** |
| 0521 04 ES 5291: Climate Change and Development | ● | ● | ● | | | ● | ● | ● | | ● | |

| Second Year First Term<br>Master's by Mixed-mode | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Course Code and Course Title** | **Program Learning Outcomes (PLOs)** | | | | | | | | | | |
| | **Fundamental Domain** | | | **Social Domain** | | | **Thinking Domain** | | **Personal Domain** | | |
| | **PLO1** | **PLO2** | **PLO3** | **PLO4** | **PLO5** | **PLO6** | **PLO7** | **PLO8** | **PLO9** | **PLO10** | **PLO11** |
| 0731 04 URP 6106: Dissertation Part-II-M | ● | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| 0731 04 URP 6108: Project | ● | ● | | ● | | | ● | ● | ● | ● | ● |
| 0731 04 URP 6110: Internship | | | | ● | ● | | ● | ● | ● | ● | ● |

| Master's by Research | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Course Code and Course Title** | **Program Learning Outcomes (PLOs)** | | | | | | | | | | |
| | **Fundamental Domain** | | | **Social Domain** | | | **Thinking Domain** | | **Personal Domain** | | |
| | **PLO1** | **PLO2** | **PLO3** | **PLO4** | **PLO5** | **PLO6** | **PLO7** | **PLO8** | **PLO9** | **PLO10** | **PLO11** |
| 0731 04 URP 5106: Dissertation Part-I-R | ● | | ● | | | ● | ● | ● | ● | ● | |
| 0731 04 URP 5206: Dissertation Part-II-R | ● | | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 0731 04 URP 6106: Dissertation Part-III-R | ● | | ● | ● | ● | ● | ● | ● | ● | ● | |
| 0731 04 URP 6206: Dissertation Part-IV-R | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |

## 17. Structure of the Curriculum

**a) Duration of the Program**

| Type of the Program | Year | Term |
|---|---|---|
| Master's by Coursework | 1.0 | 02 |
| Master's by Mixed-mode (Dissertation Group: Coursework + Dissertation) | 1.5 | 03 |
| Master's by Mixed-mode (Project Group: Coursework + Project) | 1.5 | 03 |
| Master's by Mixed-mode (Internship Group: Coursework + Internship) | 1.5 | 03 |
| Master's by Research | 2.0 | 04 |

**b) Admission Requirements**

Candidates seeking admission into a Master's program must possess a three/four/five-year Bachelor degree from a recognized university (home and abroad); with 16 years schooling (or 15 years schooling with 2 years job experience for candidates having three-year Bachelor degree); and a minimum CGPA/class/division of 2.50 or Second Class. Other terms and conditions are set or revised periodically by the appropriate authority subject to the approval of EC, BOAS, and AC.

Candidates seeking admission into 'Masters by Research' program must have (i) either 'thesis' or similar type of course(s) in Bachelor degree or (ii) publish at least one article in a reputed journal as the first author.

Students having Appeared Certificate of Bachelor degree may be admitted in the Masters program. But he/she has to submit the original Transcript, Provisional Certificate/Certificate/Migration Certificate of Bachelor degree within two months of admission. Otherwise his/her admission will be cancelled.

**c1) Graduating Credits / Total Minimum Credit Requirement to Complete the Program**

| Type of the Program | Coursework (Minimum) | | Dissertation/ Project/ Internship (Minimum) | | Total (Minimum) | |
|---|---|---|---|---|---|---|
| | BURP* | Non-BURP** | BURP* | Non-BURP** | BURP* | Non-BURP** |
| Master's by Coursework | 42 | 48 | - | - | 42 | 48 |
| Master's by Mixed-mode (Dissertation Group: Coursework + Dissertation) | 33 | 39 | 15 | 15 | 48 | 54 |
| Master's by Mixed-mode (Project Group: Coursework + Project) | 42 | 48 | 06 | 06 | 48 | 54 |
| Master's by Mixed-mode (Internship Group: Coursework + Internship) | 42 | 48 | 06 | 06 | 48 | 54 |
| Master's by Research | - | 06 | 48 | 48 | 48 | 54 |

*BURP: Enrolled students having Bachelor Degree in Urban and Rural/Regional Planning; **Non-BURP: Enrolled students who do not have Bachelor Degree in Urban and Rural/Regional Planning.

**c2) Available Credits**

**MC**= 69; **MM(D)** = 84; **MM(P)** = 75; **MM(I)** = 75; **MR** = 54

| | | | |
|---|---|---|---|
| d) Total Class Weeks in a Term* | 14 | | |
| e) Minimum CGPA Requirements for Graduation | 2.50 | | |
| f) Maximum Academic Years of Completion | **Type of the Program** | **Year** | **Term** |
| | Master's by Coursework | 3.0 | 06 |
| | Master's by Mixed-mode (Dissertation Group: Coursework + Dissertation) | 3.0 | 06 |
| | Master's by Mixed-mode (Project Group: Coursework + Project) | 3.0 | 06 |
| | Master's by Mixed-mode (Internship Group: Coursework + Internship) | 3.0 | 06 |
| | Master's by Research | 3.0 | 06 |

*Term Duration

| Teaching and Learning | Preparatory Leave | Term Final Examination | Term Break | Total |
|---|---|---|---|---|
| 14 Weeks | 2 Weeks | 4 Weeks | 2 Weeks | 22 Weeks |

**g1) Area-wise Credit Distribution**

**Master's by Coursework and Master's by Mixed-mode**

| Area | Course Type | Number of Courses | Credits | Total Credits |
|---|---|---|---|---|
| General Education (GED) Courses** | Theory | 07 | 21 | 21 |
| Core/Compulsory Courses | Theory | 02 | 06 | 09 |
| | Sessional | 01 | 03 | |
| Optional/Elective Courses | Theory | 09 | 27 | 33 |
| | Sessional | 02 | 06 | |
| Capstone Courses*** | Sessional | 01 | 06 | 06 |
| | **Total** | **22** | **69** | **69** |

**Additional Courses for Master's by Mixed-mode**

[(a) Dissertation Group (course work + dissertation), (b) Project Group (course work + project), (c) Internship Group (course work + internship)]

| Area | Course | Type of Degree Program | Credits |
|---|---|---|---|
| Capstone Courses | (a) Dissertation | Master's by Mixed-mode: Dissertation Group (course work + dissertation) | 15 |
| | (b) Project | Master's by Mixed-mode: Project Group (course work + project) | 06 |
| | (c) Internship | Master's by Mixed-mode: Internship Group (course work + internship) | 06 |

**Master's by Research**

| Area | Course | Credits |
|---|---|---|
| Capstone Course | Dissertation Part-I-R: 08 Credits; Dissertation Part-II-R: 12 Credits; Dissertation Part-III-R: 12 Credits; Dissertation Part-IV-R: 16 Credits. | 48 |

**GED Courses for **MC**= 30.4%; **MM(D)** = 28.0%; **MM(P)** = 28.0%; **MM(I)** = 28.0%.

*** Credits of Capstone Courses for **MC**= 06; **MM(D)** = 21; **MM(P)** = 12; **MM(I)** = 12; **MR** = 48.

**g2) Category of Courses**

**Master's by Coursework and Master's by Mixed-mode**

| Area | Course Type | Course Title | Credits |
|---|---|---|---|
| General Education (GED) Courses | Theory | 01. Project Planning, Monitoring and Governance<br>02. Statistical Methods for Planning Research***<br>03. Advanced Quantitative and Qualitative Methods in Planning<br>04. Gender and Rural Development<br>05. Climate Change and Development<br>06. Transport Economics<br>07. Traffic Management and Control | 21 |
| Discipline Coded Core/ Compulsory Courses | Theory | 01. Planning Theory and Practice<br>02. Research Philosophy and Design | 06 |
| | Sessional | 01. Geographic Information System (Lab./Project)*** | 03 |
| Discipline Coded Optional/ Elective Courses | Theory | 01. Sustainable Cities and Neighborhood<br>02. Sustainable Urban Water and Sanitation<br>03. Regional Development Planning<br>04. Rural Poverty and Inequalities<br>05. Urban Development Policy, Planning and Management<br>06. Housing Policy, Program and Projects<br>07. Managing and Financing Urban Infrastructure<br>08. Planning for Climate Resilient Built Environment<br>09. Transport Modelling | 27 |
| | Sessional | 01. Spatial Analysis in Planning (Studio/Lab./Project)<br>02. Hazards, Risk and Resilience (Field Work & Studio) | 06 |
| Capstone Courses | Sessional | 01. Tools for Planning Techniques (Fieldwork/Lab./Project) | 06 |
| | | **Total** | **69** |

Courses with codes 0731 04 URP 5132 and 0542 04 Stat 5177, will be only offered as additional core courses for enrolled students who do not have Bachelor Degree in Urban and Rural/Regional Planning. Students with Bachelor Degree in Urban and Rural/Regional Planning will be not allowed to take these courses during the registration process.

**Additional Courses for Master's by Mixed-mode**

[(a) Dissertation Group (course work + dissertation), (b) Project Group (course work + project), (c) Internship Group (course work + internship)]

| Area | Course | Type of Degree Program | Credits |
|---|---|---|---|
| Capstone Courses | Dissertation | Master's by Mixed-mode: Dissertation Group (course work + dissertation) | 15 |
| | Project | Master's by Mixed-mode: Project Group (course work + project) | 06 |
| | Internship | Master's by Mixed-mode: Internship Group (course work + internship) | 06 |

## 18. Year/Term-wise Distribution of Courses

| First Year First Term<br>Master's by Coursework and Master's by Mixed-mode<br>[(a) Dissertation Group (course work + dissertation), (b) Project Group (course work + project), (c) Internship Group (course work + internship)] | | | | | | |
|---|---|---|---|---|---|---|
| **Course Code** | **Course Title** | **Course Status** | **Contact Hours/Week** | | **Credits** | **Prerequisites** |
| | | | **Theory** | **Sessional** | | |
| 0731 04 URP 5101 | Planning Theory and Practice | Core | 3.00 | - | 3.0 | None |
| 0731 04 URP 5104 | Tools for Planning Techniques (Fieldwork/Lab./Project) | Core | - | 9.00 | 6.0 | None |
| 0731 04 URP 5107 | Research Philosophy and Design | Core | 3.00 | - | 3.0 | None |
| 0731 04 URP 5127 | Sustainable Cities and Neighbourhood | Optional | 3.00 | - | 3.0 | None |
| 0731 04 URP 5132 | Geographic Information System (Lab./Project) | Core** | - | 4.50 | 3.0 | None |
| 0731 04 URP 5134 | Spatial Analysis in Planning (Studio/Lab./Project) | Optional | - | 4.50 | 3.0 | None |
| 0731 04 URP 5143 | Sustainable Urban Water & Sanitation | Optional | 3.00 | - | 3.0 | None |
| 0413 04 BA 5159 | Project Planning, Monitoring and Governance | Optional | 3.00 | - | 3.0 | None |
| 0542 04 Stat 5177 | Statistical Methods for Planning Research | Core** | 3.00 | - | 3.0 | None |
| **Total** | Core Courses: 05 (03 for BURP Students and 05 for Non-BURP Students), Optional Courses: 03, Theory Courses: 05, Sessional Courses: 03. | | 18.00 | 18.00 | 30 | |
| | | | 36.00 | | | |

** Courses with codes 0731 04 URP 5132 and 0542 04 Stat 5177, will be only offered as additional core courses for enrolled students who do not have Bachelor Degree in Urban and Rural/Regional Planning. Students with Bachelor Degree in Urban and Rural/Regional Planning will be not allowed to take these courses during the registration process.

| First Year Second Term<br>Master's by Coursework and Master's by Mixed-mode<br>[(a) Dissertation Group (course work + dissertation), (b) Project Group (course work + project), (c) Internship Group (course work + internship)] | | | | | | |
|---|---|---|---|---|---|---|
| **Course Code** | **Course Title** | **Course Status** | **Contact Hours/Week** | | **Credits** | **Prerequisites** |
| | | | **Theory** | **Sessional** | | |
| 0731 04 URP 5206 | Dissertation Part-I-M | Core*** | - | 4.50 | 3.0 | None |
| 0542 04 Stat 5277 | Advanced Quantitative and Qualitative Methods in Planning | Core | 3.00 | - | 3.0 | None |
| **Groups of Optional Courses** | | | | | | |
| **Group 01 of Optional Courses: Rural and Regional Development** | | | | | | |
| 0731 04 URP 5213 | Regional Development Planning | Optional | 3.00 | - | 3.0 | None |
| 0731 04 URP 5215 | Rural Poverty and Inequalities | Optional | 3.00 | - | 3.0 | None |
| 0314 04 Soc 5279 | Gender and Rural Development | Optional | 3.00 | - | 3.0 | None |
| **Group 02 of Optional Courses: Urban Development Planning and Housing** | | | | | | |
| 0731 04 URP 5223 | Urban Development Policy, Planning and Management | Optional | 3.00 | - | 3.0 | None |
| 0731 04 URP 5225 | Housing Policy, Program and Projects | Optional | 3.00 | - | 3.0 | None |
| 0731 04 URP 5227 | Managing and Financing Urban Infrastructure | Optional | 3.00 | - | 3.0 | None |
| **Group 03 of Optional Courses: Climate, Environment and Sustainable Development** | | | | | | |
| 0731 04 URP 5236 | Hazards, Risk and Resilience (Field Work & Studio) | Optional | - | 4.50 | 3.0 | None |
| 0731 04 URP 5239 | Planning for Climate Resilient Built Environment | Optional | 3.00 | - | 3.0 | None |
| 0521 04 ES 5291 | Climate Change and Development | Optional | 3.00 | - | 3.0 | None |
| **Group 04 of Optional Courses: Transport Planning and Management** | | | | | | |
| 0731 04 URP 5241 | Transport Modelling | Optional | 3.00 | - | 3.0 | None |
| 0311 04 Econ 5257 | Transport Economics | Optional | 3.00 | - | 3.0 | None |
| 0732 04 CE 5285 | Traffic Management and Control | Optional | 3.00 | - | 3.0 | None |
| **Total** | Core Courses: 02, Optional Courses: 12, Theory Courses: 11, Sessional Courses: 03 | | 36.00 | 9.00 | 42.0 | |
| * The course Dissertation Part-I-M (Course Code: 0731 04 URP 5206) will be offered for Master's by Mixed-mode (Dissertation Group) program only. | | | | | | |

| Second Year First Term<br>Master's by Mixed-mode<br>[(a) Dissertation Group (course work + dissertation), (b) Project Group (course work + project), (c) Internship Group (course work + internship)] | | | | | | |
|---|---|---|---|---|---|---|
| **Course Code** | **Course Title** | **Course Status** | **Contact Hours/Week** | | **Credits** | **Prerequisites** |
| | | | **Theory** | **Sessional** | | |
| 0731 04 URP 6106 | Dissertation Part-II-M | Core | - | 18.00 | 12 | None |
| 0731 04 URP 6108 | Project | Core | - | 9.00 | 06 | None |
| 0731 04 URP 6110 | Internship | Core | - | 9.00 | 06 | None |
| The basic requirements of these courses are explained in the section 20.1.6; 20.1.7 and 20.1.7 of this curriculum. | | | | | | |

| Master's by Research<br>First Year First Term | | | | | | |
|---|---|---|---|---|---|---|
| **Course Code** | **Course Title** | **Course Status** | **Contact Hours/Week** | | **Credits** | **Prerequisites** |
| | | | **Theory** | **Sessional** | | |
| 0731 04 URP 5106 | Dissertation Part-I-R | Core | - | 12.00 | 08 | None |

| Master's by Research<br>First Year Second Term | | | | | | |
|---|---|---|---|---|---|---|
| **Course Code** | **Course Title** | **Course Status** | **Contact Hours/Week** | | **Credits** | **Prerequisites** |
| | | | **Theory** | **Sessional** | | |
| 0731 04 URP 5206 | Dissertation Part-II-R | Core | - | 18.00 | 12 | None |

| Master's by Research<br>Second Year First Term | | | | | | |
|---|---|---|---|---|---|---|
| **Course Code** | **Course Title** | **Course Status** | **Contact Hours/Week** | | **Credits** | **Prerequisites** |
| | | | **Theory** | **Sessional** | | |
| 0731 04 URP 6106 | Dissertation Part-III-R | Core | - | 18.00 | 12 | None |

| Master's by Research<br>Second Year Second Term | | | | | | |
|---|---|---|---|---|---|---|
| **Course Code** | **Course Title** | **Course Status** | **Contact Hours/Week** | | **Credits** | **Prerequisites** |
| | | | **Theory** | **Sessional** | | |
| 0731 04 URP 6206 | Dissertation Part-IV-R | Core | - | 24.00 | 16 | None |

## 19. Course Description

| First Year First Term<br>Master's by Coursework and Master's by Mixed-mode | | |
|---|---|---|
| **Course Code:** 0731 04 URP 5101 | **Year:** First | **Term:** First |
| **Course Title:** Planning Theory and Practice | | |
| **Course Status:** Core | | |
| **Credit:** 03 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | This course intends to critically engage students with knowledge about planning theories and relevant discourses. The first part of the course familiarises students with broader philosophical and theoretical debates and progress within the current social and economic development context. The second part introduces students to different planning theories and their ability to change the cities they are in now. This course takes a post-positivist position and provokes rhizomatic thinking among future planners to change their worldview to respond to the current crisis of rational planning and decision-making. | |

| Course Contents | | CLOs |
|---|---|---|
| **Section A** | | |
| **1** | **Critical Thinking, Questioning and Theory:** The importance of critical thinking in planning and its association with the development of theories, Link among critical thinking, philosophical standpoints and theory. | 1, 2 |
| **2** | **Theory and Its Affiliation to Planning:** Influence of different theories in shaping theoretical positioning of planners (Exploring the rhizomatic thinking in assemblage and 'social space of Lefebvre). | 1, 2 |
| **3** | **Conventional Development Theories and Planning:** An insight into different conventional theories such as: Capitalism, Keynesian theory, Neo-liberalism to understand how theoretical positioning responded to and influenced different social and economic turns in the world. | 1, 2 |
| **4** | **Non-Conventional Development Theories and Planning:** Marxism, Poststructural paradigm, Post-development paradigm, Post-colonial theories. | 1, 2 |
| **5** | **Crisis of planning and its influence on theoretical standpoints:** how urban planning lost trust in the post-world war situations, how the crisis led to post-positivist thinking of planning. | 1, 2 |
| **Section B** | | **CLOs** |
| **6** | **Paradigm Shifts in Planning:** Exploring the evolution of approaches and theories of planning over time to gain an understanding of how socio-spatial and economic context influence knowledge and thinking in planning. | 2, 3, 4 |
| **7** | **Post Positivist Typology of Planning:** Understanding the post-positivist typology for planning theory based upon the broad themes of post-positivism, including the belief that all theory is to greater or lesser degrees normative, a non-linear conception of time and progress. | 3, 4 |

| | | |
|---|---|---|
| **8** | **Neo-Spatial Approach to Planning and Its Implications:** The content, context and results of spatial planning and place-making since the 2000s. | 3, 4 |
| **9** | **Collaborative Turn in Planning-Context and Aftermath:** Understanding the collaborative framework for planning rooted in the institutional realities of our increasingly fragmented societies but designed to foster communication and collaborative action. | 3, 4 |
| **10** | **Strategic Planning and Its Importance:** The roots of Strategic Planning, its aims, logic, and some critiques, followed by an exploration of the dimensions that would explain the strategic nature of planning. | 3, 4 |
| **11** | **Growth Management:** A brief history of growth management theories, paying special attention to smart growth, which has dominated North American urban planning approaches in recent years. | 3, 4 |

| | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | CLO1 | To comprehensively understand the changing pattern of knowledge related to planning theories in response to the urban development crisis in the contemporary world; | 1, 2 |
| | CLO2 | To develop the ability to think critically and to utilise different theoretical positionsin planning to resolve current urban challenges; | 1, 2, 7 |
| | CLO3 | Demonstrate an understanding of planning theory concerning the current development crisis; | 2, 4, 7 |
| | CLO4 | To enhance theoretical knowledge regarding socio-spatial paradigms so that planning issues can be dealt with through a multi-disciplinary approach. | 1, 2, 4, 7 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Lecture and Groups Discussion | Class presentation and Final exam |
| CLO2 | Lecture and Group Discussion | Assignment and Final exam |
| CLO3 | Class Lecture and Workshop | Class test and Final exam |
| CLO4 | Lecture and Group Discussion | Assignment and Presentation |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Allmendinger, P., (2002). Towards a post-positivist typology of planning theory. *Planning Theory*, *1*(1), pp.77-99.<br>Brand, R. and Gaffikin, F., (2007). Collaborative planning in an uncollaborative world. *Planning Theory*, *6*(3), pp.282-313.<br>Galloway, T. D., & Mahayni, R. G. (1977). Planning theory in retrospect: the process of paradigm change. *Journal of the American Institute of Planners*, 43(1), 62-71.<br>Gunder, M., Madanipour, A., & Watson, V. (Eds.). (2018). *The Routledge handbook of planning theory*. London: Routledge.<br>Peet, R., & Von Eschen, D. (2001). Theories of development. *Canadian Journal of Sociology*, *26*(2), 243. |
| **Supplementary Readings** | Allmendinger, P. (2017). *Planning theory*. Bloomsbury Publishing.<br>Baffoe, G., & Roy, S. (2022). Colonial legacies and contemporary urban planning practices in Dhaka, Bangladesh. *Planning Perspectives*, 1-24.<br>Fainstein, S.S., (2000). New directions in planning theory. *Urban affairs review*, 35(4), pp.451-478.<br>Faludi, A. (2013). *A reader in planning theory (Vol. 5)*. Elsevier.<br>Forester, J., (1982). Planning in the face of power. *Journal of the American Planning Association*, 48(1), pp.67-80.<br>Friedmann, J. (2011). *Insurgencies: Essays in planning theory*. Routledge.<br>Harvey, D., (2008). The right to the city. *The City Reader*, 6, pp.23-40.<br>Sager, T. (2015). Ideological traces in plans for compact cities: Is neo-liberalism hegemonic? *Planning Theory*, 14(3), 268-295.<br>Sager, T. (2016). Activist planning: A response to the woes of neo-liberalism? *European Planning Studies*, 24(7), 1262-1280.<br>Sager, T. (2005). Communicative planners as naïve mandarins of the neo-liberal State? *European Journal of Spatial Development*, 3(8), 1-9.<br>Sager, T. (2016). *Role conflict: Planners torn between dialogical ideals and neo-liberal realities. In The Ashgate Research Companion to Planning Theory (pp. 201-232)*. Routledge. |

| **Course Code:** 0731 04 URP 5104 | **Year:** First | **Term:** First |
|---|---|---|
| **Course Title:** Tools for Planning Techniques (Fieldwork/Lab./Project) | | |
| **Course Status:** Core | | |
| **Credit:** 06 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | This course covers design principles and techniques for creating maps with contemporary mapping tools, including ArcMap 10.8.1 and ArcGIS Pro 2.x. Students will apply cartographic theory to practical problems, with a focus on making optimal design decisions during tasks such as selecting visual variables, classifying and generalizing data, applying principles of color and contrast, and choosing projections for maps. Students will be introduced to future-focused application topics such as augmented and virtual reality, mapping with multivariate glyphs, the visual depiction of uncertainty, interactive geo-visualization and (geo) visual analytics, and decision-making with maps and mapping products. | |

| | **Course Contents/Tasks** | **CLOs** |
|---|---|---|
| **1** | **Session 01:** Introduction to Forecasting Methods for Planners | 1 |
| **2** | **Session 02:** Demographic Analysis & Population Projection System | 1, 2 |
| **3** | **Session 03:** Forecasting Method for Housing and Real Estate | 1 |
| **4** | **Session 04:** Landuse Forecasting Techniques | 1 |
| **5** | **Session 05:** Travel Demand Modelling | 1, 2 |
| **6** | **Session 06:** Contingency Planning and Scenario planning | 3 |
| **7** | **Session 07:** Master Planning | 3 |
| **8** | **Session 08:** Visualization | 2 |
| **9** | **Session 09:** Participatory Planning | 2, 3 |
| **10** | **Session 10:** Policy Analysis | 3, 4 |
| **11** | **Session 11:** Institutional Capacity Assessment | 2, 4 |
| **12** | **Session 12:** Project Planning and Management | 3, 4 |
| **13** | **Session 13:** Legal Aspects of Planning | 3, 4 |

| | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | CLO1 | Learning the forecasting techniques essential for planners; | 1, 10 |
| | CLO2 | Comprehend planning issues and allows different perspective for problem analysis; | 6, 7 |
| | CLO3 | Exercise strategies to incorporate sustainability; | 2 |
| | CLO4 | Think of themselves as a change maker by visualizing the future problem and possible alternative pathways for finding better future. | 5, 7, 11 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Workshop | Assignment and Problem Solving Exercise |
| CLO2 | Hands on Training | Problem Solving Exercise |
| CLO3 | Workshop and Group Discussion | Assignment and Problem Solving Exercise |
| CLO4 | Workshop | Class Test and Problem Solving Exercise |

