

Figure 1: Overall Programme Credits' Distribution at a Glance

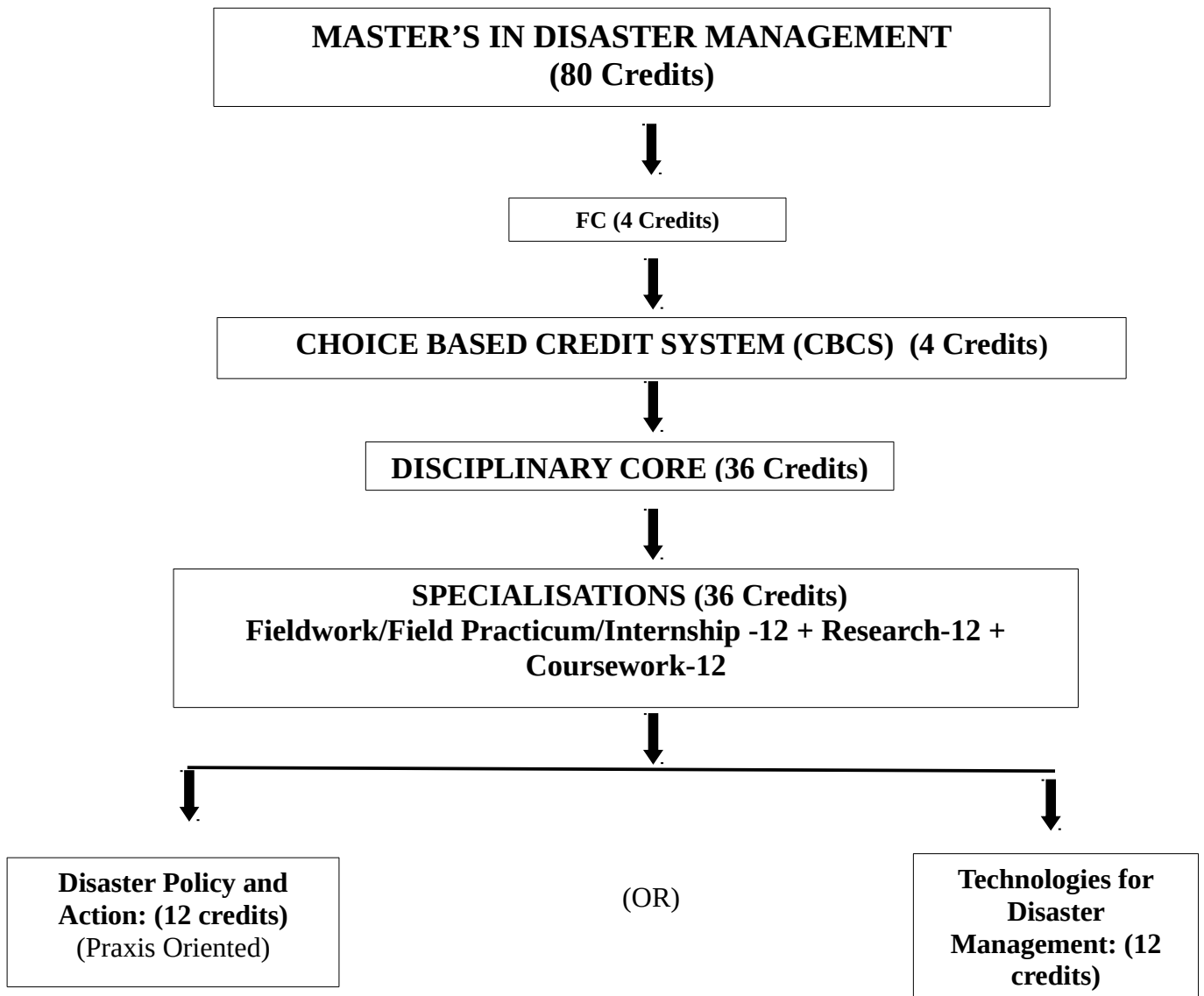
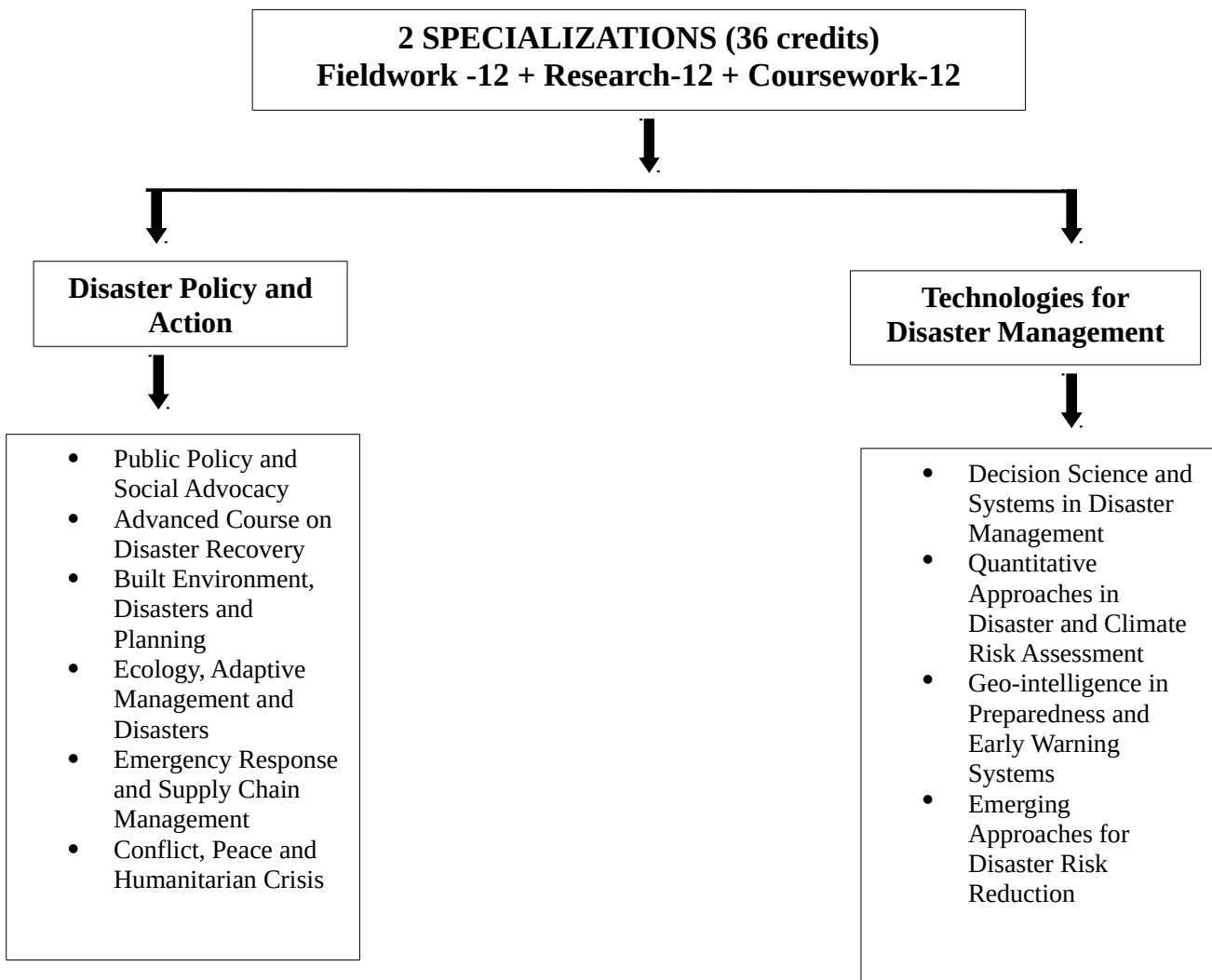


