



UNIVERSITÀ DEGLI STUDI DI PALERMO

Department: Engineering

A.Y. 2018/2019

DEGREE COURSE IN SAFETY ENGINEERING

Characteristics



Class of Bachelor's Degree
(BSc) on Industrial
engineering (L-9)



3 YEARS



PALERMO



FREE ACCESS



2210

Educational objectives

The course specifically aims at training professionals, alternative and transversal to the traditional engineering ones, able to plan and manage the safety aspects by placing them in a system with the production processes of goods and services, in the industrial field, work sites and workplaces in general.

Such a professional figure is able to proceed with the identification of risk factors, to analyze and evaluate them both in industrial processes and in plants and in construction sites and work environments in general, the identification of measures to prevent and protect people, goods and resources, which must be integrated with the means, tools, machines and equipment necessary for the performance of any activity in an effective, efficient and economical way, carrying out the design and management of safety in standard systems with methodological rigor, in synergy with other professionals involved in the production processes of goods and services at large.

The degree course is structured in such a way to provide students enrolled an adequate preparation in the basic subjects (mathematics, physics, chemistry, geometry), in addition to general engineering and context skills (computer assisted design, construction science, electrotechnics, technical physics and thermotechnical installations, safety legislation and an elective subject). These are combined with specialist subjects related to the methodological techniques for identifying, analyzing and assessing risks, identifying preventive and protective measures of an organizational, managerial, technical and technological nature for minimizing risks and achieving high safety conditions in the production processes of goods and services, in the workplace and in work environments in general (electrical systems and safety, safety management systems, construction site safety and an elective subject).

The educational programme also includes:

- a curricular internship, with the support of the specific skills of a tutor;
- elective activities enabling students to deepen their knowledge and increase their skills in the field of safety, and/or to integrate their training with subjects related to other scientific-engineering areas and to acquire knowledge and context skills, useful for their inclusion in the labour market.

Graduates in Safety Engineering will therefore possess the knowledge and skills suitable for immediate access to the labour market, being able to carry out activities both as freelance professionals and in organizations, public and private companies and in public administration.

Professional opportunities

Profile:

Safety engineer

Functions:

Graduates in Safety Engineering are able to proceed to the identification of risk factors, to their analysis and evaluation both in processes and in industrial plants and in construction sites and work environments at large, to the identification of prevention measures - of organizational and procedural type in the first place - and protection of people, goods and resources, which must be integrated with the means, tools, machines and equipment necessary for the performance of any activity in an effective, efficient and economical way, proceeding to the design and to the management of safety in standard systems with methodological rigor, in a holistic vision and in synergy with the other professional figures assigned to the production processes of goods and services in general.

They have a cultural and professional profile characterized by a coherent and balanced combination of knowledge and basic and engineering skills typical of a safety planner/manager; this profile is based on a solid interdisciplinary preparation in which the basic disciplines of industrial engineering are combined with the general and specialized engineering techniques

Legenda: Per. = periodo o semestre, Val. = Valutazione (V=voto, G=giudizio), TAF= Tipologia Attività Formativa (A=base, B=caratterizzante, C=Affine, S=stages, D=a scelta, F=altre)

related to the analysis and assessment of the risks, organizational and management methodological techniques related to the most suitable safety measures - from a technical and technological point of view - to be adopted in order to pursue high levels of safety.

They are also able to face safety issues in intrinsically multidisciplinary contexts and they are therefore able to interface with other professional figures, competent and specialists in other disciplines, involved in the production processes of goods and services, both as members and as leaders of a work team.

Safety engineers are therefore equipped with specific skills and competences enabling them to quickly integrate into a variety of differentiated working contexts, working as experts in safety planning and management.

Skills:

The acquired skills are mostly related to :

- the identification of risk factors;
- risk analysis and assessment;
- the identification and elaboration of prevention and protection measures;
- the design, implementation and management of safety measures (safety planning and management);
- the responsibility for the promotion of a management approach to prevention, based on communication, relations, group management, negotiation techniques in potentially conflicting areas, problem solving, in order to determine the involvement, motivation and active participation of all the actors in the safety system.

The educational programme is structured in such a way to provide all the skills needed for obtaining the professional certifications related to the performance of the tasks of:

- Safety coordinator during the design phase and during the execution of the works referred to in Title IV of Legislative Decree no. 81/2008 and subsequent amendments. (Consolidated text on safety at work);
- Responsible for the Prevention and Protection Service established by Legislative Decree n. 81/2008 and subsequent amendments, in compliance with the provisions of the agreement of the Permanent Conference for Relations between the State, the Regions and Autonomous Provinces of Trento and Bolzano of 7 July 2016, n.128 / CSR.

