MAKERERE UNIVERSITY

COLLEGE OF ENGINEERING, DESIGN, ART AND TECHNOLOGY (CEDAT)

SCHOOL OF THE BUILT ENVIRONMENT

DEPARTMENT OF ARCHITECTURE AND PHYSICAL PLANNING

PROPOSED POSTGRADUATE DIPLOMA IN URBAN PLANNING AND DESIGN (PGD. UPD)

DAY/ EVENING PROGRAMME

Proposed Starting Date: August 2011

March 2011

Table of Contents

Table of Contents 2
1 BACKGROUND 4
1.2 JUSTIFICATION 5
1.3 OBJECTIVES OF THE PROGRAMME 5
2 KEY CHANGES MADE IN THE PROGRAMME 5
3 THE PROGRAM 6
3.1 TARGET GROUP 6
3.2 ADMISSION REQUIREMENTS 6
3.3 UPGRADING PGD TO MSC UPD DEGREE 6
3.4 NATURE OF THE PROGRAMME 6
3.5 DURATION 7
3.6 TUTION FEES 7
4 REGULATIONS 7
4.1 Course Assessments 7
4.2 Grading of Courses 7
4.3 Minimum Pass Mark 7
4.4 Calculation of Cumulative Grade Point Average (CGPA) 8
4.5 Progression 8
4.5.1 Normal Progress 8
4.5.2 Probationary 8
4.5.3 Discontinuation 8
4.5.4 Re-taking a Course 8
4.6 Weighting System 8
4.7 Design Project 8
4.7.1 Passing of a Project 8
4.7.2 Revised Project Report 9
4.8 Minimum Graduation Load 9
5 PROGRAM STRUCTURE 9
5.1 PGD. Urban Planning and Design – summary of courses 9
6 DETAILED DESCRIPTION OF COURSES IN THE PROGRAMME 10
6.2 UPD 7102 Planning and Design Fundamentals 11
6.3UPD 7103 Theory and Methods of Urban Design 13
6.4 UPD 7104 Computer Applications for Planning and Design 15
6.5 UPD 7105 Sustainable Urban Infrastructure Systems 16
6.6 UPD 7201 Research Methodology and Scientific Writing 17

6.7 UPD 7202 Neighbourhood Planning and Design 19
6.8 UPD 7203 Action and Strategic Planning 21
6.9 UPD 7204 Landscape Planning and Design 23
6.10 UPD 7205 Sustainable Zoning and Land Use Regulation 24
6.11 DESIGN PROJECTS IN URBAN PLANNING AND DESIGN 25
UPD 7301 Design Project/Field Report 25
7 RESOURCES AND INFRASTRUCTURE 26
7.1 Library 26
7.2 Lecture Space 26
7.3 Computer Labs 26
8 Expected Local Annual Income and Expenditure 28

1 BACKGROUND

Urban planning and design is a professional discipline that explores several aspects of the built and social environments of cities and communities, anticipating how the city will function and how it will look as it develops (or redevelops) in the future. Urban planning aspects take into consideration the technical and political processes concerned with the welfare of people, control of the use of land, transportation and communication networks, and protection and enhancement of the city environment.
The design aspects respond to the changes of the technology as well as construction that deals with the look and aesthetic details of urban places and spaces. These designed spaces create a sense of place, character and give meaning to the city as well as become the platform for social interactions that enriches the quality of life for the people, vital not only for the growth of the nation, but also in making a liveable and sustainable nation.

The distinctive feature of this course is the combination of two disciplines; spatial planning and urban design. The course provides the fundamental knowledge and technical skills for both disciplines and will focus on the interaction between the two.
The programme re-establishes the notion of the planner architect, and aims to articulate the thresholds between planning, urban design and architecture. It is critically designed to speculate and articulate new Spatial Planning and Urban Design practice, responding to social, economic, environmental and political realities and change.
The focus of this integrative approach is a practical one. Throughout the curriculum, the emphasis is on real-world problems and how planners can act to improve the lives of urban residents. The course seeks to equip students to intervene in the production of the urban spaces and public realm, through a practice that is relevant to many existing disciplines. The course is based on students being reflective practitioners, learning from critical analysis of current practice integrated with critical theory.

The design part of the course will be delivered by urban practitioners within Architecture and Spatial Design. This PGD programme is part of a suite of the Msc. Urban Planning and Design programme and specifically forms the content for the first year of the MSc. Programme.

The PGD Urban Planning and Design is conceived as a model of continuously developing research, focused through the acquisition of specialist areas of knowledge and taught skills, which are tested, in parallel, through the formulation of a design project. The latter component is intended to explore the broader parameters of the research within a particular situation or environment.

The PGD Urban Planning and Design is informed by current local and international spatial planning and urban design policies and practices, but also emphasizes the need to question these processes and policies to test and develop new approaches to complex urban contexts. It welcomes students as fellow innovators in a course that is both visionary and hands on in seeking to develop urban and planning strategies that are socially, environmentally and economically sustainable, distinctive and enjoyable.

1.2 JUSTIFICATION

The need for the course arose out of the demands in practice by a number of professionals in the building industry interested in upgrading their skills in their professions. The thrust of the demand has been focused on short-time courses that are tailored to the demand driven needs in practice. The availability of a market for this course is evidenced by the large number of graduates of Bachelor of Urban Planning, Bachelor of Architecture, and other related disciplines who may require specialised post graduate training in Planning and Urban Design. Currently there is no institution where such training is offered in Uganda.

1.3 OBJECTIVES OF THE PROGRAMME

The overall objective of the programme is to produce highly skilled professionals with the knowledge to respond to the demands of the practical world and to bridge the present knowledge gap between architectural competence and planning competence in urban development.

Our graduates should be able to develop the following abilities:

- To promotes a general and intricate understanding of the city by examining the various factors that generate urban form.
- To focuses on physical planning and the design of urban spaces (and their enclosure) that can adapt over time to the ever-changing needs of inhabitants and society.
- To enable students from architecture and design disciplines to develop skills and employ their knowledge in developing complex socially, environmentally and economically sustainable urban and spatial planning strategies.
- To use design thinking as a critical, interrogative process through which to explore the broader parameters of the research within a particular situation or environment.
- To conceptualize, define, and analyze design problems and opportunities at the urban scale.