| **Learning Materials** | |
|---|---|
| **Recommended Readings/Materials** | Ortúzar, J. D. D., & Willumsen, L. G. (2002). Modelling transport. John Wiley & Sons. *West Sussex, England*.<br>Goodspeed, R., & DeBoskey, D. (2020). *Scenario Planning for Smaller Places: Aligning Methods and Context*. Lincoln Institute of Land Policy.<br>Talen, E. (2018). *Urban Design for Planners: Tools, Techniques, and Strategies*. Planetizen Press.<br>UNHABITAT. (2018). City Resilience Action Planning Tool (CityRAP).<br>Hack, G. (2018). *Site Planning: International Practice (The MIT Press)* (Illustrated ed.). The MIT Press. |
| **Supplementary Readings** | Lynch, K., & Hack, G. (1984). *Site Planning, Third Edition* (3rd ed.). The MIT Press.<br>Reed, M. S., Graves, A., Dandy, N., Posthumus, H., Hubacek, K., Morris, J., & Stringer, L. C. (2009). Who's in and why? A typology of stakeholder analysis methods for natural resource management. *Journal of environmental management*, *90*(5), 1933-1949.<br>Slocum-Bradley, N. (2022). Participatory Methods Toolkit: A Practitioner's Manual. Retrieved 1 June 2022, from https://cris.unu.edu/participatory-methods-toolkit-practitioners-manual. |

| **Course Code:** 0731 04 URP 5107 | **Year:** First | **Term:** First |
|---|---|---|
| **Course Title:** Research Philosophy and Design | | |
| **Course Status:** Core | | |
| **Credit:** 03 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | This course aims to introduce the foundations of research including the philosophy of research, research design, the assumptions and approaches adopted in social research. It also familiarizes students with different theoretical, conceptual and practical issues involved in conducting and completing social research. In addition, it provides students with the knowledge, skills to understand quantitative and qualitative research methods and also offers the types of skills necessary for the planning, data gathering, analyzing and dissemination stages of social research. | |

| **Course Contents** | | **CLOs** |
|---|---|---|
| **Section A** | | |
| **1** | **Philosophical Assumptions in Research:** Philosophical assumptions in research, common theoretical and epistemological thinking, ontological considerations in research, research paradigms and worldviews, positivism, post positivism, social constructivism, transformative frameworks, postmodern perspectives, and pragmatism. | 1, 3, 4 |
| **2** | **Use of Theory in Research:** Definition of theory in quantitative research, testing causal claims in quantitative research, theories in quantitative research, placement of quantitative theories, theory use in qualitative research, locating theory in qualitative research, use of mixed-methods theory, placement of mixed-methods theories. | 1, 2, 3 |
| **3** | **Ethics and politics in research:** Historical cases of unethical research, ethical principles, ethics and the issue of quality, the difficulties in ethical decision-making, ethics in the production and publication of scholarly work, politics in research. | 2, 3, 4, 5 |
| **4** | **Review of Literature:** The research topic**,** the use of the literature**,** design techniques, steps in conducting a literature review, searching computerized databases, priority for selecting literature material, literature map of the research. | 3, 4, 5 |
| **5** | **Quantitative Research Design:** Steps in quantitative research, introduction to measurement, survey research, experimental research, quasi-experimental research, randomized experiment research, cross-section and longitudinal research design. | 2, 3, 4, 5 |
| **6** | **Mixed Methods Research Design:** Understanding of mixed methods research, components of mixed methods procedures, types of mixed methods design**,** important factors in choosing a mixed methods design, convergent mixed methods design**,** explanatory sequential mixed methods design**,** exploratory sequential mixed methods design**,** complex mixed methods design. | 3, 4, 5 |
| **7** | **Plagiarism, Rules of Citation and Referencing:** Defining plagiarism, three steps to learning about plagiarism, forms of plagiarism, self-plagiarism, ways to avoid plagiarism, rules of citation and referencing, use of Endnote, Mendeley and Zotero. | 1, 3, 4, 5 |

| Section B | | CLOs |
|---|---|---|
| **8** | **Designing a Qualitative Study:** Characteristics of qualitative research, ways to use qualitative research, features of a good qualitative study, the process of designing a qualitative study**,** preliminary considerations, phases in the research process, ethics in qualitative research. | 1, 2, 4, 5 |
| **9** | **Narrative Approach:** Definition of narrative research, origin of narrative research, defining features of narrative studies, types of narratives**,** procedures for conducting narrative research. | 1, 3, 4, 5 |
| **10** | **Phenomenological Approach:** Definition of phenomenological research, origins of phenomenological research, defining features of phenomenology, types of phenomenology, procedures for conducting phenomenological research. | 1, 3, 4, 5 |
| **11** | **Grounded Theory Approach:** Definition of grounded theory research, origins of grounded theory research**,** defining features of grounded theory**,** types of grounded theory studies, procedures for conducting grounded theory research. | 1, 3, 4, 5 |
| **12** | **Ethnographic Approach:** Definition of ethnographic research, origins of ethnographic research, defining features of ethnographies, types of ethnographies**,** procedures for conducting ethnography. | 1, 3, 4, 5 |
| **13** | **Case Study Approach:** Definition of case study research, origins of case study research, defining features of case studies, types of case studies, procedures for conducting a case study. | 1, 3, 4, 5 |
| **14** | **Development of a Research Proposal:** Title of the research, research problem, research objectives, research questions, theoretical and conceptual framework, methodology, timetable, methods of analysis. | 1, 2, 3, 4, 5 |

| | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | CLO1 | Understand and appreciate a variety of philosophical aspects of research; | 1, 3, 5, 6, 7, 9, 11 |
| | CLO2 | Contextualize different research approaches, theories, and designs; | 2, 3, 5, 6, 7, 10 |
| | CLO3 | Design and conduct social research using appropriate tools and procedures for data collection; | 2, 5, 7, 8, 10 |
| | CLO4 | Find literature and explore databases, and assess the quality and metadata information; | 1, 3, 5, 7, 9, 11 |
| | CLO5 | Understand and explain issues of reliability and validity in quantitative and qualitative research. | 3, 4, 5, 6, 8, 9 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Lecture | Class Test and Final Exam |
| CLO2 | Class Lecture and Problem-based Learning | Assignment and Final Exam |
| CLO3 | Workshop and Lecture | Assignment and Presentation |
| CLO4 | Workshop and Lecture | Open-book Exam and Final Exam |
| CLO5 | Lecture and Group work or problem-based learning | Reading Assignment and Final exam |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Bryman, A. (2012).*Social Research Methods* (4thed.). Oxford University Press.<br>Creswell, J. W., & Poth, C. N. (2018). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* (4th ed.). SAGE Publications.<br>Creswell, J.W., & Creswell, J. D.(2018).*Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (5th ed.). SAGE Publications.<br>Creswell, J., & Clark, V.P. (2010).*Designing and Conducting Mixed Methods Research.* SAGE Publications.<br>IDPM. (2008).*How to Write Academic Text.* Belgium: University of Antwerp.<br>IDPM. (2008).*Exploratory Data Analysis.* Belgium: University of Antwerp.<br>Greetham, B. (2021). *How to Write Your Literature Review* (1st ed.). Macmillan Education Limited.<br>Jesson, J. K., Matheson, L., & Lacey, F. M. (2011). *Doing Your Literature Review: Traditional and Systematic Techniques* (1st ed.). SAGE Publications. |
| **Supplementary Readings** | Bazeley, P., & Jackson, K. (2013). *Qualitative Data Analysis with NVivo* (2nd ed.). SAGE Publications Ltd.<br>Crotty, M. (1998).*The Foundations of Social Research, Meaning and Perspective in the Research Process.* SAGE Publications.<br>Hammersley, M. (1993).*Social Research: Philosophy, Politics and Practice.* SAGE Publications.<br>Ridley, D. (2012). *The Literature Review: A Step-by-Step Guide for Students* (2nd ed.). SAGE Publications.<br>Yin, R.K. (2003).*Case Study Research, Design and Methods* (3rd ed.). Sage Publications.<br>Machi, L. A., & McEvoy, B. T. (2022). *The Literature Review: Six Steps to Success* (4th ed.). Corwin Press.<br>Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative Data Analysis: A Methods Sourcebook* (3rd ed.). SAGE Publications.<br>Wheeldon, J., & Ahlberg, K.M. (2012).*Visualizing Social Science Research.*SAGE Publications. |

| **Course Code:** 0731 04 URP 5127 | **Year:** First | **Term:** First |
|---|---|---|
| **Course Title:** Sustainable Cities and Neighbourhood | | |
| **Course Status:** Optional | | |
| **Credit:** 03 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | The cities in developing economies are not ready to embrace the advantage of urbanization to a fuller extent. The fast and unplanned urban transformation process has brought forward pressing urban challenges that have seriously disrupted the balance among social, economic, and built environment aspects. Therefore, urban planners in the 21st century need an in-depth critical understanding of the radical concept of sustainability, its premises and the economic and political hegemony associated with its adoption in diverse contexts. Knowledge concerning the extent to which the international sustainability debate has been understood in planning policies, practices, and the formation of urban neighbourhoods is paramount for leading pathways to achieve sustainable urbanization and create a sustainable future for our cities and neighbourhoods. This contemporary course aims to inform students about the current sustainability challenges confronting our cities and neighbourhoods and the concepts, theories and good practices of sustainable cities and neighbourhoods. The course focuses on the values, knowledge, and skills fundamental to ensuring cities and communities are sustainable, and those living in urban environments have good health and well-being and access to quality education. | |

| **Course Contents** | | **CLOs** |
|---|---|---|
| **Section A** | | |
| **1** | **Conceptualising Sustainable Cities:** The lectures will discuss evolving concepts, current discourses, and the key targets of sustainable cities. | 1, 2 |
| **2** | **Theories of Urban Sustainability:** Highlighting on the social, economic, cultural, and spatial domains, this lecture will tease out different theoretical underpinnings around urban sustainability. | 1, 2 |
| **3** | **Sustainability Challenges for Rapidly Urbanising Cities: C**ase studies from 14 urbanising cities to recognise the institutional, social, and developmental challenges for delivering sustainable cities. | 2, 3, 4 |
| **4** | **Delivering Sustainable Cities: C**ontemporary sustainable planning practices in both the developed and developing world, different pragmatic planning tools applied for the delivery of urban sustainability, tools of growth management, green cities, inclusive cities, healthy cities and learning cities. | 3, 4 |
| **Section B** | | **CLOs** |
| **5** | **Conceptualising Neighbourhood:** The evolving concept of neighbourhoods, associated discourses and approaches to define neighbourhoods for urban research and planning. | 1, 2 |
| **6** | **Theoretical Underpinnings of Neighbourhood Planning:** Drawing on three bodies of theory (spatial, social and political), different propositions on the benefits of neighbourhood planning. | 1, 2 |
| **7** | **Challenges for Neighbourhood Planning:** Modern approaches to | 2, 3, 4 |

| | | |
|---|---|---|
| | neighbourhood planning, the successes and failures of earlier approaches, how contemporary neighbourhood planning has been influenced by a long history of public and private involvement at the neighbourhood level. | |
| **8** | **Delivering Sustainable Neighbourhood-Contemporary Planning Practice: D**iverse neighbourhood planning programs with special reference to the universe of programs operating in the United States. Organization of local neighbourhood groups, overall program structure, program operation, inter-organizational relationships, and community context. | 3, 4 |
| **9** | **Sustainable Neighbourhoods In Bangladesh Context: T**he challenges of delivering sustainable neighbourhoods in the global South through the case of Bangladesh, current neighbourhood issues in Bangladeshi cities and the challenges of neighbourhood planning. | 1, 2, 3, 4 |

| | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | CLO1 | Recognise the post-structural and post-colonial discourses around urban sustainability and neighbourhood; | 1, 7 |
| | CLO2 | Comprehend the theories, principles and practices of sustainable cities and neighbourhoods; | 1, 7 |
| | CLO3 | Contribute to identifying the issues impeding delivering sustainable cities and neighbourhoods in diverse contexts; | 1, 7 |
| | CLO4 | Preparation of policies, strategies and tools for creating sustainable cities and neighbourhoods, | 1, 2, 4, 7 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Lecture and Problem based Discussion | Assignment, Presentation and Final Exam |
| CLO2 | Lecture | Class Test and Final Exam |
| CLO3 | Lecture, Group Discussions, Video Presentations | Assignment and Final Exam |
| CLO4 | Lecture, Group Discussions, City Visit | Assignment and Presentation |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Al-Zu'bi, M., & Radovic, V. (2018). *SDG11-Sustainable Cities and Communities: Towards Inclusive, Safe, and Resilient Settlements*. Emerald Group Publishing.<br>Hallsmith, G. (2003). *The key to sustainable cities: Meeting human needs, transforming community systems*. New Society Publishers.<br>Haughton, G., & Hunter, C. (2004). *Sustainable cities*. Routledge.<br>James, P. (2014). *Urban sustainability in theory and practice: circles of sustainability*. Routledge |

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|---|---|
| | Roy, S., Sowgat, T., Islam, S. T., & Anjum, N. (2021). Sustainability Challenges for Sprawling Dhaka. *Environment and Urbanization ASIA*, *12*(1_suppl), S59-S84.<br>Roy, S., Sowgat, T., Ahmed, M. U., Islam, S. T., Anjum, N., Mondal, J., & Rahman, M. M. (2018). Bangladesh: National urban policies and city profiles for Dhaka and Khulna. *GCRF Centre for Sustainable, Healthy and Learning Cities and Neighborhood (SHLC)*.<br>Roy, S., Sowgat, T., & Mondal, J. (2019). City Profile: Dhaka, Bangladesh. *Environment and Urbanization ASIA*, *10*(2), 216-232. |
| **Supplementary Readings** | Atanda, J. O. (2019). Developing a social sustainability assessment framework. *Sustainable Cities and Society*, *44*, 237-252.<br>Bahadure, S., & Kotharkar, R. (2018). Framework for measuring sustainability of neighbourhoods in Nagpur, India. *Building and Environment*, *127*, 86-97.<br>Sharifi, A., & Murayama, A. (2013). A critical review of seven selected neighbouhood sustainability assessment tools. *Environmental impact assessment review*, *38*, 73-87.<br>Almssad, A., & Almusaed, A. (2022). Overview of Sustainable Cities, Theory and Practices. http://dx.doi.org/10.5772/intechopen.82632<br>Huovila, A., Bosch, P., & Airaksinen, M. (2019). Comparative analysis of standardised indicators for Smart sustainable cities: What indicators and standards to use and when?. *Cities*, *89*, 141-153.<br>Emas, R. (2015). The concept of sustainable development: definition and defining principles. *Brief for GSDR*, *2015*, 10-13140.<br>Ghellere, M., Devitofrancesco, A., & Meroni, I. (2017). Urban sustainability assessment of neighbourhoods in Lombardy. *Energy Procedia*, *122*, 44-49.<br>Valentin, A., & Spangenberg, J. H. (2000). A guide to community sustainability indicators. *Environmental impact assessment review*, *20*(3), 381-392.<br>UN-Habitat. (2017, May). *A new strategy of sustainable neighbourhood planning: Five Principles*.<br>United Nations. (2020). *World Cities Report 2020: The Value of Sustainable Urbanization*. United Nations.<br>Roy, S. (2021, October). *Sustainable Urbanisation in Bangladesh and Dhaka: Challenges and Way Forward*. 23rd ASEF Summer University ASEF Education Department.<br>Roy, S., & Sowgat, T. (2020). Dhaka: Diverse, dense, and damaged neighbourhoods and the impacts of unplanned urbanisation, SHLC, UK.<br>Talen, E. (2018). *Neighborhood*. Oxford University Press.<br>Tanguay, G. A., Rajaonson, J., Lefebvre, J. F., & Lanoie, P. (2010). Measuring the sustainability of cities: An analysis of the use of local indicators. *Ecological indicators*, *10*(2), 407-418.<br>Yigitcanlar, T., Kamruzzaman, M., & Teriman, S. (2015). Neighborhood sustainability assessment: Evaluating residential development sustainability in a developing country context. *Sustainability*, *7*(3), 2570-2602. |

| **Course Code:** 0731 04 URP 5132 | **Year:** First | **Term:** First |
|---|---|---|
| **Course Title:** Geographic Information System (Lab./Project) | | |
| **Course Status:** Core** | | |
| **Credit:** 03 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | This course will be offered as additional core course for enrolled students who do not have Bachelor Degree in Urban and Rural/Regional Planning. This course is designed to provide students hands on experience so that they can professionally fulfil the goal of DA-09 and DA-33 of the GIS&T Body of knowledge prepared by University Consortium for Geographic Information Science (UCGIS). Through this course, the students will gain proficiency in GIS related software and hardware. | |

| | **Course Contents/Tasks** | **CLOs** |
|---|---|---|
| **1** | **Session 01:** Choosing software for geospatial operation, Workshop on spatial thinking and mind mapping. | 1 |
| **2** | **Session 02:** Understanding GIS data and cartographic representation. | 1, 2 |
| **3** | **Session 03:** Understanding Spatial properties and distortion of map; selection of appropriate coordinate systems, Spatial data creation. | 1, 2 |
| **4** | **Session 04:** Managing Vector data. | 1, 2 |
| **5** | **Session 05:** Managing Raster data. | 1, 2 |
| **6** | **Session 06:** Attribute Data Management and query. | 3, 4, 5 |
| **7** | **Session 07:** Editing and topology. | 3, 4, 5 |
| **8** | **Session 08:** Spatial Analysis-1 (Vector data). | 3, 4, 5 |
| **9** | **Session 09:** Spatial Analysis-1 (Raster data). | 3, 4, 5 |
| **10** | **Session 10:** MCA and Model builder. | 4, 5 |
| **11** | **Session 11:** Map visualization and reporting. | 1, 2, 3, 4, 5 |
| **12** | **Session 12:** Capstone project. | 1, 2, 3, 4, 5 |
| **13** | **Session 13:** Capstone project (continued). | 1, 2, 3, 4, 5 |
| **14** | **Session 14:** Submission and presentation on capstone project. | 1, 2, 3, 4, 5 |

| | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | CLO1 | Understand the nature, components and applications of GIS; | 1 |
| | CLO2 | Develop skills in sourcing, manipulating and interpreting spatial data; | 2 |
| | CLO3 | Critically discuss the applications of GIS in different field of urban and rural planning; | 1, 2 |
| | CLO4 | Develop a responsiveness of the underlying theory of spatial information science; | 1, 2 |
| | CLO5 | Perform spatial analysis tasks and generate outputs using GIS software. | 1, 2, 7, 10 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Lecture and Group Work | Presentation |
| CLO2 | Demonstration and Group Work | Presentation or Assignment |
| CLO3 | Demonstration, Group Work and Workshop | Presentation and assignment |
| CLO4 | Demonstration, Group Work and Workshop | Assignment |
| CLO5 | Group Work and Workshop | Capstone Project |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Price, M. (2019). *Mastering ArcGIS Pro (First edition).* McGraw Hill.<br>Price, M. (2015). *Mastering ArcGIS (Eighth edition).* McGraw Hill<br>Law, M; Amy, C. (2021). *Getting to Know ArcGIS Pro 2.8 (Fourth Edition).* ESRI Press |
| **Supplementary Readings** | http://training.esri.com/gateway/index.cfm<br>http://www.arcgis.com/home/<br>http://www.geographynetwork.com |

| **Course Code:** 0731 04 URP 5134 | **Year:** First | **Term:** First |
|---|---|---|
| **Course Title:** Spatial Analysis in Planning (Studio/Lab./Project) | | |
| **Course Status:** Optional | | |
| **Credit:** 03 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | Spatial analysis combines tools for managing data that represent the location of features (geographic coordinate data) and what they are like (attribute data); they also provide the ability to query, manipulate, and analyze those data. Spatial analysis allows one to represent social and environmental data on maps; it has become an important analysis tool used across a variety of fields, including planning, architecture, engineering, public health, environmental science, economics, epidemiology, and business. Spatial analysis has become an important political instrument allowing communities and regions to graphically tell their story. This course focuses on the state of the tools and techniques a professional planner need to know. | |

| | Course Contents/Tasks | CLOs |
|---|---|---|
| **1** | **Introduction to Spatial Analysis** | 1 |
| **2** | **Cartography and Map Design** | 1, 2 |
| **3** | **Spatial Data - Types, Structures, and Representation:** Querying and Working with Tables, Vector vs. Raster, Nominal and Ordinal Data, Geodatabases, Shapefiles, Topology. | 2 |
| **4** | **Quantitative Mapping** | 2, 3 |
| **5** | **Spatial Data Formats and Geoprocessing:** Data Formats, Concepts of Spatial Analysis, Geoprocessing Tools (Buffer, Clip, Dissolve, Update, Union, etc.). | 2, 3 |
| **6** | **Raster Decision Making and Suitability:** Raster Data Format,,Map Algebra, Overlay, Suitability Analysis, Decision Making and GIS, | 2, 3 |
| **7** | **Spatial Data Interpolation:** Elements of spatial interpolation, Global and local interpolation, Exact and approximate interpolation, Stochastic and deterministic interpolation. | 2 |
| **8** | **Model Builder and Other Topics:** How models are constructed, building our own model, building large processing workflow in model builder that uses parameter, preconditions, variables etc. | 1, 3 |
| **9** | **Geocoding, Using Google Map to Geocode** | 3 |
| **10** | **Spatial Statistics:** Pattern analysis- nearest neighbour analysis, Moran's I, Geographically weighted regression, spatial regression. | 4 |
| **11** | **Applied Spatial Analysis:** Accessibility analysis, Build out analysis, Built-environment metrics, Equity analysis, Large-scale mapping and analysis, Indexes, Natural hazards assessment, Scenario planning, Suitability analysis etc. | 4, 5 |
| **12** | **Miscellaneous:** Web and mobile GIS application, field data collection workflows, programming for GIS, other GIS systems like QGIS and companion applications like Geospatial Modelling Environment | 3 |

| | | | |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
| | CLO1 | Understand GIS concepts and spatial analysis techniques in an interdisciplinary setting; | 1 |
| | CLO2 | Identify and source data for use in evidence-based decision making; | 9, 11 |
| | CLO3 | Apply leading GIS software for spatial data preparation, analysis and visualisation with sophisticated skills of vector and raster processing; | 8 |
| | CLO4 | Demonstrate proficiency in integrating spatial data witha spatial data; | 1, 2 |
| | CLO5 | Demonstrate ability to conduct multi-disciplinary research project. | 2, 5, 11 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Lecture and Hands on Training | Assignment |
| CLO2 | Hands on Training | Problem-solving Exercise |
| CLO3 | Hands on Training | Assignment and Problem-solving Exercise |
| CLO4 | Workshop and Hands on Training | Assignment |
| CLO5 | Hands on Training | Assignment and Problem-solving Exercise |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Longley, P. (2003). *Advanced spatial analysis: the CASA book of GIS*. ESRI, Inc.<br>Haywood, I., Cornelius, S., & Carver, S. (2011). *An introduction to geographic information systems.*<br>Lovelace, R., Nowosad, J., &Muenchow, J. (2019). *Geo-computation with R*. Chapman and Hall/CRC. |
| **Supplementary Readings** | De Smith, M. J., Goodchild, M. F., & Longley, P. (2007). *Geospatial analysis: a comprehensive guide to principles, techniques and software tools*. Troubador publishing ltd. Kresse, W. (2012). *Springer handbook of geographic information* (pp. 118-120). D. M. Danko (Ed.). Dordrecht: Springer.<br>Schmandt, M. (2009). GIS Commons: an introductory textbook on Geographic Information Systems.<br>Foote, K. E. (1997). The geographer's craft: Teaching GIS in the web. *Transactions in GIS*, *2*(2), 137-150.<br>www.esri.com/industries/ebooks. |

| **Course Code:** 0731 04 URP 5143 | **Year:** First | **Term:** First |
|---|---|---|
| **Course Title:** Sustainable Urban Water & Sanitation | | |
| **Course Status:** Optional | | |
| **Credit:** 03 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | The course aims to contribute to planning and implementation of quality sustainable urban water and sanitation services, where the rights, needs, and demands of all citizens, including those of marginalized groups, are considered. Additionally, it will support sustainable development goal (SDG) 6, 'clean water and sanitation'. The main purpose of this course is to increase students' knowledge and ability to plan, implement, and innovate towards integrated and sustainable urban water and sanitation services. Therefore, it will be implemented by involving both internal faculty as well as WASH professionals to drive forward new knowledge and innovation across WASH sectors and disseminate among students. It is expected that continuation of this course will also facilitate a network and knowledge sharing platform that contribute to the long-term goal of sustainable WASH and services for all. | |

| **Course Contents** | | **CLOs** |
|---|---|---|
| **Section A** | | |
| **1** | **Introduction to Global WASH, WASH technologies, Urban WASH Problems and Challenges:** Components of WASH (water, sanitation, and hygiene) and importance of WASH, WASH technologies in practice, Progress on drinking water, sanitation and hygiene, Global water and sanitation problems and challenges, Exposure to WASH-borne hazards, Analysis of water and/or sanitation risks, Social exclusion and marginalization: exposure of vulnerable groups to WASH-borne hazards. | 1, 2 |
| **2** | **Equity and Inclusion:** WASH services in urban slums and schools, Conceptual framework regarding SUWAS principles of equity, fairness and inclusion, Human-rights approach to WASH, Difference among equality, equity, and reality, Inequality in WAH or Water Gap, WASH-An enabler for all SDGs, Inequality and barrier analysis, Tools and approaches, WASH in humanitarian emergencies. | 1, 2 |
| **3** | **GIS in Water and Sanitation Planning and Monitoring:** Fundamentals of GIS, GIS Data formats, design, and quality, Geospatial and Housing and WASH mapping, and Imagery, automation, and application. | 2, 3, 4 |
| **4** | **Using NVivo in WASH Research and Program Management:** Qualitative Interviews: Design, Analysis, and Styles of Representation, Transcription guidelines, Qualitative data analysis using NVivo 11/12, Creating and setting up project, Importing Data, setting up database, coding documents, organizing nodes. | 3, 4 |
| **Section B** | | **CLOs** |
| **5** | **Integration – in Approaches and Collaboration Across Sectors:** Integration-what does it mean? Why integrate? What to integrate? (Sectoral integration, institutional integration, area planning, integration of time) | 1, 2 |

