MAKERERE UNIVERSITY

COLLEGE OF ENGINEERING, DESIGN, ART AND TECHNOLOGY

SCHOOL OF THE BUILT ENVIRONMENT

DEPARTMENT OF ARCHITECTURE AND PHYSICAL PLANNING

PROPOSED MASTER OF ARCHITECTURE DEGREE PROGRAMME

M.ARCH.

DAY/EVENING PROGRAMME

PROPOSED TO START – AUGUST 2011

March 2011

Table of Contents

Page

1.0 INTRODUCTION....3
2.0 JUSTIFICATION....3
3.0 OBJECTIVES OF THE PROGRAMME....3
4.0 KEY CHANGES TO THE PROGRAMME....4
4.1 Changes to the Courses....4
4.2 Plan A....4
4.3 Plan B....4
5.0 TARGET GROUP....4
6.0 RESOURCES....5
7.0 REGULATIONS OF THE MASTERS OF ARCHITECTURE....5
7.1 General Regulations....5
7.2 Entrance Requirements....5
7.3 Type of Programme....6
7.4 Duration....6
7.5 Programme Credit Units....6
7.6 Tuition Fees....6
7.7 Syllabus....7
7.8 Course Assessment....7
7.9 Grading of Course....7
7.10 Progression....8
7.10.1 Normal Progress....8
7.10.2 Probationary Progress....8
7.10.3 Discontinuation....8
7.11 Retaking of Course....8
7.12 Dissertation by Research....8
7.13 Passing Research by Dissertation....9
7.14 Revised Research by Dissertation....9
7.15 Dissertation by Design Project....9
7.16 Passing of Design Project by Dissertation....10
7.17 Revised Design Project....10
7.18 Graduation Requirements....10
7.19 Programme Structure....10
8.0 Detailed Course Description....13
APPENDICES:
APPENDIX I: MEMBERS TO TEACH THE PROGRAMME....43
APPENDIX 2: EQUIPMENT AND FACILITIES....44
APPENDIX 3: EXPECTED LOCAL ANNUAL INCOME AND EXPENDITURE....45

DEPARTMENT OF ARCHITECTURE AND PHYSICAL PLANNING.

1.0 INTRODUCTION

The new Department of Architecture and Physical Planning has been established as a result of the restructuring process of the formation of the College of Engineering, Design, Art and Technology. Before that, it was called the Department of Architecture and it was established in 1984, but was not able to launch any programme of Architecture until 1989 due to economic and political hardships facing the country at the time. In October 1989 the Department made its intake of the first eight students on the Bachelor of Architecture. Since then, the Department has continued to grow in both student and staff levels. Presently, the total student enrolment stands at 180, while the staff has grown from 2 when the programme was launched in 1989 to the present 20 permanent staff. The Department of Architecture has gone through a very interesting period despite the odds against it, particularly lack of adequate physical resources. The Department in 1999 was accredited by the Commonwealth Association of Architects, which means that the degrees awarded by the Department are considered to be equivalent to those recognized by the Royal Institute of British Architects (RIBA), an achievement that is bestowed to very few schools of architecture outside the United Kingdom. The Master of Architecture was launched in 2003 in Department of Architecture and since then it had never been reviewed.

2.0 JUSTIFICATION

Review the programme arose out of the need to make the training of Architects at a higher level more in tune with the specialised requirements at the work place. It was observed that students at masters level needed more skills in professional management as part of their work in the field. In addition, it was noted that there is an increased demand for quality services and use of new technology within the architectural profession which have led to increased requirements in training. Such requirements can only be well addressed through advanced level training at a Master of Architecture degree level.

3.0 OBJECTIVES OF THE PROGRAMME

- To equip architects with advanced skills to address practical problems in the field.
- To strengthen capacity at various levels of the professional institutions in government, local authorities and the private sector.
- To impart advanced skills necessary to meet the challenges of competition at the regional and international level.

The programme offers qualified graduates the opportunity to gain further education and experience in design and research in the selected areas of specialisation in Architecture.
Specialisation is offered in the following areas: Architectural Design and Low-cost Housing Design.

4.0 KEY CHANGES TO THE PROGRAMME

The following options that were in the initial Master of Architecture programme have been deferred: Earth Architecture, Landscape Design, and Building Technology. A new course, Project Management has been introduced in Semester I of the first year, while Research Methods course has been enhanced. The programme has also introduced options to the Masters of Architecture: Plan A and Plan B.

4.1 Changes to the courses

Changes to the course		
	Old course	**New course**
Enhanced course	ARC 7103 Research Methodology	ARC 7107 Research Methodology and and Scientific Writing
Introduced course	-	ARC 7106 Project Management and Professional Practice
Deferred block of specialisation courses		
Earth Architecture		
Landscape Design		
Building Technology		

4.2 Plan A

Students under Plan A are required to take two semesters of course work and two semesters of dissertation. To qualify for plan A, a student shall have completed all their course work and has a research proposal by the second week of semester three (Year 2 Semester 1).

4.3 Plan B

Students under Plan B are required to take three semesters of coursework and one semester of a design project. To qualify for plan B a student shall have completed all their coursework and also have a project proposal by the second week of the forth semester (Year 2 Semester 2).

5.0 TARGET GROUP

The target group of the programme are the many architects in the field who wish to improve on their professional qualifications in a field which has become highly competitive and demanding.

6.0 RESOURCES

6.1 Physical facilities

The programme shall share most of the facilities with the current undergraduate programme. These include classroom/tutorial space, laboratories, design studios, audio-visual aids centre and library. In addition other facilities will be shared with other departments of the College of Engineering, Design, Art and Technology. Transport for field trips will be hired.

6.2 Financial Resources and intake

The programme is designed to be self-sustaining. The fees payable by the students will be able to sustain the course.

6.3 Staffing

The programme shall be conducted by the existing members of staff in the Department, comprising of Ph.D. holders and Master's holders at Senior Lecturer level. In addition to the staff indicated above and because of its multi-disciplinary nature, the programme would be supported by the services of staff from other departments and external professors and other senior academicians from other institutions of collaboration regionally and internationally. The Department will also solicit for specialised academicians in specific areas from other education and government institutions, as and when necessary.

7.0 REGULATIONS FOR THE MASTER OF ARCHITECTURE DEGREE

7.1 GENERAL REGULATIONS

The common Regulations and Guidelines for Master's Degree of Makerere University shall be applicable. These include:
a) Guidelines for application, registration, research proposals, supervision, viva voce;
b) Regulations on submission of progress reports and final Dissertation;
c) Appointments of Supervisors and Examiners.

7.2 ENTRANCE REQUIREMENTS

To qualify for admission, a candidate must;

a) Be a holder of a first class degree in Architecture; OR

b) Be a holder of a first degree in Architecture of at least an Honour's standing or its equivalent, conferred by Makerere University or any other recognised University/Institution and have been in full time employment following the discipline of Architecture or its equivalent for at least two years; OR

c) Be a holder of a first degree in Architecture of Pass level or its equivalent, conferred by Makerere University or any other recognized University/Institution, with atleast two years professional work experience and registration. The applicant should also have proven academic growth, such as a Post Graduate Diploma in Architecture or evidence of presenting academic papers.

7.3 TYPE OF PROGRAMME

The Master of Architecture Degree shall be conducted by course-work and Dissertation on a day and evening programme basis. Masters level study differs from first degree studies in the depth of analysis/understanding required, and also the level of original/innovative thought involved. Enhancement of understanding and innovative thought may result from either increasing the depth or by increasing the breadth by widening the basis of reference. In many cases a combination of these approaches is appropriate.

Masters level study pre-supposes that prior knowledge and skills have been established by appropriate foundation, thus leading to a level demanding more advanced and intensive study than a first degree, and including a compulsory element of advanced independent work.

7.4 DURATION

The minimum duration shall be two years while the maximum shall be four (4) academic years.

7.5 PROGRAMME CREDIT UNITS

i) The Programme shall be conducted on credit unit (CU) basis.

ii) One Credit Unit shall be equivalent to one contact hour (CH) per week per semester, or a series of 15 contact hours.

iii) One Contact hour is equivalent to one hour of lectures (LH) or two hours of practical work (PH).

7.6 Tution Fees

Tution fees for privately sponsored students shall be UGX. 3, 787,500 per year for Ugandans and UGX. 6,666,000/= per year for International students.

7.7 SYLLABUS

For each Course, there shall be a syllabus approved by the College Board and Senate, details of, which are given at the end of these Regulations.

