
Industrial plant and equipment safety

Finalità

The class aims at giving a general perspective about several aspects of security in industrial plants, as well as at providing some fundamentals of risks analysis, prevention and danger conditions.

Human, plants equipments, environment and activities security are examined.

Programma

Security engineering: aims and methods. Risk analysis and assessment. Limits and acceptable risk. Classification of risks. Qualitative and quantitative analysis. Reliability of components and systems.

Security design. Systemic approach. Analysis and effectiveness of security systems.

Labour hygiene. Job areas requirements. Risk factors in manufacturing plants: microclimate, noise, illumination, vibrations, radiations. Labour pathologies.

Industrial hygiene. Assessment of risk factors. Statistical analysis and processing of risk data. Risk maps.

Accidents prevention. Ergonomics. Job place: fitness, preventive control of employees, human protection.

Fundamentals of law for accident prevention: DPR 547/55 and generic legislation. Public and private institute for monitoring and prevention of accidents.

Fire risk: prevention, protection, fireproof technologies.

Electric risk: fundamentals of pathologies, protection and assistance.

Risks of logistics activities: typologies, fundamentals of pathologies, prevention and protection techniques, organizational and management tools.

Environmental risks: the impact of industrial activities on the environment and its assessment.

Fundamentals of security of industrial equipments. Insurances.

Attività d'esercitazione

Assessment of risk in an existing industrial plants and design of appropriate improvements.

Modalità d'esame

Oral examination with discussion of the project.

Testi consigliati

1. Roberto Rizzo. La sicurezza degli impianti industriali. Edizioni Scientifiche Italiane Napoli.
2. Roberto Rizzo. La sicurezza del lavoro nella logistica portuale. Edizioni Scientifiche Italiane Napoli.
3. Giacomo Elifani. La prevenzione incendi nella piccola e media industria. E.P.C. Roma.