| | | |
|---|---|---|
| **6** | **Tools for Institutionalization of Water and Sanitation:** Institutionalization of WASH at Local Level Planning, Hierarchy of Urban Development Plans, Pro-poor Planning Process, web of institutionalization. | 1, 2 |
| **7** | **Water Governance and Financing:** Drivers and barriers of water and sanitation policies for urban informal settlements, WASH Governance in Global South, WASH governance in global North, Planning for Enabling environment to develop Sustainable Sanitation, Innovative financial mechanisms for improving WASH systems and services, Sanitation Market in urban informal settlements, Value chains (production value chain, utility management value chain, food value chain, academic research value chain). | 2, 3, 4 |
| **8** | **Sustainability in Technology and Practices:** Sustainability-meaning, definition, Sustainable wash- (economically viable, socially acceptable, and technically appropriate), Reduce, Reuse and recycle, Water demand management, Watershed management, Groundwater management, Faecal sludge management, CLUES, Ecological Sanitation/Closed loop Sanitation System, Sustainable Sanitation Tech: Human feces composting, household greywater treatment & reuse. | 3, 4 |
| **9** | **Citywide Inclusive Sanitation (CWIS) Initiative:** Defining Citywide Inclusive Sanitation, Seven principles for citywide inclusive sanitation, Resource Planning and Management: A framework for analysis, CWIS service framework, Toward CWIS in Practice, A new approach to nationwide sanitation planning for developing ountries. | 1, 2, 3, 4 |

| | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | CLO1 | Demonstrate the components of WASH and have diverse knowledge on the WASH related technologies, problems and challenges. | 1, 2 |
| | CLO2 | Identify and analyse principles of equity, inclusion and sustainability in WASH related policies, practices, and services. | 7, 8, 9, 10 |
| | CLO3 | Distinguish and apply new tools and methodologies like GIS/aerial photography, social research methods and NVivo to WASH sector related challenges. | 3, 7, 8 |
| | CLO4 | Strengthen students' capacity to facilitate innovation and deliver new multi-disciplinary knowledge and tools regarding sustainable water and sanitation services. | 5, 7, 8, 9, 10 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Lecture, Assigned Readings and Student Presentations | Final Exam, Presentation |
| CLO2 | Lecture, Problem Based Learning, Fieldwork | Final Exam, Group Assignment |
| CLO3 | Lecture and Problem-Based Learning | Final Exam, Assignment |
| CLO4 | Lecture, Assigned Readings, Fieldwork and Student Presentation | Final Exam, Presentation |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Boyd, D. (2011). No taps, no toilets: First Nations and the constitutional right to water in Canada. *McGill Law Journal/Revue de droit de McGill*, *57*(1), 81-134.<br>Mitlin, D. (2015). Will urban sanitation "leave no one behind"? *Environment and Urbanization*, *27*(2), 365-370.<br>Werner, C., Panesar, A., Rüd, S. B., & Olt, C. U. (2009). Ecological sanitation: Principles, technologies and project examples for sustainable wastewater and excreta management. *Desalination*, *248*(1-3), 392-401.<br>Uddin, S. M. N., Walters, V., Gaillard, J. C., Hridi, S. M., & McSherry, A. (2016). Water, sanitation and hygiene for homeless people. *Journal of water and health*, *14*(1), 47-51. |
| **Supplementary Readings** | Kerstens, S. M., Spiller, M., Leusbrock, I., & Zeeman, G. (2016). A new approach to nationwide sanitation planning for developing countries: case study of Indonesia. *Science of the Total Environment*, *550*, 676-689.<br>McGranahan, G. (2013). Community-driven sanitation improvement in deprived urban neighbourhoods: meeting the challenges of local collective action, co-production, affordability and a trans-sectoral approach. SHARE.<br>Uddin, S. M. N., Li, Z., Gaillard, J. C., Tedoff, P. F., Mang, H. P., Lapegue, J., & Rheinstein, E. (2014). Exposure to WASH-borne hazards: A scoping study on peri-urban Ger areas in Ulaanbaatar, Mongolia. *Habitat International*, *44*, 403-411. |

| **Course Code:** 0413 04 BA 5159 | **Year:** First | **Term:** First |
|---|---|---|
| **Course Title:** Project Planning, Monitoring and Governance | | |
| **Course Status:** Optional | | |
| **Credit:** 03 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | This course aims to introduce the fundamentals of project planning, management, and governance mechanisms so that the students can develop an understanding of the application of different tools and techniques associated with project planning and management aspects. At the end of this course, the students will be able to describe the relevant issue related with project design and project evaluation approaches including the perspectives of governance. | |

| **Course Contents** | | **CLOs** |
|---|---|---|
| **Section A** | | |
| **1** | **Introductory Understanding of Project Planning:** The evolution of project management: 1945–2022, understanding project management, defining project success, the talent triangle, defining the role of project manager, functional manager, functional employee, project-driven versus non–project-driven organizations. | 1, 3, 4 |
| **2** | **Project Types and Views of Project Management:** Classification of projects, differing views of project management, public-sector project management, international project management, project champions. | 1, 2, 3 |
| **3** | **Project Management Growth:** Product versus project management, the stage-gate process, project life cycles, project management methodologies, enterprise project management methodologies to frameworks, change management and corporate cultures. | 2, 3, 4, 5 |
| **4** | **Organizational Structures:** Organizational work flow, traditional organization, pure product organization, matrix organizational form, the strong, weak, and balanced matrix, strategic business unit (SBU) project management, transitional management. | 3, 4, 5 |
| **5** | **Development of a Project Plan:** Development of a project network, work breakdown structure, constructing a project network, activity-on-node (AON) fundamentals, network computation process, level of details for activities, and practical considerations. | 2, 3, 4, 5 |
| **6** | **Risk Management in Projects:** Introduction to risk management process, risk identification, risk assessment, risk response development, contingency planning, opportunity management, risk response control, and conflict management. | 3, 4, 5 |
| **7** | **Contract Management:** Understanding the public procurement rules of 2008 for procurement, procurement plan, types of contracts, contact administration, contract closure, proposal-contractual interaction. | 1, 3, 4, 5 |
| **Section B** | | **CLOs** |
| **8** | **Management Functions:** Controlling, directing, project authority, interpersonal influences, leadership in a project environment, value-based project leadership, transformational project management | 1, 4, 5 |

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|---|---|---|
| | leadership, employee–manager problems, general management pitfalls, time management pitfalls, management policies and procedures. | |
| **9** | **Project Appraisal:** Global pricing strategies, project financing, capital rationing, life-cycle costing (LCC), economic project selection criteria: capital budgeting, payback period, the time value of money and discounted cash flow (DCF), net present value (NPV), internal rate of return (IRR), comparing IRR, NPV, and payback. | 1, 3, 4, 5 |
| **10** | **Project Performance Metrics:** Project management information systems, project metrics, key performance indicators, value-based metrics, dashboards and scorecards, and project intelligence. | 3, 4, 5 |
| **11** | **Project Evaluation:** Understanding the importance of evaluation, types of evaluation, evaluation approach, evaluation steps, pre-implementation assessment, process implementation evaluation, impact evaluation, meta evaluation, relationship between monitoring and evaluation, and key features of implementation monitoring versus results monitoring. | 1, 3, 4, 5 |
| **12** | **Project Planning in Bangladesh:** Types of organizations involved in formulating projects, functions and planning process of those organizations, understanding the activities and importance of NEC, ERD, and Bangladesh Planning Commission. | 1, 3, 4, 5 |
| **13** | **Guidelines of Project Formulation in Bangladesh:** Understand the guidelines and formulation process of Five-year plans of Bangladesh, and the Annual Development Plan **(**ADP) of Bangladesh; strategic alignment of project with SDGs and Delta Plan of Bangladesh, types of different project proformas/structure used in different projects-TAPP, PP. | 1, 3, 4, 5 |
| **14** | **Project Governance:** Project meeting, the meeting's agenda, post meeting activities, links between projects and strategy, strategic management, corporate governance, strategic governance, program governance, and project governance for efficient management. | 3, 4, 5 |

| | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | CLO1 | Understand the basics of program, project, project selection criteria, and project implementation procedure; | 1, 6, 7, 9, 11 |
| | CLO2 | Comprehend the resource matrix, stakeholder matrix, and responsibility matrix along with the Work Breakdown Structure (WBS) for effective management of project; | 2, 6, 7, 10 |
| | CLO3 | Analyze projects effectively including the management of scope, time, costs, resources, quality, risks and conflicts; | 2, 7, 8, 10 |
| | CLO4 | Understand the importance of project appraisal to analyze, monitor and control, and to manage the elements of the project; | 1, 7, 9, 11 |

| | | | |
|---|---|---|---|
| | CLO5 | Interpret the challenges and analyze interpersonal skills to manage the human resources of a project including organizing, managing and leading the project team, and establish governance. | 3, 4, 5, 6, 8, 9 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Lecture | Presentation or Assignment and Final Exam |
| CLO2 | Lecture and Group Discussion | Class Test or Assignment and Final Exam |
| CLO3 | Class Lecture and Problem-based Learning | Assignment and Final Exam |
| CLO4 | Lecture and Group work | Presentation or Assignment and Final Exam |
| CLO5 | Lecture and Workshop | Reading Assignment and Final Exam |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Gardiner, P. D. (2005). *Project Management: A Strategic Planning Approach* (1st ed.). Palgrave Macmillan Ltd.<br>General Economics Division (GED). (2014). *Development Project Proforma/Proposal (DPP)* (1st ed.). Planning Commission, Ministry of Planning.<br>Grit, R. (2022). *Project Management: A Practical Approach* (5th ed.). Noordhoff Uitgeversbv.<br>Gudda, P. (2011). *A Guide to Project Monitoring and Evaluation* (1st ed.).AuthorHouse.<br>Kerzner, H. (2017). *Project Management: A Systems Approach to Planning, Scheduling, and Controlling* (12th ed.). John Wiley & Sons.<br>Larson, E. W., & Gray, C. F. (2018). *Project Management: The Managerial Process* (7th ed.). McGraw-Hill Education. |
| **Supplementary Readings** | Phillips, J. (2022). *PMP: Project Management Professional (*1st ed.). McGraw Hill.<br>Project Management Institute. (2021). *The Standard for Project Management and a Guide to the Project Management Body of Knowledge* (7th ed.). Project Management Institute, Inc. |

| **Course Code:** 0542 04 Stat 5177 | **Year:** First | **Term:** First |
|---|---|---|
| **Course Title:** Statistical Methods for Planning Research | | |
| **Course Status:** Core** | | |
| **Credit:** 03 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | This course will be offered as additional core course for enrolled students who do not have Bachelor Degree in Urban and Rural/Regional Planning. This course is designed to teach students the basics of probability and statistics and their application to real-world problems, particularly in urban planning. The course's focus is the application of probabilistic and statistical tools for data analysis, hypothesis testing, and prediction. Its primary objective is an understanding of uncertainty, such that students can more effectively tackle a variety of key urban planning problems. | |

| **Course Contents** | | **CLOs** |
|---|---|---|
| **Section A** | | |
| **1** | **Recap of Elementary Statistics:** Distribution of numbers. | 1, 4 |
| **2** | **Time series Analysis:** Measurement of trend, seasonal variation-determination, use & importance of time series analysis. | 2, 4 |
| **3** | **Test of Hypothesis:** level of significance, testing the significance of difference between a sample mean & population mean, test of significance for attributes, testing the significance of difference between two sample means, test of significance of co-efficient of correlation, chi-square test, fisher's test. | 3, 4 |
| **4** | **Analysis of Variance:** definition, variance components, statistical assumption underlying analysis of variance, f-distribution, use & utility of variance analysis, one way classification, two way classification, three way classification. | 1, 3, 4 |
| **Section B** | | **CLOs** |
| **5** | **Probability Theory:** Random variables and probability distributions, Random Sampling and Distribution of Sample Averages, Large Sample Approximations to Sampling Distributions. | 1 |
| **6** | **Correlation:** Types of correlation, correlation vs. variance, computing test statistic, correlation vs causation, spurious correlation, outliers, reversing cause and effect, and confounders. | 2, 4 |
| **7** | **Linear Regression with One Regressor:** Simple linear regression, Estimating the coefficients, Measures of fit, The least squares Assumptions, Sampling Distribution of the OLS estimator. | 2, 3, 4 |
| **8** | **Linear Regression with Multiple Regressor:** Omitted variable Bias, Multiple regression model, Measures of fit, OLS assumptions in multiple regression, Distribution of OLS estimator in multiple regression. | 2, 3, 4 |
| **9** | **Principal Component Analysis (PCA):** Scope and purpose of PCA, Objectives of PCA, Types of PCA, Steps of PCA. | 1, 4 |

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|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
| | CLO1 | Apply laws of probability to random processes; | 2, 7 |
| | CLO2 | Use sample data to estimate parameters governing these processes; | 2, 7 |
| | CLO3 | Undertake tests of experimental hypotheses; | 2, 7 |
| | CLO4 | Apply the basics of probability and statistics and to solve real-world urban planning problems. | 2, 7, 10 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Lecture | Class Test and Final Exam |
| CLO2 | Lecture | Presentation or Assignment and Final Exam |
| CLO3 | Lecture | Class Test and Final Exam |
| CLO4 | Lecture | Assignment and Final Exam |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Hanck, C., Arnold, M., & Gerber, A. (2021). *Introduction to Econometricss with R.*<br>James, G., Witten, D., Hastie, T., & Tibshirani, R. (2021). *An Introduction to Statistical Learning: with Applications in R.* |
| **Supplementary Readings** | SalKind, N. J. (2014). *Statistics for People Who (Think They) Hate Statistics.* SAGE Publications, Inc. |

| First Year Second Term<br>Master's by Coursework and Master's by Mixed-mode | | |
|---|---|---|
| **Course Code:** 0731 04 URP 5206 | **Year:** First | **Term:** Second |
| **Course Title:** Dissertation Part-I-M | | |
| **Course Status:** Core [Offered for Master's by Mixed-mode (Dissertation Group) Only] | | |
| **Credit:** 03 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | The primary goal of this course is to help students develop research skills through its focus on writing and critiquing research proposals. Students will be taught how to develop a research proposal outlining all aspects of the planned research on their preferred research area. The proposals will be discussed in research seminars. At the end of this course, students will develop a research proposal and also defend their research proposal in front of the faculties. The course provides milestones for the proposal development process; the development will occur outside of class. Students will review components of research proposals and practice developing effective aims, hypotheses, background materials and analytic strategies. In addition to preparing a complete proposal, each student will be required to read assigned materials, hand in reflections about readings, consult with supervisor or course coordinator, make presentations, and participate actively in class discussions. The final research proposal for the course will be a peer reviewed. The proposal developed by the students enrolled under Master's by Mixed-mode (Dissertation Group) must be approved by the 'Proposal Defense Board' before planned field work for the dissertation in the subsequent term. | |

| | Course Contents/Tasks | CLOs |
|---|---|---|
| **1** | **Components/Elements of Research Proposal:** Conceptual and/or theoretical framework, Ethical issues in research, Citation and referencing, Plagiarism, How to write critical review and journal articles? | 1, 2 |
| **2** | **Developing Research Questions to Assess Scholarly Literatures and Designing Seminars for Presenting the Understanding about Scholarly Literatures:** Literature search and develop literature map, Techniques/tools to develop literature-based journal article, Identification of a research idea or research questions, Develop table of contents for a literature-based article, Design seminars. | 1, 2, 4, 6 |
| **3** | **Meeting with Research Supervisor:** Supervisor meetings should include conceptual discussions, plus feedback on the main study objective(s), proposal title, specific aims and hypotheses, study design, analysis approach, and other details. | 1, 2, 6 |
| **4** | **Organizing Seminars on a Literature Review-based Article:** Audience-appropriate research communication through talks and a journal article. | 3, 6 |
| **5** | **Hand in A Complete Research Proposal:** Development of a proposal format, Developing a research proposal. | 1, 2, 3, 5, 6 |
| **6** | **Participating in the 'Study Section' Review:** Writing and presenting critiques of two proposals, Scoring the research proposals, Making | 4, 5, 6, 7 |

| | | |
|---|---|---|
| | constructive comments, Collecting written critiques from two peers and the panel of examiners. | |
| **7** | **Presentation of Research Proposal:** Audience-appropriate research communication through talks, reports, or posters. | 4, 5, 6, 7 |

| | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | CLO1 | Select a topic of relevance to urban and rural/regional planning area, drawing on different theories, perspectives and past research studies and methods; | 1, 2 |
| | CLO2 | Identify and create the key components of a research proposal; | 2, 3 |
| | CLO3 | Identify the principles of research ethics and understand why they are important to the research community; | 4, 6 |
| | CLO4 | Identify relevant previous research on a topic and efficiently manage the information that is acquired from such research; | 6, 8 |
| | CLO5 | Critically consider the ethical issues in own and others' research and identify appropriate solutions to ethical dilemma in research practice; | 4, 5, 6 |
| | CLO6 | Write a comprehensive review of literature on a preferred topic urban and rural/regional planning discipline; | 3, 6, 7 |
| | CLO7 | Present, discuss and analyse main issues and important themes of preferred field of research addressed by the seminar. | 9, 10 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| **CLOs** | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| CLO1 | Lecture, Assigned Readings and Problem-based Learning | Presentation |
| CLO2 | Lecture, Group work, Individual Feedback | Report, Presentation |
| CLO3 | Lecture, Assigned Readings and Individual Presentation | Report, Presentation |
| CLO4 | Lecture, Assigned Readings and Individual Presentation | Report, Presentation |
| CLO5 | Lecture, Group work, Writing task | Seminar, Writing a journal article |
| CLO6 | Lecture, Group work, Writing task | Seminar, Writing a journal article |
| CLO7 | Lecture, Presentation | Research Proposal Seminar |

| **Learning Materials** | |
|---|---|
| **Recommended Readings** | Bryman, A. (2008). *Social research methods (3rd Edition)*. Oxford: OUP.<br>Creswell J.W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (2nd edition)*. London: SAGE Publications. |

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|---|---|
| | Creswell, J. and Clark, V.P. (2010). *Designing and conducting mixed methods research*. Sage.<br>Crotty M. (1998). *The Foundations of Social Research, Meaning and Perspective in the Research Process*. London: SAGE Publications.<br>Hart C. (1998). *Doing a Literature Review*. London: SAGE Publications.<br>McGill University (2022). *3M Thesis Presenter's Guidebook*.<br>Randolph, J. (2009). A guide to writing the dissertation literature review. *Practical assessment, research, and evaluation*, 14(1), 13.<br>Yin, R.K. (2003). *Case Study Research, Design and Methods (3rd Edition)*. London: Sage Publications. |
| **Supplementary Readings** | IDPM (2008). *How to write academic text*. Belgium: University of Antwerp<br>Monash University (2022). Planning the article.<br>Newcastle University (2019). 3 Minute Thesis (3MT) Presentation Rules and Preparation.<br>Wheeldon, J. and Ahlberg, K.M. (2012). *Visualizing Social Science Research*. Sage |

| **Course Code:** 0542 04 Stat 5277 | **Year:** First | **Term:** Second |
|---|---|---|
| **Course Title:** Advanced Quantitative and Qualitative Methods in Planning | | |
| **Course Status:** Core | | |
| **Credit:** 03 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | Efficient plan making depends on the effective analysis of data. The process of data analysis includes wide range of activities such as exploration of meaningful data, selection of appropriate tools, execution of statistical tools and non-statistical techniques, and interpretation of the outcomes. This course is appropriately designed for the graduate students coming from the relevant academic departments of urban and rural planning. It is divided into two parts: one primarily comprises the modern tools and techniques of quantitative methods in planning. Other part includes the application of qualitative dimensions in planning. | |

| **Course Contents** | | **CLOs** |
|---|---|---|
| **Section A** | | |
| **1** | **Planning and Designing Data Collection:** Introduction to statistics, Statistical distributions, Samples and populations. | 1 |
| **2** | **Exploratory Data Analysis:** Data type, Data visualization, Distribution. | 2, 3 |
| **3** | **Advanced Correlation:** Condition and assumptions, Typology and interpretation. | 2, 3 |
| **4** | **Regression Analysis:** Multiple regression and choice models. | 2, 3, 4 |
| **5** | **Urban Modeling for Decision Making Using Real World Scenarios:** Urban modeling and simulation using a statistical package, Introduction to computer programming, Pseudo code, Programming for practical data analysis. | 3, 4 |
| **6** | **Geospatial Data Analysis and Integration with Numeric Data:** Geographical Information Systems (GIS) and Remote Sensing and integration with household data/secondary numeric data, Handling vector and raster data, Real-world examples using a case study. | 3, 4 |
| **7** | **Transferrable Skills:** Technical report writing capabilities, Teamwork and leadership development competencies. | 4 |
| **Section B** | | **CLOs** |
| **8** | **Introduction to Qualitative Methods:** Qualitative Research Philosophy, Elements and styles of qualitative research in planning, Outline the different qualitative data collection methods and their usage in planning. | 1 |
| **9** | **Application of Qualitative Tools in Planning:** Interviews, Focus group discussion, Key informant interviews, Participant observation. | 1, 2, 3 |
| **10** | **Analysis of Qualitative Data:** Pattern construction, Category construction, Deductive-inductive-abductive reasoning, Codes and coding process. | 1, 2, 3 |
| **11** | **Case Study:** Process of case, Description-narrative-bridging in case study, Narrative analysis. | 1, 2, 3 |
| **12** | **Thematic Analysis:** Analytic memos, Descriptive coding, Values coding, Dramaturgical coding versus coding, Developing concepts. | 1, 2, 3, 4 |

| | | |
|---|---|---|
| **13** | **Data Visualization and Representation:** Hierarchical coding, Content analysis, Cluster analysis, Tree analysis. | 3, 4 |
| **14** | **Transferrable Skills:** Data analysis with NVivo, Qualitative research report writing capabilities. | 4 |

| | | | |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
| | CLO1 | Critically assess the underlying theory and application of the methods studied; | 1, 2, 7 |
| | CLO2 | Conduct complex statistical analysis and qualitative analysis; | 3, 6 |
| | CLO3 | Present and interpret results of statistical analysis and qualitative analysis; | 8, 10 |
| | CLO4 | Use both qualitative data and quantitative data for cross-disciplinary decision-making. | 5, 8, 10 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Lecture, Assigned readings and Problem-based learning | Presentation and Final Exam |
| CLO2 | Lecture, Group work, hands-on session | Class Test and Final Exam |
| CLO3 | Lecture, Group work, hands-on session | Presentation and Final Exam |
| CLO4 | Lecture, Group work, hands-on session | Assignment and Final Exam |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Field, A. P. (2013). *Discovering statistics using IBM SPSS statistics*. London, England: SAGE.<br>Hair *et. al.* (2013). *Multivariate Data Analysis: A Global Perspective (7th ed.)*. Pearson Education, Inc,<br>Salkind, N. (2013). *Statistics for People Who (Think They) Hate Statistics(5th ed.)*. Thousand Oak, California: Sage Publications.<br>Bazeley, P., & Jackson, K. (2013). *Qualitative Data Analysis with NVivo* (2 ed.). London: SAGE Publications Ltd.<br>Hennink, M., Hutter, I., & Bailey, A. (2011). *Qualitative Research Methods*. London: SAGE Publications Ltd.<br>Saldana, J. (2011). *Fundamentals of Qualitative Research* New York: Oxford University Press.<br>Yin, R. K. (2009). *Case Study Research: Design and Methods* (4 ed.). Thousand Oaks, California: SAGE Publications Inc. |
| **Supplementary Readings** | Train, K. (2003). *Discrete Choice Methods with Simulation*. Cambridge: Cambridge University Press.<br>Wilson, A.G., (1974). *Urban and Regional Models in Geography and Planning*. John Wiley & Sons Incorporated, Bristol, The United Kingdomv<br>Creswell, J. W. (2007). *Qualitative Inquiry and Research Design: Choosing Among Five Traditions* (2 ed.). Thousand Oaks, California: SAGE Publications Inc. |

| **Course Code:** 0731 04 URP 5213 | **Year:** First | **Term:** Second |
|---|---|---|
| **Course Title:** Regional Development Planning | | |
| **Course Status:** Optional (Group 01 of Optional Courses: Rural and Regional Development) | | |
| **Credit:** 06 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | The course will explore the interrelation between national policies for regional economic development. Under this course, a large number of topics will be discussed, including: location theory, theory of spatial organization, the role of resources and migration in regional development, problems of peripheral rural areas, the definition of regions, the concept of planning regions, objectives and measures of regional development, regional investment criteria, and institutional aspects of regional development planning. | |

| **Course Contents** | | **CLOs** |
|---|---|---|
| **Section A** | | |
| **1** | **Introduction:** Defining Regional Development, Classic Models of Regional Planning and Economic Development, Why do we need regional economic development planning? | 1, 2 |
| **2** | **Measuring Regional Development:** Concepts and theories in economic development, Building an economic profile of region using secondary data, Measuring and evaluating regional economic performance. | 1, 2, 3 |
| **3** | **Regional Imbalance:** Theory of balanced and unbalanced growth, Challenges of economic development in peripheral and declining regions, Planning for regional decline vs. planning for place-based development. | 1, 2, 3, 4 |
| **4** | **Regional Planning in the Developing World:** Challenges of regional planning in the developing world, Examples of regional development in the developing world. | 2, 3, 4 |
| **Section B** | | **CLOs** |
| **5** | **National Planning and Regional Development in Bangladesh Context:** Strategies of national planning for regional development, Budgetary allocation for regional development, External resources and foreign aid for regional development. | 2, 3, 4 |
| **6** | **Regional Decentralization:** The concepts of regional decentralization, Effects of regional decentralization on national development, Intuitional perspectives of regional decentralization. | 1, 4 |
| **7** | **Sustainable Regional Development:** Environmental practices, Ecosystem services, Circular economy. | 1, 4, 5 |
| **8** | **Capacity Building, Institutions and Leadership for Regional Economic Development:** An Emerging New Perspective on Regional Capacity Building, Endogenous Processes, Leadership and Institutional Capacity Building, Leadership and Regional Economic Development: A Conceptual Model, Re-Engineering Regions and Rapid Response, Networks, Strategic Alliances and Network Resources. | 3, 4, 5 |

