UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	TEHNIŠKA VARNOST
Course Title:	TECHNICAL SAFETY

Študijski program in stopnja Study Programme and Level	Študijska smer Study Field	Letnik Academic Year	Semester Semester
MAG Tehniška varnost, 2. stopnja	**/**	**2.**	**3.**
USP Technical Safety, 2nd Cycle	**/**	**2nd**	**3rd**

Vrsta predmeta / Course Type: izbirni /Elective

Univerzitetna koda predmeta / University Course Code: TV2A1

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje Work	Druge oblike študija	Samost. delo Individual Work	ECTS
75	**30**	**45 SV**	**/**	**/**	**150**	**10**

Nosilec predmeta / Lecturer: doc. dr. Mitja Kožuh / Dr. Mitja Kožuh, Assistant Professor

Jeziki / Languages:

Predavanja / Lectures:	**slovenski / Slovenian**
Vaje / Tutorial:	**slovenski / Slovenian**

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	Prerequisites:
Študent oz. kandidat mora imeti predmet opredeljen kot študijsko obveznost.	The course has to be assigned to the student.

Vsebina:	Content (Syllabus outline):
Principi tehniške varnosti Zakonodaja na področju tehniške varnosti Kvalitativne metode in njih uporaba Kvanjtitativne metode za oceno tveganj Uporaba računalniških programov za oceno tveganj Modeliranje posledic nezgod Tveganja na delovnem mestu Analize vzrokov nezgod Root cause analize Tveganje posameznika Skupinsko tveganje Izdelava varnostnih poročil Interpretacija rezultatov varnostnih analiz in vodenje okoljskih tveganj	Principles of Technical Safety Legislation on the field of technical safety Qualitative methods and their use Quantitative methods for risk assessment Use of computer codes for risk assessment Accident consequence modelling Work place risks Root cause analysis Individual risk Societal risk Safety reports Interpretation of the safety assessment results and risk management

Temeljna literatura in viri / Readings:

Glavna literatura:

- AIChE: Guidelines for Tecnical Management of Chemical Process Safety, New York 1989
- Ian Sutton: Process Reliability and Risk Mangement, Van Nostrand New York, 1992

Pomožna literatura:

- J.X.Wang, M.L.Roush: What Every Engineer should know about Risk Engineering and Management, Marcel Decker INC. , New York 2000
- ACSNI: Organizing For Safety, Health and Safety Commission, April 1993,
- Lloyd's Register The Engineering Council: Guidelines on Risk Issues, UK 1993
- Perrow C.: Normal Accidents, Living with High-Risk Technologies, Basic Books, New York, 1985
- Arendt et al:Evaluating Process Safety in the Chemical Industry, A Manager's Guide to Quantitative Risk Assessment, Chemical Manufacturers Association, Washington, USA, 1989
- Clemen, Reilly: Making Hard Decisions, PWS- Kent Publishing Company, 1991

Cilji in kompetence:	**Objectives and Competences:**
Študentje naj bi spoznali, kako zbrati informacije o tveganjih ter kako te informacije lahko koristijo pri načrtovanju preventivnih ukrepov za zagotavljanje varnosti in kako lahko s pomočjo vedenja o tveganjih lahko načrtujemo svoje dejavnosti, da bodo varne in tudi prijazne do zaposlenih ter da bodo ob morebitnih nezgodah posledice čim manjše.	Students will learn how to gather information on risks and how this information can be used for planning of preventive measures for safety assurance and how can we by knowledge about risks plan activities to be safe and employee friendly and in the case of accidents to have as small as possible consequences.

Predvideni študijski rezultati:	**Intended Learning Outcomes:**
<u>Znanje in razumevanje</u> Študentje naj bi pridobil osnovna teoretska in praktična znanja, ki so potrebna za razumevanje tveganja različnih vrst. Razumeli bodo kateri so elementi tveganj. Kako lahko zmanjšujemo tveganja in s kakšnimi uktrepi povečujemo varnost. Razumel bo vlogo človeka v socio-tehnoloških sistemih in razumel zakaj je tako pomembna povezava človek stroj.	<u>Knowledge and Comprehension</u> Students will acquire the basic theoretical and practical skills to understand different risks. They will understand the elements of the risks. How can we reduce the risks and with what meassures we can enhance safety. He will understand the role of human in the socio-technological systems and understand why the connection between the man and mashine is so important.
<u>Uporaba</u> Znanja bo lahko uporabi pri problemih nevarnih postopkov in sistemov iz različnih področij človeškega delovanja.	<u>Application</u> Knowledge will be used during problems of dangerous procedures and systems in different areas of human activity
<u>Refleksija</u> Teoretska in praktična znanja bo lahko študent uporabil pri reševanju praktičnih in teoretskih problemov. Spoznanja o zmogljivostih in	<u>Analysis</u> Theoretical and practical skills student will use during practical and theoretical problems solving. His recognition of capabilities and

omejitvah metod tehniške varnosti mu bodo koristila pri sprejemanju tako operativnih, taktičnih in tudi pri strateških odločitvah	limitations of technical safety methods will enable him while taking strategic, tactical and l operational decisions.
Prenosljive spretnosti Pridobil si bo tako analitske spretnosti za reševanje problemov kot tudi komunikacijske spretnosti, ki jih bo potreboval pri vsakdanjem delu.	Skill-transference Ability He will get analytical skills as well as communication skills needed during every day work.

Metode poučevanja in učenja:	**Learning and Teaching Methods:**
Predavanja Seminarske vaje Seminarska naloga s področja okoljskih tveganj	Lectures Seminar exercises Seminar work from the field of risks

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
Izpit pisni Ocene: 6-10 pozitivno		Written exam: Grades 6-10 positive

Reference nosilca / Lecturer's references:

- AL-MANSOUR, Fouad, **KOŽUH, Mitja**. Risk analysis for CHP decision making within the conditions of an open electricity market. *Energy*, ISSN 0360-5442. [Print ed.], 2007, vol. 32, no. 10, str. 1905-1916. [COBISS.SI-ID 20987431]
- **KOŽUH, Mitja**, PETELIN, Stojan, PERKOVIČ, Marko. Can classification societies with their rules on redundancy propulsion improve statistics on oil spills and cleaning costs?. *Marine engineering*, ISSN 1346-1427, 2007, vol. 42, no. 3, str. 113-118, graf. prikazi. [COBISS.SI-ID 28861445]
- **KOŽUH, Mitja**, PEKLENIK, Janez. A method for identification and quantification of latent weaknesses in complex systems. *Cognition, technology & work*, 1999, vol. 1, no. 4, str. 211-221. [COBISS.SI-ID 15086119]