INDUSTRIAL ENGINEERING DEPARTMENT
AND
SCHOOL OF MEDICINE AND SURGERY

1st LEVEL MASTER COURSE
IN
"PROTECTION AGAINST CBRNe EVENTS"
(Basic for 'CBRNe First Responders') 120 ECTS

(Code Course: PHW)

Academic Year 2018/2019- Academic Year 2019/2020

Coordinator: Dr. Pasqualino Gaudio

The 2018/2020 First Level Master Course in "Protection against CBRNe Events" is hereby officially announced. The Master Course is organised by the Industrial Engineering Department and the School of Medicine and Surgery of University of Rome Tor Vergata.

AIMS

This Master Course – held in English by international subject-matter experts and lecturers – aims at standardising First Responders' education and training – at least in Europe – in the following areas:

- CBRNe (Chemical, Biological, Radiological, Nuclear, explosive-related) risk;
- Characteristics of CBRNe agents;
- Effects of CBRNe agents;
- Fast-response usable software;
- Principles and practical application of instruments for CBRNe detection;
- Protection, decontamination and remediation in case of CBRNe events: training and practical cases;
- International CBRNe emergency response system;
- Medical first aid;
- Investigation and communication in case of CBRNe events

Lectures are complemented with Practical Exercises carried out at International CBRNe Training Facilities.

Hence, this Master Course aims at providing Participants with technical, theoretical, and operational tools required to take action in the new, 21st Century CBRNe risk scenario.

The Master Course takes place under the formal agreements and with the cooperation of the following public Entities:
- The Prime Minister's Office;
- The Italian Ministry of Defence;
- The Italian Ministry of the Interior;
- The Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA)

- The National Institute for Geophysics and Volcanology;
- The National Health Institute (ISS);
- SOGIN S.p.A.

and with the support of outstanding companies operating in the safety and security fields (for more information, please refer to the website **www.mastercbrn.com**).

STRUCTURE

The Master Course consists of Modules and Internships, for a total duration of two academic years. However, depending on each individual's plan, it could last up to three years.
The overall educational and training activities will account for 120 ECTS points, that is, a total of 3,000 hours that each student shall devote to classes (580 hours) – which are the same for all participants – and practical training (180 hours) at International Centres of Excellence on CBRNe.
Moreover, each student shall devote at least:
- 50 hours to operational laboratory activities, supported by lecturers of University of Rome Tor Vergata and external experts and tutors;
- 50 hours of workshops, held by University of Rome Tor Vergata and external subject-matter experts.

Furthermore, each student shall carry out an internship at one of the supporting organisations and companies, under the supervision of a personal tutor. Besides, all students shall write and defend a Master Thesis.

Module*		**ECTS**
1	CBRNe threats between past and current challenges	4
2	C agents (P1). HazMat, TIM and Chemical Warfare Agents introduction, history, chemical/physical properties, ERG introduction	4
3	C Agents (P2). Chemical warfare agents detection, protection and decontamination operations	4
4	B agents. Biological warfare agents, history, current challenges, properties, case study	4
5	R/N agents. Radiological and nuclear agents awareness, industry, medical & military	4
6	e agents, CBR IED and EOD, challenges and case study	4
7	Medical countermeasures, CBRNe First Aid	4
8	Communication and Psychology	4
9	Investigation in case of CBRNe event	4
10	DSS, software	4
11	Stage with practical training "Scuola Interforze per la Difesa NBC" in Rieti	5
12	Stage with practical training (CoE to be defined)‡	5
13	Stage with practical training (CoE to be defined)‡	5
14	Stage with practical training (CoE to be defined)‡	5
Internship		40
Final Thesis		20
Total		**120**

* Modules may undergo some minor changes.

‡The training activities will be scheduled in 4 weeks in 4 of the International Training Facilities in cooperation with the Master Course: Joint Chemical, Biological, Radiological and Nuclear Defence Centre of Excellence (JCBRN Defence CoE); Chornobyl Centre; Voyenský Výzkumný Ústav; Seibersdorf Laboratories; ICI International CBRNe Institute; Vinča Institute of Nuclear Science; etc. The 4 Centres will be chosen in 2020.

ADMISSION CRITERIA

This Master Course targets people with at least a 3-year Bachelor's Degree in technical-scientific disciplines, or any title considered as equivalent for admission purposes by the Board of Industrial Engineering Department. It also targets people with a Bachelor's Degree in other disciplines, to be authorised by the Master's Steering Committee.

The Master's Steering Committee might also recognise other vocational certified training and practical activities carried out by applicants after obtaining the Degree allowing them to participate in the Master Course (including individual courses attended in the framework of wider educational programmes), if they are consistent with the subject matters of the Master Course. Such activities might be attributed a number of ECTS points – up to a maximum of 40 – which the relevant student could use to obtain the final '1st Level Master Course in Protection against CBRNe events (120 ECTS) Degree'.

Candidates who have not the qualification required but have a strong expertise in the subject matters of the Master Course can attend the lectures as Auditor.

The CBRNe Master Course shall have a maximum of 40 and a minimum of 16 participants.

Applicants that wish to register for this Master Course cannot be simultaneously attending any other academic course.