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|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
| | CLO1 | Define various theoretical approaches to regional planning and economic development; | 1, 2 |
| | CLO2 | Summarize the history and context of regional development planning; | 1, 2, 7, 8 |
| | CLO3 | Explain the rationale for, and approaches to, regional development in a variety of contexts; | 1, 2, 7 |
| | CLO4 | Critically evaluate regional development initiatives; | 2, 7, 10 |
| | CLO5 | Formulate policy recommendations regarding regional development issues. | 2, 7, 8, 11 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Lecture | Class Test and Final Exam |
| CLO2 | Lecture and Group Discussion | Presentation, Assignment and Final Exam |
| CLO3 | Lecture and Problem-based Learning | Class Test, Assignment and Final Exam |
| CLO4 | Lecture and Workshop | Assignment and Presentation |
| CLO5 | Lecture and Group Discussion | Presentation and Final Exam |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Stimson, R. J., Stough, R. R., & Roberts, B. H. (2006). *Regional economic development: analysis and planning strategy*. Springer.<br>Pike, A., Rodríguez-Pose, A., & Tomaney, J. (2016). *Local and regional development*. Routledge.<br>Beer, A., & Clower, T. L. (2019). *Globalization, planning and local economic development*. Routledge.<br>Friedmann, J., & Alonso, W. (1964). *Regional development and planning: A reader.* MIT Press. |
| **Supplementary Readings** | Todes, A., & Turok, I. (2018). Spatial inequalities and policies in South Africa: Place-based or people-centred? *Progress in Planning*, *123*, 1-31.<br>Mishra, M., Singh, R. B., de Lucena, A. J., & Chatterjee, S. (2021). *Regional Development Planning and Practice: Contemporary Issues in South Asia*. Springer. |

| **Course Code:** 0731 04 URP 5215 | **Year:** First | **Term:** Second |
|---|---|---|
| **Course Title:** Rural Poverty and Inequalities | | |
| **Course Status:** Optional (Group 01 of Optional Courses: Rural and Regional Development) | | |
| **Credit:** 06 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | Students of this course are expected to learn and understand the conceptual issues of poverty and inequality, poverty traps, measures of poverty and theories related to poverty and marginality. This course offers a clear understanding of different dimensions of poverty and structural perspective of poverty and introduces students with the current global practices for poverty reduction. | |

| **Course Contents** | | **CLOs** |
|---|---|---|
| **Section A** | | |
| **1** | **Understanding Poverty:** Three related concepts of poverty, Absolute & Relative Poverty, Subjective Poverty Assessment, Three Dimensions of Poverty, Conceptualising chronic and extreme poverty. | 1 |
| **2** | **Multi-dimensional Approach to Poverty:** Conceptual Issues, Operational Framework, MPI & Method of Constructing MPI. | 1 |
| **3** | **Poverty Lines & Measures of Poverty:** How to define a Poverty Line? Absolute & Relative Poverty Line, Cost of Basic Services & Food Energy Poverty Line, Constructing a Poverty Line, Headcount ratio, Gap Index and Squared Gap Index. | 1 |
| **4** | **Theorising Poverty & Marginality:** The Theory of Subsistence, The Theory of Relative Deprivation, The Theory of Entitlement, The Theory of Marginality, The Theory of Culture of Poverty, Theory of Political Economy, Livelihood Framework. | 2 |
| **5** | **Poverty Trap:** What is poverty trap? Breaking out of poverty trap? What works to reduce poverty trap? | 1, 3 |
| **6** | **Inequality and Inequity:** Why is inequality a problem? Why is inequality a social problem? Does inequality impede growth? Agency implications of poverty/subordination Does inequality lead to conflict? | 1, 3 |
| **7** | **Inequality Processes and Measurement:** Inequality: types, dimensions, determinants, How to measure inequality? Initial opportunities and Discrimination, Distribution systems, Redistribution by states. | 1, 3 |
| **Section B** | | **CLOs** |
| **8** | **A Structural Perspective on Poverty:** Economic System & Poverty, Political System & Poverty, Cultural System & Poverty, Social System & Poverty. | 3, 5 |
| **9** | **Asset & Livelihood:** A Framework for Asset Based Social Policy to Poverty Reduction, Land, Poverty and Livelihood in an Era of Globalisation. | 4, 5 |
| **10** | **Access to Public Services:** Welfare theory, Capability considerations, Accountable public action: framework of analysis. | 4, 5 |
| **11** | **Access to Finance:** Financial markets and development, Financial market failure and the micro-finance revolution, Social impact of | 6 |

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|---|---|---|
| | microfinance, Rural microfinance and Finance Plus. | |
| **12** | **Markets and Value Chains:** Markets and Value Chains: some actor-oriented and institutional perspectives, The political economy of the global commodity chain, Agrarian reform. | 6 |
| **13** | **Pro-Poor Policies:** Four Set of Policies for Poverty Eradication, Programs for Poverty Reduction- Targeting the Poorest & Programs for the Poorest, Lesson Learnt from Case Studies & Making it Work-Finding Money and Spreading the Knowledge. | 7 |

| | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | CLO1 | Understand various definitions of the term poverty and inequality learn how it is measured and appreciate the policy relevance of metrics; | 1 |
| | CLO2 | Demonstrate theories related to poverty and marginality; | 1, 2, 7 |
| | CLO3 | Analyse drivers and maintainers of persistence poverty; | 7, 10 |
| | CLO4 | Locate asset accumulation process for the urban poor; | 1, 7 |
| | CLO5 | Assess poverty and livelihoods in multi-disciplinary perspective; | 1, 2, 5, 7 |
| | CLO6 | Gain contextual knowledge of poverty and economic security; | 1, 2, 7 |
| | CLO7 | Design pro-poor development initiatives for poverty eradication. | 7, 8, 11 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| **CLOs** | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| CLO1 | Lecture, Assigned Readings, Hands-On Session | Final Exam, Presentation |
| CLO2 | Lecture, Group Work | Group Assignment |
| CLO3 | Lecture and Problem-Based Learning | Final Exam, Assignment |
| CLO4 | Lecture, Assigned Readings and Student Presentation | Final Exam, Presentation |
| CLO5 | Lecture | Final Exam, Group Assignment |
| CLO6 | Lecture, Assigned Readings and Student Presentation | Final Exam, Presentation |
| CLO7 | Lecture | Final Exam, Assignment, Presentation |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Banerjee, A.V. & Duflo, E. (2011), *"Barefood Hedge-Fund Managers". In: Poor Economics; A radical rethinking of the way to fight global poverty*. Public Affairs, New York, Chapter 6, p.133-156.<br>Banerjee, A.V. & Duflo, E. (2011). *"The Men from Kabul and the Eunuchs of India: The (Not So) Simple Economics of Lending to the Poor". In: Poor Economics; A radical rethinking of the way to fight* |

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|---|---|
| | *global poverty*. Public Affairs, New York, Chapter 7, p.157-182.<br>Banerjee, A.V. & Duflo, E. (2011). *"Saving Brick by Brick". In: Poor Economics; A radical rethinking of the way to fight global poverty. Public Affairs*. New York, Chapter 8, p.183-204.<br>Santos, E. M. and Alkire, S. (2011). *The Multidimensional Poverty Index (MPI): Training Material for Producing National Human Development Reports*. Oxford: Oxford Poverty & Human Development Initiative (OPHI).<br>Scoones, I. (2015). *Sustainable Livelihoods and Rural Development*. Blackpoint, Nova Scotia: Fernwood Books, Ltd.<br>World Bank Institute (2005). *Introduction to Poverty Analysis*. Washington D.C.: The World Bank. |
| **Supplementary Readings** | CPRC (2004). *The chronic poverty report 2004-5*. Manchester: Chronic Poverty Research Centre.<br>CPRC (2014). *The Chronic Poverty Report 2014-15: The road to zero extreme poverty*. Manchester: Chronic Poverty Research Centre, University of Manchester.<br>Frank E. (1992). *Agricultural policies in developing countries*. Cambridge University Press, Cambridge. |

| **Course Code:** 0314 04 Soc 5279 | **Year:** First | **Term:** Second |
|---|---|---|
| **Course Title:** Gender and Rural Development | | |
| **Course Status:** Optional (Group 01 of Optional Courses: Rural and Regional Development) | | |
| **Credit:** 06 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | Students of this course are expected to learn and understand the conceptual issues of poverty and inequality, poverty traps, measures of poverty and theories related to poverty and marginality. This course offers a clear understanding of different dimensions of poverty and structural perspective of poverty and introduces students with the current global practices for poverty reduction. | |

| **Course Contents** | | **CLOs** |
|---|---|---|
| **Section A** | | |
| **1** | **Gender, Identities and Social Diversity:** Patriarchy, feminism, gender equity and equality, discrimination, oppression and exploitation, violence, sub-ordination, emancipation. | 1, 2 |
| **2** | **Women and Men in Politics:** What is efficient, equitable, and equal? Multilevel and multisectoral issues, Intrahousehold Resource Allocation and Income Sources. | 1, 2, 3 |
| **3** | **Gender, Mobilisation and Active Citizenship:** Gender analysis concepts and principles, Harvard framework for gender analysis, Moser's triple role and gender needs framework, Concepts in measurement of gender equality/inequality: GDI, GII, GEM. | 1, 2, 3, 4 |
| **4** | **Gender and Poverty reduction:** Understanding poverty from a gender perspective, Researching Poverty from Gender lenses. | 2, 3, 4 |
| **Section B** | | **CLOs** |
| **5** | **A Gender Perspective on Organizational Culture and Structure in Rural Areas:** Gender and rural geography, Identity, sexuality and power, Gender relations in agriculture, Local power structure in rural areas. | 2, 3, 4 |
| **6** | **Gendered Policy Approaches to Rural Development:** Role of women in decision making process in rural areas, Engaging women in rural infrastructure development process. | 1, 4 |
| **7** | **Gender Analysis and Project Formulation:** Questioning gender-based planning assumptions, Fitting gender into development institutions and practices. | 1, 4, 5 |
| **8** | **Mainstreaming Gender in Policy and Planning for Rural Development:** Social Change: Politics, Social Movements, and the State, Gender mainstreaming: Douth Asian Cases, Gender aware policies and planning. | 3, 4, 5 |

| **Course Learning Outcomes (CLOs)** | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
|---|---|---|---|
| | CLO1 | Examine gender relations and their intersection with other social relations, in the context of rural development; | 1, 4 |

| | | | |
|---|---|---|---|
| | CLO2 | Explore the institutionalization of gender in policy, planning and management; | 1, 7, 8 |
| | CLO3 | Demonstrate knowledge of the impact on women and men of selected sectoral policy and planning relating to rural development; | 1, 5, 7, 8 |
| | CLO4 | Analyze and critically argue on the basis of theory and empirical evidence in the field of gender. | 1, 4, 7, 8, 10, 11 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Lecture | Class Test, Assignment and Final Exam |
| CLO2 | Lecture and Group Discussion | Presentation, Assignment and Final Exam |
| CLO3 | Lecture and Problem-based Learning | Class Test, Assignment and Final Exam |
| CLO4 | Lecture and Workshop | Assignment and Presentation |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Moser, C. (2012). *Gender planning and development: Theory, practice and training*. Routledge.<br>Rahman, M., & Jackson, S. (2010). *Gender and sexuality: Sociological approaches*. Polity.<br>Harcourt, W. (2012). *Women reclaiming sustainable livelihoods: spaces lost, spaces gained*. Springer.<br>Pini, B. (2004). Gender and rural geography: identity, sexuality and power in the countryside. *Rural Society*, *14*(2), 199-201.<br>Jackson, C. (1998). Women and poverty or gender and well-being? *Journal of International Affairs*, 67-81.<br>Bullock, R., & Tegbaru, A. (2019). Women's agency in changing contexts: A case study of innovation processes in Western Kenya. *Geoforum*, *105*, 78-88.<br>Agarwal, B. (1997). "Bargaining" and gender relations: Within and beyond the household. *Feminist economics*, *3*(1), 1-51.<br>Campbell, H., & Bell, M. M. (2000). The question of rural masculinities. *Rural sociology*, *65*(4), 532-546.<br>Galiè, A., & Farnworth, C. R. (2019). Power through: A new concept in the empowerment discourse. *Global food security*, *21*, 13.<br>Quisumbing, A. R., & Pandolfelli, L. (2010). Promising approaches to address the needs of poor female farmers: Resources, constraints, and interventions. *World development*, *38*(4), 581-592.<br>Cohen, M. (1997). A road map for measuring development impact: a woman's and family perspective. *Review of social economy*, *55*(2), 243-250. |
| **Supplementary Readings** | Doss, C. (2013). Intrahousehold bargaining and resource allocation in developing countries. *The World Bank Research Observer*, *28*(1), 52-78.<br>Tibesigwa, B., & Visser, M. (2016). Assessing gender inequality in food |

security among small-holder farm households in urban and rural South Africa. *World Development*, *88*, 33-49.
Njuki, J., Kaaria, S., Chamunorwa, A., & Chiuri, W. (2011). Linking smallholder farmers to markets, gender and intra-household dynamics: Does the choice of commodity matter? *The European Journal of Development Research*, *23*(3), 426-443.
Drechsler, D., Jütting, J., & Lindberg, C. (2008). Gender, Institutions and Development: Better data, better policies. *ILO, Poverty In Focus*, (13).

| **Course Code:** 0731 04 URP 5223 | **Year:** First | **Term:** Second |
|---|---|---|
| **Course Title:** Urban Development Policy, Planning and Management | | |
| **Course Status:** Optional (Group 02 of Optional Courses: Urban Development Planning and Housing) | | |
| **Credit:** 06 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | The course will explore the economic, social and physical change of cities in the wider context of development and globalization. To better understand the challenges facing urban development, the roles, relations, and actions of actors in civil society and the public and private sectors will be examined in theory and practice. The institutional and organizational frameworks in which they operate will be examined. To this end, this course will also assess a range of cases of urban development practice, drawing out their contribution to the current debates on strategic action towards inclusive urban development. Finally it will explore the implications of these debates for problem diagnosis, participation, organizational development and 'public learning' in strategic urban action. | |

| **Course Contents** | | **CLOs** |
|---|---|---|
| **Section A** | | |
| **1** | **Trends in World Urbanization:** Facts and Interpretation, The Changing Nature of Irregularity, The debates on development, urbanization and policies. | 1, 3 |
| **2** | **Cities, Development and Poverty:** Conceptualizing Urban Poverty, Economic Adjustment and the New Dualism, Relationship between development policies, urban poverty and urban development. | 1, 2, 4 |
| **3** | **State Restructuring and Urban Development:** Globalization in Question, World Cities in a World System, Urban Governance and State Restructuring, Ambiguities and dilemmas posed by structural adjustment policies. | 1, 4 |
| **4** | **Institutions and Actors in Urban Development:** The organizational landscape of urban development planning, Web of institutionalization. | 1, 3, 4 |
| **Section B** | | **CLOs** |
| **5** | **Contextualising New Urban Agenda:** The New Urban Agenda, Relevance of the New Urban Agenda, Five Pillars of the New Urban Agenda, Interrelationship with SDGs. | 1, 3 |
| **6** | **Social Justice:** Manifestations of inequalities in the process of urbanization, Equality and social justice, How is social justice in the city defined in current debates? | 2, 4 |
| **7** | **Inclusive City:** Inequality, segregation and the inclusive city, Interrelationship between inclusive city and sustainable urban development. | 1, 2, 4 |
| **8** | **Power, Conflict and Consensus in Urban Planning:** Conceptual discussions of structure and social agency, Context of contemporary urban change, power relations and strategic action. | 3, 4 |

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| **Course Learning Outcomes (CLOs)** | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
| | CLO1 | Understand the contemporary challenges of urban development planning, and how it relates to wider development processes; | 1, 7, 8 |
| | CLO2 | Explore theory, methodology and practice of strategic action in urban development which can address social justice and inclusive development; | 1, 2, 4, 7, 8 |
| | CLO3 | Analyze critically different institutional and organizational arrangements for urban development in multi-disciplinary perspective; | 1, 2, 5 |
| | CLO4 | Develop analytical and critical argument on the basis of theory and empirical evidence in the field of urban development planning. | 1, 7, 8, 10 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Lecture and Policy Review | Class Test, Assignment and Final Exam |
| CLO2 | Lecture and Group Discussion | Presentation, Assignment and Final Exam |
| CLO3 | Lecture and Problem-based Learning | Class Test, Assignment and Final Exam |
| CLO4 | Lecture and Workshop | Assignment and Presentation |

**Learning Materials**

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|---|---|
| **Recommended Readings** | Balbo, M. (1993). Urban planning and the fragmented city of developing countries. *Third World Planning Review*, *15*(1), 23.<br>United Nations Human Settlements Programme. (2009). *Planning Sustainable Cities: Policy Directions: Global Report on Human Settlements 2009*. UN-HABITAT.<br>McGrew, A. (2000). Sustainable globalization? The global politics of development and exclusion in the new world order. *Poverty and development into the 21st century*, 345-364.<br>Hirst, P. (2005). *Space and power: politics, war and architecture*. Polity.<br>Sassen, S. (2002). Locating cities on global circuits. *Environment and urbanization*, *14*(1), 13-30.<br>Beall, J. (2002). Globalization and social exclusion in cities: framing the debate with lessons from Africa and Asia. *Environment and urbanization*, *14*(1), 41-51.<br>Wratten, E. (1995). Conceptualizing urban poverty. *Environment and urbanization*, *7*(1), 11-38.<br>Jenkins, P., Smith, H., & Wang, Y. P. (2006). *Planning and housing in the rapidly urbanising world*. Routledge.<br>Levy, C. (1996). *The process of institutionalising gender in policy and planning: The web of institutionalisation*. UCL. |

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| | Visser, G. (2001). Social justice, integrated development planning and post-apartheid urban reconstruction. *Urban Studies*, *38*(10), 1673-1699.<br>Bramley, G., Dempsey, N., Power, S., Brown, C., & Watkins, D. (2009). Social sustainability and urban form: evidence from five British cities. *Environment and planning A*, *41*(9), 2125-2142.<br>Espino, N. A. (2015). *Building the inclusive city: theory and practice for confronting urban segregation*. Routledge.<br>Healey, P. (1997). *Collaborative planning–shaping places in fragmented societies*. Macmillan Press, London.<br>Fainstein, S. S. (2014). The just city. *International journal of urban Sciences*, *18*(1), 1-18. |
| **Supplementary Readings** | Devas, N., & Rakodi, C. (Eds.). (1993). *Managing fast growing cities: new approaches to urban planning and management in the developing world*. Longman Scientific and Technical.<br>Roy, A. (2005). Urban informality: toward an epistemology of planning. *Journal of the American planning association*, *71*(2), 147-158.<br>Fainstein, S. S. (2009). Planning and the just city. In *Searching for the just city* (pp. 39-59). Routledge. |

| **Course Code:** 0731 04 URP 5225 | **Year:** First | **Term:** Second |
|---|---|---|
| **Course Title:** Housing Policy, Program and Projects | | |
| **Course Status:** Optional (Group 02 of Optional Courses: Urban Development Planning and Housing) | | |
| **Credit:** 06 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | This course will address the challenges of housing in a changing world. Therefore, it will introduce the key concepts and theories of housing policy development and approaches to the design and implementation of national and local housing programs and projects. It provides a critical analysis of the evolution of housing policies in the post-war period. It will explore in a theoretical and comparative way the redefinition in the role of the state in the process of housing production and provision. The course also seeks to significantly increase understanding about the problems of low-income shelter and the practicality and potential of the actions to be taken in response to such problems by different actors. | |

| **Course Contents** | | **CLOs** |
|---|---|---|
| **Section A** | | |
| **1** | **Housing Policy in a Changing World:** Crisis of Modernisation, Self-help Housing Approach, Structural Adjustment Program, Enabling Paradigm. | 1 |
| **2** | **Poverty Alleviation and Housing Policy:** The evolution of ideas on poverty and their relation to housing and urban policies as instruments of social policy. | 2 |
| **3** | **Urban Governance and Decentralization in Housing Policy:** The concept of governance and its implications for the redefinition of the role of the state, local government, private sector and civil societies in housing. | 1, 2 |
| **4** | **The Challenge of Scaling-up:** The possibilities and constraints of scaling-up housing provision and poverty alleviation initiatives, the institutional framework of scaling-up pro-poor housing policies. | 1, 2 |
| **Section B** | | **CLOs** |
| **5** | **Community-led Housing:** Conceptualizing community-driven and community-led development, Evolution of community-led housing, Major components of community-led housing, Challenges associated with community-led housing. | 3 |
| **6** | **Rental Housing as an Alternative Solution:** The supply of rental housing, Policies which regulate rental housing in the cities of Global South, Ways to promote rental housing in housing policies. | 2, 3 |
| **7** | **Designing and Financing Slum & Settlement Upgrading:** How eviction affects the poor, Secure tenure and on-site upgrading, Land sharing, Resettlement, How to make housing finance reach the poor better? Informal finance markets, Strategies to make sure housing finance reaches the poor. | 2, 3 |
| **8** | **City-wide Pro-poor Housing Process:** Preconditions of city-wide housing strategies, Case Study: city-wide slum upgrading in Thailand. | 3 |

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|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
| | CLO1 | Explain the evolution of housing policies and the economic and political contexts in which they have emerged; | 1, 2, 8 |
| | CLO2 | Understand the complexities and challenges associated with housing provision of the urban poor; | 1, 2, 4, 7, 8, 10 |
| | CLO3 | Appreciate alternative approaches to housing delivery mechanisms (programs and projects), with particular emphasis on low income groups. | 2, 8, 10 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Lecture and Group Discussion | Class Test, Assignment and Final Exam |
| CLO2 | Lecture and Group Discussion | Presentation, Assignment and Final Exam |
| CLO3 | Lecture and Problem-based Learning | Assignment and Final Exam |

**Learning Materials**

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|---|---|
| **Recommended Readings** | Jenkins, P., Smith, H., & Wang, Y. P. (2006). *Planning and housing in the rapidly urbanising world*. Routledge.<br>United Nations Human Settlements Programme. (2003). *The Challenge of Slums - Global Report on Human Settlements 2003*. UN-HABITAT.<br>Clapham, D. (2018). Housing theory, housing research and housing policy. *Housing, Theory and Society*, *35*(2), 163-177.<br>Hardoy, J. E., & Satterthwaite, D. (2014). *Squatter citizen: life in the urban third world*. Routledge.<br>Rahman, M. A. U., Hossain, M. Z., & Kabir, M. E. (2016). Operationalizing community-led housing in practice: Lessons from Bangkok, Thailand and Mumbai, India. *International Journal of Sustainable Built Environment*, *5*(2), 564-578.<br>Lloyd-Jones, T., & Rakodi, C. (2014). *Urban livelihoods: A people-centred approach to reducing poverty*. Routledge.<br>Rahman, M. A. U., Wang, Y. P., & Smith, H. C. (2011). Can an enabling approach promote the transformation for scaling-up pro-poor housing initiatives in Bangladesh. In *Proceedings of the 12th Network-Association of European Researchers on Urbanization in the South Conference, October 20-22*.<br>Wakely, P. (1988). The development of housing through the withdrawal from construction: changes in Third World housing policies and programmes. *Habitat International*, *12*(3), 121-131.<br>Wakely, P. (2018). *Housing in Developing Cities: Experience and Lessons*. Routledge.<br>Ley, A., Rahman, M. A. U., & Fokdal, J. (2020). *Housing and Human Settlements in a World of Change* . Transcript Verlag.<br>Boonyabancha, S. (2005). Baan Mankong: Going to scale with “slum” |