2 KEY CHANGES MADE IN THE PROGRAMME

Program	Issues Noted	Key Changes
Old Program (PGD Urban Design)	• Old programme has never been reviewed since its establishment in 2001 • The content of all courses needed enrichment and other courses needed to be scrapped because the content did not address contemporary local issues.	• Change of title to PGD. Urban Planning and Design to accommodate all parties with the planning, architectural and built environment related backgrounds. • New codes for all course (UPD) • The combination of the two disciplines of Urban Planning and Urban Design is focus of the new programme. • Students with postgraduate diploma in Urban Planning and Design can join the Masters degree programme in the second year to and proceed with research

3 THE PROGRAM

3.1 TARGET GROUP

The programme targets graduates with Honours degree in a discipline related to the built environment and the city (e.g. Architecture, Planning, Surveying, Engineering, Construction Management, Land use Planning, Geography, Landscape Planning/Architecture). Candidates with alternative professional experience may also be considered.

3.2 ADMISSION REQUIREMENTS

To qualify for admission, a candidate must fulfill the general Makerere University entry requirements for postgraduate diplomas, and in addition the candidate must be a holder of either

1. A bachelors degree in Urban/Regional/Physical/Town and Country Planning, Architecture, Landscape Design, Civil Engineering, Construction Management, surveying, or its equivalent from a recognized University/Institution.

2. Students who have obtained first and second class degrees should be free to join after completion.

3. Students who have obtained pass degree can only join after demonstrating professional growth in the relevant field to the degree programme.

3.3 UPGRADING PGD TO MSC UPD DEGREE

When a student graduates with a Postgraduate Diploma (PGD) in Urban Planning and Design (Lower Second Class, Upper Second Class or First Class), the student can apply for the Master of Science Urban Planning and Design to join the second year.

Also, if a student has already obtained a (single discipline) Postgraduate Diploma or its equivalent in any field within built environment studies, either from Makerere University or any other recognised University, the student can still apply for admission.

The upgrading of the PGD to the MSc UPD described above must be supported by the relevant academic documents attained from the PGD of Makerere University. This must be done for purposes of analyzing the relevant academic courses that must have been attempted as per the current MSc UPD curriculum.

3.4 NATURE OF THE PROGRAMME

This is a day/evening programme with duration of one year. Courses generally start in August and finish in the beginning of June, with exception of the design project that continues into recess term (June – August). The programme covers all the first year courses of the MSc UPD programme. The PGD. UPD programme consist of course work followed by a design project.

3.5 DURATION

The duration for the M.Sc in UPD degree programme is one (1) academic year comprising of 2 semesters.

3.6 TUTION FEES

Tution fees for privately sponsored students shall be 3, 787, 500 Uganda Shillings per year for Ugandans and 6,700,000Uganda Shillings per year for International students.

4 REGULATIONS

4.1 Course Assessments

Each Course will be assessed on the basis of 100 total marks with proportions as follows:

1. Course Work - 40; and Examination - 60
2. A minimum of two Course Assignments/Tests shall be required per Course.
3. Course work shall consist of tests, group assignments and presentations in each semester. In the recess term, assessment shall also include the evaluation of individual/group design projects.

4.2 Grading of Courses

a) Each Course will be graded out of a maximum of 100 marks and assigned an appropriate letter grade and a grade point as follows:

Marks	Letter Grade	Grade Point	Interpretation
90-100	A+	5.0	Exceptional
80-89	A	5.0	Excellent
75-79	B+	4.5	Very good
70-74	B	4.0	Good
65-69	C+	3.5	Fairly good
60-64	C	3.0	Pass
55-59	D+	2.5	Marginal Fail
50-54	D	2.0	Clear Fail
45-49	E+	1.5	Bad Fail
40-44	E-	1.0	Qualified Fail
30-39	F	00	Qualified Fail

b) The following additional letters will be used, where appropriate: -

W - Withdraw from Course;
I - Incomplete;
AU - Audited Course Only;
P - Pass;
F - Failure.

4.3 Minimum Pass Mark

A minimum pass grade for each course shall be 3.0 grade points.

4.4 Calculation of Cumulative Grade Point Average (CGPA)

The CGPA shall be calculated as follows: -

$$\text{CGPA} = \frac{\sum_{i=1}^{n}(GP_i \times CU_i)}{\sum_{i=1}^{n} CU_i},$$

Where *GPi* is the Grade Point score of a particular course *i*; *CUi* is the number of Credit Units of course *i*; and *n* is the number of courses so far done.

4.5 Progression

Progression through the programme shall be assessed in three ways:

4.5.1 Normal Progress

This occurs when a student passes each course taken with a minimum Grade Point of 3.0.

4.5.2 Probationary

This is a warning stage and occurs if either the cumulative grade point average (CGPA) is less than 3.0 and/or the student has failed a core course. Probation is waved when these conditions cease to hold.

4.5.3 Discontinuation

When a student accumulates three consecutive probations based on the CGPA or the same core course(s), he/she shall be discontinued.

4.5.4 Re-taking a Course

A Student may re-take any course when it is offered again in order to pass if the student had failed the course. A Student may take a substitute elective, where the Student does not wish to re-take a failed elective.

4.6 Weighting System

The weighting unit is the Credit Unit (CU). The Credit Unit is 15 contact hours per semester. A contact hour is equal to (i) one lecture hour, (ii) two practical hours or (iii) two tutorial hours

4.7 Design Project

Students are required to demonstrate their ability to independently formulate a detailed design Project, as well as develop and demonstrate their Project thoroughly.

a).A candidate shall be allowed to formally start on the Project in the second semester.
b).A candidate shall submit a Project Proposal to the Department of the College of Engineering Design, Art and Technology Higher Degrees Committee during the second semester.
c).The candidate shall execute the Project during the recess term.
d).The candidate shall submit the Project Report and any accompanying documents/illustrations two weeks before the end of the recess term.

4.7.1 Passing of a Project

To pass the Project, the candidate shall satisfy the examiners in a written report and viva voce independently.

4.7.2 Revised Project Report

A candidate, who fails to satisfy the examiners, shall re-submit a Revised Project (drawings, illustrations and Report) in accordance with the standing University guidelines for the project examinations.

4.8 Minimum Graduation Load

To qualify for the award of the Postgraduate Diploma in Urban Planning and Design, a full-time candidate is required to obtain a minimum of 30 credit units for courses passed including all the compulsory courses; and 5 CU for the Design Project within a period stipulated by the School of Graduate Studies, usually not exceeding five (3) years from the date of registration.

5 PROGRAM STRUCTURE

The PGD in Urban Planning and Design programme shall be for both the day and evening programmes. The programme shall normally run for a period of one year and the year will consist of two semesters of 17 weeks, with a two months recess term. Completion of all taught courses and Design Project leads to the award of Postgraduate Diploma.

Let LH, PH, CH and CU stand for Lecture Hours, Practical Hours, Contact Hours and Credit Units respectively. The Curriculum for the PGD in Urban Planning and Design is described below.

