

Chemical Management in Enterprises I

CheMiE I (en)

English version

Course description

Arild Langemyr

Course description

<p>1 Course name Chemical Management in Enterprises, CheMiE I (en) Course code</p>
<p>2 Target group Safety officers, line management, workers representatives, consultants, occupational hygienists, representatives from NGOs, employees in government departments, occupational safety inspectors, occupational solicitors, subject professionals, students at bachelor, master or PhD level.</p>
<p>3 Workload 5 Credits (ECTS, European Credit Transfer and accumulation System). Estimated student workload: 125 - 150 hours</p>
<p>4 Prerequisites</p> <p>Formal criteria: No formal NOTE: no previous exam in chemistry is required</p> <p>Practical conditions: Basic ICT skills. Must master good written English. Command of written English at academic level if an exam shall be accomplished. Access to the Internet. Commitment to frequent (2-3 times a week) participation and contribution.</p>
<p>5 Duration Part time study: 18 weeks (voluntary exam inclusive)</p>
<p>6 Type Online, collaborative studies with tutor support Note: Collaborative studies mean that the students have to collaborate with peers, and perform group work paced according to a detailed study guide and a course calendar. Frequent participation is required. Assessment is partly based on contributions and participation. Approx.: 7-8 hours per week, including 2-3 hours online.</p>
<p>7 Language English</p>
<p>8 Developing institutions Health, Environment and Safety – Chemicals, Arild Langemyr http://www.hes-chemicals.com/default.html in cooperation with Global Virtual University</p>
<p>9 Offering institutions</p>
<p>10 Course leader Arild langemyr ++</p>

11. Authors/Teaching group Arild Langemyr ++
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13. Aims Prepare learners to be able to initiate and lead projects to identify chemical hazard, make risk assessments, propose and implement measures for risk reduction.
14. Learning resources Compendium, set booklets, Learning Management System (LMS), articles, short online lectures (video clips), PowerPoint presentations, cases, URL-links, online libraries.
15. Objectives <i>On completion of the courses the participants should have the ability to:</i> <ul style="list-style-type: none">• describe the inherent dangers of chemicals hazardous to health, environment and safety• understand basic toxicology• interpret and use the information in Safety Data Sheets• find relevant information on the Internet• describe the main parts of regulations regarding the use of chemicals in enterprises• build and maintain a Substance Register of Safety Data Sheets and other relevant information• make use of an Internet based Substance Register• know about the Seveso II directive (<i>control of major-accident hazard</i>) and REACH (Registration Evaluation, Authorisation and restrictions of Chemicals)• know about the substitution principle• collect and structure information needed for a risk assessment• combine information in a systematic risk assessment• know about recommendations given by authorities, business associations, workers associations, NGOs• propose measures to eliminate or reduce chemical risk• outline a plan describing the structure and responsibility for the continuous work for risk reduction in enterprises <i>The participant will gain / improve skills in:</i> <ul style="list-style-type: none">• online collaborative work with peers by sharing ideas; analysing problems; negotiate meanings and finding solutions;• process of engaging management and employees in the work for chemical risk reduction <i>The participants should have developed or strengthened attitudes and competence on:</i> <ul style="list-style-type: none">• responsibility and rights of employers and employees• local, regional and global impact of chemical pollution on public health

An outcome is also material produced during the course.

16. Content description (Learning units)

Module 1: Chemicals, health and environment

A historical review, what can we learn? Introduction to toxicology. Health and chemicals. Environment and chemicals.

Module 2: Regulations and recommendations

Information in a Safety Data Sheet (SDS). Practical ways of building, using and maintaining a Substance Register. Internet based Substance Register of a virtual enterprise. Main chemical regulations. The substitution principle. Recommendations given by authorities, business associations, workers associations, NGOs

Module 3: Risk assessment, measures and systematic HES activities

Theoretical background for risk assessment. Relevant information for chemical risk assessment. Ranging risks. Preliminary risk assessment. Exchange of experience. Cases and brainstorming. Prioritised plan for implementing risk reduction. Outline a plan for systematic health, environmental and safety activities in enterprises.

17. Mode of delivery and Infrastructure needed

Compendium. Set of booklets. Material distribution through LMS.

Main communication tools are: asynchronous, paced on-line discussions, e-mail, documents and contributions archived in the LMS.

Group folders in the LMS for loading up group hand-ins and other documents.

Individual hand-in folders for loading up hand-ins in the LMS. Study calendar with pacing of activities and deliveries. Common group rooms for discussions and documents of common interest. An on-line virtual “café” for informal discussions.

Infrastructure:

Computer and access to Internet. All participants will be given access to an LMS, get their own virtual office on the LMS and be given access to virtual classrooms and group rooms.

18. Learning outcomes

Upon course completion, the student 'walks out the door' with the knowledge or ability to i.a.:

- analyse and describe the organisation of systematic health, environmental and safety activities in enterprises and outline a training program for the line management and workers
- explain with own words the inherent dangers of chemicals and their effect on the working environment, the “outer” environment and public health.
- explain the main regulations regarding the use of chemicals in enterprises, organise, maintain and use a substance register of safety data sheets and other relevant information.
- indentify chemical hazard and effectively gather relevant information for risk assessment
- assess and analyze the risk of using hazardous chemicals in an enterprise, propose and prioritize relevant measures to reduce the risk

<p>19. Teaching methods Study guide with learning tasks and activities, learner focused approach with tutor support, many-to-many communication, group work, negotiation of meaning in asynchronous threaded discussions, group hand-ins in addition to individual hand-ins. Group and individual studies. Peer tutoring.</p>
<p>20. Assessment of participants Hand-ins during the course, student activity in the forum, portfolio assessment. Participation and portfolio: 60%, Home exam 40%. For participants not wanting an exam a course certificate will be made after completion of all the modules within the time limit.</p>
<p>21. Bibliography Study guide, articles, video clips, www, Compendium: Langemyr, A.: <i>REDUCE. About chemicals hazardous to health and environment.</i> Set booklets. Additional reference literature</p>
<p>22. LMS administration Arild Langemyr</p>
<p>23. Course evaluation Summative evaluation questionnaire</p>
<p>24. Fees</p>