7.8 COURSE ASSESSMENT

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

Course Work/Labs - 40%
Written Examination - 60%

b) Course work shall consist of Progressive Assessment *(Assignments/Tests*) and Laboratory/Studio Work *(where applicable*), each component assessed at 20%.

c) For each Course without Laboratory/Studio Work
Progressive Assessment shall carry 40%.

d) A minimum of two Course Assignments/Tests shall be required per course.

e) Applied Design Studio and Design Project shall be assessed on the basis of a total of 100 marks.

7.9 GRADING OF COURSES

a) Each course shall be graded out of a maximum of 100 marks and assigned appropriate letter grades and grade point average 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 shall be used, where appropriate:

W - Withdrawal from Course
I - Incomplete
AUD - Audited Course Only

c) The Course Pass Grade Point is 3.0
d) No Credit Unit shall be awarded for any Course in which a student fails.

7.10 PROGRESSION

Progression through the Course shall be assessed in three ways:

7.10. 1 Normal progress

This occurs when a student passes each Course taken with the full semester load with a minimum Grade Point of 3.0.

7.10.2 Probationary

This is a warning stage and occurs if:
a) A student fails a core Course, or any course that constitutes a semester load
b) A student obtains a Cumulative Grade Point Average (CGPA) less than 3.0.

Probation is removed when either of the conditions (a) and (b) ceases to hold.

7.10.3 Discontinuation

A Student shall be discontinued from the Programme if one of the following conditions obtains:
a) Receives three probations on the same core Course,
b) Receives three consecutive probations based on CGPA.
c) Fails to submit dissertation proposal by the end of the first semester of the second year of study.

7.11 RE-TAKING OF COURSE

There shall be no supplementary in any Course of the Programme. However, a student may re-take any Course at a fee when it is offered again in order to:
a) Pass it if the student failed it before,
b) Improve the first grade if the first pass grade was low,
c) Take a substitute elective, where the student does not wish to re-take a failed elective.

7.12 DISSERTATION BY RESEARCH

Students are required to demonstrate their ability to independently undertake research and analysis, as well as develop a hypothesis and demonstrate their dissertation thoroughly.

7.12.1 Dissertation shall conform to the Standing Guidelines and Regulations of the University for higher degrees.

7.12.2 A Candidate shall not be allowed to formally start on Research Work unless he/she has passed at least seven courses.

7.12.3 A Candidate shall submit a Research Proposal to the Academic Board of the School of the Built Environment not later than two weeks after the beginning of the second year of study.

7.12.4 The Candidate shall conduct Research during the second year of study.

6.12.5 The Candidate shall hand in four copies of the Dissertation by the end of the Second Year of Study.

7.13 PASSING OF DISSERTATION BY RESEARCH

To pass Dissertation, the Candidate shall satisfy the Examiners in written Dissertation and Viva Voce.

7.14 REVISED DISSERTATION BY RESEARCH

7.14.1 A Candidate who fails to satisfy Examiners shall re-submit a revised dissertation in accordance with the guidance of the Viva Voce Committee.

7.14.2 A Candidate shall re-submit a revised Dissertation within three months after notification.

7.15 DISSERTATION BY DESIGN PROJECT

Students are required to demonstrate their ability to independently develop an advanced project brief as well as demonstrate originality in their project formulation and design.

7.15.1 The Design Project shall conform to the Standing Guidelines and Regulations of the University on higher degrees.

7.15.2 A Candidate shall not be allowed to formally start on the Design Work unless he/she has passed at least seven courses.

7.15.3 A Candidate shall submit a Design Proposal to the Board of the School of Built Environment not later than two weeks after the beginning of the 4^{th} semester of study.

7.15.4 The Candidate shall conduct and submit the Design Project by the end of the second year of study.

7.15.5 The Candidate shall hand in four copies of the Dissertation by the end of the Second Year of Study.

7.16 PASSING OF DISSERTATION BY DESIGN PROJECT

To pass the Design Project, the Candidate shall satisfy the Examining Panel based on the design requirements as will be determined by the Regulations of the University on higher degrees.

7.17 REVISED DESIGN PROJECT

7.17.1 A Candidate who fails to satisfy the Examining Panel, may be asked to revise a Design Project if, in the Panel's opinion it deems it necessary.

7.17.2 A Candidate shall re-submit a revised Design Project within three months after notification.

7.18 GRADUATION REQUIREMENTS

The Degree of Master of Architecture shall be awarded to a Candidate who obtains a minimum of 42 credit units and has passed the dissertation for Plan A or 52 credit units for Plan B and has passed the Design Project.

7.19 PROGRAMME STRUCTURE

The Programme Structure shall be as follows:

Plan A

SEMESTER I					
Course Code	**Course Name**	**LH**	**PH**	**CH**	**CU**
	Five Core Courses				
ARC 7101	Advanced Applied Design studio	0	150	75	5
ARC 7102	Theory of Design	30	0	30	2
ARC 7107	Research Methodology and Scientific Writing	45	0	45	3
ARC 7104	Human Settlements	30	0	30	2
ARC 7105	Applications CAD	30	0	30	2
ARC 7106	Project Management	45	0	45	3
Total Credit Units = 17					
SEMESTER II					
	Elective Specialisation Course (Select 1 block of the three Design specialisations given below				
Specialisation 1: Architectural Design					
ARC 7201	Advanced Studio in Architectural design	0	150	75	5
ARC 7202	Building Types	30	0	30	2
ARC 7203	Community Design	30	0	30	2
ARC 7204	Design for Conservation	30	0	30	2
ARC 7205	History of Architecture & Regional Design	30	0	30	2
ARC 7206	Real Estate Studies	30	0	30	2

Specialisation 2: Housing Design					
ARC 7207	Advanced Studio in Low-cost Housing Design	0	150	75	5
ARC 7208	Building Types and Needs	30	0	30	2
ARC 7209	Development projects	30	0	30	2
ARC 7210	Appropriate technology and Materials	30	0	30	2
ARC 7211	Construction Costs and Affordability	30	0	30	2
ARC 7212	History and Theory of Human Settlements	30	0	30	2
Specialisation 3: Urban Design					
ARC 7224	Advanced Studio in Urban Design	0	150	0	5
ARC 7225	Urban Planning	30	0	30	2
ARC 7226	Theory of Urban Design	30	0	30	2
ARC 7227	History of Urban Design	30	0	30	2
ARC 7228	Urban Sociology and Community Development	30	0	30	2
ARC 7229	Urban Economics	30	0	30	2
Total Credit Units = 15					
SEMESTER III & IV					
One Core					
ARC 8100	**Research by Dissertation**	-	300	150	10
ARC 8101	**Research Seminar**	30	-	30	2
Total Credit Units = 12					

PLAN B

SEMESTER I					
Course Code	**Course Name**	**LH**	**PH**	**CH**	**CU**
Five Core Courses					
ARC 7101	Advanced Applied Design studio	0	150	75	5
ARC 7102	Theory of Design	30	0	30	2
ARC 7103	Research Methodology and Scientific Writing	30	0	30	2
ARC 7104	Human Settlements	30	0	30	2
ARC 7105	Applications CAD	30	0	30	2
ARC 7106	Project Management & Professional Practice	30	0	30	2
Total Credit Units = 15					
SEMESTER II					

Core Courses					
ARC 7201	Advanced Studio in Architectural design	0	150	75	5
ARC 7202	Building Types	30	0	30	2
ARC 7203	Community Design	30	0	30	2
ARC 7204	Design for Conservation	30	0	30	2
ARC 7205	History of Architecture & Regional Design	30	0	30	2
ARC 7206	Real Estate Studies	30	0	30	2
SEMESTER III					
Elective Specialisation Course (Select 1 block of the two Design specialisations given below)					
Specialisation 1: Housing Design					
ARC 8102	Advanced Studio in Low-cost Housing Design	0	150	75	5
ARC 8103	Building Types and Needs	30	0	30	2
ARC 8104	Development Projects	30	0	30	2
ARC 8105	Appropriate Technology and Materials	30	0	30	2
ARC 8106	Construction Costs and Affordability	30	0	30	2
ARC 8107	History and Theory of Human Settlements	30	0	30	2
Specialisation 2: Urban Design					
ARC 8108	Advanced Studio in Urban Design	0	150	0	5
ARC 8109	Urban Planning	30	0	30	2
ARC 8110	Theory of Urban Design	30	0	30	2
ARC 8111	History of Urban Design	30	0	30	2
ARC 8112	Urban Sociology and Community Development	30	0	30	2
ARC 8113	Urban Economics	30	0	30	2
Total Credit Units = 15					
SEMESTER IV					
One Core					
ARC 8203	**Research by Design Project**	0	150	75	5
ARC 8202	**Seminar**	30	0	30	2
Total Credit Units = 7					

8.0 DETAILED COURSE DESCRIPTION

ARC7101: ADVANCED APPLIED DESIGN STUDIO [75 CH]

Description

This is a studio course with projects that involve equipping students with high level skills of design of a complex nature. Effective communication of the project, if possible with the use of advanced design technologies is stressed.