An excellent level of English is required.

APPLICATIONS

Candidates shall be admitted based on the assessment of their resumes by the Master Steering Committee, according to the selection criteria reported in Annex A.

The person responsible for the procedure is the CBRNe Master Courses Coordinator, **Dr. Pasqualino Gaudio** – Dept. of Industrial Engineering, University of Rome Tor Vergata, via del Politecnico, 1, 00133 Rome.

Applicants are required to pre-register online **by February 28th, 2019**, by filling in the attached application file and sending it to the mail address: info@mastercbrn.it
together with the following records:

- Resume;
- Bachelor's Degree self-declaration, showing the marks obtained for each exam and the final grade.

For all foreign students each qualification must be officially accompanied by a "Declaration of value" (Certificate of Equivalence of Qualification), issued by the Italian Embassy in the country in which the qualification was awarded.

The list of admitted applicants will be published on **March 8th, 2019**, on the http://www.uniroma2.it and www.mastercbrn.com websites together with the instructions for the tuition fee payment.

FEES AND CHARGES

The overall tuition fee and charges amount to € 15,162.00, which shall be paid as follows:

- € 3,896.00 upon registration, by March 20th, 2019 (including € 16.00 for tax stamp and € 130.00 for final diploma printing).
- € 3,750.00 by September 20th, 2019
- € 3,766.00 by March 20th, 2020 (including € 16.00 for tax stamp)
- € 3,750.00 by September 20th, 2020.

Students admitted must register by March 20th, 2019.

Should a student's personal plan last longer than two academic years, the student under consideration shall pay an additional € 2,016.00 fee (including all charges) by March 02nd, 2021.

Auditors can be admitted providing that the number of participants is less than 20% of all participants, upon a payment of € 12.016,00 tuition fee (including tax stamp) divisible in 4 instalments in the above-mentioned modalities.

Students can attend single modules of the course. The tuition fees for the application to the single module are the following:

Module	**TUITION FEE**
CBRNe threats between past and current challenges	1.000 €
C agents (P1). HazMat, TIM and Chemical Warfare Agents introduction, history, chemical/physical properties, ERG introduction	1.000 €
C agents (P2) Chemical warfare agents detection, protection and decontamination operations	1.000 €
B agents. Biological warfare agents, history, current challenges, properties, case study	1.000 €
R/N agents. Radiological and nuclear agents awareness, industry, medical & military	1.000 €
e agents, CBR IED and EOD, challenges and case study	1.000 €
Medical countermeasures, CBRNe First Aid	1.000 €
Communication and Psychology	1.000 €
Investigation in case of CBRNe event	1.000 €
DSS, software	1.000 €
Stage with practical training "Scuola Interforze per la Difesa NBC" in Rieti	1.400 €
Stage with practical training (CoE to be defined)	2.000 €
Stage with practical training (CoE to be defined)	2.000 €
Stage with practical training (CoE to be defined)	2.000 €

For the application to a single module the deadline is February 28th, 2019.

SPECIAL TERMS

Students with at least 66% certified and documented disability shall only pay € 896, that is, 5% of the overall fees and charges.
People who meet the aforesaid requirements shall include the relevant information in their Applications.
After being communicated their admission, they shall then submit the records attesting their disability to the Master Course Secretariat.

The Faculty Board may – in compliance with the provisions of the Internal Rules – grant special financial terms to individual students.

START

Classes of the Master Course in Protection against CBRNe Events shall start on **March 18th, 2019.**

ATTENDANCE AND FINAL DEGREE

Students shall attend at least 80% of all classes, lectures and activities.
At the end of the Master Course, all students who have attended at least 80% of all classes, lectures and activities, have passed the Module-related exams as well as the final exam (with Thesis and dissertation), and have duly paid all fees and charges, shall obtain the educational qualification **"1st level University Master Course in Protection against CBRNe Events (120 ECTS)"** (*Master Universitario di I livello* in Protezione da Eventi CBRNe under the Italian Law)**".**

All students shall defend the Thesis within the last session of the second Academic Year following the latest registration year. After that, it will not be possible to obtain the Degree.

TIMELINE

To download the timeline of the course, please click here

INFORMATION

For information, please contact:

- **Master Course Secretariat: info@mastercbrn.it. Telephone: +39 0672597201 (Monday through Friday from 9.00 a.m. to 1:00 p.m.)**

- **Website: www.mastercbrn.com**

ANNEX A

Admission Criteria

The criteria for the admission to the 1st Level Master Course in Protection against CBRNe events (a.y. 2017/2019) include the assessment of qualifications focusing on the following aspects:

- Assessment of resume and qualifications awarded;
- Assessment of the real interest towards the main topics of the course through the analysis of the work experience.

Mainly, assessment will be based on the following indicators:

INDICATORS		SCORE
Mark of degree (up to 110)	110 with honours	40
	106-110	36
	101-105	32
	104-100	28
	99-80	24
	80-66	20
English Language Level of knowledge		0-10
Further qualifications concerning the main subjects of the Master Course		0-25
Work experience		0-25

In case of equal score, priority is given to the youngest candidate.