

WMO-RTC Italy, LaMMA, Regione Umbria, CNR-IBIMET

National Training Course

Introduction to Meteorology for Meteorological Technicians (WMO- MT)

Starting date: December 4th 2018

Duration: 36 hours

Centro Regionale di Protezione Civile (CRPC) Foligno (PG - Italy)

Background

This course, 36 hours long, comes from agreements of the WMO-RTC in Italy, run by the Institute of Biometeorology (CNR-IBIMET), with LaMMA Consortium which has been entrusted with the course organization on the basis of an agreement between Tuscany and Umbria Regions. The objective of the course is to improve Umbria Region Civil Protection personnel understanding of meteorological phenomena, to be aware of occurring events and more capable to react in emergency. The course fits the needs for both Functional Centre (CF) and Operation Room (SOUR) operators.

Course Description

The course combines theory and practical training to provide staff with a basic knowledge of atmospheric phenomena and processes and the practical skills required to apply this knowledge.

Aim: To provide the attendee with the basic skills and knowledge required to begin a career as a meteorological technician.

This course offers basic training to cover some missing educational requirements for those aspiring to the DEKRA certification as Tecnico Meteorologo Certificato.

For those already certified, the certificate of attendance will be valid to partially fulfill the professional update requirements for the renewal of the DEKRA Certification.

Expected Learning Outcomes

The course is aimed to equip the participants with fundamental competencies to be a meteorological technician. Trainee will be able to:

- understand the general circulation of the atmosphere and the basics of weather systems;
- understand basic physical principles and atmospheric interactions;
- have knowledge of the workings of meteorological instruments and methods of measurement;
- have the necessary skills to observe and monitor the atmosphere and interpret commonly used meteorological diagrams and products;
- have knowledge of climate variability and climate change

Target Audience and Qualifications

Personnel from operational centers: Centro Funzionale (CF) and Regional Operational Room (SOUR) of Umbria Region Civil Protection in Italy, engaged in short-term weather forecast and emergency management.

Course Content

- Structure and chemical composition of the atmosphere
- Elements of thermodynamics of the atmosphere (pressure, temperature, humidity, passages of state)
- Solar radiation and greenhouse effect
- Atmospheric dynamics:
 - Scales of the motions,
 - Forces acting in the atmosphere,
 - The wind (geostrophic, gradient, thermal)
- Planetary boundary layer (with an introduction to turbulence)
- Fronts
- Temperature and its forecast
- Thunderstorms and extreme meteorological phenomena (general overview)
- Tools for Meteorology: stations, satellite, radar
- Overview of nowcasting: what (who?) can and what CANNOT do, due the current knowledge and scientific limitations
- Weather for heat waves and fire forecast
- Elements of climatology and climate change

Pre-course Content, Activities, or Assessment

Before the starting of the course a survey will be distributed to participants in order to assess their level of knowledge, and, if necessary, an online pre-course is planned in order to prepare trainee to a common entry level.

Course Format

The format includes theoretical lectures, practical sessions and case studies, group discussion, and participant presentation.

Student Assessment

- Attendance and response of participants to the activities (lectures, practical sessions, and other learning activities) will be evaluated and the feedback will be gathered via surveys.
- Each participant is required to make a presentation with PPT concerning a case study which will be evaluated;
- Each participant is required to submit a conclusion report on the training, at least one page, to examine their understanding and acceptance of the knowledge transferred;
- The instructors will assess participants' performance in practical sessions.
- A certificate of completion will be awarded to participants.

Instructors and qualifications

Trainers will be experts from other Regional Meteorological Services, Research Institutions (CNR), Universities.

Language Used

The course will be conducted in Italian, but some training material will be available in English, and no translation will be provided.

Application and Selection Process

The course is open to a maximum of 30 participants.

Directors of eligible Centers are kindly invited to nominate their candidates, ensuring also gender diversity, and taking into account the following aspects for nominees:

- *Education Level:* to have basic knowledge of mathematics and physics
- *Position/Task:* personnel from Regional Operational Centers of the Civil Protection Department of Umbria Region
- *Experience:* prior experience kindly requested but not mandatory
- *Language:* to be proficient in Italian and basic skills in English (some training material will

be available in English, and no translation will be provided).

Costs and insurance

Costs covered by participants' Institutions, based on the agreement between Tuscany and Umbria Regions

No insurance requirements needed.

Deadline for Application: November 23rd 2018

Annex:

Nomination form