Objectives

1. Students to acquire skills of analysis and conceptualisation of complex design projects.
2. Students to apply advanced skills in architectural design projects.

Course Content

1. Evaluation of brief, site and contextual analysis **[15 CU]**
2. Conceptualisation of nature of project **[15 CU]**
3. Development of ordering principles **[15 CU]**
4. Environmental responses of a project **[15 CU]**
5. Advanced design technologies **[15 CU]**

Learning Outcomes

At the end of the course the students should be able to:

1. Competently address design challenges of complex nature.
2. Carry out high level investigation and design of complex architectural establishments

Teaching and Learning Pattern

The course will be delivered through a mixture of tutorials, illustrations, group discussions and site visits. Emphasis will be focused on developing high level skills of analysis and conceptualisation of projects.

Mode of Assessment

Assessment will be done through continuous interim assessments and final project presentation. Interim assessments will include assignments, interim presentations and practical exercises. Interim assessment will carry a total of 40%, and the final project presentation will carry 60%.

Mode of delivery
Course to be delivered through theory seminars, workshops and studio work

Lectures/Seminars/Workshops (30 hours), Practicals (120 hours). The total contact hours are 75

Recommended Reference Books/ Literature

1. Pascuali E., Carbonero P. And Coderch. R. P. (2010) Advanced Architectural Model making
2. Aubin P. F. And Dillon M. (2006) Autodesk Architectural Desktop: An Advanced Implementation Guide
3. Hensel M, Menges, M. And Weinstock, M (2004) Emergence: Morphogenetic Design Strategies (Architectural Design) Travi V. (2001) Advanced Technologies: Building in the Computer Age (The Information Technology Revolution in Architecture)
4. Rostenberg, B. (2006) The Architecture of Medical Imaging: Designing Healthcare Facilities for Advanced Radiological Diagnostic and Therapeutic Techniques
5. Thomas E. (2005) Service-Oriented Architecture (SOA): Concepts, Technology, and Design

ARC7102: THEORY OF DESIGN [30 CH]

Description
This is a theory course that introduces the students to wider design theories for practical applications to complex designs. It provides the student with knowledge that guide the design process.

.

Objectives

1. To ground the student in the theories of architectural design at a high level
2. To equip the student with skills of analysing and applying design theories in the design process

Course Content

1.	Contextual and user analysis	**[05 CU]**
2.	Role of the designer in society	**[05 CU]**
3.	Design development and synthesis	**[05 CU]**
4.	Evaluation of strategies	**[05 CU]**
5.	Use of materials	**[05 CU]**
6.	Teamwork methods	**[05 CU]**

Learning Outcomes
At the end of the course the students should be able to:

1. Apply the design theories pertaining to the socio-economic environment under consideration.
2. Work as a team in handling design projects
3. Develop strategies for approaching a design challenge

Teaching and Learning Pattern

The course will be delivered through a mixture of lectures, tutorials, illustrations, and group discussions. Lecture material will be supplemented by individual reading by students.

Mode of Assessment
Assessment will be done through continuous coursework and final written examination. Continuous assessment will include assignments, tests and practical exercises. A final examination will be offered at the end of the semester. Coursework will carry a total of 40% and a written examination will carry 60%.

Mode of delivery
Lectures/Seminars/ (30 hours), Practicals (0 hours). The total contact hours are 30

Recommended Reference Books/ Literature

1. Daniels, K. (1999) Advanced Building Systems: A Technical Guide for Architects and Engineers
2. Reese, G. (2009) Cloud Application Architectures: Building Applications and Infrastructure in the Cloud (Theory in Practice (O'Reilly))
3. Brumbaugh, L.J. (1992) Vsam: Architecture, Theory, and Applications (J Ranade Ibm Series)
4. Eggen, P., and Sandaker, N. (1995) Steel, Structure, and Architecture: A Survey of the Material and Its Applications
5. Handley, J. (2008) Enterprise Architecture Best Practice Handbook: Building, Running and Managing Effective Enterprise Architecture Programs - Ready to use supporting ... Enterprise Architecture Theory into Practice
6. de Valence, G. (2010) Modern Construction Economics: Theory and Application
7. Cox, T.J. and D'Antonio, P. (2009) Acoustic Absorbers and Diffusers: Theory, Design and Application

ARC7103: RESEARCH METHODOLOGY AND SCIENTIFIC WRITING [45 CH]

Description
In this course, guidance is given to students on how to identify a research problem. Instructions are provided which enable students to perform effective literature reviews. Students are presented with various research paradigms and models of methodology and assist with designing an appropriate method for their research. Students are trained in the analysis and presentation of results, exposition of processes and methods used and conclusions drawn. Guidelines outlining the preparation and writing of a research dissertation and or a project are provided at the conclusion of the course.

.

Objectives

1. To provide students with a firm foundation/underpinnings of research from which they can undertake a research problem
2. To provide students with an understanding and appreciation of the importance of advanced research in the area of architecture

Course Content

The course will cover the following topics:

1. Definition of Research Methodology **[05 CU]**
2. Research Paradigms in Architecture **[05 CU]**
3. Research Planning and Management **[05 CU]**
4. Types of Research Methods **[05 CU]**
5. Scientific writing including **[15 CU]**
   5.1 abstracts;
   5.2 identifying research problems,
   5.3 research objectives and questions;
   5.4 Interpretation of technical literature (literature reviews);
   5.5 Selection of overall methodological approach;
   5.6 Selection of suitable data collection and analysis techniques;
   5.7 Interpretation and conclusion of the research; and Presentation of research findings
6. Research Ethics and plagiarism **[05 CU]**

Learning Outcomes

At the end of the course the students should be able to:

1. Carry out high quality basic and applied research
2. Select appropriate methods and tools for a specific research work
3. Develop a needs assessment strategy
4. Understand the systematic methodology for developing, implementing, monitoring and evaluating a development programme

Teaching and Learning Pattern

The course will be delivered through a mixture of lectures, seminars, tutorials, illustrations, and group discussions. Lecture material will be supplemented by individual reading by students.

Mode of Assessment

Assessment will be done through continuous coursework and final written examination. Continuous assessment will include assignments, tests and research exercises. A final examination will be offered at the end of the semester. Coursework will carry a total of 40% and a written examination will carry 60%.

Mode of delivery

Lectures (30 hours), Practicals (0 hours). The total contact hours are 30

Recommended Reference Books/ Literature

1. Robert K. Yin, 2003) *Case Study Research: Design and Methods,* 3rd ed. Thousand Oaks. CA: Sage,
2. Creswell, J. W. (2008) Research Design: Qualitative, Quantitative, and Mixed Methods Approaches
3. Graziano, A. M. (2009) Research Methods: A Process of Inquiry (7th Edition)
4. Smith, R. V. (1988) Graduate research: A guide for Students in the sciences

ARC7104: HUMAN SETTLEMENTS [30 CH]

Description

Planned development is part of the desired state of urban development, and understanding the growth of human settlements is critical in directing their development. This course focuses on human settlements development patterns by looking at their characteristics and growth trends.

.

Objectives

3. Students to understand the characteristics of human settlements
4. Students to understand the factors that influence the development of human settlements
5. Students to appreciate interventions used in different environment to tackle development challenges of human settlements

Course Content

1. Historic evaluation, typologies and infrastructure of human settlements **[05 CU]**
2. Dynamics of human settlements **[05 CU]**
3. The concept of environmental management **[05 CU]**
4. Land use control, planning and regulation, purpose and implementation **[05 CU]**
5. Local and regional land use objectives **[05 CU]**
6. Environmental impact assessment **[05 CU]**

Learning Outcomes

At the end of the course the students should be able to:

3. Understand the dynamics of human settlements development
4. Analyse the growth trends of a human settlement.
5. Appreciate and reconcile the different land use pattern in an human settlement environment
6. Apply the concept of environmental impact assessment in development

Teaching and Learning Pattern

The course will be delivered through a mixture of lectures, tutorials, illustrations, and group discussions. Lecture material will be supplemented by individual reading by students.

Mode of Assessment
Assessment will be done through continuous coursework and final written examination. Continuous assessment will include assignments, tests and practical exercises. A final examination will be offered at the end of the semester. Coursework will carry a total of 40% and a written examination will carry 60%.