5.1 PGD. Urban Planning and Design – summary of courses

SEMESTER I					
Course Code	**Course Name**	**LH**	**PH**	**CH**	**CU**
	Core Courses (COMPULSORY)				
UPD 7101	Planning Theory and Practice	45	-	45	3
UPD 7102	Planning and Design Fundamentals	45	-	45	3
UPD 7103	Theory and Methods of Urban Design	45	-	45	3
UPD 7104	Computer Applications for Planning and Design	30	30	45	3
UPD 7105	Sustainable Urban Infrastructure Systems	45	-	45	3
Total Credit Units = 15					
SEMESTER II					
	Core Courses				
UPD 7201	Research Methodology and Scientific Writing	30	30	45	3
UPD 7202	Neighbourhood Planning and Design	30	30	45	3
UPD 7210	Action and Strategic Planning	30	30	45	3
UPD 7204	Landscape Planning and Design	30	30	45	3
UPD 7205	Sustainable Zoning and Land Use Regulation	45	-	45	3
Total Credit Units = 15					
RECESS TERM (Compulsory)					
UPD 7301	**Design Project**	-	75	75	5

6 DETAILED DESCRIPTION OF COURSES IN THE PROGRAMME

6.1 UPD 7101 Planning Theory and Practice

Hours Per Week			Hours per Semester	Weighted Total Mark	Weighted Exam Mark	Weighted Continuous Assessment	Credit Units
LH	PH	TH	CH	WTM	WEM	WCM	CU
3	0	3	45	100	60	40	3

Course description:
This course is an introduction to the theories and history of planning. The focus of this introductory course is on the *practice* of planning. We will selectively draw on the literature in planning theory and history to examine a series of questions fundamental to planning practice.

Objectives:

1. The primary objective of the course is to introduce students to the historical development of planning
2. To show clear roles and responsibilities of planners
3. To give students a broader understanding of the justification for planning

Learning outcomes:
After completing this course, students should be able to:

1. explain the roles planners fill and the settings where they carry out the planning function;
2. analyze key historical dilemmas and their implications for today's planning practice;
3. explain the political nature of planning;
4. justify the practice of planning;
5. compare different approaches to the planning process and analyze the values they reflect;
6. apply major contemporary planning theories to current issues;
7. explain options for overcoming ethical dilemmas that planners face;

Delivery method:
The course will be delivered in form of lectures and group discussions. Students will additionally be required to make presentations demonstrating an understanding and critical engagement of course readings and will write critiques of other students' designs.

Assessment method:
This will be done through continuous assessment (including coursework and tests) and written examination at the end of the semester. Coursework and test will be assessed out of 40% and examinations, out of 60%.

Course content:
The course focuses on the following questions;

1. What is planning theory and history? And why are they important subjects for practicing planners? 8 CH
2. What are the historical dilemmas that have shaped the practice of planning? 4 CH
3. What do planners do? 6 CH
4. What is the justification for planning? 4 CH
5. Is there a public interest? If so, what is it? 6 CH

6. How can planning be effective given the institutional constraints placed on planners? 6 CH
7. What values are incorporated into planning? 6 CH
8. What ethical dilemmas do planners face and how can they resolve them? 6 CH

Proposed staff: Dr. Amin Tamale, Mr. Cato Lund

References:

1. Andreas Faludi (1973) A Reader in Planning Theory. Oxford: Pergamon Press
2. Nigel Taylor (1998) Urban Planning Theory Since 1945. London: Sage Publications
3. Vanessa Watson (*2003)* Conflicting Rationalities: Implications for Planning Theory and Ethics *Vol. 4, No. 4, 395–407*
4. Campbell, H. (2002) Planning: an idea of value, *Town Planning Review,* 73(3), pp. 271–288.
5. Fischler, R. (2000) Communicative planning theory: a Foucauldian assessment, *Journal of Planning Education and Research*, 19(4), pp. 358–368.
6. Habermas, J. (1984) *The Theory of Communicative Action, Vol. 1* (Boston, MA, Beacon Press).
7. Harris, N. (2000) Practice through a lens: a metaphor for planning theory, *Journal of Planning Education and Research*, 19(2), pp. 309–315.
8. Healey, P. (1992) Planning through debate: the communicative turn in planning theory, *Town Planning Review*, 63(2), pp. 143–162.
9. Healey, P. (1999) Institutional analysis, communicative planning, and shaping places, *Journal of Planning Education and Research,* 18(2), pp. 111–121.
10. Huxley, M. (2000) The limits to communicative planning, *Journal of Planning Education and Research*, 19(4), pp. 369–377.
11. Huxley, M. & Yiftachel, O. (2000) New paradigm or old myopia? Unsettling communicative turn in planning theory, *Journal of Planning Education and Research,* 19(4), pp. 333–342.
12. Watson, V. (2002a) The usefulness of normative planning theories in the context of Sub-Saharan Africa, *Planning Theory*, 1(1), pp. 27–52.
13. Watson, V. (2002b) Do we learn from planning practice? The contribution of the practice movement to planning theory, *Journal of Planning Education and Research,* 22(2), pp. 178–187.

6.2 UPD 7102 Planning and Design Fundamentals

Hours Per Week			Hours per Semester	Weighted Total Mark	Weighted Exam Mark	Weighted Continuous Assessment	Credit Units
LH	PH	TH	CH	WTM	WEM	WCM	CU
3	0	3	45	100	60	40	3

Course description:
This foundation course introduces graduate students to the theory, methods and practice of physical design for urban areas. Classes involve a variety of teaching and learning approaches

including lectures, seminars, and case studies in built form, relying on both historical and contemporary urban precedents from around the world.

Objectives:

1. To develop an understanding of interrelationships between nature and human interventions
2. To develop an awareness of thematic traditions in site design.
3. To provide an overview of the history of site design as a potential source for precedent analysis.
4. To develop an ability to observe, document, analyze, and describe site conditions.
5. To develop an understanding of technical, legal, regulatory and ethical determinants in site design.
6. To develop an understanding of the relationship between human activities and their accommodation in
7. the landscape.
8. To develop an understanding of the diverse palette of materials employed in site design.
9. To develop ability to responsibly and effectively manipulate site conditions within a design scenario.