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| | and squatter upgrading in Thailand. *Environment and Urbanization*, *17*(1), 21-46.<br>UN-ESCAP. (2008). Housing the poor in Asian cities, No 2: Low-income housing: approaches to help the urban poor find adequate accommodation.<br>UN-ESCAP. (2008). Housing the poor in Asian cities, No 5: housing finance: ways to help the poor pay for housing.<br>UN-ESCAP. (2008). Housing the poor in Asian cities, No 6: community-based organizations: the poor as agents of development.<br>UN-ESCAP. (2008). Housing the poor in Asian cities, No 7: rental housing: a much neglected housing option for the poor. |
| **Supplementary Readings** | Davis, M. (2010). Planet of Slums: Urban Involution and the Informal. *Cultural Theory: An Anthology*, *318*.<br>Moser, C. O. (1995). Urban social policy and poverty reduction. *Environment and Urbanization*, *7*(1), 159-172.<br>Rondinelli, D. A., McCullough, J. S., & Johnson, R. W. (1989). Analysing decentralization policies in developing countries: a political-economy framework. *Development and change*, *20*(1), 57-87.<br>d'Cruz, C., & Satterthwaite, D. (2005). *Building homes, changing official approaches: The work of urban poor organizations and their federations and their contributions to meeting the Millennium Development Goals in urban areas*. Human Settlements Programme, International Institute for Environment and Development. |

| **Course Code:** 0731 04 URP 5227 | **Year:** First | **Term:** Second |
|---|---|---|
| **Course Title:** Managing and Financing Urban Infrastructure | | |
| **Course Status:** Optional (Group 02 of Optional Courses: Urban Development Planning and Housing) | | |
| **Credit:** 06 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | This course is taught under the Urban Development Planning and Housing specialization that outlines the basic principles of urban infrastructure management for building prosperous cities that are sustainable, resilient and efficient. This course offers a clear description and explanation of the relationship between urban infrastructure and its linkages with city's land, economic development, investment and social and health conditions that influence a city' sustainability and environmental performance. This specialized course provides hands-on knowledge and expertise on how the local governments can most efficiently provide, manage, finance and operate municipal infrastructure to deliver desired levels of service. | |

| **Course Contents** | | **CLOs** |
|---|---|---|
| **Section A** | | |
| **1** | **Introduction to Urban Infrastructures:** Global challenges of urban growth and finance, technological change, microeconomic reform and productivity. | 1, 2, 3, 4 |
| **2** | **Smart city:** Concept and aspects of development, garden city to green city, application of smart city in developing countries. | 1, 3, 4, 5 |
| **3** | **Urban Infrastructure's Productivity, Evaluation, and Finance:** Investment, efficiency of infrastructure, assessment of benefits and costs, forms of financing, financial analysis, network analysis. | 3, 4, 5 |
| **4** | **Private–Public Partnerships:** Private–public sector participation continuum, general framework for analysing private–public partnerships, role of local government - civil society- private sector. | 2, 3, 4, 5 |
| **5** | **Land Management and Planning Legislation:** Land development process, planning systems and land use regulation. | 2, 3, 4, 5 |
| **Section B** | | **CLOs** |
| **6** | **Financing and Managing Urban Water: C**limate change and its impact on urban water management, water security, urban water industry, financing urban water utilities, financial structure of water utilities. | 1, 2, 3, 5 |
| **7** | **Financing and Managing Urban Energy Systems:** Energy systems, energy policy and governance, energy markets, supply systems. | 1, 2, 3, 4 |
| **8** | **Financing and Managing Urban Transport:** Urban transport in theory, transport infrastructure, transport policy structures and mechanisms. | 1, 3, 4, 5 |
| **9** | **Principles and Systems for Coordination of Infrastructure Investment:** 'City shaping' follower infrastructure, identifying infrastructure projects with 'City shaping' power, designing coordination systems, 'Predict and Provide' versus 'Creating the Future' model, coordinating city shaping infrastructure, coordinating follower infrastructure, urban metropolitan governance. | 1, 2, 3, 4, 5 |

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| **Course Learning Outcomes (CLOs)** | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
| | CLO1 | Demonstrate a understanding of planning and management of urban infrastructure systems; | 1, 7, 8 |
| | CLO2 | Develop ability critically to evaluate evidence-based analyses and/or syntheses in relation to urban development planning; | 1, 2, 4, 7, 8 |
| | CLO3 | Describe the dynamics within and between urban infrastructure systems, and their relation to the built environment and economic development; | 1, 2 |
| | CLO4 | Provide a critical analysis of the consequences of ongoing developments and future needs on urban infrastructure provision; | 1, 7, 8, 10 |
| | CLO5 | Evaluate qualities of infrastructure systems in terms of vulnerability, sustainability, and efficiency. | 1, 7, 8, 10 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Lecture and Group Discussion | Class Test, Assignment and Final Exam |
| CLO2 | Lecture and Group Discussion | Presentation, Assignment and Final Exam |
| CLO3 | Lecture and Problem-based Learning | Assignment and Final Exam |
| CLO4 | Lecture and Problem-based Learning | Presentation and Final Exam |
| CLO5 | Lecture and Problem-based Learning | Assignment and Final Exam |

**Learning Materials**

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|---|---|
| **Recommended Readings** | Bigio, A. G., & Dahiya, B. (2004). Urban Environment and Infrastructure: Toward Livable Cities. Washington DC: World Bank.<br>Etingoff, K. (Ed.). (2016). *Urban Development for the 21st Century: Managing Resources and Creating Infrastructure*. Oakville: Apple Academic Press.<br>Jupesta, J., & Wakiyama, T. (Eds.). (2016). *Cities and the Global Politics of the Environment* London: Palgrave Macmillan.<br>Papa, R., & Fistola, R. (Eds.). (2016). *Smart Energy in the Smart City: Urban Planning for a Sustainable Future*. Cham: Springer International Publishing |
| **Supplementary Readings** | Shen, Z., Huang, L., Peng, K., & Pai, J. (Eds.). (2018). *Green City Planning and Practices in Asian Cities: Sustainable Development and Smart Growth in Urban Environments*. Cham: Springer International Publishing.<br>Wellman, K., & Spiller, M. (Eds.). (2012). *Urban Infrastructure: Finance and Management*. West Sussex: Wiley-Blackwell. |

| **Course Code:** 0731 04 URP 5236 | **Year:** First | **Term:** Second |
|---|---|---|
| **Course Title:** Hazards, Risk and Resilience (Field Work & Studio) | | |
| **Course Status:** Optional (Group 03 of Optional Courses: Climate, Environment and Sustainable Development) | | |
| **Credit:** 06 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | This course aims to equip students with the tools required to plan, implement, present, and evaluate primary research relating to hazard, risk and disaster resilience. It will assist students to apply different approaches for assessing hazard, risk, and resilience. Students will learn about the research project chain including the developing own research ideas related to hazard, risk and resilience, developing conceptual and/or analytical framework, logistical planning of fieldwork for research, designing their data collection and analysis strategy, practical techniques for fieldwork, presenting and interpreting the findings and able to critique the work of others. | |

| | Course Contents/Tasks | CLOs |
|---|---|---|
| **1** | **Multi-hazard Risk Assessment and Risk Informed Development Planning:** Hazard, risk, and vulnerability assessment, Approaches to multi-hazard risk assessment, Multi-criteria Decision Making (MCDM) approach/GIS-based methodology for multi-hazard risk, Assessment process/Data analysis techniques, Interpretation of data, Use of multi-hazard risk knowledge in spatial/development planning. | 1, 3 |
| **2** | **Assessment Climate/Disaster Resilience:** Conceptual framework of climate/disaster resilience, Quantitative/qualitative methodology for assessing climate/disaster resilience, Assessment process/Data analysis techniques/Use of computer software for data analysis, Interpretation of data, Development of climate/disaster resilience decision making tool. | 1, 3 |
| **3** | **Independent Research Project Development Considering Hazard, and Risk or Resilience:** Development of research ideas, Indicator selection, and working process development, Planning and designing data collection (criteria for case study selection, samples, and population), Analytical framework development, Questionnaire development/Interview checklist development. | 2 |
| **4** | **Presentation of Independent Research Proposal:** Audience-appropriate research communication through talks or posters. | 2, 5 |
| **5** | **Conducting Fieldwork:** Participate in a fieldtrip in climate hotspots of Bangladesh, Hands-on experience in collecting and recording quantitative and/or qualitative data in the field, Fieldwork ethics. | 1, 2, 3 |
| **6** | **Computer-assisted Data analysis:** Database development, Quantitative data analysis (indexing, probabilities, hypothesis testing, regression), Spatial data analysis through Geographical Information Systems (GIS) and Remote Sensing (RS), Textual data analysis (coding, categories, themes), Interpretation of both numeric and textual data. | 2, 3, 4 |
| **7** | **Presentation of Independent Research:** Audience-appropriate research communication through talks, journal article, reports or posters. | 2, 5 |

| | Upon successful completion of the course, the students will be able to: | | Mapping with PLOs |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | CLO1 | Demonstrate hazard, risk and resilience assessment methodology; | 1, 2 |
| | CLO2 | Write effective research, consultancy and funding proposals; | 3, 4 |
| | CLO3 | Analyse qualitative, quantitative, and spatial data relating to hazard, risk and climate/ disaster resilience; | 3, 6, 7, 8, 10 |
| | CLO4 | Develop evidence-based arguments within a structured debate about risk/resilience using various types of data; | 3, 6, 8, 10 |
| | CLO5 | Develop audience-appropriate research communication. | 5, 6, 10, 11 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Lecture, Assigned Readings and Problem-based learning | Presentation |
| CLO2 | Lecture, Group Work | Report and Presentation |
| CLO3 | Hands-on Sessions, Fieldwork, Database Development and Analysis | Report |
| CLO4 | Lecture, Group Work | Report and Presentation |
| CLO5 | Lecture, Group work and Writing Task | Journal Article Writing, Presentation/Poster |

**Learning Materials**

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|---|---|
| **Recommended Readings** | Pelling, M. (2011). *Adaptation to Climate Change: From Resilience to Transformation*. London: Routledge.<br>Pine, C.J. (2009). *Natural Hazard Analysis: Reducing the Impacts of Disaster*. USA: Auerbach Publications, Taylor & Francis Group.<br>McGill University (2022). 3M Thesis Presenter's Guidebook.<br>Randolph, J. (2009). A guide to writing the dissertation literature review. *Practical assessment, research, and evaluation*, 14(1), 13.<br>Tanner, T., & Horn-Phathanothai, L. (2014). *Climate change and development*. London: Routledge.<br>Trochim, W.M.K., Donnelly, J.P., and Arora, K. (2016). *Research methods: The essential knowledge base*. Boston, MA: CengageLearning.<br>Yin, R.K. (2003). *Case Study Research, Design and Methods (3rd Edition)*. London: Sage Publications. |
| **Supplementary Readings** | Adab, H., Kanniah, K. D., & Solaimani, K. (2013). Modeling forest fire risk in the northeast of Iran using remote sensing and GIS techniques. *Natural Hazards*, 65(3), 1723–1743.<br>Adger, W. N. (1999). Social Vulnerability to Climate Change and Extremes in CoastalVietnam. *World Development*, 27(2), 249–269.<br>Ahmed, B. (2015). Landslide susceptibility mapping using multi-criteria evaluation techniques in Chittagong Metropolitan Area, Bangladesh. *Landslides*, 12(6), 1077–1095. |

Greiving, S., Fleischhauer, M., & Lückenkötter, J. (2006). A Methodology for an integrated risk assessment of spatially relevant hazards. *Journal of Environmental Planning and Management*, 49(1), 1–19.
Haque, D. M. E., Khan, N. W., Selim, Md., Kamal, A. S. M. M., & Chowdhury, S. H. (2020).Towards Improved Probabilistic Seismic Hazard Assessment for Bangladesh. *Pure and Applied Geophysics*, 177(7), 3089–3118.
Hoque, M. A.-A., Pradhan, B., Ahmed, N., & Roy, S. (2019). Tropical cyclone risk assessment using geospatial techniques for the eastern coastal region of Bangladesh. *Science of The Total Environment*, 692, 10–22.
Moghadas, M., Asadzadeh, A., Vafeidis, A., Fekete, A., & Kötter, T. (2019). A multi-criteria approach for assessing urban flood resilience in Tehran, Iran. *International Journal of Disaster Risk Reduction*, 35, 101069.
Usamah, M., Handmer, J., Mitchell, D., & Ahmed, I. (2014). Can the vulnerable be resilient? Co-existence of vulnerability and disaster resilience: Informal settlements in the Philippines. *International Journal of Disaster Risk Reduction*, 10, 178–189.
Monash University (2022). Planning the article.
Monash University (2022). Writing the article.
Monash University (2022). Presenting effectively.
Newcastle University (2019). 3 Minute Thesis (3MT) Presentation Rules and Preparation.
Vaughan, E. (2018). Resilience Measurement Practical Guidance Note Series 3: Resilience Capacity Measurement.
Yoon, D. K., Kang, J. E., & Brody, S. D. (2016). A measurement of community disaster resilience in Korea. *Journal of Environmental Planning and Management*, 59(3), 436–460.
Yin, J., Yin, Z., & Xu, S. (2013). Composite risk assessment of typhoon-induced disaster for China's coastal area. *Natural Hazards*, 69(3), 1423–1434.

| **Course Code:** 0731 04 URP 5239 | **Year:** First | **Term:** Second |
|---|---|---|
| **Course Title:** Planning for Climate Resilient Built Environment | | |
| **Course Status:** Optional (Group 03 of Optional Courses: Climate, Environment and Sustainable Development) | | |
| **Credit:** 06 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | This course explains how to develop and implement an action plan to make neighbourhood, community, or region more environmentally and economically healthy, habitable, and resilient. It introduces two basic development patterns and supportive systems that constitute our built environment, and describes their features, benefits, drawbacks, and performance characteristics. The built environment includes seven essential supporting systems: transportation (mobility of people, goods, and services), energy (community and building electrical power), water (supply, waste, and storm water), natural environment (biological resources and landscapes), food Production or agriculture (urban/urban edge cultivation and production), solid waste (garbage, refuse, and sludge), and economic (industries, jobs, and financing). | |

| **Course Contents** | | **CLOs** |
|---|---|---|
| **Section A** | | |
| **1** | **The Built Environments and Its Supporting Systems:** Defining the Built Environment and Supporting Systems, Fundamental Types of Built Environments, Fundamental Types of Supporting Systems. | 1, 2 |
| **2** | **The Process of Transformation:** Sustainable Plan-Making, The Plan-Making Steps, Integration of Natural Hazards with Land use Planning for Sustainable Communities. | 1, 2 |
| **3** | **The Physical Built Environment:** Sustainable Community Commerce, Building Sustainable Communities: The Ecological Toolkit, Bioclimatic Building Design, Action sheets (A Sustainable Commercial Framework, Neighbourhood Resource Canter, Attainable and Resilient Housing). | 1, 2, 4 |
| **4** | **The Regulatory Environment:** Sustainability Planning and the Law, Transforming the Built Environment Through Form-Based Coding, Action Sheets (Legal Impediments Survey, Transfer of Development Rights, The Smart Code, GHG Emissions Inventory and Forecast). | 3, 4 |
| **5** | **Essential Support System I-Transportation:** Sustainable Transportation and Transit Planning- Strategies for Comprehensive Regional Transportation Plans and Transit Oriented Development, An Incremental Approach: Comprehensive Regional Transportation Plan. | 1, 2, 3 |
| **6** | **Essential Support System II-Energy:** The Energy Shift, Action sheets (Energy Efficiency and Renewable Energy in New Building Design). | 1, 2, 3 |
| **7** | **Essential Support System III-Water:** Storm water Management—Light Imprint Development, Decentralized Wastewater Management. | 1, 2, 3 |
| **Section B** | | **CLOs** |
| **8** | **Essential Support System IV- Natural Environment:** Sustainable Landscaping, Action sheets (Sustainable Landscaping: Building Green Assets, Diversified Carbon Sequestration and Cellulosic Biofuels Program). | 1, 2, 3 |

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| **9** | **Essential Support System V- Food Production/Agriculture:** Sustainable Food Systems, Action sheets: (Urban Orchards, Urban Agriculture, Urban Edge Agricultural Parks). | 1, 2, 3 |
| **10** | **Essential Support System VI-Solid Waste:** Sustainable Materials Management, Action Sheets: (Home Composting, Commercial and Institutional Recycling, GHG Emissions Benefits of Recycling and Organics Management). | 1, 2, 3 |
| **11** | **Essential Support System VII-Economics:** Sustainable Economic Development, A Sustainable Return on Investment, Action sheets: (Downtown Revitalization). | 1, 2, 3 |
| **12** | **Engagement and Education:** Creating and Managing Sustainability for a Municipality. | 3, 4 |
| **13** | **Public Health:** Ambient Outdoor Air Quality, Community Health, A Holistic Public Health Approach. | 3 |

| | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | CLO1 | Demonstrate the people and processes necessary for moving from low-performance, high-carbon places and supporting systems to the high-performance, low-carbon models; | 1, 2 |
| | CLO2 | Create and refine an actionable plan—a set of policies, programs, codes, projects, best practices, technologies, and tools; | 7, 8 |
| | CLO3 | Identify the people and other resources necessary to create and activate the plans with an involved public; | 7, 8 |
| | CLO4 | Enable students to assemble a planning team, research and assess current state of sustainability. | 7, 11 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| **CLOs** | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| CLO1 | Lecture, Assigned Readings and Student Presentations | Final Exam, Presentation |
| CLO2 | Lecture, Group Work Based on Real Life Working Scenarios | Group Assignment |
| CLO3 | Lecture and Assigned Readings and Student Presentations | Final Exam, Assignment |
| CLO4 | Lecture, Assigned Readings and Student Presentation | Final Exam, Assignment, Presentation |

**Learning Materials**

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|---|---|
| **Recommended Readings** | Coyle, S. (2011). *Sustainable and Resilient Communities: A Comprehensive Action Plan for Towns, Cities and Regions*. Canada: John Wiley & Sons, Inc.<br>Burby, Raymond J. (ed). (1998). *Cooperating with Nature: Confronting Natural Hazards with Land-Use Planning for Sustainable Communities*. |

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| | USA: National Academy of Sciences, Joseph Henry Pres. |
| **Supplementary Readings** | Islam, T. and Jeffrey R. (2016). *Hazard Mitigation in Emergency Management*. Waltham, Butterworth-Heinemann.<br>Schwab, J. (2011). *Hazard Mitigation: Integrating Best Practices into Planning*. Chicago: APA Books. |

| **Course Code:** 0521 04 ES 5291 | **Year:** First | **Term:** Second |
|---|---|---|
| **Course Title:** Climate Change and Development | | |
| **Course Status:** Optional (Group 03 of Optional Courses: Climate, Environment and Sustainable Development) | | |
| **Credit:** 06 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | This course provides a comprehensive and multi-disciplinary foundation for understanding and analysing complex and tangled relationship between development and climate change. It guides students to comprehend and apply transformational approaches that are required to integrate poverty reduction and climate protection and promote sustainable development. It provides the building blocks for understanding climate science and the nexus between climate and development. It also highlights responses to climate change from the perspective of developing countries, including international agreements, climate change mitigation and adaptation, and climate finance. It offers analytical tools for evaluating responses, enabling students to have clear understanding about the climate change and development nexus as policy and action. | |

| **Course Contents** | | **CLOs** |
|---|---|---|
| **Section A** | | |
| **1** | **Science, Drivers, and Impacts of Climate Change:** Introduction to Global Warming, The basics of the climate system, Physical and anthropogenic drivers of climate change, Historical and projected observed changes in the climate. system, leading up to the end of the 21st century, The potential of Intended Nationally Determined Contributions (INDCs). | 1 |
| **2** | **The Effects of Climate Change:** Trends in climate change impacts, including loss of Arctic Sea ice, melting glaciers, increased heat waves and extreme temperatures, and drought and aridity, Impacts on key development sectors, Sectoral impacts focusing on agricultural production, water resources, ecosystem services, and coastal vulnerability for affected populations, Psychological and social impacts of climate change. | 1 |
| **3** | **Climate–Development Nexus:** The complex interactions between climate, environmental and socioeconomic systems, The common normative underpinnings of equity, social justice, and sustainability for actions in the climate and development spheres, The concepts of vulnerability and adaptation in the context of development, The integration of approaches to mitigation and adaptation in development, The integration of climate change adaptation and disaster risk reduction, The nexus between poverty, vulnerability, and resilience. | 2 |
| **4** | **Risk, Hazards and Disaster:** A basic scientific knowledge for several natural and anthropogenic hazards and their vulnerability, Dealing with uncertainty, including acceptable levels of risk and uncertainty, Quantitative approaches to hazard and risk assessment, Catastrophe/ Natural hazard modelling. | 3 |

| | | |
|---|---|---|
| **5** | **Scientific Knowledge and Disaster Risk Reduction:** The Basics of Disaster Risk Reduction, Science and Policy, The nature and distribution of risk and disasters, including the temporal and spatial scales and the acute and chronic dimensions, How disaster risk may evolve in the future and how science and technology may be able to improve preparedness, Mitigation methods and early warning systems. | 3 |
| **Section B** | | **CLOs** |
| **6** | **Mitigation Responses and Low-emissions Development:** The UNFCCC's basic architecture and evolution, with a focus on the developing- country context, The historical link between rising income, rising energy use and rising greenhouse gas emissions, Different analytical approaches to understanding the options for lower emissions development, Policy options for mitigation, examining the sectoral contexts pertinent to developing countries. | 4 |
| **7** | **Adaptation and Its Link with Development:** The idea of adaptation, An adaptation lexicon, The antecedents of adaptation, The evolution of different analytical approaches to adaptation, Adaptation as a contemporary development concern. | 5 |
| **8** | **The Resilience-Transition-Transformation Framework:** Adaptation as resilience-social learning and self-organization, Adaptation as transition: risk and governance, Adaptation as transformation: risk society, human security, and the social contract. | 6 |
| **9** | **Climate Finance:** Definition, rationale, and requirements for climate finance, Some of the existing sources of international climate finance available to developing countries, Governance, sources, and spending. | 7 |
| **10** | **Development Futures in a Transformed World:** The changing context of development, The debate about alternative modes of development, Alternatives to GDP-centric paradigms of development, Basic conditions and strategies/actions that need to be taken on in the transition towards climate-smart development. | 8 |

| | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | CLO1 | Demonstrate fundamentals of climate change science and explain observed and projected trends and impacts in the climate; | 1 |
| | CLO2 | Analyse the complex relationship between development and climate change from the multidisciplinary perspective; | 1, 7, 8 |
| | CLO3 | Compare and contrast the different severity imposed by such natural and anthropogenic hazards; | 10 |
| | CLO4 | Identify key sectors for low carbon development and outline relevant mitigation options; | 7, 10 |
| | CLO5 | Apply analytical tools for evaluating mitigation and adaptation; | 2 |
| | CLO6 | Assess the process of adaptation and its links to development; | 2 |

| | | | |
|---|---|---|---|
| | CLO7 | Understand key elements of the international climate change finance architecture; | 6 |
| | CLO8 | Identify alternative pathways to tackling development in a changing climate. | 3, 8, 9 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Lecture, Assigned Readings and Student Presentations | Final Exam, Presentation |
| CLO2 | Lecture, Group Work Based on Real Life Working Scenarios | Group Assignment |
| CLO3 | Lecture and Problem-Based Learning | Final Exam, Assignment |
| CLO4 | Assigned Readings and Student Presentation | Final Exam, Presentation |
| CLO5 | Lecture, Fieldwork for Real Life Working Scenarios | Final Exam, Group Assignment |
| CLO6 | Assigned Readings and Student Presentation | Final Exam, Presentation |
| CLO7 | Lecture | Final Exam, Quiz |
| CLO8 | Lecture, Problem-Based Learning | Assignment |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Moser, C.S. and Boykoff, T.M. (2013). *Successful Adaptation to Climate Change: Linking science and policy in a rapidly changing world*. London: Routledge.<br>Pelling, M. (2011). *Adaptation to Climate Change: From Resilience to Transformation*. London: Routledge.<br>Pine, C.J. (2009). *Natural Hazard Analysis: Reducing the Impacts of Disaster*. USA: Auerbach Publications, Taylor & Francis Group.<br>Tanner, T., & Horn-Phathanothai, L. (2014). *Climate change and development*. London: Routledge.<br>Ting, S-K.D. and Stagner, A.J. (eds.) (2021). *Climate Change Science Causes, Effects, and Solutions*. Netherlands: Elsevier. |
| **Supplementary Readings** | Archer, D. (2007). *Global Warming Understanding the forecast*. Australia: Blackwell Publishing Ltd.<br>Norman, B. (2018). *Sustainable Pathways for our Cities and Regions Planning within Planetary Boundaries*. USA: Routledge.<br>Schipper, L., and M. Pelling. (2006). Disaster risk, climate change and international development: Scope for and challenges to integration. *Disasters*, 30(1): 19–38.<br>UNISDR (United Nations International Strategy for Disaster Reduction). (2016). *The science and technology roadmap to support the implementation of the Sendai framework for disaster risk reduction 2015–2030*. Geneva: UNISDR. |

| **Course Code:** 0731 04 URP 5241 | **Year:** First | **Term:** Second |
|---|---|---|
| **Course Title:** Transport Modelling | | |
| **Course Status:** Optional (Group 04 of Optional Courses: Transport Planning and Management) | | |
| **Credit:** 06 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | This course covers various aspects of urban and regional transportation system performance forecasting. By the end of this course, students should have a solid understanding of the theory and methods underlying the practice of urban and regional travel demand modeling and should be able to define and apply key elements of different modeling paradigms for aggregate and disaggregate approaches to city-wide and region-wide transportation system performance forecasts; and apply travel demand modeling techniques for system-wide forecasts of activity participation rates, destination and mode choices, traffic and travel time & cost outcomes. | |

| **Course Contents** | | **CLOs** |
|---|---|---|
| **Section A** | | |
| **1** | **Introduction to Transport Planning and Modelling:** Background, Models and their role, Characteristics of Transport problem, Transport demand, transport supply, Equilibration, Modelling and Decision making, Choosing modelling approaches, Issues in Transport Modelling: General modelling issues, Aggregate and disaggregate modelling, cross-section and time series, revealed and stated preferences data, Classic transport model. | 1, 2, 4 |
| **2** | **Trip Generation & Attraction Models:** Production and attraction zones, Zonation process, Trip production estimation methods: growth factor, linear regression, Category analysis. Land use for trip attraction. | 2, 3 |
| **3** | **Trip-Distribution Models:** Gravity model, link attributes. | 2, 3 |
| **4** | **Discrete Choice Framework for Travel Choice:** Use of disaggregate discrete choice models, application context, urban and intercity travel mode choice modelling. | 2, 4 |
| **Section B** | | **CLOs** |
| **5** | **Elements of The Choice Decision Process:** The Decision Maker, The alternatives, Attributes of Alternatives, The decision rule. | 2, 4 |
| **6** | **Utility-Based Choice Theory:** Basic construct of utility theory, deterministic choice concepts, probabilistic choice theory, components of the deterministic portion of the utility function, specification of the additive error term. | 2, 4 |
| **7** | **Mode Choice:** Overview description and functional form of the logit model, independence of irrelevant alternatives property, example: prediction with multinomial logit model, measures of response to changes in attributes of alternatives, measures of responses to changes in decision-maker characteristics, model estimation: concept and method. | 1, 2, 3, 4 |
| **8** | **Network Assignment of Traffic:** Network terminology, user equilibrium and system optimum, mathematical techniques, shortest paths, Beckmann's formulation, MSA and Frank-Wolfe. | 2, 3, 4 |