Professional opportunities:

The skills and knowledge of graduates in Safety Engineering, enable them to immediately operate as:

- freelance professionals (after passing the state exam and registration on the professional board) and expert security consultant;
- security management expert at various plants, installations and industrial infrastructures;
- responsible for the prevention and protection service of public and private companies and public administration;
- safety coordinator in the design and execution phase of the works (after having acquired the necessary field experience required by Legislative Decree n. 81/2008 and subsequent amendments and partly acquired during the internship, if carried out within the sector);
- manager of the design of security systems, control and monitoring of plants, industrial and service companies, construction sites.

They may find professional opportunities in:

- public and private companies;
- public and private agencies/institutions;
- public administration;
- freelancer.

Finally, although the Degree Course is professionally oriented, graduates in Safety Engineering may access the second level Degree Courses offered by the Polytechnic School of the University of Palermo, following an appropriate curricular integration in compliance with the admission requirements established by the educational regulations of the aforementioned courses.

Final examination features

To be admitted to the final examination, students must have acquired all the educational credits required by the educational programme, with the exception of the credits related to the final examination, equal to 3 (three), which are acquired of passing the test itself. The final test aims to verify the level of maturity and the critical capacity of the undergraduate, with reference to learning and knowledge acquired, to complete the activities required by the educational programme. The final examination consists of a written or oral test according to the procedures defined by the regulation on the final exam of the Degree Course in line with the timing, ministerial requirements and the University guidelines.

Subjects 1 ^o year	CFU	Sem.	Val.	SSD	TAF
01238 - CALCULUS <i>Ardizzone(RU)</i>	12	1	V	MAT/05	A
03675 - GEOMETRY <i>Rizzo(AR)</i>	6	1	V	MAT/03	A
15540 - PHYSICS I <i>Galiano(PC)</i>	9	1	V	FIS/03	A
04677 - ENGLISH LANGUAGE	3	1	G		E
01788 - CHEMISTRY <i>Palmisano(CU)</i>	9	2	V	CHIM/07	A

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Subjects 1 ° year	CFU	Sem.	Val.	SSD	TAF
02605 - COMPUTER AIDED DESIGN <i>Marannano(PA)</i>	9	2	V	ING-IND/15	B
19491 - LABOUR SAFETY LAW <i>Bologna(PA)</i>	6	2	V	IUS/07	C
07870 - PHYSICS II <i>Palma(PO)</i>	6	2	V	FIS/01	A

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Subjects 2 ° year	CFU	Sem.	Val.	SSD	TAF
02965 - ELECTRICAL DEVICES AND CIRCUITS <i>Ala(PO)</i>	6	1	V	ING-IND/31	B
06313 - MECHANICS OF MATERIALS AND THEORY OF STRUCTURES <i>Zingales(PO)</i>	9	1	V	ICAR/08	B
19488 - SAFETY MANAGEMENT SYSTEMS <i>Montana(CU)</i>	6	1	V	ING-IND/35	B
07899 - PROFESSIONAL PRACTICE	6	1	G		S
19489 - ELECTRICAL PLANTS AND SAFETY <i>Favuzza(PO)</i>	6	2	V	ING-IND/33	B
19490 - TECHNICAL PHYSICS AND THERMO-TECHNICAL PLANTS <i>Orioli(PO)</i>	6	2	V	ING-IND/11	C
19487 - YARD SAFETY <i>Pennisi(PA)</i>	9	2	V	ICAR/11	B
Optional subjects	6				C
Optional subjects II	6				B

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Subjects 3 ° year	CFU	Sem.	Val.	SSD	TAF
01192 - OTHER EDUCATIONAL ACTIVITIES	1	1	G		F
07553 - PROFESSIONAL PRACTICE	44	1	G		S
05917 - FINAL EXAMINATION	3	2	V		E
Free subjects	12				D

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OPTIONAL SUBJECTS

Optional subjects	CFU	Sem.	Val.	SSD	TAF
07173 - ENVIRONMENTAL CONTROL TECHNIQUE <i>Guarino(RD)</i>	6	1	V	ING-IND/11	C
19483 - ENVIRONMENTAL SAFETY <i>Viviani(PQ)</i>	6	1	V	ICAR/03	C
03956 - INFRASTRUCTURES FOR MOBILITY AND TRANSPORTATION <i>Grana'(PO)</i>	6	2	V	ICAR/04	C
19484 - QUALITY AND SAFETY MEASUREMENTS <i>D'Acquisto(PO)</i>	6	2	V	ING-IND/12	C
19485 - WORKPLACE HYGIENE AND SANITARY PREVENTION <i>Firenze(PA)</i>	6	1	V	MED/42	C

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OPTIONAL SUBJECTS

Optional subjects II	CFU	Sem.	Val.	SSD	TAF
19482 - PRINCIPLES OF INDUSTRIAL SAFETY <i>Grisafi(PA)</i>	6	2	V	ING-IND/25	B
06426 - SAFETY AND RISK ANALYSIS <i>Giardina(PA)</i>	6	2	V	ING-IND/19	B

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