Learning outcomes:

At the conclusion of this course students will demonstrate:

1. Verbal and Writing Skills – Ability to speak and write effectively on subject matter contained in the professional curriculum.
2. Graphic Skills – Ability to employ appropriate representational media, including computer technology, to convey essential formal elements at each stage of the programming and design process.
3. Research Skills – Ability to employ basic methods of data collection and analysis to inform all aspects of the programming and design process.
4. Critical Thinking Skills – Ability to make comprehensive analysis and evaluation of a building, building complex, or urban space.
5. Fundamental Design Skills – Ability to apply basic organizational, spatial, structural, and constructional principles to the conception and development of interior and exterior spaces, building elements, and components.
6. Collaborative Skills – Ability to identify and assume divergent roles that maximize individual talents, and to cooperate with other students when working as members of a design team and in other settings.

Delivery method:

The course will be delivered in form of lectures and group discussions. Students will additionally be required to make presentations demonstrating an understanding and critical engagement of course readings.

Assessment method:

This will be done through continuous assessment (including coursework and tests) and written examination at the end of the semester. Coursework and test will be assessed out of 40% and examinations, out of 60%.

Course content:

The course covers but is not limited to:

1. landscape and site traditions, 6 CH

2. landscape and site graphics, 8 CH
3. mapping and site documentation, 6 CH
4. legal and regulatory topics, 4 CH
5. topography, climate and micro-climate, 4 CH
6. soils and geotechnical, hydrology and storm water management 6 CH
7. biological systems, movement systems, 4 CH
8. utilities and infrastructure, design process, design review, and case studies. 7 CH

Proposed staff: Mr. Fredrick Omolo

References:

1. LaGro, James, (2001) Site Analysis University of Wisconsin - Madison: John Wiley & Sons, Inc.
2. La Gro, James A., Site Analysis: Linking Program and Concept in Land Planning and Design. New York: John Wiley and Sons, 2001
3. Ambrose, James and Peter Brandow, (1992) Simplified Site Design. New York: John Wiley & Sons,
4. Brooks, R. Gene, (1988).Site Planning: Environment, Process and Development. Englewood Cliffs, New Jersey: Prentice Hall
5. Dober, Richard P., (2000) Campus Landscape: Functions, Forms and Features. New York: John Wiley & Sons,
6. Juracek, Judy, (2002). Natural Surfaces: Visual Research for Artists, Architects, and Designers. New York: W.W. Norton & Co.

6.3 UPD 7103 Theory and Methods of Urban Design

Hours Per Week			Hours per Semester	Weighted Total Mark	Weighted Exam Mark	Weighted Continuous Assessment	Credit Units
LH	PH	TH	CH	WTM	WEM	WCM	CU
3	0	3	45	100	60	40	3

Course description:

This course covers the fundamentals of urban design theory and invites students to apply these theories in neighborhood design. The course surveys major historical and contemporary trends in urban design theory and practice, and introduces contemporary theories on the future forces affecting the development and functioning of urban regions. We will discuss cities at multiple scales and will apply our evolving understanding to development at the neighbourhood scale in locations in the Vancouver area. The course is designed to provide a collaborative, interactive, applied and community based environment for the development of spatial thinking and basic urban design literacy.

No prior design or drawing experience is required.

Objectives:

1. The primary objective of the course is to introduce students to prevailing ideas in the field of urban design and to the anticipated challenges that will likely affect the evolution of cities.

2. The course is designed to provide a collaborative, interactive, applied and community based environment for the development of spatial thinking and basic urban design literacy.

Learning outcomes:
By the end of the course students will have gained the following:
1. direct experience in understanding, interpreting and applying theories of urban design;
2. a basic capacity to critique urban design and the normative doctrines that produce them;
3. an understanding of urban design as a dynamic force integral to the evolution of cities;
4. an introduction to a range of methodological approaches to the spatial analysis of cities.
5. an introduction to the language and terminology of land use and urban design;
6. a heightened awareness of the details of the built environment to foster lifelong design learning.

Delivery method:
The course will be delivered in form of lectures and group discussions. Students will additionally be required to make presentations demonstrating an understanding and critical engagement of course readings and will write critiques of other students' designs.

Assessment method:
This will be done through continuous assessment (including coursework and tests) and written examination at the end of the semester. Coursework and test will be assessed out of 40% and examinations, out of 60%.

Course content:

1. General introduction to urban design theory.	4 CH
2. Principles of urban design,	4 CH
3. Historical development of urban form and urban design,	6 CH
4. Urban morphology,	4 CH
5. Established, current and emerging theory,	6 CH
6. best practice and case studies.	6 CH
7. methodological approaches to the spatial analysis of cities.	4 CH
8. language and terminology of land use and urban design;	6 CH
9. tools for design visualization and improved decision-making in urban design.	5 CH

Proposed staff: Mr. Andrew Wakuma

References:

1. Safe Cities: Guidelines for Planning, Design, and Management (Landscape Architecture)
2. The City Shaped: Urban Patterns and Meanings Through History, and The City Assembled: Elements of Urban Form through History, by Spiro Kostof.
3. Town Spaces: Contemporary Interpretations in Traditional Urbanism, by Rob Krier
4. Urban Design: The American Experience, by Jon Lang
5. Urban Design Compendium – Volume 1, by English Partnerships
6. Short History of Progress, by Ronald Wright
7. Good City Form, by Kevin Lynch

6.4 UPD 7104 Computer Applications for Planning and Design

Hours Per Week			Hours per Semester	Weighted Total Mark	Weighted Exam Mark	Weighted Continuous Assessment	Credit Units
LH	PH	TH	CH	WTM	WEM	WCM	CU
3	0	3	45	100	60	40	3

Course description

Introduction to the computer system, methods and techniques of computer usage in planning. Computer package for planning, problem solving technique analysis for planning will be introduced. This include: Analysis, Report Preparation and Graphics

The course also discusses the principles of Computer Aided Design, and GIS among the important components will also be introduced.

Objectives:

1. The main objective of the course is for Students to appreciate the role of computer as a tool that can be applied in all Urban Planning and design.
2. To learn basic design tools in CAD
3. To introduce students to GIS.

Learning outcomes:

At the end of the course students should be able to appreciate the role of computer as a drawing tool. They should have gained some basic skills in graphic design among others.

Delivery method:

The courses will be conducted through lectures and practical exercises in the computer laboratory to give students hands on exercises.

Assessment method:

Assessment will be done through coursework, practical exercises by individual students and examination. Coursework and practical exercises 40%, examination 60%.

