



2nd Level Master Course in Protection against CBRNe events

13th Edition

ABOUT OUR MASTER

- More than 10 years of expertise
- International students
- Academic title released
- Synergy with companies and military entities
- More than 250 graduates
- 95% placement after graduation

CONTACT US

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www.cbrngate.com

THE BEST SERVICES

The complexity of the CBRNe events requires professionals that not only have the specific know-how, but also expertise in the relevant areas.

NATO Selected

Officially granted with the "NATO selected" status
Our courses are included in the NATO Education and Training Opportunities Catalog (ETOC)



Supported by OPCW

Our courses are supported by OPCW
Organisation for the Prohibition of Chemical Weapons



Official Academic title

Our courses are the only ones that releases an
official academic title.



Timeline 13° Edition of the Second Level International Master Course in Protection Against CBRNe Events (ADVANCED COURSE – Advisor of Decision Makers). A.A. 2023/2024

The 13° edition will be in a hybrid modality (in presence and online)

PHASE 1

Module 1. (26 February 2024 – 1 March 2024) – **in PRESENCE**
CBRNe threats between past and current challenges

Module 2. (8 – 12 April 2024) - **ONLINE**
International Cooperation for Crises, Emergencies & Disasters Preparedness and Management

Module 3. (20-24 May 2024) - **ONLINE**
Management of Outbreaks and Biological Releases Scenarios”

Module 4. (10 – 13 June 2024) - **in PRESENCE**
Training at OPCW – The Hague (The Netherlands) -
Visit at Dutch Explosive Ordnance Disposal Service (NLD EOD)
Management of Chemical Releases Scenarios

Module 5. (17-21 June 2024) - **in PRESENCE**
R/N Agents. Radiological and nuclear agents’ awareness, industry, medical & military

Module 6. (24-28 June 2024) – **IN PRESENCE /online live/online asynchronous**
Risk analysis, CBRNe simulation: software, tools & methods

Module 7. (14- 18 October 2024) - **ONLINE**
Case Studies and Lesson Learned: CBRN Events Management and IED and EOD events

Module 8. (18 – 22 November 2024) - **in PRESENCE**
Communication, Psychology, and Investigation in case of CBRNe events.

Module 9. (period to be defined) - **in PRESENCE**
FINAL TABLETOP EXERCISE

PHASE 2

INTERNSHIP (mandatory only for those who is not working)

PHASE 3

FINAL THESIS

Dr. Colomba Russo

Dr. Alba Iannotti

Didactic Coordinators of the First and Second Level Master CBRNe

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COURSE DESCRIPTION
PHASE 1

MODULE 1 - CBRNe threats between past and current challenges

MODULE 2 - International Cooperation for Crises, Emergencies & Disasters
Preparedness and Management

MODULE 3 - Management of Outbreaks and Biological Releases Scenarios

MODULE 4 - Training at OPCW - Management of Chemical scenario

MODULE 5 - R/N Agents. Radiological and nuclear agents' awareness,
industry, medical & military

MODULE 6 - Risk analysis, CBRNe simulation: software, tools & methods

MODULE 7 - Case Studies and Lesson Learned: CBRN Events
Management and IED/EOD events

MODULE 8 – Communication, Psychology, and Investigation in case of
CBRNe events

MODULE 9 –Final Table top exercise

PHASE 2

Internship

PHASE 3

REMEDIAL SESSIONS

FINAL THESIS

COURSE DESCRIPTION

The pandemic situation related to the COVID-19 emergency has changed the education modality. The twelfth edition of the Second Level CBRNe Master course will be held in a hybrid modality telematic way (On-Line) on the dedicated eLearning platform and lectures in presence at the University of Rome Tor Vergata, in Rome.

The evolution of Safety and Security threats and their increase at an international level place remarkable focus on the improvement of emergency systems to deal with crises, including those connected to ordinary and non-conventional events (Chemical, Biological, Radiological, Nuclear, and explosive). In every industrial country, there are multiple entities with specialized teams in very specific fields, but the complexity of the events requires professionals that not only have specific CBRNe know-how, but also expertise in relevant areas.