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|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
| | CLO1 | Describe people's evolving travel choices, and their variations as a function of demographics and land use patterns; | 1, 2 |
| | CLO2 | Define and apply key elements of different modeling paradigms for aggregate and disaggregate approaches to city-wide and region-wide transportation system performance forecasts; | 7, 8 |
| | CLO3 | Apply travel demand modeling techniques for system-wide forecasts of activity participation rates, destination and mode choices, traffic and travel time & cost outcomes; | 6, 7, 8 |
| | CLO4 | Analyze the microeconomic concepts central to transportation systems – demand models, discrete choice analysis. | 6, 8 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Lecture | Class Test and Final Exam |
| CLO2 | Lecture | Presentation or Assignment and Final Exam |
| CLO3 | Lecture and Workshop | Assignment and Final Exam |
| CLO4 | Lecture and Workshop | Class Test and Final Exam |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Ortúzar, J. D. D., & Willumsen, L. G. (2002). *Modelling transport*. John Wiley & Sons. West Sussex, England.<br>Papacostas, C. S., & Prevedouros, P. D. (1993). *Transportation engineering and planning*.<br>Koppelman, F. S., & Bhat, C. (2006). A self instructing course in mode choice modeling: multinomial and nested logit models.<br>Boyles, S. D., Lownes, N. E., & Unnikrishnan, A. (2020). Transportation network analysis. *First Public Beta Version*. |
| **Supplementary Readings** | Kockelman, K., & Chen, T. D. (2013). *A Transportation Economics Reference for Practitioners* (No. FHWA/TX-12/0-6628-1). Texas. Dept. of Transportation. Research and Technology Implementation Office.<br>Meyer, M. D., & Miller, E. J. (1984). *Urban transportation planning: A decision-oriented approach.* McGrawHill. |

| **Course Code:** 0311 04 Econ 5257 | **Year:** First | **Term:** Second |
|---|---|---|
| **Course Title:** Transport Economics | | |
| **Course Status:** Optional (Group 04 of Optional Courses: Transport Planning and Management) | | |
| **Credit:** 06 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | Economic theory and its applications enhance transport demand analysis, transport pricing, welfare considerations, and transport policy evaluation. This course offers students insight into consumer and firm behaviour (in the transportation sector), largely from a microeconomic perspective. The course provides a critical awareness of how economics can be used to overcome current problems in the transport sector, such as congestion, inadequate service (in terms of both quantity and quality) and high prices. | |

| **Course Contents** | | **CLOs** |
|---|---|---|
| **Section A** | | |
| **1** | **Costs and Benefits of Transportation**: Internal costs and benefits-accounting costs, capital vs. operating costs, marginal vs. average costs, Fixed vs. Variable, and short run vs. long run costs, opportunity costs. | 1, 2, 3 |
| **2** | **Costs and Benefits of Transportation:** External costs and benefits, Estimating value of Travel Time (VOTT), Estimating value of reliability, Cost function and returns to scale in production. | 1, 2, 3 |
| **3** | **Pricing of Transportation Services:** Optimal Price, maximizing profit vs. maximizing social Benefits, Roadway pricing- short-run marginal cost pricing, long-run marginal pricing, static vs. Dynamic pricing, Freight movement. | 4 |
| **4** | **Pricing of Transportation Services:** Road pricing's impacts on equity, measures to improve horizontal equity, measures to improve vertical equity. | 4 |
| **5** | **Regulation and Competition:** regulations-environmental, safety, worker's wages, Deregulation- railroad and motor carrier deregulation, airline deregulation, Competition- Competition in public transit systems, competition between bidders, regulatory evolution. | 1, 2, 3 |
| **6** | **Movement, Transportation, and Location:** Accessibility and mobility, transportation and location choice, theories of business location, theories of residential location, policy impacts, transportation and land values-theoretical expectation, rail transit, highway investment. | 1, 2, 3 |
| **7** | **Movement, Transportation, and Location:** Transportation and wages, transportation and economic development, economic impact of access management. | 1, 2, 3 |
| **Section B** | | **CLOs** |
| **8** | **Investment and Financing:** Railroad, road, and bridge investment needs, importance of transportation infrastructure, financing- revenue sources, expenditure sources, traditional project delivery methods, innovative financing. | 3, 4 |
| **9** | **Optimization:** Route and mode choice optimization. | 1, 2 |
| **10** | **Economic Impact Analysis of Transportation Investments and Policies:** prediction and evaluation, economic indicators, measuring | 3, 4 |

| | | |
|---|---|---|
| | economic indicators, input-output modeling, multiplier analysis, computable general equilibrium (GCE) models, the GCE model structure. | |
| **11** | **Econometrics for Data Analysis:** understanding the data, data sets for regression models- cross-sectional, time-series and panel data sets, non-linear parameter estimation methods, panel data models and parameter estimation methods, discrete choice models and estimation methods, time-series modelling. | 5 |

| | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | CLO1 | Optimize production decisions subject to technology constraints; | 1, 2 |
| | CLO2 | Optimize consumption decisions subject to budget constraints; | 1, 2 |
| | CLO3 | Evaluate economic policies that govern complex transportation systems; | 7, 8 |
| | CLO4 | Select pricing schedules to enhance welfare and system operations; | 1, 7, 8 |
| | CLO5 | Apply basic econometric methods for the analysis of transportation data. | 1, 7, 8 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Lecture | Assignment and Final Exam |
| CLO2 | Lecture and Hands on Training | Problem Solving Exercise |
| CLO3 | Lecture and Hands on Training | Assignment and Final Exam |
| CLO4 | Lecture | Class Test and Final Exam |
| CLO5 | Lecture and Hands on Training | Assignment and Final Exam |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Kockelman, K., Chen, T. D., Kam, K. A., & Nichols, B. G. (2013). *The economics of transportation systems: A Reference for Practitioners* (No. 0-6628-P1). CreateSpace.<br>Varian, H. R. (2016). *Intermediate Microeconomics with Calculus: A Modern Approach: Ninth International Student Edition*. WW Norton & Company. |
| **Supplementary Readings** | Small, K. A., & Verhoef, E. T. (2007). *The economics of urban transportation*. Routledge.<br>Jara-Diaz, S. (2007). *Transport economic theory*. Emerald Group Publishing Limited. |

| **Course Code:** 0732 04 CE 5285 | **Year:** First | **Term:** Second |
|---|---|---|
| **Course Title:** Traffic Management and Control | | |
| **Course Status:** Optional (Group 04 of Optional Courses: Transport Planning and Management) | | |
| **Credit:** 06 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | This course will introduce to Traffic Engineering; Theories Of Traffic Flow; Queuing Theory, Capacity And Delay Analysis of Roundabout and Signalized and Unsignalized Intersections; Signal Timing Plans Control And Optimization Of Isolated Intersection and Road Network; Traffic Simulation; Case Studies; SIDRA, TRANSYT-7F, and SINCRO Software Applications. | |

| **Course Contents** | | **CLOs** |
|---|---|---|
| **Section A** | | |
| **1** | **Introduction to Traffic Management and Control:** Definitions of Transportation Engineering and its Divisions, History of Transportation, Urban Road Systems, Highway System Classification, Types of Transportation Facilities. | 1 |
| **2** | **Traffic Management Policy, Institutes and Stakeholders:** Case study on NLTP, BRTA, BRTC, RHD. | 1, 2 |
| **3** | **Traffic Survey and Studies:** OD, Screen line, cordon line, Volume Studies, Traffic Counts, travel Time and Delay Studies, Spot Speed Studies, Capacity and Level of Service. | 2, 3 |
| **4** | **Traffic Stream Characteristics:** Traffic Flow Theory, Time Space diagram, Variables of Interest, Primary Elements of Traffic Flow, Flow Speed Density, Fundamental Diagram of Traffic Flow, Mathematical Relationships Describing Traffic Flow. | 3 |
| **5** | **Non-Motorized Transport:** Exiting rules and regulations of non-motorized transport, managing non-motorized transport in urban and rural context. | 2, 5 |
| **6** | **Traffic Control and Management:** Objectives, Demand management, Engineering measures, Junction types (Uncontrolled non-priority junctions, Priority junctions, Roundabouts, Traffic signals, Grade separation), Road markings, Traffic Signs. | 3 |
| **7** | **Speed Management &Traffic Calming:** Why traffic calming, Traffic calming, how, Techniques Design Criteria, The Process, Traffic calming techniques. | 3, 5 |
| **Section B** | | **CLOs** |
| **8** | **Parking Studies:** Types of Parking Facilities, Definitions of Parking Terms, Methodology of Parking Studies, Analysis of Parking Data, Parking control systems. | 3, 4 |
| **9** | **Road Safety Management:** Factors resulting in accidents , Road accident definition, Road Accidents in Bangladesh, Issues Involved in Transportation Safety, Causes of collisions, Road Safety & Traffic Management, Methods of Summarizing Crash Data, Identifying and Prioritizing Hazardous Locations and Elements, Designing road safety engineering measures, Road safety Audits. | 1, 2 |

| | | |
|---|---|---|
| **10** | **Public Transport Priority:** Design objectives, Bus priority measures, Bus lanes and busways, Traffic and parking management measures, Traffic signal control, Bus stop improvements, The process of designing and evaluating bus priority measures. | 3, 4 |
| **11** | **Intelligent Transport Systems:** Introduction, Using ITS, Public transport travel information and ticketing, Vehicle safety, System integration. | 5 |

| | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | CLO1 | Comprehend the fundamental concepts of traffic management system; | 1, 2 |
| | CLO2 | Investigate traffic characteristics; | 2 |
| | CLO3 | Conduct traffic studies, including traffic flow, volume, speed, queue, and delay studies; | 2 |
| | CLO4 | Learn microscopic traffic simulation; | 2 |
| | CLO5 | Learn road safety issue and its management aspects. | 2, 7, 8 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| **CLOs** | **Teaching-Learning Strategy** | **Assessment Strategy** |
|---|---|---|
| CLO1 | Lecture | Assignment and Final Exam |
| CLO2 | Lecture and Hands on Training | Problem Solving Exercise |
| CLO3 | Lecture and Hands on Training | Assignment and Final Exam |
| CLO4 | Lecture | Class Test and Final Exam |
| CLO5 | Lecture and Hands on Training | Assignment and Final Exam |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Ortúzar, J. D. D., & Willumsen, L. G. (2002). *Modelling transport*. John Wiley & Sons. West Sussex, England.<br>Papacostas, C. S., & Prevedouros, P. D. (1993). *Transportation engineering and planning*.<br>Koppelman, F. S., & Bhat, C. (2006). A self instructing course in mode choice modeling: multinomial and nested logit models.<br>Boyles, S. D., Lownes, N. E., & Unnikrishnan, A. (2020). Transportation network analysis. *First Public Beta Version*. |
| **Supplementary Readings** | Kockelman, K., & Chen, T. D. (2013). *A Transportation Economics Reference for Practitioners* (No. FHWA/TX-12/0-6628-1). Texas. Dept. of Transportation. Research and Technology Implementation Office.<br>Meyer, M. D., & Miller, E. J. (1984). *Urban transportation planning: A decision-oriented approach.* McGrawHill. |

| Second Year First Term<br>Master's by Mixed-mode | | |
|---|---|---|
| **Course Code:** 0731 04 URP 6106 | **Year:** Second | **Term:** First |
| **Course Title:** Dissertation Part-II-M | | |
| **Course Status:** Core for Master's by Mixed-mode (Dissertation Group: Coursework + Dissertation) Program | | |
| **Credit:** 12 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | The purpose of the course is to enable the student to write a scientific master's dissertation. During this course, the student will have the opportunity to show their abilities to independently plan and carry out their research project, as well as orally and in writing presents the research area within the field of urban and rural planning. This means that the student must formulate a research question(s), choose the appropriate method(s), collect primary or secondary data, analyze data and present and discuss the results in relation to previous scientific research in the chosen research area. This course provides the opportunity to apply knowledge and skills acquired during previous courses within the master's in urban and rural planning program. The course includes a final seminar in which the dissertation is presented and discussed. Throughout the dissertation work a critical and scientific approach is necessary, as well as the use of academic language both in written and oral communications. | |

| | Course Contents/Tasks | CLOs |
|---|---|---|
| **1** | **Planning for Data Collection/Collection of Secondary Sources:** Review of questionnaire or survey checklist and Guidelines for fieldwork, Consult with ethical issues related to data collection and comply with University policy regarding research ethics<br>Database development. | 2, 3, 7 |
| **2** | **Workshop on Quantitative Data Analysis:** Exploratory data analysis, Indexing, Analytical Hierarchical Process for weightage) or Multi-criteria Decision Analysis, Multivariate analysis, GIS-RS based spatial analysis. | 2, 3, 4, 5 |
| **3** | **Workshop on Qualitative Data Analysis:** Transcription of the interviews, FGDs, and any other qualitative methods, Content analysis, Coding, and Thematic analysis, NVivo-assisted data analysis (Open a project, bring materials into NVivo, Coding and making nodes, Memos, annotations, and links, summarise data in framework matrices, Visualize project). | 2, 3, 4, 5 |
| **4** | **Developing the Structure of the Text:**<br>A good structure of a text is essential. It enhances the quality and readability of the main argument(s) and thus the overall impact of a text on a particular audience. There is no universal structure for an academic text. Nevertheless, there are some issues which are best treated in a consecutive systematized manner and as such could constitute the building blocks of a good structure. The following questions constitute a possible structure for a text:<br>• What is the general problem to address? | 1, 2, 3, 5, 6, 7 |

| | | |
|---|---|---|
| | • Why is it worthwhile to analyse a certain problem?<br>• Who (groups or individuals) is particularly affected by this problem?<br>• What tentative hypotheses can be formulated after consulting the literature?<br>• What are the main questions/ objectives of analysis?<br>• What is the focus (e.g., geographical focus, unit of analysis, etc.) of analysis?<br>• What are the limitations of analysis?<br>• What is already known about the problem/ how does analysis build upon existing knowledge?<br>• What theories or conceptual frameworks are underlying the analysis?<br>• What is the methodology underlying the analysis of the problem?<br>• What are the results of the analysis?<br>• In what way does the analysis contribute to, refine, or challenge existing ideas about the problem?<br>• What are the lessons that can be drawn from the analysis that can be useful for further research and/ or policy?<br>• Who can be benefitted from the analysis? | |
| **5** | **Writing up the Dissertation:**<br><br>***Analytical perspective***<br>An academic text should be analytical in the sense that it should go beyond a mere description of events. The analytical part lies among other things in the identification of relationships between factors and in finding explanations regarding how and why certain events occur.<br>The following questions are helpful in defining the analytical nature of a text:<br><br>• Is there a logical structure in support of the main argument(s) of the text?<br>• Does the text present a nuanced perspective of the issue (e.g., as opposed to many 'black-and-white' arguments)?<br>• Does the text build on the existing literature relevant to the main issue?<br>• How are the main questions analysed?<br>• Are the concepts and methods that structure the analysis well-defined?<br>• Is the analysis coherent?<br>• Is the analysis verifiable?<br>• Are the conclusions logically derived from the analysis and pertinent?<br>• Is there sufficient support for each of the points?<br><br>***Language***<br>• A correct and attractive use of the English language is evidently an important requisite for writing a good text. Students have to consult the source mentioned below to learn more about this as well as the other abovementioned issues. | 1, 2, 3, 4, 5, 6, 7 |

| | | |
|---|---|---|
| | ***Length and structure***<br>• A Master's dissertation should be approximately 60–100 pages or 15,000–25,000 words in length and use double line spacing. No definitive length can be given, however, as the research problem and nature of the topic inevitably govern the thesis length; in some cases, 40 pages might well be enough. A Master's thesis is typically constructed as follows:<br>• The introduction states the objective of the thesis justifies the choice of topic and outlines the research subject and research questions (typically roughly two to three pages).<br>• The theoretical framework defines the key concepts and presents the research approach and main theory or theories. Here, theory means the viewpoint from which the topic is examined. The theory chapter typically covers key or classic theories on the topic and examines how they have been developed later (roughly ten pages).<br>• The literature review covers previous research on the subject (context, sample, methods and key findings) (roughly ten to fifteen pages).<br>• The methodology chapter explains the choice of method as well as data collection and analysis methods and procedures (roughly ten pages).<br>• The analysis describes and reports the findings drawn from the data and illustrates and summarises them, sometimes by using tables or figures (roughly 15–30 pages).<br>• The findings, conclusions and evaluation compare the findings with results from previous research (introduced in the literature review), highlight new key findings or findings that support previous research, discuss the limitations of the study, and suggest topics for further research (roughly 7–10 pages). | |
| **6** | **Presentation of Dissertation:**<br>• *Final Dissertation Presentation:* Title, Statement of the Problem or Background, Objectives & Research Questions, Literature Review & Research Strategy, Findings & Analyses, Conclusion and Recommendation.<br>• *Revision of Final Thesis or Dissertation:* Official guidelines for Thesis submission, Copyright claims, plagiarism check and application for copyright.<br>• *Dissertation Evaluation*: The Dissertation will be assessed by Dissertation Defense Board that includes an oral presentation. | 1, 2, 3, 4, 5, 6, 7 |

| | | | |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
| | CLO1 | Demonstrate a capacity for in-depth critical thinking through research; | 1, 2, 3, 6, 7, 8 |
| | CLO2 | Discern the value of information and knowledge from a wide variety of sources and experiences and reflect on and evaluate their application in Dissertation/Thesis; | 1, 2, 9, 10, 11 |

| | | | |
|---|---|---|---|
| | CLO3 | Apply a range of social science research methods to conduct research and undertake policy development that consider theoretical, historical, local and international contexts for decision making; | 1, 2, 3, 7, 8 |
| | CLO4 | Draw on available theory and debates, submit them to a critical analysis based on primary and/or secondary data and on a review of the literature, and from this draw conclusions and offer recommendations; | 1, 2, 3, 6, 7, 8, |
| | CLO5 | Communicate ideas using diverse formats and strategies to academic audiences within and external to the discipline; | 9, 10, 11 |
| | CLO6 | Reflect on the interconnectedness of environmental, social, economic systems both locally and nationally and apply in professional practice or further study; | 7, 8, 9, 10 |
| | CLO7 | Consider ethical principles while collecting and analysing data. | 4, 6 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Dissertation Supervision, Workshop, Fieldwork, Data Analysis | Dissertation, Oral Examination |
| CLO2 | Workshop, Dissertation Supervision, Fieldwork, Data Analysis | Dissertation, Oral Examination |
| CLO3 | Workshop, Dissertation Supervision, Fieldwork, Data Analysis | Dissertation, Oral Examination |
| CLO4 | Workshop, Dissertation Supervision, Data Analysis and Interpretation | Dissertation, Oral Examination |
| CLO5 | Workshop, Dissertation Supervision, Data Analysis and Interpretation | Dissertation, Oral Examination |
| CLO6 | Workshop, Dissertation Supervision, Data Analysis and Interpretation | Dissertation, Oral Examination |
| CLO7 | Workshop, Dissertation Supervision, Fieldwork, Data Analysis | Dissertation, Oral Examination |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Berg, J., & Hicks, R. (2017). Successful design and delivery of a professional poster. *Journal of the American Association of Nurse Practitioners*, 29(8), 461-469.<br>Bryman, A. (2008). *Social research methods (3rd Edition)*. Oxford: OUP.<br>Creswell J.W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (2nd edition)*. London: SAGE Publications.<br>Creswell, J. and Clark, V.P. (2010). *Designing and conducting mixed methods research*. Sage.<br>Crotty M. (1998). *The Foundations of Social Research, Meaning and Perspective in the Research Process*. London: SAGE Publications.<br>Hart C. (1998). *Doing a Literature Review*. London: SAGE Publications.<br>McGill University (2022). *3M Thesis Presenter's Guidebook*.<br>Randolph, J. (2009). A guide to writing the dissertation literature review. *Practical assessment, research, and evaluation*, 14(1), 13.<br>Yin, R.K. (2003). *Case Study Research, Design and Methods (3rd Edition)*. London: Sage Publications. |
| **Supplementary Readings** | IDPM (2008). *How to write academic text*. Belgium: University of Antwerp<br>Monash University (2022). Planning the article.<br>Monash University (2022). Writing the article.<br>Monash University (2022). Presenting effectively.<br>Newcastle University (2019). 3 Minute Thesis (3MT) Presentation Rules and Preparation.<br>Wheeldon, J. and Ahlberg, K.M. (2012). *Visualizing Social Science Research*. Sage |

| **Course Code:** 0731 04 URP 6108 | **Year:** Second | **Term:** First |
|---|---|---|
| **Course Title:** Project | | |
| **Course Status:** Core for Master's by Mixed-mode (Project Group: Coursework + Project) Program | | |
| **Credit:** 06 | | |
| **Prerequisite(s):** None | | |

| | |
|---|---|
| **Rationale** | A professional planning project report, is considered a capstone experience, providing the student the opportunity to complete an independent study informed by the coursework and experiences gained in graduate study, thereby synthesising theory and practice. Students can choose a specific issue to come up with innovative solutions. Project work in a capstone course under this program aims to bring the students' professional knowledge to contest/reconfigure the existing theories and prepare a project to solve an urban issue. Project work might include resolving a problem or analysing an issue currently under investigation at the student's organization (if the student is in job). |

| | **Course Contents/Tasks** | **CLOs** |
|---|---|---|
| **1** | A project is usually an exercise in applied research directed toward an actual planning problem. The project may focus on the definition of the problem, the context of the problem, and the analysis of alternative solutions or issues in implementation, monitoring, and evaluation. The primary focus in the project is the substance and the context of the planning application. A project might be developed in the context of a student's professional job experience or internship. When this applies, it should be clear that the student has direct and personal responsibility for any work product submitted as a master's project. Any questions on this point should be discussed with the faculty supervisor or postgraduate coordinator. Master's project carries 6 credits. Students are required to write and secure approval of a master's project proposal prior to registering for master's project. The project proposal can be reviewed and approved by postgraduate coordinators and examiners of the respective project. The requirements to complete planning project:<br>• Literature Review: Abbreviated discussion of literature that demonstrates an understanding about why this issue or concern is worthy of consideration.<br>• Methodology: Abbreviated discussion of how similar problems have been examined, especially if they differ from the methodology used in other cases.<br>• Research and Analysis: Demonstration thorough understanding of issue or concern that persuasively supports the report's key findings or recommendations.<br>• Use/Contribution: Use/contribution can be grouped into three categories- relevant use for a real community; options of client's recommendations and feedbacks; and integration of planning knowledge and skills in practical application.<br>• Format and Style: Format and style guidelines of URP Discipline of Khulna University for professional reports. | 1, 2, 3, 4, 5, 6 |

| | | | |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
| | CLO1 | Understand the challenges and dilemmas of urban and rural development practices; | 1, 2, 7, 8 |
| | CLO2 | Demonstrate knowledge of the interests of and relations between actors in civil society, the public and private sectors in the processes and practice of urban and rural development; | 1, 2, 7, 8 |
| | CLO3 | Undertake diagnosis, facilitate and negotiate the context of urban and rural development planning practices; | 4, 7, 8, 11 |
| | CLO4 | Work in teams and to use the opportunities which urban and rural development practice offers; | 7, 8, 9, 11 |
| | CLO5 | Develop strategies and well supported proposals which are socially and culturally inclusive, economically viable, and environmentally sustainable; | 4, 7, 8 |
| | CLO6 | Transfer skills and tools related to research and writing a project report. | 10, 11 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Lecture/Workshop, Assigned Readings, Group work, Fieldwork | Project Report, Presentation |
| CLO2 | Lecture/Workshop, Assigned Readings, Group work, Fieldwork | Project Report, Presentation |
| CLO3 | Lecture/Workshop, Assigned Readings, Group work, Fieldwork | Project Report, Presentation |
| CLO4 | Lecture/Workshop, Assigned Readings, Group work, Fieldwork | Project Report, Presentation |
| CLO5 | Lecture/Workshop, Assigned Readings, Group work, Fieldwork | Project Report, Presentation |
| CLO6 | Lecture/Workshop, Assigned Readings, Group work, Fieldwork | Project Report, Presentation |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Blanpain, K. (2008). *Academic writing in the humanities and social sciences: A resource for researchers*. Acco.<br>Berg, J., & Hicks, R. (2017). Successful design and delivery of a professional poster. *Journal of the American Association of Nurse Practitioners*, 29(8), 461-469.<br>Bryman, A. (2008). *Social research methods (3rd Edition)*. Oxford: OUP. |

