

UČNI NAČRT PREDMETA / COURSE SYLLABUS

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|----------------------|-------------------|
| Predmet: | Mobilne platforme |
| Course title: | Mobile Platforms |

| Študijski program in stopnja Study programme and level | Študijska smer Study field | Letnik Academic year | Semester Semester |
|--|-------------------------------|-------------------------|----------------------|
| Informatika v sodobni družbi, visokošolski strokovni in univerzitetni študijski program prve stopnje | - | Drugi ali tretji | Četrty ali šesti |
| Informatics in Contemporary Society, first cycle Professional Study Programme and Academic Study programme | - | Second or third | Fourth or sixth |

Vrsta predmeta / Course type

Izbirni / Elective

Univerzitetna koda predmeta / University course code:

1-ISD-VS,UN-IP-MP-2019-05-13

| Predavanja Lectures | Seminar Seminar | Vaje Tutorial | Klinične vaje work | Druge oblike študija | Samost. delo Individ. work | ECTS |
|------------------------|--------------------|------------------|-----------------------|----------------------|-------------------------------|------|
| 30 | - | 45 | - | - | 105 | 6 |

Nosilec predmeta / Lecturer:

Jeziki / Languages:

Predavanja / Lectures: Slovenski, angleški / Slovene, English

Vaje / Tutorial: Slovenski, angleški / Slovene, English

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:

Študent/študentka mora pred pristopom k izpitu pripraviti in zagovarjati seminarsko nalogo.

Prerequisites:

The student is obliged to prepare and defend his/her seminar paper before the admission to the examination.

Vsebina:

- *Uvod v svet mobilnih platform.* Namen prvega sklopa predavanj in vaj je slušateljem predstaviti svet mobilnega in vseprisotnega računalništva, ki ga odpirajo sodobne mobilne naprave (pametni telefoni, tablični računalniki itd).
- *Osnovni koncepti programiranja mobilnih aplikacij.* Predstavitev

Content (Syllabus outline):

- *Introduction to the world of mobile platforms.* In the first part of lectures and tutorials, we intend to introduce the students with the world of mobile and ubiquitous computing arising with modern mobile devices (smartphones, tablets, etc.).
- *Basic concepts of programming mobile applications.* Introduction of

programskih jezikov in razvojnih ogrodij ter orodij za programiranje. Opis večnivojske strukture posamezne aplikacije.

- *Povezovanje mobilnih aplikacij.* Dostop do svetovnega spleta, storitev HTTP, REST, SOAP, varnost.
- *Multimedijske vsebine.* Pomen multimedijskih vsebin, načini dostopanja do slikovnih, video ter audio vsebin, integracija lastnih aplikacij z bogatimi multimedijskimi vsebinami.
- *Mobilni senzorji.* Vrste senzorjev, ki jih sodobne mobilne naprave premorejo, različne vrste uporabe senzorjev, osnovni postopki stabilizacije signalov.
- *2D in 3D Grafika.* Kako nadgraditi sistemske gradnike uporabniškega vmesnika, kako izdelati svoj uporabniški vmesnik? Uporaba tehnologije OpenGL ES za upodabljanje v treh dimenzijah.
- *Trženje mobilnih aplikacij.* Kdaj, kako ter kje oglaševati mobilne aplikacije, cenovna politika, različni pristopi k ustvarjanju prihodkov.

programming languages and development frameworks and tools. Description of multi-level structure of individual application.

- *Connecting mobile applications.* Internet access, HTTP service, REST, SOAP, security.
- *Multimedia contents.* The importance of multimedia contents, options to access visual, video and audio contents, integration of personal applications with rich multimedia contents.
- *Mobile sensors.* Types of sensors modern mobile devices offer, different types of sensor usage, basic procedures of signal stabilization.
- *2D and 3D Graphics.* How to upgrade system building blocks of user interface, how to make a personal user interface? Using OpenGL ES technology for 3D modelling.
- *Mobile applications marketing.* When, how and where to promote mobile applications, price politics, different approaches to make income.

Temeljni literatura in viri / Readings:

- Gargenta, M. (2011): Learning Android : building applications for the android market. O'Reilly Media; 1 ed.
- Burnette, E. (2010): Hello, Android : introducing Google's mobile development platform. Pragmatic Bookshelf; 3rd ed.
- Mark, D., Nutting, J., LaMarche, J. (2011): Beginning iPhone 4 Development : exploring the iOS SDK. Apress; 1 ed.
- Hughes, J. (2010): iPhone and iPad apps marketing : secrets to selling your iPhone and iPad Apps. Que; 1 ed.

Cilji in kompetence:

Učna enota prispeva k razvoju naslednjih splošnih in predmetno- specifičnih kompetenc:

- poznavanje tehnologij za spletno programiranje na strani klienta in strežnika ter razvoj aplikacij
- razvoj (samo)kritične presoje
- sposobnost zapisati problem v obliki algoritma in pretvorba algoritma v računalniški program z uporabo sodobnih programskih orodij

Objectives and competences:

The instructional unit contributes to the development of the following general and subject-specific competences:

- knowledge of client and server side web programming technologies and applications development
- development of (self)critical judgement
- ability to write down a problem in the form of an algorithm and the conversion of the algorithm into a

- razumevanje in uporaba računalniških sistemov in arhitektur

- computer programme with the use of modern software tools
- understanding and use of computer systems and architectures

Predvideni študijski rezultati:

Znanje in razumevanje:

Študent/študentka:

- se seznani s trenutnimi dosežki na področju mobilnih platform
- razume življenjski cikel mobilne aplikacije
- se usposobi za načrtovanje uporabniških vmesnikov
- pozna in zna uporabljati programske jezike, ogrodja ter razvijalska orodja, namenjena izdelavi mobilnih aplikacij
- se seznani z različnimi načini promocije in prodaje mobilnih aplikacij, uporabo sodobnih socialnih kanalov za širjenje aplikacije

Intended learning outcomes:

Knowledge and understanding:

Student:

- is acquainted with state of the art in mobile platforms field
- understands the life-cycle of a mobile application
- is qualified for planning user interfaces
- knows and is able to use programming languages, frameworks and development tools intended for development of mobile applications
- is acquainted to different types of promotion and selling of mobile applications, and usage of modern social channels for spreading the application

Metode poučevanja in učenja:

- *predavanja* z aktivno udeležbo študentov (razlaga, diskusija, vprašanja, primeri, reševanje problemov)
- *vaje in laboratorijske vaje*
- individualne in skupinske *konzultacije* (diskusija, dodatna razlaga, obravnava specifičnih vprašanj)

Learning and teaching methods:

- *lectures* with active students' involvement (explanation, discussion, questions, examples, problem solving)
- *tutorials and laboratory tutorials*
- individual and group *consultations* (discussion, additional explanation, dealing with specific questions)

Delež (v %) /
Weight (in %)

Načini ocenjevanja:

Assessment:

| Način (pisni izpit, ustno izpraševanje, naloge, projekt): | Delež (v %) / Weight (in %) | Type (examination, oral, coursework, project): |
|--|--------------------------------|---|
| <ul style="list-style-type: none"> • pisni/ustni izpit | 50 | <ul style="list-style-type: none"> • written/oral exam |
| <ul style="list-style-type: none"> • seminarska naloga s poročili seminarskega dela in eksperimentalnih vaj ter predstavitev naloge | 50 | <ul style="list-style-type: none"> • empirical seminar paper with reports of seminar work and laboratory work. presentation of seminar paper |