CORE COURSE WORKS – Semester 1

Atmospheric Science
GFM 1611

Understanding adiabatic and diabatic processes, and hydrostatic equilibrium. Convective stability processes leading to cloud formation and precipitation. Motion system in spherical and natural coordinate, vorticity and circulation

Hydro-climatology
GFM 1633

Interactions between climate system and hydrological cycles in the context of extreme events, climate change and variability. Improve understanding of complex physical processes through models

Climatological Methods
GFM 1602

Explore research methodology, data collection, systematic literature review, and writing exercises

Colloquium
GFM 1691

Facilitated communication forum or group discussions to exchange ideas, knowledge and critiques leading to research plan for final Master projects

CORE COURSE WORKS – Semester 2

Advance Climatological Methods GFM 1622

Introduction of climate prediction using time series models, the use of statistical downscaling techniques for climate prediction by using dynamic model outputs, such as Global Circulation Models and their verification

Climate Modelling GFM 162A

Climate system components, climate forcings: external and internal, feedback mechanisms, initial value and boundary value problems, types of climate models, model parameterization, energy balance models, atmosphere-ocean interactions coupled models, case studies

Climate Change Diplomacy CSD 1631

The use of science as a soft power to advance diplomatic objectives, e.g. for building bridges between nations and creating goodwill to build diplomatic relations. Involving direct support of diplomatic processes through science to support decision-making in foreign services.

Climate Change and Society CSD 1632

The single biggest threat facing humanity, climate impacts have been harming health, pressures on mental health, forced displacement, and increased hunger, and become climate refugees

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CORE COURSE WORKS – Semester 3

Climate Change Mitigation
GFM 1624

Greenhouse gases (GHG) emissions, trends and scenarios. Mitigation actions to reduce sources and enhance sinks through mechanisms, such as: Kyoto Protocol, Paris Agreement. REDD+, NAMA, and NDC.

Climate Change Adaptation
GFM 1630

Understanding impacts, vulnerability and adaptation actions. Responses of natural and man-made ecosystems. Example of regional and local adaptation actions.

Climate Governance
CSD 1633

Governing global climate change through conventions and their protocols, policies and measures. Implementation through global and national frameworks. Guidelines for inventory of GHG, monitoring, reporting and verification.

Climate Finance
CSD 1634

Understanding the landscape of financial resources, instruments, and mechanisms to support climate change mitigation and adaptation. Explore financial mechanisms under Article 6 of the Paris Agreement.

OPTIONAL–Semester 3 AND FINAL PROJECT– Semester 4

Beyond Climate Treaties
CSD 1635

Diplomats or negotiators are prepared and equiped with the broad agenda of climate and non-climate treaties. These include three Rio Conventions and their Protocols, viz-a-viz their interlinkages.

Proposal
Seminar
Thesis

Exam/Defense

Publication.