Mode of delivery
Lectures (30 hours), Practicals (0 hours). The total contact hours are 30

Recommended Reference Books/ Literature

1. United Nations Human Settlements Program (211) Cities and Climate Change: Global Report on Human Settlements 2011
2. United Nations (2009) Global Report on Human Settlements 2009: Planning Sustainable Cities
3. UN-HABITAT (2003) The Challenge of Slums: Global Report on Human Settlements 2003
4. Hyde, N. (2010) Population Patterns: What Factors Determine the Location and Growth of Human Settlements? (Investigating Human Migration & Settlement)
5. Monto, M. Ganesh L.S. and Varghese K. (2005) Sustainability and Human Settlements: Fundamental Issues, Modeling and Simulations
6. Risse, E.M. (2000) The Shape of the Future: (Vol. I) The Critical, Overarching Impact of Human Settlement Pattern on Citizens' Economic, Social and Environmental Well-being, ... in 21st Century New Urban Regions.

ARC7105: APPLICATIONS IN CAD [30 CH]

Description
Planned development is part of the desired state of urban development, and understanding the growth of human settlements is critical in directing their development. This course focuses on human settlements development patterns by looking at their characteristics and growth trends.

.

Objectives

1. Students to appreciate interventions the application of CAD in advanced designs
2. Students to acquire advanced skills in 3D modelling and site modelling
3. Students to demonstrate the art and skills of presentation and conveying ideas and designing complex structures

Course Content
1. CAD in advanced architectural design **[10 CU]**
2. Computer graphics, 3D modelling and integrated CAD systems **[10 CU]**

3. Representation and aesthetics including rendering and animation **[10 CU]**

Learning Outcomes
On completing this course the student should be able to develop complex designs, their rendering and 3D models using CAD.

Teaching and Learning Pattern

The course will be delivered through a mixture of tutorials, illustrations, and group discussions. Lecture material will be supplemented by individual reading by students.

Mode of Assessment
Assessment will be done through continuous coursework and final written examination. Continuous assessment will include assignments, tests and practical exercises. A final examination will be offered at the end of the semester. Coursework will carry a total of 40% and a written examination will carry 60%.

Mode of delivery
Lectures (30 hours), Practicals (0 hours). The total contact hours are 30

Recommended Reference Books/ Literature
CAD Principles for Architectural Design: Analytical Approaches to Computational Representation and Architectural Form by Peter Szalapaj, 2001.
Kalay, Y. E. and Mitchell, W. J., Architecture's New Media: Principles, Theories, and Methods of Computer-Aided Design, 2004
Aagaard, D. M., and O'Leary, W., Formal Methods in Computer-Aided Design, 2002
LaComputer-Aided Design and Drafting/Cadd by Louis Gary Lamit and Vernon Paige, 1987

ARC 7106: PROJECT MANAGEMENT AND PROFESSIONAL PRACTICE [45 CH]

Description

Objective
1. To provide students with knowledge and skills on the key project management processes and activities.
2. To equip students with knowledge and skills of managing architectural project.

Course Content
1. Advanced concepts of management process. **[08 CU]**
   1.1 Concepts and key approaches to management process

2. Construction management **[12 CU]**
   2.1 Management methods
   2.2 Resources

2.3 Materials
2.4 Consultants, contractors, nominated sub-contractors and suppliers
2.5 Building process

3. Firm. Practice management **[10 CU]**
   3.1 technical resources in office
   3.2 Office management
   3.3 Financial management

Learning Outcomes
At the end of the course the student should be able to:
1. manage an architectural practice
2. Manage development projects

Teaching and Learning Pattern
The course will be delivered through a mixture of lectures, seminars, and group discussions. Lecture material will be supplemented by individual reading by students.

Mode of Assessment
Assessment will be done through continuous coursework and final written examination. Continuous assessment will include assignments, tests and practical exercises. A final examination will be offered at the end of the semester. Coursework will carry a total of 40% and a written examination will carry 60%.

Delivery Mode
Lectures/Seminars/ (30 hours), Practicals (15 hours). The total contact hours are 45

Assessment
Two tests and two seminar papers as continuous assessment will constitute 40% of the overall assessment. Remaining 60% of the assessment will come from the final semester examination.

References

1. Hill, C. L. and McShane, S. (2006) Principles of Management
2. Carpenter, M., Bauer T. and Erdogan B. (2009) Principles of Management
3. Powell, J. A. and Crichton, C. (1980)Handbook of Architectural Practice and Management
4. Emmitt, S. (1999) Architectural Management in Practice: A Competitive Approach (Chartered Institute of Building)
5. Emmitt, S., Prins, M. and Otter, A. (2009) Architectural Management: International Research and Practice
6. Dell'Isola , D. (2002) Architect's Essentials of Cost Management (The Architect's Essentials of Professional Practice)
7. Piven P. and Perkins, B. (2008) Architect's Essentials of Starting, Assessing and Transitioning a Design Firm (The Architect's Essentials of Professional Practice)
8. Barrett, P. (1991) Practice Management, New Perspective for Construction Professionals, Chapman, UK.

9. Pepperel T. (1991) Risk Management (lecture notes) RIBA indemnity Research, London, RIBA Publication.

ARC7201 ADVANCED DESIGN STUDIO II [75 CH]

Description
This is a project assignment through which the student is expected to show high level skills and detailed knowledge of handling specialized architectural projects

Objectives

1. To apply the advanced knowledge gathered to handle complex projects of a specialized nature.

Course Content
1. Advanced studio projects on: housing, **[15 CU]**
2. Mixed urban development, institutional building design, etc… **[20 CU]**
3. Preparation or brief, development of concept, comprehensive design work, detailed building design. **[20 CU]**
4. Presentation drawings, working drawing, models. **[20 CU]**

Learning Outcomes
On completing this course the student should be able to independently handle a fully fledged architectural design project of a complex nature, addressing various requirements of architecture such as design, environmental, structural, socio-economic etc.

Teaching and Learning Pattern
The course will be conducted through a mixture of lectures, tutorials, illustrations, group discussions and site visits. Emphasis will be focused on student driven approach to application of developed skills of creativity and innovativeness, and problem solving by students.

Assessment Method
Assessment will be done through continuous interim assessments and final project presentation. Interim assessments will include assignments, interim presentations and practical exercises. Interim assessment will carry total of 40% and final project presentation will carry 60%.

Mode of delivery
Lectures (0 hours), Practical (150 hours). The total contact hours are 75

Recommended Reference Books/ Literature
Assorted, depending on nature of project

ARC7202 BUILDING TYPES [30 CH]

Description

The course introduces the students to detailed focus in the design and construction of different types of buildings. The students have the opportunity to specialise in the building type of their choice by carrying out detailed study of the design and functioning of the chosen type.

Objectives

1. Students to master and be able to apply the functional and circulation principles
2. Students to acquire advanced skills in designing technical systems of different building types

Course Content

1. Functional and circulation Principles **[10 CU]**
   1.1 Relationships of form
   1.2 Functions

2. Technical systems **[20 CU]**
   2.1 commercial
   2.2 Industrial
   2.3 Health
   2.4 Educational and research
   2.5 Administrative
   2.6 Religious
   2.7 Cultural
   2.8 Recreational
   2.9 Sporting
   2.10 Residential

Learning Outcomes

At the end of the course the students should be able to:

1. Deal with the design requirements of different building types
2. Competently handle complex architectural designs

Teaching and Learning Pattern

The course will be delivered through a mixture of Lectures, seminars, illustrations, and group discussions. Lecture material will be supplemented by individual reading by students.

Mode of Assessment

Assessment will be done through continuous coursework and final written examination. Continuous assessment will include assignments, tests and practical exercises. A final examination will be offered at the end of the semester. Coursework will carry a total of 40% and a written examination will carry 60%.

Mode of delivery
Lectures (30 hours), Practicals (0 hours). The total contact hours are 30

Recommended Reference Books/ Literature
De Chiara, J. and Crosbie, M.J. (2001) Time-Saver Standards for Building Types
Diedrich, R. J. (2005) Building Type Basics for Recreational Facilities by Richard J.
Goody J., Chandler, R., Clancy J. And Dixon D. (2010) Building Type Basics for Housing
Hamilton D. K. and Watkins D. H. (2008) Evidence-Based Design for Multiple Building Types
Hoglund, D. J., King, D., and Cohen E. (2004) Building Type Basics for Senior Living
James, W., Ojeda O. R. (1999) Single Building: Type Variant House: The Process of an Architectural Work
Kobus, R. L., Skaggs, R. L., and Thomas, J. (2008) Building Type Basics for Healthcare Facilities
Kohn, A. E., and Katz, P. (2002) Building Type Basics for Office Buildings (Building Type Basics Series) Perkins L. B. (2010) Building Type Basics for Elementary and Secondary Schools
McDonough, B., Hill, J., Glazier, R. and Lindsay W. (2001) Building Type Basics for Hospitality Facilities
Neuman, d. J. (2003) Building Type Basics for College and University Facilities
Roberts N. W. (2004) Building Type Basics for Places of Worship
The Jerde Partnership (2004) Building Type Basics for Retail and Mixed-Use Facilities
Watch, D., Kliment S. A., and Perkins and Will (2008_ Building Type Basics for Research Laboratories
Williams H. (2010) Building Type Basics for Banks and Financial Institutions

ARC7203 COMMUNITY DESIGN [30 CH]

Description
Planned development is part of the desired state of urban development, and understanding the growth of human settlements is critical in directing their development. This course focuses on the design of community development projects

Objectives

1. Students to gain a high level understanding of community development trends
2. Students to acquire skills of dealing with community design projects

Course Content

1. Outline of Community Design process: **[12 CU]**
   1.1 Political sociological,
   1.2 Economic and technological issues,

1.3 Environmental surveys,
1.4 Methods of community participation, problem identification,
1.5 goal formulation,
1.6 Alternatives generation and implementation techniques.