Given the global interest in these issues, the Department of Industrial Engineering and the Faculty of Medicine and Surgery of the University of Rome Tor Vergata organize the international Master Courses in “Protection against CBRNe events”: 1st Level Master Course in “Protection against CBRNe events” (120 ECTS) and 2nd Level Master Course in “Protection against CBRNe events”(60 ECTS).

These courses aim at providing attendees with comprehensive competencies in the field of CBRNe Safety and Security, through teaching and training focused on real needs.



COURSE DESCRIPTION

Both Master Courses are designed according to the spirit of the Bologna Process for Higher Education, the Italian law, and the educational System.

- The Master Courses are organized also in cooperation with a number of entities, companies, and universities ([click here](#))
- The Master Courses are sponsored by worldwide companies ([click here](#))
- The training centers cooperating with the Master Courses are listed [here](#)

The 2nd level Master Course has officially granted the “NATO selected” status

The 2nd level Master Course has been included in the NATO Education and Training Opportunities Catalogue (ETOC)

The 2nd level Master Course is officially supported by OPCW through a Cooperation Agreement

The 2nd level Master Course is officially part of the CEPOL Training Network



COURSE DESCRIPTION

The 2nd Level Master Course aims at providing participants with appropriate technical, cognitive, and operational skills in order to educate and train key figures in the field of CBRNe risk.

In order to participate in the Master Course and obtain the official title, candidates must have a 300-ECTS Master's degree or equivalent.

“Equivalence” of degrees such as Military, Police, Fire-fighter Academy degrees, etc., will be assessed on a case-by-case basis by the University's competent bodies and the Master Course Steering Committee.

This Course aims at training professional “CBRNe Advisors of Decision Makers”.

At the end of the Course, attendees will obtain the “2nd Level Master Course in Protection Against CBRNe Events (60 ECTS)” degree.

The most important private companies operating in the CBRNe safety and security field support the Master Courses with their expertise. They have been involved in the didactic activities thanks to their experts and host the students for the period of the internship.



COURSE DESCRIPTION

Among our lecturers, there are also subject matter experts from the University of Rome Tor Vergata and from all the entities officially involved in the Master Course activities.

Classroom lessons are complemented with: laboratory activities, case studies to be dealt with by working groups, visits, internships at collaborating international entities, and the preparation of the Master thesis (the best ones will be selected for publication in scientific journals).

Please, note that the modules may be subjected to a few changes (dates, the numbering of the modules, etc.) according to the availability of the lecturers involved and of the training centers cooperating with the Master Course.

PHASE 1 MODULES



MODULE 1

CBRNe THREATS BETWEEN PAST AND CURRENT CHALLENGES

The aim of the introductory module is to provide a preliminary and common CBRNe background to the attendees. It supplies information about roles and competencies of advisors of the decision maker in case of CBRNe events, focusing on the best practices and international emergency response scenarios. This module will also provide a comprehensive overview of the different aspects relevant to CBRNe events prevention and response.

By the end of the module the students will be introduced to the Civilian and the Military reference frameworks and they will familiarize with the concept of operational and tactical level.



TEACHING POINTS

- Introduction to the 2nd Level CBRNe master course
- CBRNe: introduction to the threat
- CBRNe and Terrorism
- CBRNe terminology
- CBRNe in the Military environment
- CBRNe in the Civil Defense environment
- CBRNe: the NATO doctrine
- CBRNe in the Law Enforcement environment
- Who is a first responder - Roles and Duties
- CBRNe and Medical First Response



WHERE

University of Rome Tor Vergata
Faculty of Medicine and Surgery,
Via Montpellier 1 - 00133 Rome



WHEN

26 February - 1 March 2024

PHASE 1 MODULES



MODULE 2

INTERNATIONAL COOPERATION FOR CRISES, EMERGENCIES & DISASTERS PREPAREDNESS AND MANAGEMENT

The aim of the module is to provide the student with basic concepts for the management of crises, emergencies, disasters and CBRNe events.

The documents provided at the end of the module facilitate the development of schemes and mental models that the student should use to organize and simplify their knowledge and classify concepts and notions.

By the end of the module, the students will be able to describe in broad terms the main international organizations involved in the management of possible emergencies and disasters and their roles and responsibilities.