| | |
|---|---|
| | Creswell J.W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (2nd edition)*. London: SAGE Publications.<br>Creswell, J. and Clark, V.P. (2010). *Designing and conducting mixed methods research*. Sage.<br>Yin, R.K. (2003). *Case Study Research, Design and Methods (3rd Edition)*. London: Sage Publications. |
| **Supplementary Readings** | IDPM (2008). *How to write academic text*. Belgium: University of Antwerp<br>Monash University (2022). Planning the article.<br>Monash University (2022). Writing the article.<br>Monash University (2022). Presenting effectively.<br>Newcastle University (2019). 3 Minute Thesis (3MT) Presentation Rules and Preparation.<br>Wheeldon, J. and Ahlberg, K.M. (2012). *Visualizing Social Science Research*. Sage |

| **Course Code:** 0731 04 URP 6110 | **Year:** Second | **Term:** First |
|---|---|---|
| **Course Title:** Internship | | |
| **Course Status:** Core for Master's by Mixed-mode (Internship Group: Coursework + Internship) Program | | |
| **Credit:** 06 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | Internship under the mixed mode MURP program aims to allow the students to implement the acquired knowledge from the coursework to the professional field. Additionally, this program will enable students to learn from the organizations and prepare themselves for the job market. The students will choose the organization and the geographical location of the internship. The student will work under an academic and professional mentor and submit a report upon completion of the internship. The program will be completed upon finishing the courses in the first two terms and a satisfactory report from the organization. | |

| | **Course Contents/Tasks** | **CLOs** |
|---|---|---|
| **1** | **Workshop 01:** Dealing with communicative skills. | 1, 2 |
| **2** | **Workshop 02:** Understanding organizational behavior. | 1, 2, 5 |
| **3** | **Attachment in a Professional Organization:** It is expected that students will join a professional organization that will foster his/her professional career. Faculty Internship Advisor and Work-site Supervisor will have a general agreement on the tasks that the intern students will perform in the organization. | 1-7 |
| **4** | **Progress Report:** After the first two months of enrolment, it is expected that student will submit a progress report to Faculty Internship Advisor in consultation with the Work-site Supervisor. The major content will focus the works performed by the students and how these works are related with the skills he/she has gained from the coursework. | 1-7 |
| **5** | **Completion Report:** After the completion of enrolment, it is expected that student will submit a report to Faculty Internship Advisor in consultation with the Work-site Supervisor. The major content will focus the works performed by the students and the learning from the internship. | 1-7 |

| | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | CLO1 | Apply knowledge and skills relevantly and appropriately in the workplace; | 4, 5, 9, 10, 11 |
| | CLO2 | Develop personal skills; | 9, 10, 11 |
| | CLO3 | Evaluate resources and develop insights to make informed judgements and recommendations; | 7, 8, 9 |
| | CLO4 | Identify competency gaps at the attachment workplace; | 5, 9, 10, 11 |
| | CLO5 | Assimilate into the work environment | 4, 5, 9, 11 |

| | | | |
|---|---|---|---|
| | | (people, team, hierarchy) and function effectively; | |
| | CLO6 | Establish network for future employment opportunities; | 5, 11 |
| | CLO7 | Demonstrate responsibility, integrity and professionalism in the fulfilment of all workplace and attachment requirements. | 4, 5, 9, 11 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Lecture/Workshop, Assigned Readings, Group work, Fieldwork | Project Report, Presentation |
| CLO2 | Lecture/Workshop, Assigned Readings, Group work, Fieldwork | Project Report, Presentation |
| CLO3 | Lecture/Workshop, Assigned Readings, Group work, Fieldwork | Project Report, Presentation |
| CLO4 | Lecture/Workshop, Assigned Readings, Group work, Fieldwork | Project Report, Presentation |
| CLO5 | Lecture/Workshop, Assigned Readings, Group work, Fieldwork | Project Report, Presentation |
| CLO6 | Lecture/Workshop, Assigned Readings, Group work, Fieldwork | Project Report, Presentation |
| CLO7 | | |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Griffin, R. W., & Moorhead, G. (2014). Managing people in organization. *South-Western: USA*.<br>Danilova, E. A., & Pudlowski, Z. J. (2007). Important considerations in improving the acquisition of communication skills by engineers. *Global J. of Engng. Educ*, *11*(2), 153-162. |

| Master's by Research<br>First Year First Term | | |
|---|---|---|
| **Course Code:** 0731 04 URP 5106 | **Year:** First | **Term:** First |
| **Course Title:** Dissertation Part-I-R | | |
| **Course Status:** Core | | |
| **Credit:** 08 | | |
| **Prerequisite(s):** None | | |

| | |
|---|---|
| **Rationale** | The purpose of the course is to enable the student to write a scientific master's dissertation. During this course, the student will have the opportunity to show their abilities to independently plan and carry out their research project, as well as orally and in writing presents the research proposal within the field of urban and rural planning. The course includes a final seminar in which the research proposal is presented and discussed. |

| | Course Contents/Tasks | CLOs |
|---|---|---|
| **1** | **Lesson 01:** Guidelines for identifying a suitable research topic and how to develop a good problem statement. | 1 |
| **2** | **Submission 01:** Research Interest and Preliminary research topic. | 1 |
| **3** | **Lesson 02:** Research Proposal Development [selection of topic and conceptualization, identification, and statement of research problem, setting of objectives & research questions, rationale or justification of the research, plagiarism, reference]. | 1, 2 |
| **4** | **Lesson 03:** Writing a literature review, techniques, and process of developing a conceptual or theoretical framework, and how to develop literature-based article. | 3 |
| **5** | **Lesson 04:** Discussion regarding write-up of the research proposal and presentation techniques, Different modalities of research presentation, Presentation skill development sessions. | 1, 2, 4 |
| **6** | **Submission 02:** Writing up a preliminary proposal [Probable contents: Title, Problem statement, Objectives and research questions, Justification of the study, Literature Review (including Conceptual framework or Theoretical framework), and Expected Outcomes]. | 1, 2, 4 |

| | Upon successful completion of the course, the students will be able to: | | Mapping with PLOs |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | CLO1 | Identify a good research topic/problem in urban and rural planning field; | 1, 3, 6, 7, 8, 10 |
| | CLO2 | Formulate research questions and also assess its significance in relation to relevant scholarly literatures; | 1, 3, 6, 8 |
| | CLO3 | Develop conceptual or theoretical framework to analyze empirical evidence; | 1, 3, 8 |
| | CLO4 | Develop competency in framing, timetabling and development of a research proposal. | 1, 3, 6, 9, 10 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Dissertation Supervision, Literature Review | Meeting Minutes with Supervisor and Submission of Write-up |
| CLO2 | Workshop, Dissertation Supervision, Literature Review | Meeting Minutes with Supervisor and Submission of Write-up |
| CLO3 | Dissertation Supervision, Literature Review | Meeting Minutes with Supervisor and Submission of Write-up |
| CLO4 | Dissertation Supervision | Meeting Minutes with Supervisor, Submission of Write-up and Oral Presentation |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Bryman, A. (2008). *Social research methods (3rd Edition)*. Oxford: OUP.<br>Creswell J.W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (2nd edition)*. London: SAGE Publications.<br>Creswell, J. and Clark, V.P. (2010). *Designing and conducting mixed methods research*. Sage.<br>Crotty M. (1998). *The Foundations of Social Research, Meaning and Perspective in the Research Process*. London: SAGE Publications.<br>Hart C. (1998). *Doing a Literature Review*. London: SAGE Publications.<br>McGill University (2022). *3M Thesis Presenter's Guidebook*.<br>Randolph, J. (2009). A guide to writing the dissertation literature review. *Practical assessment, research, and evaluation*, 14(1), 13.<br>Yin, R.K. (2003). *Case Study Research, Design and Methods (3rd Edition)*. London: Sage Publications. |
| **Supplementary Readings** | IDPM (2008). *How to write academic text*. Belgium: University of Antwerp<br>Monash University (2022). Planning the article.<br>Monash University (2022). Writing the article.<br>Monash University (2022). Presenting effectively.<br>Newcastle University (2019). 3 Minute Thesis (3MT) Presentation Rules and Preparation.<br>Wheeldon, J. and Ahlberg, K.M. (2012). *Visualizing Social Science Research*. Sage |

| Master's by Research<br>First Year Second Term | | |
|---|---|---|
| **Course Code:** 0731 04 URP 5206 | **Year:** First | **Term:** Second |
| **Course Title:** Dissertation Part-II-R | | |
| **Course Status:** Core | | |
| **Credit:** 12 | | |
| **Prerequisite(s):** None | | |

| | |
|---|---|
| **Rationale** | The purpose of the course is to enable the student to write a scientific master's dissertation. During this term, the student will have the opportunity to show their abilities to independently review different literature to develop theoretical and analytical framework of a research. In addition, the student is expected to develop the research methods for carrying fieldwork or other methods of collecting and analysing information related to the research work. |

| | Course Contents/Tasks | CLOs |
|---|---|---|
| **1** | **Lesson 01:** Research strategy formulation [knowledge regarding philosophical worldviews, selection of a research approach from Qualitative, Quantitative, and Mixed-methods research]. | 1 |
| **2** | **Lesson 02:** Ethical principles, Ethics and the issue of quality, the difficulties of ethical decision-making, how to prepare ethics report and face ethical board. | 1, 4 |
| **3** | **Lesson 03:** Tools and techniques of literature review. | 1, 2, 3, 4 |
| **4** | **Submission 01:** Literature review with conceptual or theoretical framework. | 1, 2 |
| **5** | **Submission 02:** Detailed research methodology of the research. | 1, 2, 3, 4 |

| | Upon successful completion of the course, the students will be able to: | | Mapping with PLOs |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | CLO1 | Identify philosophical worldviews and define basic ideas of that worldview; | 1, 3, 5, 6, 7, 8, 10 |
| | CLO2 | Explain how the worldview shaped their approach to research; | 1, 3, 5, 6, 7, 8, 10 |
| | CLO3 | Design research methodology and detailed data collection and analysis methods; | 1, 3, 4, 5, 6, 7, 8, 10 |
| | CLO4 | Appreciate the importance of applying ethical principles during the conduct of planning research. | 1, 3, 4, 6, 9, 10, 11 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Dissertation Supervision, Literature Review | Meeting Minutes with Supervisor and Submission of Write-up |
| CLO2 | Workshop, Dissertation Supervision, Literature Review | Meeting Minutes with Supervisor and Submission of Write-up |
| CLO3 | Dissertation Supervision, Literature Review | Meeting Minutes with Supervisor and Submission of Write-up |

| | | |
|---|---|---|
| CLO4 | Dissertation Supervision | Meeting Minutes with Supervisor, Submission of Write-up and Oral Presentation |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Bryman, A. (2008). *Social research methods (3rd Edition)*. Oxford: OUP.<br>Creswell J.W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (2nd edition)*. London: SAGE Publications.<br>Creswell, J. and Clark, V.P. (2010). *Designing and conducting mixed methods research*. Sage.<br>Crotty M. (1998). *The Foundations of Social Research, Meaning and Perspective in the Research Process*. London: SAGE Publications.<br>Hart C. (1998). *Doing a Literature Review*. London: SAGE Publications.<br>McGill University (2022). *3M Thesis Presenter's Guidebook*.<br>Randolph, J. (2009). A guide to writing the dissertation literature review. *Practical assessment, research, and evaluation*, 14(1), 13.<br>Yin, R.K. (2003). *Case Study Research, Design and Methods (3rd Edition)*. London: Sage Publications. |
| **Supplementary Readings** | IDPM (2008). *How to write academic text*. Belgium: University of Antwerp<br>Monash University (2022). Planning the article.<br>Monash University (2022). Writing the article.<br>Monash University (2022). Presenting effectively.<br>Newcastle University (2019). 3 Minute Thesis (3MT) Presentation Rules and Preparation.<br>Wheeldon, J. and Ahlberg, K.M. (2012). *Visualizing Social Science Research*. Sage |

| Master's by Research<br>Second Year First Term | | |
|---|---|---|
| **Course Code:** 0731 04 URP 6106 | **Year:** Second | **Term:** First |
| **Course Title:** Dissertation Part-III-R | | |
| **Course Status:** Core | | |
| **Credit:** 12 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | The purpose of the course is to enable the student to write a scientific master's dissertation. During this course, the student will perform essential fieldwork or will collect necessary information to address the research questions of the research. It is expected that in this term students will be able to accomplish data collection and data analysis process. This term requires a seminar in which the initial research findings is presented and discussed. | |

| | Course Contents/Tasks | CLOs |
|---|---|---|
| **1** | **Lesson 01:** Exploratory data analysis and interpretation. | 1, 2 |
| **2** | **Lesson 02:** Transcription of the interviews, FGDs, and any other qualitative methods, Content analysis, Coding, and Thematic analysis. | 1, 2, 3 |
| **3** | **Development of Data Analysis Chapters:** Prepare a table of contents for finding and analysis; Data visualization and interpretation; Summary and Conclusion (including recommendations). | 1, 2, 3, 4 |
| **4** | **Presentation on Draft Findings and Analysis:** Title, Objectives, Research questions and RQ wise findings and analysis, Conclusion. | 3, 4 |
| **5** | **Lesson 03:** Final Thesis Writing. | 1, 2, 3, 4 |

| | Upon successful completion of the course, the students will be able to: | | Mapping with PLOs |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | CLO1 | Demonstrate a capacity for in-depth critical thinking through research; | 1, 3, 4, 5, 6, 7, 8 |
| | CLO2 | Discern the value of information and knowledge from a wide variety of sources and experiences and reflect on and evaluate their application in dissertation; | 1, 3, 4, 6, 8 |
| | CLO3 | Communicate ideas using diverse formats and strategies to academic audiences within and external to the discipline; | 3, 5, 6 10 |
| | CLO4 | Reflect on the interconnectedness of environmental, social, economic systems both locally and nationally and apply in professional practice or further study. | 1, 3, 4, 5, 6, 7, 8, 9, 10 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Dissertation Supervision, Problem Based Learning | Meeting Minutes with Supervisor and Submission of Write-up |
| CLO2 | Workshop, Dissertation Supervision, Problem Based Learning | Meeting Minutes with Supervisor and Submission of Write-up |
| CLO3 | Dissertation Supervision, Problem Based Learning | Meeting Minutes with Supervisor, Submission of Write-up and Oral Presentation |
| CLO4 | Dissertation Supervision | Meeting Minutes with Supervisor, Submission of Write-up and Oral Presentation |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Bryman, A. (2008). *Social research methods (3rd Edition)*. Oxford: OUP.<br>Creswell J.W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (2nd edition)*. London: SAGE Publications.<br>Creswell, J. and Clark, V.P. (2010). *Designing and conducting mixed methods research*. Sage.<br>Crotty M. (1998). *The Foundations of Social Research, Meaning and Perspective in the Research Process*. London: SAGE Publications.<br>Hart C. (1998). *Doing a Literature Review*. London: SAGE Publications.<br>McGill University (2022). *3M Thesis Presenter's Guidebook*.<br>Randolph, J. (2009). A guide to writing the dissertation literature review. *Practical assessment, research, and evaluation*, 14(1), 13.<br>Yin, R.K. (2003). *Case Study Research, Design and Methods (3rd Edition)*. London: Sage Publications. |
| **Supplementary Readings** | IDPM (2008). *How to write academic text*. Belgium: University of Antwerp<br>Monash University (2022). Planning the article.<br>Monash University (2022). Writing the article.<br>Monash University (2022). Presenting effectively.<br>Newcastle University (2019). 3 Minute Thesis (3MT) Presentation Rules and Preparation.<br>Wheeldon, J. and Ahlberg, K.M. (2012). *Visualizing Social Science Research*. Sage |

| Master's by Research<br>Second Year Second Term | | |
|---|---|---|
| **Course Code:** 0731 04 URP 6206 | **Year:** Second | **Term:** Second |
| **Course Title:** Dissertation Part-IV-R | | |
| **Course Status:** Core | | |
| **Credit:** 16 | | |
| **Prerequisite(s):** None | | |
| **Rationale** | The purpose of the course is to enable the student to write a scientific master's dissertation. During this term, the student will have to submit the final dissertation. The students will be assessed on the quality of the research work based on the arguments and on the abilities to answer the research questions of the research. Among the process aspects it will be assessed that student's learning attitude and the significance of his/her learning process have differences between the initial and the final understanding of the issue(s) each student has inquired into. | |

| | Course Contents/Tasks | CLOs |
|---|---|---|
| **1** | **Drafting the Final Thesis:** Preparing the final thesis using the guideline provided by the PoE. | 1-6 |
| **2** | **Presentation of the Final Thesis:** Preparing a presentation to defend the research findings. | 1-6 |

| | Upon successful completion of the course, the students will be able to: | | **Mapping with PLOs** |
|---|---|---|---|
| **Course Learning Outcomes (CLOs)** | CLO1 | Demonstrate a capacity for in-depth critical thinking through research; | 1, 2, 3, 6, 7, 8 |
| | CLO2 | Discern the value of information and knowledge from a wide variety of sources and experiences and reflect on and evaluate their application in Dissertation/Thesis; | 1, 2, 9, 10, 11 |
| | CLO3 | Apply a range of social science research methods to conduct research and undertake policy development that consider theoretical, historical, local and international contexts for decision making; | 1, 2, 3, 7, 8 |
| | CLO4 | Draw on available theory and debates, submit them to a critical analysis based on primary and/or secondary data and on a review of the literature, and from this draw conclusions and offer recommendations; | 1, 2, 3, 6, 7, 8, |
| | CLO5 | Communicate ideas using diverse formats and strategies to academic audiences within and external to the discipline; | 9, 10, 11 |
| | CLO6 | Consider ethical principles. | 4, 6 |

**Mapping CLOs with the Teaching-Learning and Assessment Strategy**

| CLOs | Teaching-Learning Strategy | Assessment Strategy |
|---|---|---|
| CLO1 | Dissertation Supervision, Problem Based Learning | Meeting Minutes with Supervisor and Submission of Write-up |
| CLO2 | Workshop, Dissertation Supervision, Problem Based Learning | Meeting Minutes with Supervisor and Submission of Write-up |
| CLO3 | Dissertation Supervision, Problem Based Learning | Meeting Minutes with Supervisor, Submission of Write-up and Oral Presentation |
| CLO4 | Dissertation Supervision | Meeting Minutes with Supervisor, Submission of Write-up and Oral Presentation |
| CLO5 | Dissertation Supervision | Meeting Minutes with Supervisor, Submission of Write-up and Oral Presentation |
| CLO6 | Dissertation Supervision | Meeting Minutes with Supervisor, Submission of Write-up and Oral Presentation |

**Learning Materials**

| | |
|---|---|
| **Recommended Readings** | Bryman, A. (2008). *Social research methods (3rd Edition)*. Oxford: OUP.<br>Creswell J.W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (2nd edition)*. London: SAGE Publications.<br>Creswell, J. and Clark, V.P. (2010). *Designing and conducting mixed methods research*. Sage.<br>Crotty M. (1998). *The Foundations of Social Research, Meaning and Perspective in the Research Process*. London: SAGE Publications.<br>Hart C. (1998). *Doing a Literature Review*. London: SAGE Publications.<br>McGill University (2022). *3M Thesis Presenter's Guidebook*.<br>Randolph, J. (2009). A guide to writing the dissertation literature review. *Practical assessment, research, and evaluation*, 14(1), 13.<br>Yin, R.K. (2003). *Case Study Research, Design and Methods (3rd Edition)*. London: Sage Publications. |
| **Supplementary Readings** | IDPM (2008). *How to write academic text*. Belgium: University of Antwerp<br>Monash University (2022). Planning the article.<br>Monash University (2022). Writing the article.<br>Monash University (2022). Presenting effectively.<br>Newcastle University (2019). 3 Minute Thesis (3MT) Presentation Rules and Preparation.<br>Wheeldon, J. and Ahlberg, K.M. (2012). *Visualizing Social Science Research*. Sage |

# OUTCOME-BASED CURRICULUM

## 20. Grading and Evaluation

### 20.1.1Grading Scale

Letter Grades and corresponding Grade Points will be awarded following provisions shown below:

| Numerical Grade | Letter Grade | Grade Point |
|---|---|---|
| 80% or above | A+ (A plus) | 4.00 |
| 75 to less than 80% | A (A regular) | 3.75 |
| 70 to less than 75% | A- (A minus) | 3.50 |
| 65 to less than 70% | B+ (B plus) | 3.25 |
| 60 to less than 65% | B (B regular) | 3.00 |
| 55 to less than 60% | B- (B minus) | 2.75 |
| 50 to less than 55% | C+ (C plus) | 2.50 |
| 45 to less than 50% | C (regular) | 2.25 |
| 40 to less than 45% | D | 2.00 |
| Less than 40% | F | 00 |
| Incomplete | I | |
| Withdrawn | W | |
| Continuation (for project, dissertation, design, etc. course) | X | |

### 20.1.2 Cumulative Grade Point Average (CGPA)

GPA will be calculated as per the standard practices at the undergraduate level of Khulna University. A student's performance will be evaluated in terms of three indices, viz. Term Grade Point Average (TGPA), Yearly Grade Point Average (YGPA), and Cumulative Grade Point Average (CGPA). The TGPA is computed by dividing the total points earned in a Term by the number of credits taken in the Term. The YGPA is computed by dividing the total grade points earned in two Terms in a year by dividing the number of credits taken in that year. The CGPA is computed by dividing the total grade points accumulated up to date by the total completed credits. Thus a student who has earned 275 grade points in attempting 100 credits of courses would have an overall CGPA of 2.75. The students will be awarded the Degree with Distinction, if their CGPA is 3.75 or above.

### 20.1.3 Evaluation of Theory Courses

All theory courses will be evaluated out of 100 marks. The marks will be distributed as follows:

| | |
|---|---|
| Attendance: | 10 Marks |
| Continuous Assessments: | 30-40 Marks |
| Term Final: | 50-60 Marks |
| **Total:** | **100 Marks** |

### 20.1.4 Evaluation of Sessional Courses

All sessional courses will be evaluated out of 100 marks. The marks will be distributed as follows:

| | |
|---|---|
| Attendance: | 10 Marks |
| Sessional Assessments: | 60 Marks |
| Viva voce: | 30 Marks |
| **Total:** | **100 Marks** |

(a) For both theory and sessional courses, attendance shall carry 10 marks and the basis for awarding marks will be as follows:

| Attendance (%) | Marks |
|---|---|
| ≥ 90 | 10 |
| 85 to < 90 | 9 |
| 80 to < 85 | 8 |
| 75 to < 80 | 7 |
| 70 to < 75 | 6 |
| 65 to < 70 | 5 |
| 60 to < 65 | 4 |
| < 60 | 0 |

(b) The continuous assessments (30 to 40 marks) for theory courses may be conducted in the form of written class examinations, assignments, home-works, presentations, quizzes, viva voce, mid-term, etc. For any theoretical course, there shall be at least four assessments. Section best (A & B) assessments shall be counted. A mid-term Examination may be taken if a Discipline/POE opts for it. The concerned Discipline will allocate marks for mid-term and continuous other evaluations in such a case. The course teachers must submit the continuous assessment and sessional assessment mark sheets to the Chair of the Examination Committee before the starting of the Term final examination.

(c) The remaining 50 to 60 marks will be allocated for the term final examination.

(d) A student who fails in any course(s) in the Term final examinations or who registered for the course(s) but did not sit for the examination, the concerned course(s) will be considered as retake course(s).

(e) A student retaking theory course(s) for clearing/passing or improvement must appear at the mid-term (if any) and Term final examinations. A student may attend continuous assessments also on the written approval of the Discipline Head; otherwise, the marks of continuous assessments will be maintained from the student's previous records. The marks of attendance will be carried forward from earlier Term. The obtained grade will be downgraded in case of retaking course(s).

(f) Examination procedure related other guidelines of the latest 'Ordinance for Undergraduate Examination' of Khulna University will generally be applicable for the Master's programs, if not conflicting with this Ordinance.

### 20.1.5 Evaluation of Viva Voce

A Discipline may include Viva Voce of 01/02 credit(s) at the end of each Term. The concerned Examination committee of that Term will conduct the viva and assess the students out of 100 marks.

### 20.1.6 Dissertation under Mixed-mode

i) There will be two components of the Dissertation, namely Dissertation Part-I-M in one Term for proposal development, and Dissertation Part-II-M in another term for completing the Dissertation. The total credit for the Dissertation will be 15 credits. The credit allocation for proposal development and dissertation parts will be 03 credits (Dissertation Part-I-M) and 12 credits (Dissertation Part-II-M) respectively.

ii) A Dissertation (both proposal and Dissertation) will be evaluated out of 100 marks.