2. Public, co-operative and private housing and related facilities, origin of squatter and slum settlements clearance and up-grading. **[08 CU]**

3. Case – studies both in urban and rural areas. **[10 CU]**

Learning Outcomes

At the end of the course the students should be able to:

1. To understand the process of public policy formulation
2. Apply the principles of sustainable development in design project and other development works\
3. To carry out a systematic approach to dealing with community development challenges

Teaching and Learning Pattern

The course will be delivered through a mixture of lectures, tutorials, illustrations, and group discussions. Lecture material will be supplemented by individual reading by students.

Mode of Assessment

Assessment will be done through continuous coursework and final written examination. Continuous assessment will include assignments, tests and practical exercises. A final examination will be offered at the end of the semester. Coursework will carry a total of 40% and a written examination will carry 60%.

Mode of delivery

Lectures (30 hours), Practicals (0 hours). The total contact hours are 30

Recommended Reference Books/ Literature

1. Hall, K and Porterfield, G. (2001) Community By Design: New Urbanism for Suburbs and Small Communities
2. Condon, P.M. and Yaro, R. (2010) Seven Rules for Sustainable Communities: Design Strategies for the Post Carbon World
3. Condon, P. M. (2007) Design Charrettes for Sustainable Communities
4. Fleming, R. L. (2007) The Art of Place making: Interpreting Community Through Public Art and Urban Design
5. Powazek, D. M. (2001) Design for Community

ARC7204 DESIGN FOR CONSERVATION [30 CH]

Description

Conservation of historic sites and the built environment is an important element in conserving the human heritage. The course introduces the students to knowledge in conservation design options relevant to a student of architecture.

Objectives

1. Students to appreciate the need to conserve the built environment
2. Students to acquire skills in conservation methods

Course Content

1. Planning and designing for conservation **[06 CU]**
2. Methods of conservation **[06 CU]**
3. Laws and ordinances regarding the preservation of historic buildings, sites and districts **[06 CU]**
4. Short and long-term implementation and funding implications **[06 CU]**
5. Regional case studies **[06 CU]**

Learning Outcomes

At the end of the course the students should be able to:

1. Understand the need to conserve the built environment
2. Apply the concept of conservation in development

Teaching and Learning Pattern

The course will be delivered through a mixture of lectures, tutorials, illustrations, and group discussions. Lecture material will be supplemented by individual reading by students.

Mode of Assessment

Assessment will be done through continuous coursework and final written examination. Continuous assessment will include assignments, tests and practical exercises. A final examination will be offered at the end of the semester. Coursework will carry a total of 40% and a written examination will carry 60%.

Mode of delivery

Lectures (30 hours), Practicals (0 hours). The total contact hours are 30

Recommended Reference Books/ Literature

1. Pickard , R. (2001) Management of Historic Centres (Conservation of the European Built Heritage Series) Schuster, J. M., Monchaux, J., and Riley, C. (1997) Preserving the Built Heritage: Tools for Implementation

2. Haskell, T. (1993) Caring for our Built Heritage: Conservation in practice: a review of conservation schemes carried out by County Councils and National Park Authorities ... with District Councils and other agencies
3. Bond, S. (2008) Managing Built Heritage

ARC7205 HISTORY OF ARCHITECTURE AND REGIONAL DESIGN [30 CH]

Description

Vernacular architecture is a representation of architectural identity of a place. Understanding the development of vernacular architecture and its application is an integral part of training a specialist with the local knowledge. History of architecture and regional design has an important contribution towards coming up with design responsive to local conditions.

Objectives

1. Students to appreciate importance of African vernacular architecture in the contemporary context
2. Students to acquire advanced skills in adopting designs using indigenous knowledge and skills
3. Students to acquire analytical skills of analyzing traditional form, structure, thought and ideas

Course Content

1. African vernacular architecture in the rural and urban context **[12 CU]**
2. Directions in contemporary world architecture **[12 CU]**
3. Notion of regionalism in contemporary architecture **[12 CU]**
4. Methodological approach to critical analysis of architectural form, structure, thought and ideas. **[14 CU]**

Learning Outcomes

At the end of the course the students should be able to:

1. Understand the dynamics of African vernacular architecture
2. Analyse the growth trends of contemporary architecture.
3. Understand the notion of regionalism in contemporary architecture
4. Apply the concept of vernacular architecture in modern designs

Teaching and Learning Pattern

The course will be delivered through a mixture of lectures, tutorials, illustrations, and group discussions. Lecture material will be supplemented by individual reading by students.

Mode of Assessment
Assessment will be done through continuous coursework and final written examination. Continuous assessment will include assignments, tests and practical exercises. A final examination will be offered at the end of the semester. Coursework will carry a total of 40% and a written examination will carry 60%.

Mode of delivery
Lectures (30 hours), Practicals (0 hours). The total contact hours are 30

Recommended Reference Books/ Literature

1. Elleh, N. (1996) African Architecture: Evolution and Transformation
2. Labelle, P. (1997) African Nomadic Architecture: Space, Place and Gender
3. Garlake, P. S. (2002) Early Art and Architecture of Africa (Oxford History of Art)
4. Killory, C. (2007) Details in Contemporary Architecture: As Built
5. Pearman H. (2002) Contemporary World: Architecture

ARC7206 REAL ESTATE STUDIES [30 CH]

Description
These days real estate investors are interested investing in property with high leverage, normally properties that have a great deal of deferred maintenance. The new owner has to face the challenge of a lifetime and it would look like a lifetime before he would ever see any light at the end of the tunnel. This course is to give an insight of an architect in the functioning of the real estate environment.

.Objectives

1. To give students an understanding of the functioning of the real estate industry
2. To give students skills of working in the field of real estate environment

Course Content

1. Estates and interest in land **[08 CU]**
2. Ownership patterns and current interests in land. Land registration. **[08 CU]**
3. Mortgages and probate administration. Property management in relation to social, political, economic, physical and locational aspects. **[12 CU]**
4. Studies of property markets. Leasing agreements, rent collections, insurance maintenance and other obligations. Feasibility studies. **[12 CU]**

Learning Outcomes
At the end of the course the students should be able to:

1. Understand the dynamics of real estate management
2. Analyse the development trends in real estate sector
3. Apply the concept of real estate management in housing development

Teaching and Learning Pattern
The course will be delivered through a mixture of lectures, tutorials, illustrations, and group discussions. Lecture material will be supplemented by individual reading by students.

Mode of Assessment
Assessment will be done through continuous coursework and final written examination. Continuous assessment will include assignments, tests and practical exercises. A final examination will be offered at the end of the semester. Coursework will carry a total of 40% and a written examination will carry 60%.

Mode of delivery
Lectures (30 hours), Practicals (0 hours). The total contact hours are 30

Recommended Reference Books/ Literature

1. Griswold , R. (2008)Property Management Kit For Dummies (Book & CD)
2. Kyle, R., Baird, F. M. and Spode, M. (2011) Property Management
3. Lederer, W. A. (2009) The CompleteLandlord.com Ultimate Property Management Handbook
4. Beirne , M. (2006) The Property Management Tool Kit

ARC7207/ARCH 8102 ADVANCED STUDIO IN LOW- COST HOUSING DESIGN [75 CH]

Description
Low cost housing plays a significant contribution to the overall housing stock in a country, especially in the developing world. An understanding of its potential, characteristics and challenges are quite vital in order to be able to plan for and design it.