TEACHING POINTS

- Civil and military management of crisis and emergencies
- International Organizations in emergency and disasters preparedness and management
- International cooperation for emergencies and disasters management
- CBR agents and unconventional weapons overview
- Principles of CBRNe events management
- Principles of the Communication and Mass Media
- Medical maxi emergencies management



ONLINE



MS Teams

WHEN



8 - 12 April 2024

PHASE 1 MODULES



MODULE 3

MANAGEMENT OF OUTBREAKS AND BIOLOGICAL RELEASES SCENARIOS

The aim of the module is to provide the student with a comprehensive overview of current and emerging biological hazards, risks and threats within the context of international policy, biological response measures and capabilities to face possible biological releases and outbreaks.

By the end of the module, the student should be able to: explain biological agents, their classification, characteristics, and effects; to describe the risks, hazards, and threats of biological agents, the safety and security within the context of international policy and main initiatives; to illustrate the capabilities and procedures to defeat, mitigate and manage biological agents' threats and possible releases.



TEACHING POINTS

- The history of biological weapons
- Classification and characteristics of agents, BWA, TIB, and dual-use
- Biological risks, hazards, and threats
- Basic Terrorism awareness, BIO terrorism
- Overview of international policy, principles, and main organizations
- Biological detection & identification, Management & decontamination
- Warning & reporting for outbreaks
- Physical protection



ONLINE

MS Teams



WHEN

20 - 24 May 2024

PHASE 1 MODULES



MODULE 4 TRAINING IN PRESENCE MANAGEMENT OF CHEMICAL RELEASES SCENARIOS (OPCW)

The aim of the module is to provide the student with a comprehensive overview of current and emerging chemical hazard, risks and threats within the context of international policies response measures and capabilities to face possible releases of chemical agents.

By the end of the module, the students should be able to explain chemical agents, their classification, characteristics and effects.

By the end of the module, the student should be able to describe the risks, hazards, and threats of chemical agents, the CHEM safety, and security within the context of international policy and main initiatives; to illustrate the capabilities and procedures to manage chemical agents threats and possible releases.

TEACHING POINTS

- Classification and characteristics of agents, CWA, TIC, and dual-use
- Chemical agent's effects on health
- Basic Terrorism awareness, Chemical terrorism
- Overview of international policy, principles, and main organizations
- Chemical detection & identification
- Warning & reporting in case of release
- Chemical sampling and analysis
- Physical protection
- Hazard management & decontamination
- Legal consideration



WHERE

OPCW - The Hague
The Netherlands



WHEN

10 - 13 June 2024

PHASE 1 MODULES

MODULE 5

R/N AGENTS. RADIOLOGICAL AND NUCLEAR AGENTS' AWARENESS, INDUSTRY, MEDICAL & MILITARY

The aim of the module is to provide the student with a comprehensive overview of current and emerging nuclear and radiological hazards, risks, and threats within the context of international policies, response measures, and capabilities to face possible nuclear events and radiological scenarios.

By the end of the module, the student should be able to explain the radiological sources' classification, characteristics and effects and describe the historical developments in nuclear energy technologies.

By the end of the module, the students will be able to illustrate the capabilities and procedures to defeat, mitigate and manage radiological threats and possible scenarios.



TEACHING POINTS

- Radiological risks, hazards, and threats
- Basic Terrorism awareness, Nuclear terrorism, and radiological dispersal devices
- Nuclear treaties, non-proliferation initiatives and
- Security measures and cyber defense of critical infrastructures and laboratories
- Safety measures and procedures & Legal considerations
- Radiological detection & identification
- Warning and reporting of events
- Physical protection
- Hazard management, exposures records, decontamination



WHERE

University of Rome Tor Vergata
The classroom will be communicated via email before the start of the module



WHEN

17 - 21 June 2024

PHASE 1 MODULES



MODULE 6

RISK ANALYSIS, CBRNe SIMULATION: SOFTWARE, TOOLS & METHODS

Risk analysis and CBRNe simulations are key assets for CBRNe advisors of decision-makers who must report information that is crucial for providing proper risk analysis and evaluating the actions that have to be taken to prevent and face emergencies and to reduce risks. Through module 6, attendees will familiarize themselves with different tools, software, and methods for CBRNe hazard prediction, CBRN agent's diffusion, and disaster management and perform risk analysis.

