Course syllabus

Industribrandskydd
Industrial Fire Protection

VBRN65, 7,5 credits, A (Second Cycle)

Valid for: 2023/24
Faculty: Faculty of Engineering, LTH
Decided by: PLED BI/RH
Date of Decision: 2023-04-12

General Information

Compulsory for: BI3
Language of instruction: The course will be given in Swedish

Aim

The objective of the course is to provide the students with knowledge about fire protection systems, including systems for fire ventilation. By combining and applying knowledge gained from previous courses in form of a project assignment, the student is provided with insight into how this knowledge can be applied and utilised to analyse, evaluate, and design fire protection systems.

Learning outcomes

Knowledge and understanding
For a passing grade the student must

- be able to apply knowledge from the course in Fire Protection Systems on a real object.
- be able to describe and identify regulations and design methods for the most common types of detection systems and extinguishing systems.

Competences and skills
For a passing grade the student must

- be able to analyse the consequences and needs of active and passive systems and systems for fire ventilation in a specific case based on the protection objectives of the project owner, and the risk of damage to people, property, and the environment.

- be able to apply knowledge gained from earlier courses to select suitable fire protection systems.
- be able to use relevant rules of the Fire Protection Association of active systems (SBF rules), and know the international rules in this area, for example, sprinkler regulations from NFPA.
- be able to understand and make use of professional terminology within the field of fire protection systems, both verbally and in writing.
- be able to describe fire protection systems, both verbally and in writing, and explain how they work in terms understandable to both the layman and the expert.
- be able to describe fire safety engineering problems and solutions based on fire protection systems, both verbally and in writing in terms understandable to both the layman and the expert.
- be able to deliver constructive feedback related to a solution involving fire protection systems.
- be able to independently search for literature and information regarding fire protection systems.
- demonstrate the capacity for teamwork and collaboration in group work.
- demonstrate the capacity to plan and with adequate methods undertake a major project assignment focused on fire protection systems.

Judgement and approach
For a passing grade the student must

- demonstrate the capability to assess fire protection systems with regard to the relevant technical, economical, and environment-related aspects.
- be able to assess engineering solutions with regard to the scientific, community-related, and ethical aspects involved.
- demonstrate the capability to identify need for further knowledge and continuously develop the competence.

Contents

This is a project oriented course and is based on the students going out into the community and finding an actual project case. On the basis of the project case's assumptions, the project owner's protection objectives, as well as the risks of damage to people, property, and the environment, the students will evaluate existing systems and design new fire protection systems. The project work will be presented in a seminar at the end of the course. Present at the seminar will be the case project owner, representatives from the local Rescue Services, students, and instructors. The students will also be allowed to argue against another group's work at the concluding seminar.

Examination details

Grading scale: UG - (U,G) - (Fail, Pass)
Assessment: Successful completion is based on the written project assignment and oral presentation, including examining another project assignment.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Admission

Admission requirements:

- VBRF20 Fire Chemistry and Heat Transfer

Assumed prior knowledge: VBRF10 Fire Dynamics, VBRN60 Fire Protection Systems.

The number of participants is limited to: No
The course overlaps following course/s: VBR082

Reading list

- Nilsson, D. & Holmstedt, G.: Kompendium i Aktiva system - Detektion, Report 7030. Brandteknik LTH, 2007.
- Särdqvist, S.: Vatten och andra släckmedel. SRV, 2002, ISBN: 91-7253-145-2.
- Marcus Runefors: Kompendium i Aktiva system – Sprinkler , Report 3193. Department of Fire Safety Engineering, 2015.
- Kompletterande stenciler.

Contact and other information

Examinator: Marcus Runefors, marcus.runefors@brand.lth.se
Further information: Group assignments require active participation. Each group member must individually be able to account for the content of the assignment. If a group member does not fulfill the demands of the group or ignores hers/his commitment, she/he can be reassigned to another group or get a fail result. Some lectures may be given in English.