MASTERS PROGRAMME: MSC/MA GEOMORPHOLOGY

AGE 820	**Geomorphological Principles I**
Course content (including topics)	Introduction to Geomorphology: Definitions, Concepts; Role of Geomorphology. Geomorphological Systems; Morphological systems; Cascading systems; Process-response systems. Geomorphological Process; Magnitude and Frequency of Processes;. Weathering process; Factors controlling rock weathering; Weathering and evolution of landforms. Slope Instability; Forces leading to slope failure; Mass movements; The Work of Running water; Fluvial Processes; Fluvial Processes and landform development. Slope processes; Overland flow; Causes of overland flow; Infiltration capacity; Flow processes; Channel Processes: Energy in a stream system; Energy and morphology; Catchment water balance. Coastal Processes; Waves; Coastal erosion; Factors affecting coastal erosion; Coastal Landforms; Geomorphology and Environmental Management
AGE 821	**Geomorphological Principles II**
Course content (including topics)	The processes of wind action: Arid processes and landforms; Erosion, transportation and deposition by wind and the resultant processes; Importance of wind in arid and semi-arid areas. The action of ice (both glacial and peri-glacial); Snow accumulation and ice formation; Classification of glaciers and ices masses; The glacial system; Glacier movement; Transportation by ice; Processes of glacial erosion; Landforms produced by glacial erosion, deposition; Fluvio-glacial deposition; Peri-glacial processes and resultant landforms; Application of Geomorphology, Geomorphic mapping, Hazard zonation, Materials, rocks, Residues and clay
AGE 822	**Methods and Techniques Of Geomorphology**
Course content (including topics)	Introduction to Geomorphology - Concepts; Approaches to Geomorphologic research studies; Descriptive approach; A real approach; Dynamic approach; Chronological/historical approach ; Quantitative techniques of landform analysis, map analysis including the morphometric analysis of drainage basins. Field survey and mapping. Theoretical relationships; Process analysis: Analysis of slope field monitoring of processes on slopes. Measurement of the erosional, transportational and depositional processes water, wind and ice. Field monitoring of processes in river channels, Measurement of dissolved and suspended load; Dating techniques: Techniques of sediment analysis, grain size, shape, palynology, heavy mineral content; Geomorphological landscape mapping; Remote sensing and Geographical Information System (GIS) methods and techniques
AGE 823	**Regional Studies in landform development**

Course content (including topics)	The nature and origin of landscapes, with particular reference to the tropical, arid and semi-arid lands. The role of climatic change in influencing modern landforms, especially those of Africa. The influence of the endogenic processes (folding, faulting and volcanicity) on landforms, with special reference to East Africa.