Figure 2



OBJECTIVES OF THE PROGRAMME

- To create a cadre of professionals with multidisciplinary knowledge, skills and perspectives related to disasters.
- To enable a broader understanding of disasters as related to issues of development and environmental sustainability with an analysis of current debates around these areas
- To enable a critical reflection around disasters and their intersection with science and technology in prediction, mitigation and response.
- To create a cadre of professionals with an ability to engage in vulnerability analysis and participate in governance and policy processes for disaster risk reduction and resilience building at various levels.
- To cultivate appropriate values, engage in research and enhance the knowledge base in disaster studies

Credit distribution (See Figure 1): The programme will have 80 credits with common first year which comprises of FC and disciplinary core courses.

In addition group laboratory session are woven in the programme in the first semesters. These are compulsory and require full attendance but do not carry any credits.

Common First Year: All students at TISS complete 4 credits of Foundation courses.

Students enrolled in Masters Programme in Disaster Management will have 36 credits of core courses (known as disciplinary courses in UGC parlance). Students will select one of the 2 specialisations. These specialisation courses are offered in the second year.

Choice Based Credit System: As part of the Choice Based Credit System students have to choose courses equivalent to 4 credits (one elective foundation and one open elective) from the institute-wide pool of CBCS courses. The school also offers two courses to this institute's pool of CBCS courses.

The Specialisations: Deepening the focus

Each specialisation (of 36 credits) will have:

12 credits course work+ 12 credits Research+ 12 credits Fieldwork/Internship. (See figure 1)

Specialisation: Disaster Policy and Action (DPA)

The specialisation on Disaster Policy and Action anchored by the Centre for Disaster Management will enhance knowledge, capacities and skills, and perspective on disaster management. While enabling an understanding of disasters from the vantage point of “science and technology” and “state and governance” the Centre will also foster a critical and reflective appreciation of current debates in disaster management within the framework of social and environmental justice, state and civil society dynamics, development, conflict and displacement, and globalisation. Power differentials and unequal access to resources and information have serious implications for disaster response and humanitarian aid. Ineffective disaster response may be more likely to be caused by asymmetric power relationships, rather than lack of local coping capacities. Public participation would increase the success of disaster policy and its implementation as it seeks to embrace inclusiveness, shifting away from a top down approach.

The specialisation will help students re-visit the idea of relief from a rights-based perspective and critically examine the various “management” dimensions such as compensation policies, relief distribution logistics, delivery mechanisms etc all of which emphasize praxis. The specialisation will engage with various issues related to Community Based Disaster Management including exploration of the rhetoric and sustainability of community initiatives in actual practice, demonstrating/connecting with innovative approaches and models.

Disaster risk reduction provides the conceptual framework of elements to be considered, with the possibilities to minimize vulnerabilities and disaster risks in society, by interlinking pre-disaster measures, to an effective management of disasters as and when they occur. Practices of hazard vulnerability assessment in this context assume high significance as only through an inclusive framework of assessment, one that captures diverse elements of vulnerability at various levels, can society move from a reactive to proactive paradigm.

Working towards developing capacities for advancing disaster risk reduction strategies through government and civil society spaces, engaging in policy advocacy and action would be the broader thrust of this specialization. Students would learn how to adhere to the ideals of environmental conservation and sustainable development and how to overcome challenges on ground.

Disaster management as an emerging field draws incumbents from multiple disciplines and professions such as public health, mental health, logistics and supply chain management, habitat planning, finance, economics, law, public policy and administration, structural engineering, meteorology, GIS and RS, anthropology, sociology, psychology, social psychology, conflict and peace studies etc would find this specialization of considerable interest.

Internship in DPA

6 credits

The possibilities of organizations where students of this specialisation could intern are many and growing systematically, across the country and internationally. Examples are: IGSSS (in North east), AIDMI, CEE, NDMA, Maharashtra DM Cell, BSDMA, ASDMA, OXFAM, Action Aid India, Save the Children, etc where student tasks during internship focus on developing or updating Disaster Management Plans, conducting HRVA, and supplementing ongoing work of the government, direct service delivery for relief and recovery.