Objectives

1. Students to appreciate the contribution of low-cost housing to the overall housing picture
2. Student to understand the characteristics of low-cost housing
3. To enable the student acquire skills of dealing with the challenges of low-cost housing

Course Content

1. Housing shapes, structures and evolution **[15 CU]**
2. Use of low-cost materials in design and construction **[15 CU]**
3. Appropriate technologies in housing **[15 CU]**
4. Evolution of housing needs **[15 CU]**
5. Cost and affordability **[15 CU]**

Learning Outcomes
At the end of the course the students should be able to:

1. Articulate the basic comprehensive overview of the major components that affect low cost housing.
2. Analyse the intrinsic nature of low cost housing
3. Design houses that are responsive to the needs of the poor

Teaching and Learning Pattern
The course will be delivered through a mixture of lectures, seminars and group discussions. Lecture material will be supplemented by individual reading by students.

Mode of Assessment
Assessment will be done through continuous coursework and final written examination. Continuous assessment will include assignments, tests and practical exercises. A final examination will be offered at the end of the semester. Coursework will carry a total of 40% and a written examination will carry 60%.

Mode of delivery
Lectures/Seminars (30 hours), Practicals (0 hours). The total contact hours are 30

Recommended Reference Books/ Literature

Hard, R. and Hard K. (1985) Build Your Own Low-Cost Log Home (Garden Way Publishing Classic)
Ruiz, F. P. (2005) Building an Affordable House: A Smart Guide to High-Value, Low-Cost Construction
Wolfe, R. and Loveday, E. (1980) Low Cost Pole Building Construction: The Complete How-To Book
Nunan, J. (2009) The Complete Guide to Alternative Home Building Materials & Methods: Including Sod, Compressed Earth, Plaster, Straw, Beer Cans, Bottles, Cordwood, and Many Other Low Cost Materials
Roy, R. L. (2006) Earth-Sheltered Houses: How to Build an Affordable...
Friedman A. (2002) The Adaptable House: Designing Homes for Change
House & Garden (2010) Low-Cost Suburban Homes: Designs and Pictures of Suburban Houses That Have Been Built at Costs Ranging from $1,000 to $10,000, by Representative Architects
Friedman A. (2005) Homes Within Reach: A Guide to the Planning, Design, and Construction of Affordable Homes and Communities
Vaze , P. (2009) The Economical Environmentalist: My Attempt to Live a Low-Carbon Life and What it Costs

ARC7209/ARCH 8104 DEVELOPMENT PROJECTS [30 CH]

Description

Development projects are major avenues of driving community development. While their contribution may be understandable, challenges to their implementation are many and a good understanding of the problems they face is critical to the achievement of meaningful development.

Objectives

1. Students to appreciate the importance of community development initiatives
2. Students to acquire knowledge on intervention options to community projects
3. Students to gain an understanding of the dynamics of community projects

Course Content

1. Outline of Community Design process **[18 CU]**
   1.1 Political sociological,
   1.2 Economic and technological issues,
   1.3 Environmental surveys,
   1.4 Methods of community participation,
   1.5 Problem identification, goal formulation,
   1.6 Alternatives generation and implementation techniques.

2. Public, co-operative and private housing and related facilities, **[12 CU]**
   2.1 Origin of squatter and slum settlements clearance and up-grading.
   2.2 Case – studies both in urban and rural areas.

Learning Outcomes

At the end of the course the students should be able to:

1 Understand the dynamics of developing community development projects
2 Approaches to community projects formulation and development

Teaching and Learning Pattern

The course will be delivered through a mixture of lectures, tutorials, illustrations, and group discussions. Lecture material will be supplemented by individual reading by students.

Mode of Assessment

Assessment will be done through continuous coursework and final written examination. Continuous assessment will include assignments, tests and practical exercises. A final examination will be offered at the end of the semester. Coursework will carry a total of 40% and a written examination will carry 60%.

Mode of delivery

Lectures (30 hours), Practicals (0 hours). The total contact hours are 30

Recommended Reference Books/ Literature

1. Larrison , C. R. (2002) Comparison of Top-Down and Bottom-Up Community Development Interventions in Rural Mexico: Practical and Theoretical Implications for Community Development Programs (Mexican Studies, 3)
2. Stoecker , R. (2005) Research Methods for Community Change: A Project-Based Approach
3. Davies, A. (1997) Managing for a Change: How to Run Community Development Projects

ARC7210/ARC 8105 APPROPRIATE TECHNOLOGY AND MATERIALS [30 CH]

Description

Appropriate technologies are a means of not only protecting the environment but also exploiting it in a sustainable manner. In order to do this successfully, it is important to understand and be able to use technologies and materials that are suitable for a given environment.

Objectives

1 Students to appreciate importance and potential of traditional/local building materials
2 Students to acquire skills in determining appropriate technologies for use in the practical environment

Course Content

1. Critical review of physical and chemical properties of traditional building materials and related construction methods. **[10 CU]**
2. Technical requirements availability and quality control of contemporary materials, **[10 CU]**
3. Evolution of the construction industry in East Africa and its standard of organization and technology. **[10 CU]**

Learning Outcomes

At the end of the course the students should be able to:

1. Identify appropriate technologies and materials for construction
2. Contribute to the development of traditional building materials
3. Appreciate and exploit the potential of traditional/local materials

Teaching and Learning Pattern

The course will be delivered through a mixture of lectures, tutorials, illustrations, and group discussions. Lecture material will be supplemented by individual reading by students.

Mode of Assessment
Assessment will be done through continuous coursework and final written examination. Continuous assessment will include assignments, tests and practical exercises. A final examination will be offered at the end of the semester. Coursework will carry a total of 40% and a written examination will carry 60%.

Mode of delivery
Lectures (30 hours), Practicals (0 hours). The total contact hours are 30

Recommended Reference Books/ Literature

1. Bynum, R. T. and Rubina, D. L. (1998) Handbook of Alternative Materials in Residential Construction
2. Numan, J (2009) The Complete Guide to Alternative Home Building Materials & Methods: Including Sod, Compressed Earth, Plaster, Straw, Beer Cans, Bottles, Cordwood, and Many Other Low Cost Materials
3. C. I. B. and R. I. L. E. M. (1985) Appropriate Building Materials for Low Cost Housing: African Region

ARC7211/ARCH 8106 CONSTRUCTION COSTS AND AFFORDABILITY [30 CH]

Description
Construction is a very expensive venture that requires careful planning, if costs are to be maintained within manageable levels. It is imperative to understand the factors that affect the cost of a building project and how these costs can be controlled.

Objectives

1. Introduce the students to the management of construction costs
2. To make the student aware of affordability options in the construction industry

Course Content

1.	Cost components operative in the building industry	**[04 CU]**
2.	Interaction of labour and materials costs	**[05 CU]**
3.	Methods of optimisation of construction costs	**[05 CU]**
4.	Economic analysis	**[04 CU]**
5.	Choice of sites and their acquisition	**[04 CU]**
6.	Financial feasibility studies	**[04 CU]**
7.	The finance of building in the public and private sectors	**[04 CU]**

Learning Outcomes
At the end of the course the students should be able to:

1. determine the viability of a building project
2. understand the factors that affect the construction cost
3. Carry out a financial feasibility

Teaching and Learning Pattern
The course will be delivered through a mixture of lectures, tutorials, illustrations, and group discussions. Lecture material will be supplemented by individual reading by students.

Mode of Assessment
Assessment will be done through continuous coursework and final written examination. Continuous assessment will include assignments, tests and practical exercises. A final examination will be offered at the end of the semester. Coursework will carry a total of 40% and a written examination will carry 60%.

Mode of delivery
Lectures (30 hours), Practicals (0 hours). The total contact hours are 30

Recommended Reference Books/ Literature

1. Bergeron, P. R. (2007) Cut costs not quality: to reduce construction costs and help solve the country's housing affordability crisis, Wood Partners shows that sometimes you only ... and suppliers.: An article from: Units
2. Ding, A. (2006) DEWALT Construction Estimating Professional Reference (Dewalt Trade Reference Series)
3. Waier, P.R., Babbit, C., Balboni B. et al (2010) RSMeans Building Construction Cost Data 2010

ARC7212/ARCH 8107 HISTORY AND THEORY OF HUMAN SETTLEMENTS [30 CH]

Description
The development of a given society is a complex process and it can best be understood by examining the history of and theories behind the development of a given settlement. This course offers students an opportunity to examine these historical and theoretical aspects within the local context.

Objectives
1. Students to appreciate the major factors influencing human settlements development
2. Students to acquire high level skills of analysis of the growth pattern of human settlements

Course Content
1. Traditional urban patterns in Uganda and Africa. **[10 CU]**
2 The dynamics of contemporary urban development processes; **[10 CU]**
3 The rise of modern urbanism: an historic overview; conflict and change in patterns of urban life. **[10 CU]**

Learning Outcomes

At the end of the course the students should be able to:

1. Understand the dynamics of human settlements development
2. Analyse the growth trends of a human settlement.
3. Appreciate and reconcile the different land use pattern in an human settlement environment

Teaching and Learning Pattern

The course will be delivered through a mixture of lectures, tutorials, illustrations, and group discussions. Lecture material will be supplemented by individual reading by students.

