



## Module 01- Course Introduction

This course entitled "Foundation in Assistive Technology " was prepared and designed by Mada Center, Qatar.

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## **Course Outline**

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## **About Mada**

Mada Assistive Technology Center Qatar is a private institution for public benefit, which was founded in 2010 as an initiative that aims at promoting digital inclusion and building a technology-based community that meets the needs of persons with functional limitations (PFLs) – persons with disabilities (PWDs) and the elderly in Qatar. Mada today is the world's Center of Excellence in digital access in Arabic, as we were able to get Qatar to rank first worldwide on the Digital Accessibility Rights Evaluation Index (DARE) 2020, issued by the United Nation's Global Initiative for Inclusive Information and Communication Technologies, G3ict.

Through strategic partnerships, the Center works to enable the education, culture, and community sectors through ICT (Information and Communication Technology) to achieve an inclusive community and educational system. The Center achieves its goals by building partners' capabilities and supporting the development and accreditation of digital platforms in accordance with international standards of digital access. Mada raises awareness, provides consulting services and increases the number of assistive technology solutions in Arabic through the Mada Innovation Program to enable equal opportunities for PWDs and the elderly in the community.

## **Background Information on Assistive Technology**

Assistive Technology (AT) is a general term that includes devices, services, and policies that benefits older adults and people with disabilities, the institutions, and facilities where beneficial efforts take place, as well as the process that makes them available to this population.

An AT device is one that has a diagnostic, functional, adaptive, or rehabilitative benefit. Professionals in the field employ an AT process to understand the challenge, design, develop, test, and bring to market new devices. Other professionals are involved in evaluating their needs, prescribing them, supplying them, installing, and setting them up, instructing their use, and assessing their benefit.

Assistive Technology products promote greater independence, increased opportunities and participation, and an enhanced quality of life for people with disabilities by enabling them to perform tasks that they were formerly unable to accomplish (or had great difficulty accomplishing or required assistance) through enhanced or alternate methods of interacting with the world.

According to UN statistics, it is estimated that 15 percent of the world's population has a severe disability, just over a billion people. If age related disabilities are included, the percentage of the world's population with disabilities grows to 18-20 %.

In 2018, the estimated number of people with some level of disability in Qatar was 16,145 (Qataris: 8,530, Non-Qataris: 7,615) according to Qatar Planning and statistics Authority, which limits their ability to fully participate in society. As the nation ages, the number of people experiencing such limitations will certainly increase. New AT devices incorporating novel designs and emerging technologies have the potential to further improve the lives of people with disabilities and older adults.

The purpose of this project is to create a certification program based on the latest information, trends and best practices that will allow professionals to gain a certification in the fields of Assistive Technology and ICT Accessibility. Therefore, the focus is to enable professionals to be better skilled and

specialized individuals, contributing to have more responsive and effective institutions, thus, leading to more adequate and professional services in assistive technology and digital accessibility in Qatar.

This course will provide a hands-on examination of assistive technology usage related to teaching and learning and successful integration of people with disabilities.

## **Course Description**

The Assistive Technology Foundation Course is an interdisciplinary, project-based course, following the student-centered teaching method.

The course provides a comprehensive review of assistive technology concepts and industry best practices, covering the five domains of the intervention:

- Assessment of needs
- Development of intervention strategies – Action Plan
- Implementation of intervention
- Evaluation of intervention (Follow- up)
- Professional Conduct

The course is led by qualified and certified instructors, this training course will help candidates review and refresh their assistive technology knowledge. Several types of activities are used throughout the course to reinforce topics and increase knowledge retention.

This course will provide a hands-on examination of assistive technology usage related to teaching and learning and successful integration of people with disabilities.

Over the course of the term, learners will be able to go through multiple prototypes, and learn about the challenges and realities of designing technologies for people with disabilities.

## **Prerequisite(s)**

There are no formal prerequisites for the course. We seek learners from a wide range of backgrounds and disciplines. The earners will complement each other's skill sets. This course is a good fit for learners interested in assistive technology, user-centered product design, working closely with people with disability or functional limitation (potentially in consultation with their caregivers and / or clinicians), and tackling difficult, real-world problems.