By the end of the module, the students will learn to use free license tools for CBRNe events numerical prediction and to perform risk analysis

TEACHING POINTS

- Generality on CBRN Prediction
- Meteorology
- Dispersion models
- Risk evaluation
- Risk analysis
- HotSpot software
- ALOHA - MARPLOT software
- STEM software
- CBRN-Analysis-overview



WHERE

University of Rome Tor Vergata

The classroom will be communicated via email before the start of the module

WHEN

24 - 28 June 2024

Module modalities: in presence /online live/ online asynchronous

PHASE 1 MODULES



MODULE 7

Case Studies and Lesson Learned: CBRN Events Management and IED/EOD events

The aim of the module is to provide the students with the main and common aspects of CBRNe events preparedness and management in the context of international cooperation activities and initiatives. This module provides also a technical overview of the different explosive agents and precursors, and information that is relevant for first responders, including their interplay with explosives professionals from civilian and military organizations.

By the end of the module, the students will be able to explain the main principles and aspects of CBRNe risks, hazards and threats, CBR agents characteristics, and possible main effects; to illustrate the international policy, main references, Civil-Military CBRNe preparedness & and consequence management, cooperation initiatives, and projects and the main characteristics and effects of explosives.



TEACHING POINTS

- Overview of CBRNe risks and threats
- CBRNe terrorism & CBRNe Intelligence
- CBRNe forensics and law enforcement
- CBRNe principles and response measures
- CBRNe warning and reporting during CBRNe events
- International CBRNe policy
- International non-proliferation initiatives and conventions
- International CBRNe cooperation initiatives and projects



ONLINE

MS Teams



WHEN

14 - 18 October 2024

PHASE 1 MODULES



MODULE 8

COMMUNICATION, PSYCHOLOGY, AND INVESTIGATION IN CASE OF CBRNe EVENTS

The aim of the module is to: highlight and emphasize the main aspects of communication and information management providing the student with basic concepts and procedures to be taken into consideration and applied during emergencies and CBRNe events; highlight and emphasize the main aspects of investigation techniques management providing the student with basic concepts and procedures to be taken into consideration and applied during emergencies and CBRNe events.

By the end of the module, the students should be able to describe the main principles and techniques for an effective communication activity and planning for emergencies and CBRNe events management and should be able to explain the principles and concepts of the investigations



TEACHING POINTS

- Principles of the investigation
- Emergency communication and population awareness
- Application of investigation techniques and procedures
- Principles of communication and mass media
- Principles of communication
- Communication effectiveness
- Internal and external communication
- Mass Media, New Media, and public perceptions
- Principles of investigation
- Investigation effectiveness
- Crime scene or CBRNe scene
- Investigation activities on the CBRNe scene



WHERE

University of Rome Tor Vergata
The classroom will be communicated via email before the start of the module



WHEN

18 - 22 November 2024

PHASE 1 MODULES



MODULE 9 FINAL TTX

A tabletop exercise (TTX) is a disaster preparedness activity that takes participants through the process of dealing with a simulated disaster scenario. A TTX is discussion-based and not only helps participants familiarize themselves with the response process, but enables administrators to gauge the effectiveness of the organization's emergency response practices.

Typically, a facilitator guides participants through the exercise, taking them through a particular narrative and discussing what steps should be taken. Potential scenarios for tabletop exercises include natural disaster and pandemic responses, but these may differ depending on the location of the organization and nature of the industry.



PURPOSE OF THE TTX

The purpose of a tabletop exercise is to evaluate an organization's preparedness for a particular disaster and to inform required participants of their roles in the response. Whether it is destruction to facilities, loss of personnel or data loss from cyberattack, a tabletop exercise goes through every aspect of response and the follow up the organization will need to do.



WHERE

University of Rome Tor Vergata
The classroom will be communicated via email before the start of the module



WHEN

TBD

PHASE 2

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INTERNSHIP

The internship can be requested in one of the Institutions/Entities cooperating with the International Master Courses in Protection against CBRNe events.

It can be done at a distance if the pandemic situation is not ended.

MANDATORY ONLY FOR THOSE WHO ARE NOT WORKING

PHASE 3

REMEDIAL SESSION

March 2025

April 2025

May 2025

FINAL THESIS DISCUSSION

June 2025

July 2025

September 2025

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CONTACT US

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