Mode of Assessment

Assessment will be done through continuous coursework and final written examination. Continuous assessment will include assignments, tests and practical exercises. A final examination will be offered at the end of the semester. Coursework will carry a total of 40% and a written examination will carry 60%.

Mode of delivery

Lectures (30 hours), Practicals (0 hours). The total contact hours are 30

Recommended Reference Books/ Literature

1. Ramcharan, B G. (2010) Preventive Human Rights Strategies (Global Institutions)
2. Lu, C. (2005) Just and Unjust Interventions in World Politics: Public and Private (Global Issues)
3. Babbitt, E. F. (2005) Negotiating Self-Determination
4. De Saint-Blanquat, H., Davot, F. and Welply, M. (1986) The First Settlements (Human Story)

ARC7224/ ARCH 8108: ADVANCED DESIGN STUDIO IN URBAN DESIGN [75 CH]

Description

This is a studio course with projects that involve equipping students with high level skills of urban

design of a complex nature

Objective

1. To enable students to develop knowledge and skills in handling large urban scale projects.
2. To produce drawings of relevant scales, high quality graphics, perspectives, working and final models.

Course Content

1. Design within existing urban fabric **[20 CU]**
   1.1 Urban renewal, shopping centres,
   1.2 Cultural and institutional centres,
   1.3 Urban squares, market complexes,
   1.4 Transport nodes and facilities,

1.5 Industrial estates,
1.6 Projects within urban conservation areas.

2. Design of new urban entities: **[10 CU]**
   2.1 New towns, rural urban centres,
   2.2 New settlements,
   2.3 New neighbourhoods.

Learning Outcomes
At the end of the course the students should be able to:
1. Work with the urban design challenges of a community.
2. Work as a team in handling design projects
3. Develop strategies for approaching urban design assignments

Teaching and Learning Pattern
75 hours of individual consultations. 75 hours will be used for working individually or in groups.

Mode of Assessment
Two interim presentation constituting 40% of the overall assessment and the remaining 60% will be coming from the final assessment.

Mode of Delivery
Course to be delivered through seminars, workshops and studio work

Recommended Reference Books/ Literature

1. Roberts, N. (2011) Woodbury University Urban Design Studio Spring 2007
2. Sergio Palleroni, S., Merkelbach, C. and Bell, B. (2004) Studio at Large: Architecture in Service of Global Communities
3. Hardin, M. C. (2006) From the Studio to the Streets: Service Learning in Planning and Architecture (Service Learning in the Disciplines Series)
4. Chung, C. J., Koolhaas, R. And Leong S. (2002) The Harvard Design School Guide to Shopping / Harvard Design School Project on the City 2
5. Salama, A. M. (2007) Design Studio Pedagogy: Horizons for the Future

ARC 7226/ ARCH 8110: THEORY OF URBAN DESIGN [30 CH]

Description
The urban design theory is within the broader developmental planning and design arena and aims at identifying and appreciating the core conceptual framework for, and issues of, urban design theory and practice in relation to urban planning, architecture and cognate disciplines.

Objectives
1. To develop basic values, knowledge and skills pivotal to literacy in urban design.
2. To develop basic diagnostic and evaluatory knowledge and skills, such as to inform the assessment of urban problems suitably the subject of urban design, at a variety of scales.
3. To develop knowledge and skills appropriate to urban design intervention.

Course Content

1. Comprehension of the city in perceptional terms: the overall "image of the city" as concretized by urban elements (paths, edges, districts, nodes landmarks). **[10 CU]**

2. Patterns of urban form (linear, grid, concentric, radial satellite). **[10 CU]**
   2.1 Elements of urban form: streets, squares, monuments and urban fabric regarded in their historic development and utility significance ("the architecture of the city").

3. Theories of urban form: **[10 CU]**
   3.1 Group-form, compositional form, mega structure.
   3.2 Visual analysis of urban form, townscape and aesthetics; aspects of urban design. Regional case studies.

Learning Outcomes

At the end of the course the students should be able to:

1. Apply the advanced theories of design to analyse urban challenges.
2. Develop pragmatic approaches to design
3. Use past theories to explain urban development trends

Teaching and Learning Pattern

The course will be delivered through a mixture of seminars, illustrations, group discussions and site visits.

Mode of Assessment

Two tests and two seminar papers as continuous assessment will constitute 40% of the overall assessment. Remaining 60% of the assessment will come from the final semester examination.

Mode of Delivery

Lectures/Seminars/ (30 hours), Practicals (0 hours). The total contact hours are 30

Recommended Reference Books/ Literature

1. Alexander, C., Neis, H., Anninou, A. and King, I. (1987) A New Theory of Urban Design (Center for Environmental Structure Series, Vol 6)
2. Shane, D. G. (2005) Recombinant Urbanism: Conceptual Modelling in Architecture, Urban Design and City Theory
3. McGrath, B. (2008) Digital Modelling for Urban Design
4. ElKhoury, R. And Robbins E. (2003) Shaping the City: Studies in History, Theory and Urban Design
5. Trancki, R. (1986) Finding Lost Space: Theories of Urban Design

ARC7227/ARCH 8111 HISTORY OF URBAN DESIGN [30 CH]

Description

This is a theory course that introduces the students to historical design theories for practical applications to complex designs. It provides the student with knowledge that guide the design process.

Objective

1. To expose students to history, culture and theories of urban design.

Course Content

1. Introduction to the concept of "city", the Greek 'Polis'. **[08 CU]**

2. The city during the Hellenistic, Roman, Medieval, Renaissance, Baroque and Neoclassical age. The Islamic City. **[08 CU]**

3. The colonial city, with particular regard to the African context. **[08 CU]**

4. The contemporary metropolis. **[06 CU]**

Learning Outcomes

At the end of the course the students should be able to:

1. Understand the historical trends of urban development and use the knowledge acquired to explain current phenomenon.
2. Fit the contemporary urban design trends in the wider context of planning

Teaching and Learning Pattern

The course will be delivered through a mixture of seminars, illustrations, group discussions and site visits.

Mode of Assessment

Two tests and two seminar papers as continuous assessment will constitute 40% of the overall assessment. Remaining 60% of the assessment will come from the final semester examination.

Mode of delivery

Lectures/Seminars/ (30 hours), Practicals (0 hours). The total contact hours are 30

Recommended Reference Books/ Literature

1. Power, G. And Parfect M. (1997) Planning for Urban Quality: Urban Design in Towns and Cities by Gordon Power
2. Alexander, C., Neis, H., Anninou, A. and King, I. (1987) A New Theory of Urban Design (Centre for Environmental Structure Series, Vol 6)
3. Shane, D. G. (2005) Recombinant Urbanism: Conceptual Modelling in Architecture, Urban Design and City Theory
4. McGrath, B. (2008) Digital Modelling for Urban Design
5. ElKhoury, R. And Robbins E. (2003) Shaping the City: Studies in History, Theory and Urban Design
6. Trancki, R. (1986) Finding Lost Space: Theories of Urban Design

ARC7228/ARC 8112 URBAN SOCIOLOGY AND COMMUNITY DEVELOPMENT [30 CH]

Description

This is a theory course that introduces the students to the complex sociological aspects of society.

It provides the student with knowledge that guides the community design projects.

Objective

1. To enable students to develop knowledge and skills in handling community development programmes
2. To gain high level understanding of the peculiarities of community's complex arrangement and functioning.

Course content

1. Concepts of society, social structure, social systems, social institutions. **[06 CU]**

2. Influence of traditional social and economic institutions on development and change. Social aspects of development, social policy, social services, systems and their co-ordination in urban and metropolitan areas. **[08 CU]**

3. The community and its evolution, the community and its system; community location, spatial organization, rural-urban continuum. **[8 CU]**

4. Demographic aspects, interpretation of census data, implication on housing and community facilities. Analysis of rural and urban social problems. **[8 CU]**

Learning Outcomes

At the end of the course the students should be able to:

1. Understand the functioning of society in the development of the urban environment
2. Explain community development phenomenon
3. Work with communities in developing urban development strategies

Teaching and Learning Pattern
The course will be delivered through a mixture of tutorials, illustrations, group discussions and seminars. Emphasis will be focused on developing high level skills of analysis and conceptualisation of projects.

Mode of Assessment
Two interim presentation constituting 40% of the overall assessment and the remaining 60% will be coming from the final assessment.