## **Purposes or Objectives of the Course**

By the end of the course, the learner will have demonstrated acquisition of the knowledge base and skills necessary to:

1. Identify and evaluate technologies that maximize the potential of people with disabilities.
2. Describe and demonstrate the use of assistive technology solutions that facilitate language skills, both written and oral, remedial skills, functional skills, and life skills.
3. Describe and demonstrate the use of assistive technology solutions that facilitate inclusion in different settings.
4. Describe and demonstrate how people with disabilities can access and benefit from telecommunication technologies and the Internet.
5. Facilitate the team decision-making of appropriate assistive technology for students with disabilities.
6. Describe and demonstrate the use of assistive technology which provides access to caregivers for people with disabilities.
7. Evaluate teaching and learning processes using assistive technology for students with disabilities.
8. Develop methods of using technology to access learning for people with disabilities.
9. Identify methods for facilitating change created by technology in academic and community settings.

## **Expectations of learners**

Learners will

1. Complete all assigned readings in textbook, handouts and relevant professional journal articles by specific deadlines and due dates.
2. Participate in classroom discussions and activities.
3. Demonstrate achievement of course objectives through exams and projects.
4. Use instructional technology to develop class-assigned projects.
5. Develop a research paper/ project about assistive technology for people with disabilities.

## **Learning outcomes**

On Completion of this module, the learner will be able to:

- 1- Identify core areas of Assistive Technology and describe the difference between mainstream and proprietary technology solutions and identify key areas of AT relevant to their professional/personal needs.
- 2- Describe and explain the relationship between different disabilities and the use of assistive technologies to address the challenges which such disabilities present in daily life.
- 3- Identify alternative technology access options and apply the appropriate solution to meet the needs of end users.
- 4- Identify and describe the impact of assistive technologies using case studies.
- 5- Identify the ways in which Assistive Technology and Universal Design for Learning (UDL) solutions can address the challenges experienced by both learners and educators throughout the education life cycle.

## Course Components

The course will include a set of activities prepared by qualified instructors for the learners. These activities include open ended questions from the instructor to the learners, matching and poll questions, group activities, open/closed questions, and group discussions. This interactive learning technique is based on student- centered teaching method.

Activities will include but not be restricted to lectures, projects, reflections, lab periods that will provide time for the learners to discuss and work on their projects. Attendance and active participation in all in-class activities are required.

The classes might be delivered either face-to-face and/ or online.

### Content or Outline:

This course will cover a collection of topics that will contribute to achieving all the learning objectives for the learners. The order of the topics is considered as an organizing framework and all the materials and instructional strategies support the module narrative.

- **Module 1** – Course Introduction and requirement
- **Module 2** – Disability Best practices, Policies and Laws and administration
- **Module 3** – Introduction to Assistive Technology types and categories
- **Module 4** – Models of Assessment
- **Module 5** – Computer and Mobile built- in Accessibility
- **Module 6** - Web and Document Accessibility
- **Module 7** –Physical Disabilities and AT
- **Module 8** – Sensory Impairment and AT (Visual / Hearing)
- **Module 9** – Communication impairment and AT

- **Module 10** – AT for Cognitive and Learning Difficulties
- **Module 11** – Smart Technologies (EADL/ innovations)
- **Module 12** – Project introduction and details

The number of direct teaching hours is 45 hours, and learners will be encouraged to enrich their knowledge through self-learning and self-reading.

## **Additional Information and Guidance**

### **Registration**

People interested in attending the course will be requested to register through Mada Academy portal, under the certified course section. All facilities to support this course are provided by Mada Center.

### **Attendance Requirements**

Participants must attend 80% of the total of the sessions; either they are live webinars or face to face sessions; and complete all online course content. Tutors and participants can expect to be always treated in a fair and respectful manner. The 20% absenteeism should be justified, validated, and approved by the course instructors.

### **Course Delivery and Teaching/ Learning Methods**

Course delivery will be hybrid: in person via face-to-face sessions, online via webinars, online modules, independent self-directed learning, and AT forum discussions.



## **Assessment Methods and Progression**

Assessment will be conducted by a wide range of methods including attendance at face-to-face sessions and webinars, participation on AT forum, contribution to live class discussion and submission of a course project.

