

OPERATIVNI POSTOPKI LETAL

UČNI NAČRT PREDMETA/COURSE SYLLABUS

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| Predmet: | Operativni postopki letal |
| Course title: | OPERATIONAL PROCEDURES OF AIRCRAFT |
| Članica nosilka/UL Member: | UL FS |

| Študijski programi in stopnja | Študijska smer | Letnik | Semestri | Izbirnost |
|---|---|-----------|-------------|-----------|
| Strojništvo - projektno aplikativni program, prva stopnja, visokošolski strokovni | Prometni pilot letala/helikopterja (smer) | 3. letnik | 2. semester | obvezno |

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| Univerzitetna koda predmeta/University course code: | 0564009 |
| Koda učne enote na članici/UL Member course code: | 3092-V |

| Predavanja /Lectures | Seminar /Seminar | Vaje /Tutorials | Klinične vaje /Clinical tutorials | Druge oblike študija /Other forms of study | Samostojno delo /Individual student work | ECTS |
|-------------------------|---------------------|--------------------|--------------------------------------|---|---|------|
| 30 | | | | | 45 | 3 |

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| Nosilec predmeta/Lecturer: | Tomaž Mrlak |
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| Vrsta predmeta/Course type: | Izbirni strokovni predmet /Elective specialised course |
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| Jeziki/Languages: | Predavanja/Lectures: | Slovenščina |
| | Vaje/Tutorial: | Slovenščina |

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

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| Izpolnjevanje pogojev za vpis v Visokošolski strokovni študijski program I. stopnje Strojništvo - Projektno aplikativni program. | Meeting the enrollment conditions for the MECHANICAL ENGINEERING - Project Oriented Applied Programme. |
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Vsebina:

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| 1. Vsebina 1. Predavanja |
| - ICAO priloga 6 |
| - Skladnost z zakonom |
| - Kontrola nad operacijo |
| - Varnost |
| - Alternativna letališča |
| - Varnost letenja in preprečevanje nesreč |
| - Luči na letalu |
| 2. Vsebina 2. Predavanja |
| - OPS Splošne zahteve |
| - Sistem vodenja |
| - Pristanek na vodi |
| - Odgovornost posadke |
| - Droge in alkohol |
| - Lizing letal |
| 3. Vsebina 3. Predavanja |
| - Nadzor operaterja in certifikacija |
| - Pravila za certificiranje zračnega operaterja |
| - Glavna baza |
| - Spremembe AOC dovoljenja |
| - Kompetence sodelujočega osebja |
| - Operacijski priročnik (OM) |
| 4. Vsebina 4. Predavanja |
| - Operativni postopki |
| - Utemeljitev procedur |
| - Uporaba navigacijskih služb |
| - Planiranje minimumov |
| - Pogoji približevanja in pristanka |
| - Poti in območja delovanja |
| 5. Vsebina 5. Predavanja |
| - Oprema in instrumenti letala |
| - Notranja vrata in zavesa |
| - Prva pomoč |
| - Kisikove jeklenke |
| - Pomen evakuacije v nevarnosti |
| - Zapisovalnik podatkov o letu (FDR) |
| 6. Vsebina 6. Predavanja |
| - Posadka, dnevniki, zapisi |
| - Sestava posadke |
| - Poveljnik letala |
| - Tipski certifikati posadke |
| - Treniranje v simulatorju |

Content (Syllabus outline):

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| 1. Contents 1. Lectures |
| - ICAO appendix 6 |
| - Compliance with the law |
| - Control over operation |
| - Safety |
| - Alternative airports |
| - Flight safety and accident prevention |
| - The lights on the plane |
| 2. Contents 2. Lectures |
| - OPS General requirements |
| - The guidance system |
| - Water landing (Ditching) |
| - Crew responsibility |
| - Drugs and alcohol |
| - Aircraft leasing |
| 3. Contents 3. Lectures |
| - Operator control and certification |
| - Air Operator Certification Rules |
| - Main base |
| - AOC permit changes |
| - Competences of the staff involved |
| - Operation Manual (OM) |
| 4. Contents 4. Lectures |
| - Operating procedures |
| - Procedures justifying |
| - Use of navigation services |
| - Minimum planning |
| - Approach and landing conditions |
| - Routes and operating areas |
| 5. Contents 5. Lectures |
| - Aircraft equipment and instruments |
| - Interior doors and curtains |
| - First aid |
| - Oxygen bottles |
| - The importance of evacuation in danger |
| - Flight Data Recorder (FDR) |
| 6. Contents 6. Lectures |
| - Crew, logs, records |
| - Crew composition |