Course content:

1. Introduction to the computer as a support tool for urban planning and design. 4 CH
2. The computer as a support tool for all types of plan designs. 6 CH
3. Introduction to CAD 10 CH
4. Introduction to archiCAD 10 CH
5. Principles, Tools and applications 5 CH
6. 2D and 3D designs 4 CH
7. Rendering 6 CH

Proposed staff: Mr. Jesse Musamba, Mr. Jesse Tukacungurwa

References:

1. West, C. and Lording, R. (1989) Information technology applications: A course-book for vocational qualifications, London: Heinemann Newness
2. Gosling, P. and Gosling, J. (eds) (1989) Mastering word processing, London: Macmillan

3. Liengme,B.V.(2000) A guide to Microsoft excel for scientists engineers, Butterworth: Oxford University Press
4. Gear, C.W. (1986) Introduction to computers, structured programming and applications series, New Dehli: Galgotia
5. Engebrestsen, E. (1991) Stop Wasting time: computer-aided planning and control, London: Prentice Hall

6.5 UPD 7105 Sustainable Urban Infrastructure Systems

Hours Per Week			Hours per Semester	Weighted Total Mark	Weighted Exam Mark	Weighted Continuous Assessment	Credit Units
LH	PH	TH	CH	WTM	WEM	WCM	CU
3	0	3	45	100	60	40	3

Course description:

Sustainable urban infrastructure systems are emerging as important issues in a rapidly changing urban environment where the world's resource supplies can no longer match demand. In the midst of numerous other challenges, urban authorities need to realize that in order to provide a sustainable and high quality of life to local communities, optimal use of resources is of paramount importance. The increasing complexity and interconnectedness of civil and other interdependent infrastructure systems (electric power, energy, cyber-infrastructures, etc.) require inter- and multidisciplinary expertise to create, manage and maintain sustainable infrastructure systems.

Objectives:

1. To develop an understanding of the increasing complexity and interrelationships of civil and other interdependent infrastructure systems (electric power, water supply, energy, cyber-infrastructures, etc.)
2. To develop an understanding of how urban infrastructure influence the growth, development and performance of cities
3. To learn how to apply sustainability principles in the conceptualization, implementation and management of critical urban infrastructure
4. To evaluate the roles/relationships between/among various professionals/actors involved in implementation and management of urban infrastructure systems

Learning outcomes:

At the conclusion of this course students will demonstrate:

1. Thorough understanding of the complexity and interrelationships of civil and other interdependent infrastructure systems
2. A good understanding of how urban infrastructure influences the growth patterns, development and performance of cities, in addition to being able to assess and analyze them accordingly
3. Their ability to apply sustainability principles in the conceptualization, implementation and management of critical urban infrastructure
4. An awareness of the roles/relationships between/among various professionals/actors involved in implementation and management of urban infrastructure systems

Delivery method:

The course will be delivered in form of lectures and group discussions. Students will additionally be required to make presentations demonstrating an understanding and critical engagement of course readings.

Assessment method:

This will be done through continuous assessment (including coursework and tests) and written examination at the end of the semester. Coursework and test will be assessed out of 40% and examinations, out of 60%.

Course content:
The course covers but is not limited to:

1. Water Supply & Sanitation 4 CH
2. Sewage & Waste Water Treatment 4 CH
3. Solid Waste Management 6 CH
4. Telecommunications 4 CH
5. Energy and Public Transportation systems 6 CH
6. Intelligent transportation infrastructure technologies 6 CH
7. Assessment frameworks for sustainable urban infrastructure systems 4 CH
8. Financial mechanisms for urban infrastructure 6 CH
9. Maintenance, rehabilitation & scheduling activities for pubic infrastructure 5 CH

Proposed staff: Dr. Henry Alinaitwe, Dr. Amin Tamale Kiggundu

References:

1. Lahti, P., Calderon, E., Jones, P., Rijsberman, M., & Stuip, J., (2011): Towards Sustainable Urban Infrastructure: Assessment Tools & Good Infrastructure
2. Workshop Committee and National Research Council (2009): Sustainable Critical Infrastructure Systems: A Framework for Meeting 21st Century Imperatives
3. **Kasthurirangan Gopalakrishnan** (Ed), **Srinivas Peeta** (Ed) (2010): Sustainable and Resilient Critical Infrastructure Systems: Simulation, Modeling, and Intelligent Engineering Springer; 1st Edition
4. Anthony G. Bigio and Bharat Dahiya (2004): Urban Environment and Infrastructure: Toward Livable Cities (Directions in Development), World Bank Publications
5. S. Bry Sarte (2010): Sustainable Infrastructure: The Guide to Green Engineering and Design
6. (CourseSmart), Wiley

6.6 UPD 7201 Research Methodology and Scientific Writing

Hours Per Week			Hours per Semester	Weighted Total Mark	Weighted Exam Mark	Weighted Continuous Assessment	Credit Units
LH	PH	TH	CH	WTM	WEM	WCM	CU
3	0	3	45	100	60	40	3

Course description:
The course provides the theoretical insight and practical skills required to plan, implement, analyse and report a scientific findings in the area of urban planning and design. The main parts of the course are scientific methods of projects including research methodology, and ethics both theoretical and practical. It also includes scientific writing, reviewing, and presentation of texts.

Objectives:
- The aim of the course is to give the students the theoretical and practical skills to conduct, analyze and present in written research tasks in the area of Plannin and design and to give insight and understanding of research methodology.

Learning outcomes:
Following this course a student should be able to:
- Explain and apply techniques for scientific writing and research methodology to prepare the writing of a scientific report.
- perform investigation using methods, explain and take position on the results as well as summarize related work
- Apply the knowledge in scientific writing and research methodology and use the knowledge to write a scientific report.

Delivery method:
The course is divided into three parts, where lectures and labs provide support for handling:
1. Research Methodology, which is motivating, and preparing as well as performing an
2. Evaluation, giving insights in evaluations for scientific research, and a
3. Scientific Report, reporting the outcome of the evaluation.

These three parts are examined by a project proposal (or project plan), a method description and a scientific report.

Assessment method:
This will be done through continuous assessment (including coursework and tests) and written examination at the end of the semester. Coursework and test will be assessed out of 40% and examinations, out of 60%.