Mode of delivery
Lectures/Seminars/ (30 hours), Practicals (0 hours). The total contact hours are 30

Recommended Reference Books/ Literature

1. Kretzmann, J. P. and McKnight, J. L. (1997) Building Communities from the Inside Out: A Path Toward Finding and Mobilizing a Community's Assets
2. Brown, M. J. (2007)Building Powerful Community Organizations: A Personal Guide To Creating Groups That Can Solve Problems and Change the World
3. DeFilippis, J. and Saegert, S. (2007) The Community Development Reader
4. Temali, M. (2002) Community Economic Development Handbook: Strategies and Tools to Revitalize Your Neighbourhood

ARC7229/ARC 8113 URBAN ECONOMICS [30 CH]
Description
This is a theory course that introduces the students to economic aspects of the urban development process.

Objectives
1. To enable students to develop knowledge and skills in handling urban economics challenges
2. To gain high level understanding of the peculiarities of community's complex economic arrangement and functioning.

Course Content

1. Economics of Urbanization; **[15 CU]**
   1.1 Location of Economic Activity and the location of cities,
   1.2 The system of cities and the urban hierarchy;
   1.3 Site Rent, Land-Use Pattern and the Form of the City-Residential,
   1.4 Commercial and Industrial Land Use.

2. Externalities and zoning; **[15 CU]**
   2.1 Urban Economic Base and Economic Policy;
   2.2 Economic Policy; Economics of city size;
   2.3 Economics of Urban Transportation;
   2.4 Urbanization & Poverty; Problems of Urban Housing;
   2.5 The Metropolitan Public Sector – Functions, Growth. Revenues; Growth of Cities.

Learning Outcomes
At the end of the course the students should be able to:
1. Apply the design theories pertaining to the socio-economic environment under consideration.
2. Work as a team in handling design projects
3. Consider the economic aspects of community development projects

Teaching and Learning Pattern
The course will be delivered through a mixture of tutorials, illustrations, group discussions and site visits. Emphasis will be focused on developing high level skills of analysis and conceptualisation of projects.

Mode of Assessment
Two interim presentation constituting 40% of the overall assessment and the remaining 60% will be coming from the final assessment.

Mode of delivery
Lectures/Seminars/ (30 hours), Practicals (0 hours). The total contact hours are 30

Recommended Reference Books/ Literature

1. O'Sullivan, A. (2008) Urban Economics (McGraw-Hill Series in Urban Economics)
2. McDonald, J. F. and McMillen, D. P. (2010) Urban Economics and Real Estate: Theory and Policy (Wiley Desktop Editions)
3. Mills E. S. and Hamilton, B. W. (1997) Urban Economics (5th Edition)
4. Arnott, R. J. and McMillen, D. P. (2007) A Companion to Urban Economics (Blackwell Companions to Contemporary Economics) by

ARC8100 Research by Dissertation by [150 CH]

The candidate is required to select a topic for research, which enhances the knowledge of architecture, with particular emphasis on architectural thought and the place of architecture in human endeavour. The dissertation must address issues of architecture in relation to national and social development, as well as the other philosophical fundamentals of architecture.

ARC 8101 Research Seminar [105 CU]

Description

The course helps students to strengthen their ability to do guided research, make a report on technical issues and present these issues in a scientific set up. While lecturers will give the students guidelines on the topics to research on, they will not formally teach them in class. However, what is expected out of the students will be explicitly given to them and examined.

Objectives
The aims of the course are:
• To develop the students ability to search for and internalize scientific academic material
• To develop the students skills in technical writing
• To develop the student's presentation skills.

Course Content
The content is both in terms of skill and technical content.

1. Technical content: This depends on the problem addressed. The student is expected to show understanding and comprehension of the subject matter. **[15 CU]**
2. Skill content: a student is expected to show ability to comprehend scientific literature, correctly make a technical report and competently prepare and make an academic presentation **[15 CU]**

Teaching and Learning Pattern
Students will be given broad areas of study together with research questions to address by the beginning of the second semester. Each student will be given a senior staff from whom they can get advice and guidance whenever necessary. The student will then be required to address one research problem and make a write up on it. The student will then be required to present his work to the staff and his/her peers. As part of the course, the student will also be obliged to attend all (weekly) research talks in the school.

Mode of Assessment
Assessment will be made up of 4 parts:
• Attendance of weekly research talks (Semester 2) 10%
• Report write up 50%
• Presentation 20%
• Knowledge of subject matter 20%

Recommended Reference Books/ Literature
The textbooks and articles will depend on the problem being addressed.

ARC 8202 Seminar [105 CU]
Description
The course helps students to further reinforce the knowledge acquired in the first seminar series and to enable them to discuss issues pertaining to the Design Project material.

Objectives
The aims of the course are:
• To develop the students ability to carry out scientific research for the Design Project theme
• To develop the students skills in technical writing and design
• To develop the student's presentation skills.

Course Content
The content is both in terms of skill and technical content.

1. Technical content: This depends on the problem addressed. The student is expected to show understanding and comprehension of the subject matter. **[15 CU]**
2. Skill content: a student is expected to show ability to comprehend scientific literature, correctly make a technical design/report and competently prepare and make an academic presentation **[15 CU]**

Teaching and Learning Pattern
Students will be given broad areas of study together with research questions to address by the beginning of the second semester. Each student will be given a senior staff from whom they can get advice and guidance whenever necessary. The student will then be required to address a design project problem. The student will then be required to present his/her work to the staff and his/her peers. As part of the course, the student will also be obliged to attend all (weekly) research talks in the school.

Mode of Assessment
Assessment will be made up of 4 parts:
• Attendance of weekly research talks (Semester 2) 10%
• Report write up 50%
• Presentation 20%
• Knowledge of subject matter 20%

Recommended Reference Books/ Literature
The textbooks and articles will depend on the problem being addressed.

ARC8203 Research by Design Project [150 CH]

The candidate is required to independently develop a project brief, which addresses the most important issues of architectural design with respect to the area of specialization. The dissertation must be developed to respond to the issues raised in the project brief at an advanced level of architectural philosophy, technology and spatial concepts.

APPENDIX I: MEMBERS TO TEACH THE PROGRAMME

							Current Teaching Load	Proposed Teaching Load	Total Load
	Full Time/Part Time	Gender	Highest Qualification	Area of Specialisation	Teaching & Supervisory Experience Rank	Current number of students supervised			
Barnabas Nawangwe	Full Time	Male	PHD	Architecture/ Vernacular Architecture/ Housing	Assoc. Prof. 22 yrs	5	15	3	18
Hannington Sengendo	Full Time	Male	PHD	Housing	Assoc. Prof. 23 yrs		-	2	-
Henry Alinaitwe	Full Time	Male	PHD	Structures/Construction Mgt./Project Mgt.	Senior Lecturer 21 yrs		19	1	20
Allan Birabi	Full Time	Male	PHD	Conservation	Senior Lecturer 21 yrs		8	2	10
Stephen Mukiibi	Full Time	Male	PHD	Architecture/ Human Settlements/ Housing	Lecturer 20 **yrs**	4	17	3	20
Assumpta Nnaggenda-Musana	Full Time	Female	PHD	Architecture/ Housing	Lecturer 16yrs	2	14	3	17
Amin Tamle –Kiggundu	Full Time	Male	PHD	Urban Planning/Urban Transportation	Lecturer 4 yrs	-	16	2	18
Ian Senkatuka	Full Time	Male	PHD	Architecture/ Urban Infrastructure	Lecturer 16 yrs	1	14	3	17
Kenneth Ssemwogerere	Full Time	Male	PHD	Architecture/ Construction Mgt.	Lecturer 7 yrs	-	14	3	17
Cato Lund	Full-Time	Male	M.Arch./M. Urban Plann.	Land Use Planning	Senior Visiting Lecturer 32 yrs	-	15	3	18

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

APPENDIX 3: EXPECTED LOCAL ANNUAL INCOME AND EXPENDITURE

A. INCOME				
Item Description	**Quantity**	**Quantity Description**	**Unit Cost**	**Amount**
Tuition Fees	15	Students	3,787,500	56,812,500
Total Income				**56,812,500**

B. Expenditure	
Item Description	**Amount**
University Council (25%)	14,203,125
Teaching/Supervision Expenses(41%)	23,293,125
Administrative Expenses (5%)	2,840,625
Office Expenses (5%)	2,840,625
Laboratory Materials (5%)	2,840,625
Library Materials (2%)	1,136,250
Utilities/Furniture (1%)	586,125
College Levy (5%)	2,840,625
Staff Development (2%)	1,136,250
Computer Laboratory (4%)	2,272,500
Visiting Professors Expenses (5%)	2,840,625
Total (100%)	**56,812,500**

Note: The above budget is calculated based on tuition for Ugandan students – UGX. 3,787,500/= per annum. International Students will be paying UGX. 6,666,000/= per annum.