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| <ul style="list-style-type: none"> - Nedavne izkušnje | <ul style="list-style-type: none"> - Commander |
| 7. Vsebina 7. Predavanja | <ul style="list-style-type: none"> - Crew type certificates - Simulator training - Recent experiences |
| <ul style="list-style-type: none"> - Procedure posebnih operacij in nevarnosti - Problemi pri prekooceanskih letih - RVSM - Domače linije | 7. Contents 7. Lectures |
| 8. Vsebina 8. Predavanja | <ul style="list-style-type: none"> - Special operations and hazard procedures - Problems with overseas flights - RVSM - Domestic flights |
| <ul style="list-style-type: none"> - Razleditev in protileditev na tleh - Padec tlaka v letalu - Ogenj in dim | 8. Contents 8. Lectures |
| 9. Vsebina 9. Predavanja | <ul style="list-style-type: none"> - Ground de-icing and anti-icing - Cabin decompression - Fire and smoke |
| <ul style="list-style-type: none"> - Turbolenca | 9. Contents 9. Lectures |
| 10. Vsebina 10. Predavanja | <ul style="list-style-type: none"> - Turbulence |
| <ul style="list-style-type: none"> - Strižni veter in mikro izbruhi | 10. Contents 10. Lectures |
| 11. Vsebina 11. Predavanja | <ul style="list-style-type: none"> - Shear wind and micro eruptions |
| <ul style="list-style-type: none"> - Varovanje | 11. Contents 11. Lectures a |
| 12. Vsebina 12. Predavanja | <ul style="list-style-type: none"> - Security |
| <ul style="list-style-type: none"> - Nujni in preventivni pristanki - Pristanek na vodi - Opozorilo potnikom - Evakuacija | 12. Contents 12. Lectures |
| 13. Vsebina 13. Predavanja | <ul style="list-style-type: none"> - Emergency and preventive landings - Ditching - Passenger alert - Evacuation |
| <ul style="list-style-type: none"> - Odmetavanje goriva - Certifikacijske zahteve za odmetavanje goriva - Postopek odmetavanja goriva | 13. Contents 13. Lectures |
| 14. Vsebina 14. Predavanja | <ul style="list-style-type: none"> - Fuel dumping (jettison) - Certification requirements for fuel dumping - Fuel dumping process |
| <ul style="list-style-type: none"> - Prevoz nevarnega blaga po zraku - Tehnična navodila - Pakiranje in označevanje - Omejitve pri nalaganju - Nujnosti - Nesreče in poročanje o nesrečah | 14. Contents 14. Lectures |
| 15. Vsebina 15. Predavanja | <ul style="list-style-type: none"> - Transport of dangerous goods by air - Technical instructions - Packaging and labeling - Loading restrictions - Urgency - Accidents and accident reporting |
| <ul style="list-style-type: none"> - Onesnažene vzletno-pristajalne steze - Mokra steza - Suha steza - Vodni klin - Zaviranje - Koeficient trenja | 15. Contents 15. Lectures |
| | <ul style="list-style-type: none"> - Contaminated runways - Wet runway - Dry runway - Aqua planning - Braking - Coefficient of friction |

Temeljna literatura in viri/Readings:

1. OPERATIONAL PROCEDURES, ATPL GROUND TRAINING SERIES, CAE Oxford Aviation Academy, BOOK TWELVE, EASA FIRST EDITION, REVISED FOR NPA

29, 2016

2. EASA ATPL Training, Operational procedures, Jeppesen, 2019

3. Učna gradiva iz predmeta Operativni postopki letalnikov, e-učilnica Fakulteta za strojništvo, 2019

Cilji in kompetence:

Cilji:

1. Poznavanje in razumevanje operativnih postopkov in procedur
2. Analiza operativnih postopkov in procedur
3. Pravilna integracija operativnih postopkov in procedur v sklop letalskih tematik

Kompetence:

1. Sposobnost razumevanja in poznavanja operativnih postopkov in procedur (S1-PAP, S2-PAP)
2. Sposobnost analize operativnih postopkov in procedur (S4-PAP, S14-PAP)
3. Sposobnost integracije operativnih postopkov in procedur v sklop ostalih letalskih tematik (P1-PAP)

Objectives and competences:

Objectives :

1. Knowledge and understanding of operating procedures
2. Analysis of operating procedures
3. Correct integration of operational procedures into a set of aviation topics

Competencies:

1. Ability to understand and know operating procedures (S1-PAP, S2-PAP)
2. The ability of records already operational processes (S4-PAP, S14-PAP)
3. Ability to integrate operational procedures into a set of other aviation topics (P1-PAP)

Predvideni študijski rezultati:

Znanja:

Z1: Poglobljeno poznavanje operativnih postopkov in procedur

Spretnosti:

S1.1 Sposobnost vrednotenja in razumevanja operativnih postopkov in procedur

S1.2 Izvajanje kompleksnih operativno-strokovnih opravil, ki vključujejo tudi uporabo metodoloških orodij.

S1.3 Obvladovanje zahtevnih, kompleksnih delovnih procesov ob samostojni uporabi znanja v novih delovnih situacijah.

S1.4 Diagnosticiranje in reševanje problemov v različnih specifičnih

Intended learning outcomes:

Knowledge a:

Z1: A deeper knowledge of operating procedures

Skills:

S1.1 Ability to evaluate and understand operational procedures

S1.2 Executing complex operational-professional tasks that incorporate usage of methodological tools.

S1.3 Mastering demanding and complex work processes by independent usage of knowledge in new working situations.

S1.4 Problem diagnostics and solving in different and specific working environments that are linked to the

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| delovnih okoljih, povezanih s področjem izobraževanja in usposabljanja. S1.5 Osnova za izvirna dognanja/ stvaritve in kritično refleksijo. | teaching and training content. S1.5 Basis for unique innovations and critical reflections. |
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| Metode poučevanja in učenja: | Learning and teaching methods: |
| P1 Avditorna predavanja z reševanjem izbranih - za področje značilnih - teoretičnih in praktično uporabnih primerov. P2 Obravnava snovi po urejeni in vnaprej razloženi sistematiki. P6 Interaktivna predavanja P7 Študij literature in razprava P8 Izdelava in predstavitev aplikativnih seminarskih nalog | P1 Auditorial lectures with solving selected field-specific theoretical and applied use cases. P2 Presenting the content according to the explained system. P6 Interactive lectures. P7 Literature study and discussion. P8 Making and presenting applied seminar exercises. |

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| Načini ocenjevanja: | Delež/ Weight | Assessment: |
| Teoretične vsebine (predavanja): | 100,00 % | Theoretical content (lectures): |

Reference nosilca/Lecturer's references:

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| <p>Tomaž Mrlak</p> <ol style="list-style-type: none"> 1. Pilot helikopterja "Cougar" pri Slovenski vojski. 2. Imetnik EASA ATPL(H)/IR licence SI.FCL.A.H.000054. 3. MRLAK, Tomaž. Prestrežanje civilnih zrakoplovov: zaključna naloga šole za častnike. Slovenska vojska, 2008. Dostopno na: https://dk.mors.si/IzpisGradiva.php?id=370&lang=slv (zadnji ogled: 22.4.2020) 4. MRLAK, Tomaž. Reševalni sistem Galaxy na letalih Zlin 242L Slovenske Vojske: magistrsko delo. Univerza v Ljubljani, Fakulteta za pomorstvo in promet, Portorož, 2015. 5. MRLAK, Tomaž. Operativni priročnik za letenje v formacijah. Interno gradivo Slovenske vojske, 2012. 6. MRLAK, Tomaž. Operativni priročnik za taktično letenje. Interno gradivo Slovenske vojske, 2016 |
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