Course content:

1.	Introduction to Research Methodology and Scientific Writing	4 CH
2.	Introduction to Scientific Genres - Proposals and technical reports	2 CH
3.	Scientific knowledge	2 CH
4.	Hypothesis testing	2 CH
5.	Effective Writing Strategies, Paragraph structure, Cohesive devices, Information structure, and Conciseness	2 CH
6.	Working with Texts, Digital resources, Working with original sources, Referencing systems,	4 CH
7.	Reviewing and collaboration, Learning from model texts	2 CH
8.	Introduction to research and data collection methods: both qualitative and quantitative	2 CH
9.	Experiments	2 CH
10.	Quantitative methods	2 CH
11.	Proposals	2 CH

12.	Ethics, Plagiarism	2 CH
13.	Quantitative data collection methods, analyse, result	3 CH
14.	Seminar 1	2 CH
15.	Research articles 1: Introduction and Methods	4 CH
16.	Qualitative methods	2 CH
17.	Qualitative data collection methods	2 CH
18.	Research articles 2: Results, discussion, title and abstract.	2 CH
19.	Seminar 2	2 CH

Proposed staff: Dr. Allan Birabi, Dr. Ian Senkatuka

References:

1. Wayne C. Booth, Gregory G. Colomb, and Joseph M. Williams, The Craft of Research, 2nd edition (Chicago Guides to Writing, Editing, and Publishing), University Of Chicago Press; 1 edition (March 2003), paperback: 336 pages, ISBN-10: 0226065685, ISBN-13: 978-0226065687
2. Angelika H. Hofmann, Scientific Writing and Communication: Papers, Proposals, and Presentations, Oxford University Press, USA (December 16, 2009), Paperback: 704 pages, ISBN-10: 0195390059, ISBN-13: 978-0195390056
3. Peter Bock, Getting It Right: R&D Methods for Science and Engineering, Academic Press; 1 edition (September 13, 2001), 406 pages, ISBN-10: 0121088529, ISBN-13: 978-0121088521

6.7 UPD 7202 Neighbourhood Planning and Design

Hours Per Week			Hours per Semester	Weighted Total Mark	Weighted Exam Mark	Weighted Continuous Assessment	Credit Units
LH	PH	TH	CH	WTM	WEM	WCM	CU
3	0	3	45	100	60	40	3

Course description:

Neighborhoods remain an important locus of everyday life. In particular, the quality of a neighborhood's housing stock, physical infrastructure, social relationships (both internal and external), environment, and employment and business opportunities have a major impact on the quality of life experienced by its residents.

The course focuses on skills, practices and values fundamental to successful neighbourhood planning. The various planning approaches upon which the field is based forms the major component of the course.

Objectives:

- To know the history and theoretical underpinnings of neighborhood planning, community development and community organizing
- To be familiar with the determinants of neighborhood change and how change can be influenced through community development

- To introduce the various purposes of neighbourhood planning and design, both as a method for developing an agenda and focus for neighbourhood-based organizations and as a type of physical/environmental planning
- To introduce planning methods appropriate to these various purposes, including process design and facilitation, data analysis, neighbourhood strategic planning, and graphic presentation techniques
- To gain experience via participation in an active neighbourhood planning project

Learning outcomes:
At the conclusion of this course students will demonstrate:

1. A broad understanding of the purposes of neighbourhood planning and design
2. Basic competence to manage a neighbourhood planning process.
3. Fundamental Design Skills – Ability to apply basic organizational, principles to the conception and development of neighbourhoods
4. Collaborative Skills – Ability to identify and assume divergent roles that maximize individual talents, and to cooperate with other students when working as members of a design team and in other settings.

Delivery method:
The course will be delivered in form of lectures and group discussions. The course also will include a review of relevant literature and discussions pertaining to the purpose and practice of neighbourhood planning. Reading assignments will include course texts and hand-outs provided by the instructors. Evidence of reading and understanding will be evaluated through class discussions and occasional written assignments and will contribute forty percent (40%) to the student's final course grade.
Students will visit one or more neighbourhood planning activities ongoing in Kampala City or in the region. During this period of the course, students will continue receiving instruction on planning concepts and methods appropriate to their individual assignments and tasks. Students will be graded as an individual or a group, depending upon the exact nature of the planning activity undertaken.

Assessment method:
This will be done through continuous assessment (including coursework and tests) and written examination at the end of the semester. Coursework and test will be assessed out of 40% and examinations, out of 60%.

Course content:
Topics to be covered through readings, class discussions, guest speakers and hands-on planning activities. The following will be covered:

1.	The Ideal Neighbourhood.	2 CH
2.	Types of Neighbourhood Planning	2 CH
3.	Case Studies – neighbourhood development projects	4 CH
4.	Neighbourhood Planning as a Platform for Government/Neighbourhood Collaboration.	4 CH
5.	Fundamental Concepts and Legal Bases for Local Planning, Zoning and Historic Preservation.	4 CH
6.	Local Process and Authority for Establishing Neighbourhood Plans.	2 CH

7. Grassroots Planning Advocacy and the Politics of Planning & Zoning. 2 CH
8. Community Involvement, Resident Organizing and Neighbourhood Leadership. 2 CH
9. The Role of Neighbourhood-Based Organizations in Community Planning & Development. 4 CH
10. *S*trategic Planning and Facilitation Methods. 4 CH
11. Neighbourhood Economic Development. 2 CH
12. New Urbanism, Traditional Neighbourhood Zoning Districts, and Brownfield Redevelopment. 5 CH
13. Transportation & Parks. 4 CH
14. Neighbourhood Housing Strategies. 2 CH
15. Comprehensive Neighbourhood Strategies. 2 CH

Proposed staff: Dr Assumpta Nnaggenda-Musana

References:

1. Rohe, W. M. & Gates, L. B. (1985). Planning with Neighbourhoods. Chapel Hill , NC : The University of North Carolina Press.
2. Ian Colquhoun (2004) Design Out Crime: Creating Safe and Sustainable Communities
3. Ashley Lyons (2006) Neighbourhood Planning Process and Implementation: Highlights from four Cities
4. Carmen Sirianni (2007) Neighbourhood Planning and Collaborative Design: The Case of Seatle. Journal of American Planning Association, 73:4, 373-387
5. William Peterman, *Neighborhood Planning and Community-Based Development: The Potential and Limits of Grassroots Action.* SAGE Publications, 2000, paperback ISBN 0-7619-1198-7
6. Henry Louis Taylor, Jr. *Inside El Barrio: A Bottom-Up View of Neighborhood Life in Castro's Cuba,* Kumarian Press, Sterling, Virginia, 2009, paperback, ISBN 978-1-56549-281-3
7. Peter Medoff and Holly Sklar, *Streets of Hope: The Fall and Rise of an Urban Neighborhood.* South End Press, Boston, Massachusetts, 1994, paperback, ISBN 0-89608-482-5

6.8 UPD 7203 Action and Strategic Planning

Hours Per Week			Hours per Semester	Weighted Total Mark	Weighted Exam Mark	Weighted Continuous Assessment	Credit Units
LH	PH	TH	CH	WTM	WEM	WCM	CU
3	0	3	45	100	60	40	3

Course description:

Planning has suffered a crisis in confidence reflected in the growing consensus about its inability to manage fast changing cities effectively. One of the key reasons for this can be attributed to the existing gap between strategic planning, which is the norm at the top, and the unconventional actions of small communities at the bottom as they try to meet their largely neglected needs. Action planning introduces planners to the practical and common sense alternatives, linking the needs of community with the strategic plans of government. Because is methods are problem

driven, community derived, participatory, fast, adaptive and incremental, it provides a new and more refreshing approach to dealing with current urban problems.