Marks distribution of Dissertation Part-I-M will be as follows:

| | | |
|---|---|---|
| a) | Assessment of Supervisor | 30 marks |
| b) | Proposal Presentation | 70 marks |

Marks distribution for Dissertation Part-II-M will be as follows:

| | | |
|---|---|---|
| a) | Assessment of Supervisor | 20 marks |
| b) | Dissertation Evaluation | 50 marks |
| c) | Defense (Oral examination) | 30 marks |

iii) Dissertation Part-I-M will usually commence in the Master's first-year second-term and Dissertation Part-II-M in the second-year first-term (final Term).

iv) The final evaluation of the Dissertation Part-II-M will be made at the end of the final Term. However, the evaluation of the Dissertation Part-I-M will be done in the corresponding Term.

v) A student registered for Dissertation will undertake research work under the guidance of a supervisor and a co-supervisor (if necessary).

vi) The research needs to be carried out in this University or at the appropriate place(s) approved by the Supervisor in consultation with the Discipline Head.

vii) There shall generally be one Supervisor for each student, but a co-supervisor may also be appointed if needed. A teacher not below the rank of Assistant Professor will act as supervisor/co-supervisor. However, a Lecturer with MPhil/ Master's by Research/ Ph.D. degree is eligible to supervise/co-supervise a student. Co-supervision may also be allowed from other Disciplines of Khulna University/other universities or research institutes.

viii) If a student has any grievance about a Supervisor, or if a Supervisor has any complaint against a student, s/he may inform the Discipline Head about the issue in writing. The Discipline will decide such matters.

ix) Pursuant to the leave rules of Khulna University, a Supervisor can remain absent from Khulna University (not more than six months) while continuing as a Supervisor. The online defense may be arranged in such cases if deemed necessary. Otherwise, the Co-supervisor (if any) or any other competent person will act as the Supervisor as per the guideline of the concerned Examination Committee. This will be applicable for projects and internships also.

x) Every student submitting a dissertation in partial fulfillment of the requirements of a degree will be required to appear at proposal presentation for Dissertation Part-I and defense board of Dissertation Part-II respectively on the dates fixed by the Discipline Head in consultation with the Supervisor(s). Such presentation and defense may be arranged online if deemed necessary to the concerned authority. A student must satisfy the examiners that s/he is capable of undertaking independent work and affording

evidence of satisfactory knowledge related to the theory and techniques used in his/her research work.

xi) A student must submit the required number of printed and soft copies of Dissertation Part-II in the approved format through the Supervisors to the Discipline Head by a date to be fixed by the Discipline. The Dissertation will not usually be considered for evaluation if the plagiarism detection system yields a similarity index of more than 25% (excluding bibliography/references, quotes, and small sources with source exclusion threshold of ten-word counts). This will be applicable to the dissertations written in English. The curriculum of the concerned program will provide a specific guideline on this issue.

xii) Each student shall certify that the research work is his/her own and that the work was not submitted elsewhere for any other degree or diploma - the entire work has not been published as a monograph or a book before the Degree is awarded.

xiii) If any change is required in the title/supervisor/co-supervisor/examiner/etc., the Discipline Head will send it to the BOAS through EC.

### 20.1.7 Project under Mixed-mode

(i) A student undertaking a project work will register 06 credits usually in the second-year first-term (final Term) under the guidance of a Supervisor. A teacher with MPhil/ Master's by Research/ Ph.D. degree can supervise a student. The project work should be carried out in this University or at the appropriate place(s) approved by the Supervisor in consultation with the Discipline Head.

(ii) A project will be evaluated out of 100 marks. Marks distribution of the project will be as follows:

| | |
|---|---|
| Assessments of the Supervisor | 20 marks |
| Project Report evaluation | 50 marks |
| Defense (Oral examination) | 30 marks |

(iii) Final evaluation of the project report will usually be made at the end of the final Term for the student.

(iv) A student must submit the required number of printed and soft copies of the project report in the approved format through the supervisors to the Discipline Head by a date to be fixed by the Discipline. The project report will not usually be considered for evaluation if the plagiarism detection system yields more than 25% (excluding bibliography/references, quotes, and small sources with a source exclusion threshold of ten-word counts). This will be applicable to the reports written in English. The curriculum of the concerned program will provide a specific guideline on this issue.

(v) Each student shall certify that the research work is his/her own and that the work was not submitted elsewhere for any other degree or diploma - the entire work has not been published as a monograph or a book before the Degree is awarded.

### 20.1.8 Internship under Mixed-mode

(i) A student may be offered an internship usually in the second-year first-term (final Term). In such a case, the credit will be 06 Credits. There will be a Supervisor. A teacher with a post-graduate degree is capable of supervising an internship. The evaluation of the internship will be as follows:

a) Continuation of the work (by Supervisor) 20 marks
b) Report evaluation 50 marks
c) Defense (Oral examination) 30 marks

(ii) A student must submit the required number of printed and soft copies of the internship report in the approved format through the supervisors to the Discipline Head by a date to be fixed by the Discipline. The report will not usually be considered for evaluation if the plagiarism detection system yields more than 25% (excluding bibliography/references, quotes, and small sources with a source exclusion threshold of ten-word counts). This will be applicable to the reports written in English. The curriculum of the concerned program will provide a specific guideline on this issue.

(iii) Each student shall certify that the research work is his/her own and that the work was not submitted elsewhere for any other degree or diploma - the entire work has not been published as a monograph or a book before the Degree is awarded.

### 20.1.9 Master's by Research Program

(i) The students under 'Master's by Research' program have to register for four parts of the Dissertation as follows:

| Sl. No. | Course | Year | Term | Credits |
|---|---|---|---|---|
| 1 | Dissertation Part-I-R | 1 | 1 | 08 |
| 2 | Dissertation Part-II-R | 1 | 2 | 12 |
| 3 | Dissertation Part-III-R | 2 | 1 | 12 |
| 4 | Dissertation Part-IV-R | 2 | 2 | 16 |

(ii) A Dissertation (Part I-IV) will be evaluated out of 100 marks. Marks distribution of Dissertation Part-I, II, and III will be as follows:

a) Assessment of Supervisor 30 marks
b) Presentation 70 marks

(iii) Marks distribution for Dissertation Part-IV will be as follows:

Assessment of Supervisor 20 marks
Dissertation Evaluation 50 marks
Defense (Oral examination) 30 marks

(iv) Usually research topic selection, title, rationale, objective, research question, literature review, sampling, research design, experiment, survey, data/information collection, analysis, result, discussion, policy implication, limitation, reference, annex, etc. related various issues will be covered (as applicable) under these four parts. The curriculum of the concerned program will provide a detailed description of coverage, objective, learning outcome, credit, etc., of these four parts.

(v) A student registered for Dissertation will undertake research under the guidance of a Supervisor and a Co-supervisor (if necessary).

(vi) The research needs to be carried out in this University or at the appropriate place(s) approved by the Supervisor in consultation with the Discipline Head.

(vii) There shall normally be one Supervisor for each student, but a co-supervisor may also be appointed if needed. A teacher not below the rank of Assistant Professor will act as

Supervisor/Co-supervisor. However, a Lecturer with MPhil/ Master's by Research/ Ph.D. degree is eligible to supervise/co-supervise a student. Co-supervision may also be allowed from other Disciplines of Khulna University/other universities or research institutes.

(viii) If a student has any grievance about a Supervisor, or if a Supervisor has any complaint against a student, s/he may inform the Discipline Head about the issue in writing. The Discipline will decide such matters.

(ix) Pursuant to the leave rules of Khulna University, a Supervisor can remain absent from Khulna University (not more than six months) while continuing as a Supervisor. The online defense may be arranged in such cases if deemed necessary. Otherwise, the Co-supervisor (if any) or any other competent person will act as the Supervisor as per the guideline of the concerned Examination Committee.

(x) Final evaluation of the Dissertation Part-IV will be made at the end of the final Term. However, the Dissertation Part-I, II, and III will be evaluated in the corresponding terms.

(xi) Every student submitting a dissertation in partial fulfilment of the requirements of a degree will be required to appear at a seminar presentation for Dissertation Part-I, II, and III and defense board for Dissertation Part-IV respectively on the dates fixed by the Discipline Head in consultation with the Supervisor (s). Such seminar presentation and defense may be arranged online if deemed necessary to the concerned authority. A student must satisfy the examiners that s/he is capable of undertaking independent work and affording evidence of satisfactory knowledge related to the theory and techniques used in his/her research work.

(xii) After successfully completing the seminar and dissertation defense boards, the Chairman of the concerned boards shall arrange to send six-monthly progress reports for each student in each Term to the Dean for approval. Accordingly, the Dean will approve the progress reports and report to BOAS. Progress reports shall be submitted before the end of each Term, even if the Supervisor is on leave; otherwise, the student(s) shall not be allowed to register for the following Term.

(xiii) A student must publish (or at least accepted for publication) an article/paper in a peer-reviewed journal or a peer-reviewed conference paper in order to complete 'Master's by Research' Degree.

(xiv) A student must submit the required number of printed and soft copies of Dissertation Part-IV in the approved format through the supervisors to the Discipline Head by a date to be fixed by the Discipline. The Dissertation will not usually be considered for evaluation if the plagiarism detection system yields a similarity index of more than 25% (excluding bibliography/references, quotes, and small sources with source exclusion threshold of ten-word counts). This will be applicable to the dissertations written in English. The curriculum of the concerned program will provide a specific guideline on this issue.

(xv) Each student shall certify that the research work is his/her own and that the work was not submitted elsewhere for any other degree or diploma - the entire work has not been published as a monograph or a book before the Degree is awarded.

(xvi) If any change is required in the title/supervisor/co-supervisor/examiner/etc., the Discipline Head will send it to the BOAS through EC.

### 20.1.10 Course Registration

(i) Each student will get oneself registered with the University. S/he will fill in the course registration form in consultation with the Program Coordinator under the guidance of the Discipline Head. The Program Coordinator will verify the form and submit it to the Discipline Head for forwarding it to the Registrar's office. Such submission might be made online, when and where applicable. The Registrar's office will be responsible for its distribution to relevant authorities (Disciplines and the Controller of Examinations). Course registration will be permitted within five working days at the beginning of each Term. Late registration will be permitted up to the next five working days on payment of a late fee. Student(s) having outstanding dues to the University shall not be permitted to register.

(ii) A student has to register for the backlog/retake/re-retake core courses first followed by the fresh courses offered by the Discipline for the term s/he is going to enroll subject to the compliance with: (i) completion of prerequisite courses (if any) and (ii) maximum credit registration limit per Term. However, s/he may not choose to register the optional backlog/retake/re-retake courses first.

(iii) A student may be allowed to register for advance course(s) in a term subject to: (i) his/her all backlog/retake/re-retake and offered core courses are either clear or registered, (ii) his/her current terms' offered all core courses are registered, (iii) completion of corresponding prerequisite courses (if any), (iv) compliance with maximum credit registration limit per Term, and (v) the desired advance courses are offered by the Discipline/POE in the current Term. However, such an advance course registration option will not be applicable for capstone courses like Thesis/ Project/ Internship/ and so on.

(iv) A student retaking/re-retaking the course will be awarded the immediate lower grade he/she obtains, and this grade will be shown and maintained on the Transcript.

(v) A Discipline/POE will not continue an optional course if less than 30 percent of students (of total seats for that batch) register for that course within ten working days from the beginning of classes. The situation will be solved by dropping that optional course through applying article 10.3 of MS Ordinance by the next five working days. The Coordinator will maintain such records and act accordingly. However, the concerned Discipline/POE might relax this clause for only final term/year optional courses if it is deemed necessary (for example, the studentship will be toward termination or the student will have to wait for additional term/year if the considered optional course(s) are not offered).

### 20.1.11 Limits on the Credits to be taken in a Term

Discipline Head may allow a student to register up to a maximum of 25 credits if recommended by the Program Coordinator. However, there is no minimum credit limit per Term in Master's level study.

### 20.1.12 Course Adjustment Procedure

A student will have the option to add or drop course(s) from his/her registration list within fifteen working days from the beginning of classes. This can be done with the advice of the concerned Program Coordinator and consent of the Discipline Head. Adjustment of initially registered courses in any Term can be made by duly filling in the Adjustment Form. The Registrar's office will do the needful.

### 20.1.13 Withdrawal from a Term

If any student cannot complete the Term Final Examination due to severe illness or serious accident, he/she may apply to the Dean through the Head for total withdrawal from the Term within eight working days after the end of the Term Final Examination. However, s/he may choose not to withdraw from any sessional courses if the grade obtained in such a course is 'C' or better. A medical certificate endorsed by the Chief Medical Officer of the University must support the application. The Dean of the concerned school will decide on such an application and inform the Registrar. If a student is allowed to withdraw from a Term, he/she will have to register as fresh for the Term he/she has withdrawn. However, he/she may be allowed to register for backlog courses, if offered.

### 20.1.14 Absence in a Term

A student may be absent from continuous assessments (quizzes/class test/field works, etc.) during the Term. Such absences will naturally reduce points/marks, which count towards the final grade. Absence in the Mid Term (if any) and the Term Final Examination will result in 'F' grade. A student who has been absent for short periods, up to a maximum of three weeks due to illness, should request the Course Teacher or Program Coordinator to makeup continuous assessments immediately on returning to the class. A medical certificate should support such request from the Chief Medical Officer of Khulna University. The medical certificate issued by registered medical practitioners (with the registration number shown explicitly on the certificates) and endorsed by the Chief Medical officer of the University will also be acceptable only in those cases where the student has valid reasons for his absence from the University.

### 20.1.15 Special Term

Students having any retake/re-retake course(s) may apply for a special Term to complete the total required course (maximum 09 credits) in that Term. The special Term will be offered for the final term students who have retake/re-retake courses. The examination will start four (04) weeks after publication of the result and will continue not more than 2 (two) weeks. The marks of both attendance and continuous assessments will be carried over from the previous record.

### 20.1.16 Registration for Improvement

If any student gets a 'D' to 'C+' grade in any course, s/he may be allowed to repeat that course to improve the grade. The previous grade will be replaced from the grade sheet in such a case.

### 20.1.17 Backlog

If a student obtains an 'F' grade in any Core course in any term, this 'F' grade will not be counted for Grade Point Average (GPA) but will be shown on the grade sheet, and in such case, he/she will have to retake the course to complete the Degree. If a student does not register for an offered Theory or Sessional course in his/her applicable Term (for example, '0541 12 Math 5101' course in his/her Master's first year first term, '0541 12 Math 5203' course in his/her Master's first year second term, '0541 12 Math 6104' course in his/her Master's second year first term), that course will be considered as a 'Backlog' course for that student in the subsequent terms. If a student gets an 'F' grade in an Optional course, he/she may, subject to availability, choose to take an optional substitute course. In such a case, that substitute course will be deemed as a fresh course. In case of registering for a Backlog Theory or Sessional course, a student has to face/appear/attend 100 marks evaluation, like a fresh course.

### 20.1.18 Credit Transfer/ Credit Waiver

This ordinance permits credit transfer to facilitate educational mobility. That transfer of credit(s) may be inward or outward. In the case of outward credit transfer, a student of Khulna University has to apply to the Registrar through the Head of the Discipline/POE for getting a credit transfer certificate. The application must be supported by necessary documents, including a copy of the grade sheet(s). Accordingly, the Registrar will issue a credit transfer certificate mentioning the number of credits already completed at Khulna University.

In case of inward credit transfer, students from other Universities/ Institutions may apply to the Registrar of Khulna University for credit transfer. The application must be supported by necessary documents, including a copy of grade sheet(s) and curriculum. The Registrar's office will forward the application to the concerned Discipline/POE. A three-member committee headed by the Discipline Head and two senior most teachers will assess the application and recommend for approval to the Registrar. The maximum limit of credit transfer from other Universities/ Institutions will be less than or equal to 50 percent of the total credits required to complete the concerned Degree. The final transcript of such students will show only the number of credits transferred.

The same process may be applied for handling the credit waiver related applications. However, the maximum limit of inward credit waiver from other Universities/ Institutions should be less than or equal to 20 percent of the total credits required to complete the concerned Degree.

## 20.2 Grades

Grade related issues are reported in section 20.1.

## 20.3 Grade Point Average (GPA)and Cumulative Grade Point Average (CGPA)

**a)** Grade Point Average (GPA) is the weighted average of Grade Points obtained in all the courses passed/completed by a student. For example, if a student has passed/completed five courses in a term having credits of C1, C2, C3, C4, and C5 and his/her points in these courses are G1, G2, G3, G4, and G5, respectively, then,

$GPA = \sum CiGi/\sum Ci$

**b)** A Numerical Example: Suppose a student has completed five courses in a term and obtained the following grades:

| COURSE | CREDIT | GRADE | GRADE POINT |
|---|---|---|---|
| A | 3 | A+ | 4.00 |
| B | 3 | C+ | 3.00 |
| C | 3 | A | 3.75 |
| D | 2 | B | 3.25 |
| E | 1 | B+ | 3.50 |

Then his/her GPA for the term will be computed as follows:

GPA= 3(4.0) + 3(3.0) + 3(3.75) + 2(3.25) + 1(3.5) /(3 + 3 + 3 + 2 + 1) = 3.52

**c)** A student's performance will be evaluated in terms of three indices- Term Grade Point Average (TGPA), Yearly Grade Point Average (YGPA), and Cumulative Grade Point Average (CGPA). The TGPA is computed by dividing the total points earned in a Term by the number of credits taken in the Term. The YGPA is computed by dividing the total grade points earned in two Terms in a year by dividing the number of credits taken in that year. The CGPA is computed by dividing the total grade points accumulated till date by the total completed credits. Thus a student who has earned 275 grad points in attempting 100 credits of courses would have an overall CGPA of 2.75.

**20.4 Course Withdrawal**

**a)** 'W' is the corresponding grade for withdrawn of a course, as mentioned in section 20.1.1.

**b)** If any student cannot complete the Term Final Examination due to severe illness or serious accident, he/she may apply to the Dean through the Head of the concerned Discipline for total withdrawal from the Term within eight working days after the Term Final Examination. However, he/she may choose not to withdraw from any sessional course if the grade obtained in such a course is C or better. A medical certificate endorsed by the Chief Medical Officer of the University must support the application. The Dean of the concerned School will decide on such an application and inform the Academic Council. If a student is allowed to withdraw from a Term, he/she will have to register as fresh from the Term he/she has withdrawn. However, he/she may be allowed to register for backlog courses, if offered.

**20.5 Incomplete (I) Courses**

'I' is the corresponding grade for an incomplete course, as mentioned in section 20.1.1.

**20.6 Retake**

Retake related issues are reported in section 20.1.

**20.7 Grade Improvement**

Grade improvement related issues are reported in section 20.1.

**20.8 Dropout/Cancellation of Studentship**

Dropout/Studentship cancellation related guidelines of the latest 'Ordinance for Undergraduate Examination' of Khulna University will generally be applicable for the Master's programs, if not conflicting with this Ordinance.

**20.9 Publication of Results**

(i) The Controller of Examinations will publish the result and preserve all the records for one year after the Degree is awarded. The result will be published subject to completing the required number of credits and fulfilling other requirements (for example, article/paper for 'Master's by Research' mode students) within the stipulated time limit, as applicable.

(ii) A student can have his/her results re-examined by applying to the Controller of Examinations within 30 working days from the date of publication of results. However, s/he has to pay a re-examination fee fixed by the concerned authorities. The Controller of Examinations will take necessary measures regarding the matter in consultation with the Chairman of the Examination Committee. Answer script re-scrutiny and result re-examination related rules of the latest 'Ordinance for Undergraduate Examination' of Khulna University will generally be applicable for the Master's programs also.

**20.10 Subsequent Ordinances**

For related/relevant issues, which are not covered (or not cleared) here, provisions of the latest 'Ordinance for Undergraduate Program' and 'Ordinance for Undergraduate Examination' of Khulna University may be consulted and applied, if not conflicting with this Ordinance.

| Approval Records | |
|---|---|
| Approving Authority | Date of Approval |
| Curriculum Committee of the Discipline | 07.09.2022 |
| Executive Committee of the School | |
| BOAS (if applicable) | |
| Academic Council | |
| Syndicate (if applicable) | |

## Appendix 01: Contributors and Attendees in the Dissemination Workshop

| Sl. No. | Name | Affiliation |
|---|---|---|
| 01 | Dr. Md. Rezaul Karim | Professor, Urban and Rural Planning Discipline, Khulna University |
| 02 | Dr. Md. Ashraful Alam | Professor, Urban and Rural Planning Discipline, Khulna University |
| 03 | Dr. Md. Ahsanul Kabir | Professor, Urban and Rural Planning Discipline, Khulna University |
| 04 | Dr. Sheikh Md. Mursalin Mamun | Professor, Urban and Rural Planning Discipline, Khulna University |
| 05 | Dr. Kazi Saiful Islam | Professor, Urban and Rural Planning Discipline, Khulna University |
| 06 | Dr. Md. Ashiq Ur Rahman | Professor, Urban and Rural Planning Discipline, Khulna University |
| 07 | Dr. Md. Zakir Hossain | Professor, Urban and Rural Planning Discipline, Khulna University |
| 08 | Dr. Tanjil Sowgat | Professor, Urban and Rural Planning Discipline, Khulna University |
| 09 | Dr. Fawzia Farzana | Professor, Urban and Rural Planning Discipline, Khulna University |
| 10 | Md. Salauddin | Associate Professor, Urban and Rural Planning Discipline, Khulna University |
| 11 | Md. Mostafizur Rahman | Associate Professor, Urban and Rural Planning Discipline, Khulna University |
| 12 | Dr. Shilpi Roy | Associate Professor, Urban and Rural Planning Discipline, Khulna University |
| 13 | Rabeya Sultana Leya | Associate Professor, Urban and Rural Planning Discipline, Khulna University |
| 14 | Maitry Biswas | Assistant Professor, Urban and Rural Planning Discipline, Khulna University |
| 15 | Mahmud-Uz-Zaman | Assistant Professor, Urban and Rural Planning Discipline, Khulna University |
| 16 | Mostaq Ahmed | Assistant Professor, Urban and Rural Planning Discipline, Khulna University |
| 17 | Lopa Islam | Assistant Professor, Urban and Rural Planning Discipline, Khulna University |
| 18 | Dr. Afroza Parveen | Dean, Science, Engineering and Technology School, Khulna University |
| 19 | Dr. Md. Nasif Ahsan | Dean, Social Science School, Khulna University |
| 20 | Dr. Md. Mustafa Saroar | Professor and Head, Urban and Regional Planning Discipline, Khulna University of Engineering and Technology |

| Sl. No. | Name | Affiliation |
|---|---|---|
| 21 | Dr. Md. Shafiqur Rahman | Professor, Urban and Regional Planning Discipline, Jahnagnirnagar University |
| 22 | Dr. Md. Akter Mahum | Professor, Urban and Regional Planning Discipline, Jahnagnirnagar University |
| 23 | Dr. Md. Ghulam Murtaza | Vice-President, Centre for Urban Studies |
| 24 | Dr. Md. Ziaul Haider | Director, IQAC, Khulna University |
| 25 | Dr. Md. Matiul Islam | Additional Director, IQAC, Khulna University |
| 26 | Dr. Jagadish Chandra Joarder | Additional Director, IQAC, Khulna University |
| 27 | Md. Asif Ahmed | National Consultant, World Head Organization |
| 28 | Md. Tanvir Ahmed | Planning Officer, Khulna Development Authority |
| 29 | Fazle Reza Sumon | President, Bangladesh Institute of Planners |
| 30 | Aamanur Rahman | President, Khulna University Planners Alumni |
| 31 | Md. Fazlul Haque | Senior Planner, Urban Development Directorate |
| 32 | Md. Mosheur Rahman | Town Planners, Sydney Municipality, Australia |

## Appendix 02: Summary of Major Changes in the OBE Format Curriculum

**Program : Master of Urban and Rural Planning**

**Discipline : Urban and Rural Planning**

**School : Science, Engineering and Technology School**

| Sl. No. | Criteria | Existing Curriculum | OBE Curriculum* | | | | |
|---|---|---|---|---|---|---|---|
| | | | MC | MM (D) | MM (P) | MM (I) | MR |
| 1 | Duration of the Program (in Year) | 1.5 | 1.0 | 1.5 | 1.5 | 1.5 | 2.0 |
| 2 | Total Available Credits | 107.5 | 69 | 84 | 75 | 75 | 54 |
| 3 | Minimum Credit Requirement to Complete the Degree | 43 | 42 | 48 | 48 | 48 | 48 |
| 4 | Available Credits from GED Courses | 00 | 21 | 21 | 21 | 21 | 00 |
| 5 | Credits from GED Courses (% of Total Credits) | 00 | 30.4 | 28.0 | 28.0 | 28.0 | 00 |
| 6 | Credits from GED Courses (% of Required Credits) | 00 | 50 | 43.75 | 43.75 | 43.75 | 00 |
| 7 | Available Credits from Core Theory Courses** | 15 | 06 | 06 | 06 | 06 | 00 |
| 8 | Available Credits from Core Sessional Courses** | 10 | 03 | 03 | 03 | 03 | 00 |
| 9 | Available Credits from Optional Theory Courses** | 60 | 27 | 27 | 27 | 27 | 00 |
| 10 | Available Credits from Optional Sessional Courses** | 10.5 | 06 | 06 | 06 | 06 | 00 |
| 11 | Available Credits from Capstone Courses | 12 | 06 | 21 | 12 | 12 | 48 |
| 12 | Term Duration (in week) | 21 | 22 | 22 | 22 | 22 | 22 |
| 13 | Credits from Newly Introduced Courses | N/A | 69 | 84 | 75 | 75 | 54 |
| 14 | Number of Newly Introduced Courses | N/A | 22 | 23 | 23 | 23 | 04 |
| 15 | Number of Omitted Courses | N/A | N/A | N/A | N/A | N/A | N/A |
| 16 | Change in Course Title (Number of Courses) | N/A | 22 | 23 | 23 | 23 | 04 |
| 17 | Change in Course Status (Number of Courses) | N/A | 22 | 23 | 23 | 23 | 04 |
| 18 | Inter-term Shift (Number of Courses) | N/A | N/A | N/A | N/A | N/A | N/A |
| 19 | Change in Course Contents (Number of Courses) | N/A | 22 | 23 | 23 | 23 | 04 |

***MC=** Master's by Coursework; **MM(D) =** Master's by Mixed-mode (Dissertation Group: Coursework + Dissertation); **MM(P) =** Master's by Mixed-mode (Project Group: Coursework + Project); **MM(I) =** Master's by Mixed-mode (Internship Group: Coursework + Internship); **MR =** Master's by Research.
** Including GED

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