Univerza v Mariboru
University of Maribor

FAKULTETA za NARAVOSLOVJE in MATEMATIKO
FACULTY OF NATURAL SCIENCE and MATHEMATICS

UČNI NAČRT PREDMETA / SUBJECT SPECIFICATION	
Predmet:	Koncepti in modeli didaktike tehnike
Subject Title:	Concepts and models of technical didactics

Študijski program Study programme	Študijska smer Study field	Letnik Year	Semester Semester
Tehnika – področje izobraževanja		1	zimski
Education in Engineering		1	Winter

Univerzitetna koda predmeta / University subject code:

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Labor work	Teren. vaje Field work	Samost. Delo Individ. Work	ECTS
15	10				155	**6**

Nosilec predmeta / Lecturer: Boris Aberšek

Jeziki / Languages:
Predavanja / Lecture: Slovenščina / Slovene
Vaje / Tutorial:

Pogoji za opravljanje študijskih obveznosti:
Osnovno znanje iz didaktike, tehnologije gradiv in obdelave, mehanike, snovanja in konstruiranja, pedagogike in psihologije.

Prerequisites:
Basic knowledge of didactics, material technology and processing, mechanics, planning and constructing, pedagogy and psychology.

Vsebina:

Predavanja:

Osnovne definicije o delovni, tehnični in proizvodno - tehnični vzgoji.
Temeljne opredelitve konceptov in modelov pouka in poučevanja tehnike in tehnologije. Strategije vzgojno – izobraževalnega dela v funkciji pridobivanja znanja, vrednot, spretnosti in delovnih navad.
Projektna naloga kot koncept in model pri tehniki in tehnologiji.
Metodologija načrtovanja, spremljanja in evalviranja dosežkov v okviru pouka, dejavnosti in pri eksperimentalnem – empiričnem raziskovanju.

Seminar:

Seminar aplikativno dopolnjuje vsebino predavanj z reševanjem praktičnih problemov iz vzgojno – izobraževalnega procesa v osnovni šoli.

Content (Syllabus outline):

Lectures:

Basic definitions on operating, technical and production – technical education.
Basic concept and model definitions of lessons and teaching of techniques and technology. Strategies of training – educational work in the function of acquiring knowledge, values, skills and working habits.
Project work as a concept and model in techniques and technology.
Methodology of planning, controlling and evaluating of the results within the lessons, activities and at experimentally – empirical research work.

Seminar:

The seminar applicatively completes the contents of lectures through the solution of practical problems from training – educational process in primary school.

Temeljni literatura in viri / Textbooks:

Strmčnik, F., Didaktika, osrednje teoretične teme, Znanstveni inštitut Filozofske fakultet v Ljubljani, Ljubljana, 2001.
Hänsel, D. Das Projektbuch Grundschule: Belz Verlag. Weinheim; Basel, 1995.
Papotnik, A. S projektno nalogo do boljšega znanja, Izolit, Trzin, 1998.
Marentič – Požarnik, B. Psihologija učenja in pouka. DZS, Ljubljana 2003.

Cilji:

podati poglobljeno teoretično znanje s področja prepoznavanja osnovnih značilnosti delovne, tehnične in proizvodno – tehnične vzgoje;
podati sodobne opredelitve konceptov in modelov poučevanja tehnike in tehnologije;
prikazati praktično uporabo strategij vzgojno – izobraževalnih strategij pri tehniki in tehnologiji;
prikazati praktične primere uporabo projektne naloge, ki izhajajo iz preučevanja dobre prakse;
razviti sposobnosti študentov za samostojno in kompetentno reševanje praktičnih primerov načrtovanja in vrednotenja učinkov vzgojno – izobraževalnega dela.

Objectives:

to represent profound theoretical knowledge in the field of recognizing the basic characteristics of working, technical and production – technical education;
to represent modern concept and model definitions of teaching the techniques and technology;
to show practical usage of training – educational strategies in techniques and technology;
to show practical examples of using the project work, that result from analyzing good practice;
to develop the students´ abilities for an independent and competent solution of practical examples with regard to planning and evaluating the effects of training – educational work.

Predvideni študijski rezultati:

Znanje in razumevanje:

poznavanje splošnih kriterijev za določanje delovne, tehnične in proizvodno – tehnične vzgoje;
poznavanje osnovnih opredelitev, ki se nanašajo na koncepte in modele pouka in poučevanja tehnike in tehnologije;
razumevanje pomena uporabe strokovne literature ter sodobnih pripomočkov in delovnih pripomočkov za učinkoviti in kakovosten vzgojno – izobraževalni proces.

Prenesljive/ključne spretnosti in drugi atributi:

kombinirana uporaba različnih znanj za praktično uporabo strategij vzgojno – izobraževalnega dela pri tehniki in tehnologij;
izdelava celotne projektne dokumentacije (od ideje do izdelka) za izvedbo projektne naloge v vzgojno – izobraževalnem procesu

Intended learning outcomes:

Knowledge and understanding:

knowledge of general criteria for defining the working, technical and production – technical education;
knowledge of basic definitions, relating to the concepts and models of lessons and teaching of techniques and technology;
understanding of the meaning of using professional literature and modern, as well as working teaching aids for a successful and qualitative training – educational process.

Transferable/Key Skills and other attributes:

combined usage of various knowledge for practical strategy usage of training – educational work in techniques and technology;
elaboration of complete project documentation (from the idea to the product) for realization of the project work in a training – educational process.

Metode poučevanja in učenja:

frontalna predavanja,
izdelava seminarske naloge.

Teaching and learning methods:

frontal lectures,
seminar work.

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment methods:**
Način (pisni izpit, ustno izpraševanje, naloge, projekt):		Type (examination, oral, coursework, project):
seminarska naloga,	**30 %**	seminar work,
pisni izpit,	**30 %**	written examination,
ustni izpit.	**40 %**	oral examination.