Objectives:

1. To develop an understanding of the complex social challenges facing today's growing underprivileged urban communities and how they shape urban form.
2. To develop an awareness of the shortcomings between/among responses of government and the realities facing urban communities on a day-to-day basis.
3. To develop an understanding of the nature of diverse responses adopted by urban communities to deal with the problems they are confronted with on a regular basis.
4. To develop an ability to devise more effective, problem driven, participatory, fast and adaptive solutions to address the problems facing our urban communities.

Learning outcomes:

At the conclusion of this course students will demonstrate:

1. Research Skills – Ability to employ basic methods of data collection and analysis to effectively inform the planning process.
2. Analytical Skills – Ability to make comprehensive analysis and evaluation of urban contextual realities.
3. Interactive Skills – Ability to interact and relate meaningfully with local urban communities so as to build critical linkages and networks between them and urban city managers.
4. Creativity & Innovation Skills – Ability to engender realistic solutions to effectively address problems affecting local urban communities.

Delivery method:

The course will be delivered in form of lectures and group discussions. Students will additionally be required to make presentations demonstrating an understanding and critical engagement of course readings.

Assessment method:

This will be done through continuous assessment (including coursework and tests) and written examination at the end of the semester. Coursework and test will be assessed out of 40% and examinations, out of 60%.

Course content:

The course covers but is not limited to:

1. Concepts of strategic planning & action planning	8 CH
2. Plan-Analyze-Survey: Planning from back to front	6 CH
3. Approaches to Strategic planning	11 CH
4. Governance, participation & networks	4 CH
5. Rigor & Relevance in planning	8 CH
6. Best planning practice-Case studies	8 CH

Proposed staff: Dr. Kenneth Ssemwogerere

References:

1. Reinhard Goethert (1997): Action Planning for Cities: A Guide to Community Practice Academy Press

2. Nabeel Hamdi (2004): Small Change: The Art of Practice and the Limits of Planning in Cities Earthscan Publications Ltd.
3. William Peterman (1999): Neighborhood Planning and Community-Based Development: The Potential and Limits of Grassroots Action (Cities and Planning), 1st Edition Sage Publications Inc.
4. Marisa Carmona, Rod Burgess and Sakke Badenhorst (2009): Planning through Projects: Moving from Master Planning to Strategic Planning Techne Press.
5. Christopher Wood, Mark Baker, Jeremy Carter and Carys Jones (2005): Strategic Environmental Assessment and Land Use Planning: An International Evaluation (Earthscan Planning Library) Earthscan Publications Ltd.
6. Harry Dimitriou and Robin Thompson (2007): Strategic Planning for Regional Development: Principles and Practice in the UK (The Natural and Built Environment Series) Routledge.
7. Alessandro Balducci, Valeria Fedeli and Gabriele Pasqui (2011): Strategic Planning for Contemporary Urban Regions (Urban and Regional Planning and Development) Ashgate.

6.9 UPD 7204 Landscape Planning and Design

Hours Per Week			Hours per Semester	Weighted Total Mark	Weighted Exam Mark	Weighted Continuous Assessment	Credit Units
LH	PH	TH	CH	WTM	WEM	WCM	CU
3	0	3	45	100	60	40	3

Course description:
This course revolves around man and his environment with emphasis on the design of the outdoor environment. It is divided into three parts. The first part introduces Man-Environment relationship and its related problems. It then gives a historical account regarding Man's attempts to alter the environment - especially the landscape - to suit his aesthetically and functional needs (physical and spiritual). The following two parts focus on the approaches and techniques in landscape planning and design. In landscape planning (regional level) problems of classification, assessment and evaluation of the landscape are introduced. Various approaches from Ian McHarg's ecological approach to the latest and most sophisticated statistical approach are also taught. Examples of applied landscape planning focusing on conservation and recreation are described. In landscape design, design theories and principles are combined in the designed landscape elements which take into both the social and environmental parameters. The choice of landscape materials, principles of planting design and site planning are also covered
.

Objectives:
1. Understanding the concept of landscape planning and design, its scope and principles.
2. To acquaint students with Knowledge of the approaches and techniques in landscape planning and design.
3. To give students an understanding of the relationship between man and his environment and Man's attempts to alter the environment - especially the landscape

Learning outcomes:
At the end of the course students should be able to appreciate the need for landscape planning and design especially when considering the issues of urban design and related physical development and detailed plans.

Delivery method:
The course will be conducted through lectures and visits to towns and sites so as to get practical experiences of the need for landscape design in physical planning. This will be supplemented by group work exercises.

Assessment method:
This will be done through continuous assessment (including coursework and tests) and written examination at the end of the semester. Coursework and test will be assessed out of 40% and examinations, out of 60%.

Course content:

1. Introduction to Landscape planning 4 CH
2. Man-Environment relationship and its related problems 4 CH
3. historical account regarding Man's attempts to alter the environment 6 CH
4. design theories and principles 4 CH
5. Approaches and techniques in landscape planning and design. 6 CH
6. (regional level) problems of classification, assessment and evaluation of the landscape 4 CH
7. Examples of applied landscape planning 4 CH
8. landscape elements 4 CH
9. The choice of landscape materials, principles of planting design 5 CH
10. site planning 4 CH

Proposed staff: Dr. Assumpta Nnaggenda-Musana

References:

1. Preece, R.A. (1991) Design on Landscape: everyday landscapes, values and practice, India: CBS Publihsers
2. Littlewood, M. (1994) Landscape detailing, New Dehli: CBS publishers
3. Reid,G.W.(1987) Landscape graphics, New York: Whitney Library of Design
4. Rakodi, C. (ed)(1997) The urban challenge in Africa – Growth and management of its large cities, Tokyo: United Nations University Press

6.10 UPD 7205 Sustainable Zoning and Land Use Regulation

Hours Per Week			Hours per Semester	Weighted Total Mark	Weighted Exam Mark	Weighted Continuous Assessment	Credit Units
LH	PH	TH	CH	WTM	WEM	WCM	CU
3	0	3	45	100	60	40	3

Course description:
This course focuses on planning policies and regulations, fundamentals of sustainable zoning and land use regulations and planning standards.