Research Dissertation in DPA

12 credits

Students are encouraged to work on areas of research that are articulated by faculty members, which will help create a better specialisation thrust. Students work on research dissertation across four semesters. Research Tutorials equivalent to 2 credits starts in the first semester and continues over

second and third semester of the programme.

The list of courses:

1. Public Policy and Social Advocacy
2. Advanced course in Disaster Recovery
3. Built Environment, Disasters and Planning
4. Ecology, Adaptive Management and Disasters
5. Emergency Response and Supply Chain Management
6. Conflict, Peace and Humanitarian Crisis

Specialisation: Technologies for Disaster Management (TDM)

Science and technology have contributed immensely to understand the mechanism and estimation of natural hazards of atmospherical, geological, hydrological, and biological origins. The study, the experiments, and observations of floods, severe storms, earthquakes, landslides, volcanic eruptions and tsunamis, and their impacts on humankind has certainly provided rich insights. Advancement in sciences is now enabling scientists capture social vulnerabilities and modelling or scenario building which help understand and thus mitigate impacts of disasters and address planning processes. Similarly combining innovative methods and tools of GIS and remote sensing, mapping and assessing can help to identify the impact of complex disasters more accurately and quickly.

The ability of communities to enhance scientific knowledge through ground truthing, contributing to co-production of knowledge and collaboration is significant in democratising knowledge. This specialisation will enhance the capacities of students to work with this perspective on society and science and technology. The TISS believes that scientists must interface with communities and bring science to people and also engage with people's science, validating it or challenging it, as the case may be.

The scientific and technological disciplines which are involved in disaster management include basic and engineering sciences, natural, social and human sciences. They relate to the hazard environment (i.e., hydrology, geology, geophysics, seismology, volcanology, meteorology, and biology), and to the built environment (i.e., engineering, architecture, and materials). It is acknowledged that developing a suitable warning system, disaster preparedness and management of disasters through the application of technology tools, including ICT, is important for this specialisation. The specialisation will offer opportunities to dwell deeper into arenas such as Integrated Geospatial Solutions, Efficient Decision Support Systems, Real-time Monitoring and Predictions, Geospatial Modeling, Web-GIS, Geointelligence and Big Data Analytics, Early Warning Systems, Civil design Search and Rescue Technology, in Disaster Management .

Internship in TDM

The students in TDM specialization largely work with state-of-the-art research labs and agencies to learn, understand and gain exposure to the market needs and challenges in the Disaster Management sector. Some of the key institutes and organizations providing internship opportunities to TDM students are: IITs, IISERs, CSIR-Labs, SPAs, NDMA, CEEW, RMSI, ISRO-NRSC, ISRO-IIRS, CROPC, RespireLiving, Reliance Foundation, SDMAs, Skymet Weather Services Pvt. Ltd., AIT, PSI etc.

Research Dissertation in TDM

The students in TDM specialization work on problem-solving approach in the context of Disaster management with the help of advance tools, techniques, trainings and approaches under the supervision of expert faculty in this area. Few examples of ongoing research activities are: application of remote sensing and geospatial approaches in hazard mapping, monitoring and modeling; Relevant applications of Optical and Microwave Satellite Imagery; Development of Efficient Decision Support Systems using Big Data Analytics, Citizen Science, Open Science, Spatial Informatics; AI/ML and spatial analytics in resource allocation, planning and management; Climate Risk characterization, evaluation and assessment in various phases of different disaster types such as cyclone, tsunami, urban flood, landslides, droughts, GLOF, and extreme events.

The list of courses:

- Decision Science and Systems in Disaster Management
- Quantitative Approaches in Disaster and Climate Risk Assessment
- Geo-intelligence in Preparedness and Early Warning Systems
- Emerging Approaches for Disaster Risk Reduction (TDM Elective)

DGT612 course of the One-year Masters' in Disaster Informatics and Geospatial Technologies (DIGIT) Programme, would be available as elective course within TDM specialization when the same is offered. When offered DGT612 may be taken as per student's interest and relevance to research dissertation, instead of MDM632 to fulfill the minimum credit requirement of 12 credits under the specialization.