Objectives:

1. To develop an understanding of interrelationships between sustainable land use and the regulations that enhance it

2. To develop awareness on the policies and regulations that guide land use zoning.

Learning outcomes:
At the conclusion of this course students will demonstrate:
1. Fundamental Land use zoning Skills – Ability to apply basic organizational, spatial, structural, and constructional principles to the conception and development of land use plans
2. Knowledge on basic planning regulations.

Delivery method:
The course will be delivered in form of lectures and group discussions. Students will additionally be required to make presentations demonstrating an understanding and critical engagement of course readings.

Assessment method:
This will be done through continuous assessment (including coursework and tests) and written examination at the end of the semester. Coursework and test will be assessed out of 40% and examinations, out of 60%.

Course content:
The course covers but is not limited to:

1.	The Sustainable Development Code	4 CH
2.	The evolution of sustainability and zoning	6 CH
3.	Elements of sustainable zoning	6 CH
4.	Measuring costs and benefits of sustainability	8 CH
5.	The process and politics of putting a sustainable code in place	7 CH
6.	Legal and regulatory topics	8 CH
7.	Recent local plan/ordinance innovations	6 CH

Proposed staff: Dr. Lwasa shuaib

References:

1. Lester R. Brown, *Building a Sustainable Society,* (New York, USA; London, UK: W.W. Norton & Company), 1981.
2. Lane Kendig, *Performance Zoning,* (Washington, D.C.; Chicago, IL: Planners Press), 1980.
3. Peter S. Brandon and Patrizia Lombardi, *Evaluating Sustainable Development in the Built Environment,* (Oxford, UK; Malden, MA: Blackwell Pub., 2005)
4. William A. Fischel, *Zoning and Land Use Regulation, (William A.) 1999*

6.11 DESIGN PROJECTS IN URBAN PLANNING AND DESIGN

UPD 7301 Design Project/Field Report

Course Description
Each student will be required to submit a report on a supervised design project carried out in the field of Urban Planning and Design of selected urban centres/sites.

Objectives/Aim
This Course aims to develop student's skills to deal with planning and design issues at urban scales, collect data from various sources, analyse and present findings, and propose design interventions in a logical way.

Course Outline
Various topics are expected to be covered by participants in the area of planning and design, including site analysis and surveys, brief formulation, zoning, site planning and report writing.

Learning Outcomes
The student will be able to:

- Analyse issues pertaining to urban planning and design projects
- Write accompanying design reports.

Method of Teaching/Delivery
The student interacts with two selected tutors on a regular basis to obtain guidance on the project/field report. The student will carry out the search on his/her own.

Assessment Method
The rules of assessment of project/field reports for Graduate students at Makerere University will apply. The final designs and report submitted and accepted will be marked according to the guidelines from the School of Graduate studies. Oral Presentation of project (illustrations, report and 3D model) at seminar is compulsory.

Reading/ Reference Materials
Varied depending on the topic.

7 RESOURCES AND INFRASTRUCTURE

7.1 Library
In addition to the library that has some of the books required for the proposed course units, the College has its own library with relevant text books for almost all the course units.
Additionally, the university has free access to the online IEEE publications portal that supports full text access to the world's highest quality technical literature in the field of planning.

7.2 Lecture Space
The Department of Architecture and Planning is been relocated to the new building extension and is housed in the entire first floor of the College building complex. The Department has sufficient space to accommodate both the undergraduate and graduate students.

7.3 Computer Labs
The College's new building is equipped with state of the art computer laboratories (GIS lab) that can accommodate over 50 students at a time. The Department also has its own computer lab furnished with internet facilities.

7.4 Personnel Resources

No.	NAMES	S	HIGHEST	POST	STUTUS	SPECIALISATION	Current Teaching Load (CU)	Proposed Teaching Load (CU)	Total load (CU)
1	NAWANGWE Barnabas	M	PhD	Associate Professor	Full Time	Architecture and Urbanism	8	4	12
2	MUKIIBI Stephen	M	PhD	Lecturer	Full Time	Housing and Planning	8	4	12
3	SENGENDO Hanningtone	M	PhD	Associate Professor	Full Time	Planning and Urbanism	8	4	12
4	TAMALE Kiggundu Amin	M	PhD	Lecturer	Full Time	Planning, Urbanism and Research Methods	10	3	13
5	SSEMOGERERE Kenneth	M	PhD	Lecturer	Full Time	Architecture & Project Management	10	3	13
6	SENKATUKA Ian	M	PhD	Lecturer	Full Time	Architecture & Project Management	8	4	12
7	LWASA Shuaib	M	PhD	Lecturer	Full Time	Land Use and Environmental Management	8	4	12
8	ALINAITWE Henry Mwanaki	M	PhD	Senior Lecturer	Full Time	Construction Management & Structures	8	4	12
9	NNAGENDA-MUSANA Assumpta	F	PhD	Senior Lecture	Full Time	Housing	8	3	11
10	BIRABI Allan	M	PhD	Lecturer	Full Time	Research Methods, Art, Conservation and Planning	8	3	11
11	OMOLO-OKALEBO Fredrick	M	MA/MSc/PGD	Lecturer	Full Time	Human Settlements/Urban Design	8	4	12
12	CATO Lund	M	M.ArchM.	Lecturer	Visiting	Urban Planning	8	4	12

8 Expected Local Annual Income and Expenditure

A. INCOME				
Item Description	**Quantity**	**Quantity Description**	**Unit Cost**	**Amount**
Tuition Fees	20	Students	3,787,500	75,750,000
Total Income				**75,750,000**

B. Expenditure	
Item Description	**Amount**
University Central Admn (39%)	29,542,500
BALANCE (After Deductions to Centre- 61%)	**46,207,500**
Teaching Expenses (41%)	31,057,500
Administrative Expenses (3%)	2,272,500
Studio Materials (5%)	3,787,500
Library Materials (2%)	1,515,000
Utilities/Furniture (1%)	757,500
College Levy (3%)	2,272,500
Staff Development (2%)	1,515,000
Computer Laboratory (2%)	1,515,000
Visiting Professors Expenses (2%)	1,515,000
Total (100%)	**75,750,000**

APPENDIX 2: EQUIPMENT AND FACILITIES

The programme will share the following facilities with the undergraduate programme, in addition to the common college facilities:

Facility	**Area/No.**
Studios (5nos)	700m^2
Offices (14nos.)	202m^2
Computer lab. (1no.)Students also use other labs in the building	38m^2
No. of computers	20
Stores (2nos.)	39.5m^2
Library (common for all students in the College)	210m^2
Minibus (1)	1
Other common facilities	
Conference hall	200 m^2
Computer Labs	100 m^2