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|  | **Instalatii electrice de bord I** | **Onboard electrical installations I** |  |
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|  | **Obiectiv principal** | **Course Objective** |  |
|  | Contribuie la formarea viitorilor ingineri de profil aerospatial, familiarizându-i cu principalele aspectele teoretice şi practice legate de componenţa, caracteristicile, funcţionarea şi exploatarea instalatiilor electrice de la bordul aeronavelor. | Contributes to the formation of future aerospace engineers, familiarizing them with the main theoretical and practical aspects related to the composition, characteristics, operation and operation of electrical installations on board aircraft. |  |

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|  | **Curs** | | **Course** | |  |
|  | **3 ore pe săptămână, total 42 ore** | | **3 hours weekly, total 42 hours** | |  |
|  | * Sisteme electroenergetice de bord. * Organizarea retelelor electrice de bord. * Metode de calcul al retelelor electrice de bord. * Calculul electric al retelelor de c.c. de bord. * Echipamentul electric de protectie a sistemului electroenergetic de bord. * Calculul retelelor de bord de c.a. * Surse electrochimice pentru aeronave. | | * Power board systems. * Organization of onboard electrical networks. * Methods of calculating the onboard electrical networks d.c. * Electrical calculation of c.c. on board. * Electro-electrical board electrical protection equipment. * Calculation of electrical networks a.c. * Electrochemical sources for aircraft. | |  |
|  | **Laborator** | **Laboratory** | |
|  | **2 ore pe săptămână, total 28 ore** | **2 hours weekly, total 28 hours** | |
|  | * Norme de protecţia muncii în laborator; Elemente componente ale instalatiei electrice de bord. * Far de aterizare pentru aeronave. * Sistem de comanda a grupului de convertizoare * Automat de pornire a electrostarterului ST-2. * Instalatie electrica de pornire a starter-generatorului GSR-ST-12000VT (regimul de starter). * Actionarea convertizoarelor rotative monofazate de tip PO. * Actionarea convertizoarelor rotative trifazate de tip PT. * Centrala de lansare PRND. * Pornirea motoarelor turboreactoare folosind sursele de alimentare de aerodrom si de bord. * Sistem de comanda, protectie si reglare automata a tensiunii generatoarelor de curent continuu de bord. | * Laboratory safety standards; Components of the on-board electrical installation. * Landing light for aircraft. * Control group control system * ST-2 electrostatic starter. * Starter-starter electrical start-up device GSR-ST-12000VT (starter mode). * Operation of PO single-phase rotary converters. * Operation of three-phase rotary type PT motors. * PRND launch station. * Starting turbojet engines using aerodrome and on-board power supplies. * A system for controlling, protecting and automatically regulating the voltage of the on-board DC generators. | |
|  | **Proiect** | | **Project** | |  |
|  | **2 ore pe săptămână, total 28 ore** | | **2 hours weekly, total 28 hours** | |  |
|  | * Proiectarea unui sistem electroenergetic (SSE) de curent continuu si retea de alimentare pentru un avion de tipul IAR-99. * Proiectarea unui sistem electroenergetic (SSE) de curent alternativ si retea de alimentare pentru un avion de tipul MIG-21. * Proiectarea unui sistem electroenergetic (SSE) de curent continuu si retea de alimentare pentru un avion de tipul BAE HAWK T.MK.21. * Proiectarea unui sistem electroenergetic (SSE) de curent continuu si retea de alimentare pentru un avion de tipul L 39. * Proiectarea unui sistem electroenergetic (SSE) de curent continuu si retea de alimentare pentru un avion de tipul A-4 SKYHOWK. * Proiectarea unui sistem electroenergetic (SSE) de curent continuu si retea de alimentare pentru un avion de tipul ALPHA JET. * 7. Proiectarea unui sistem electroenergetic (SSE) de curent continuu si retea de alimentare pentru un avion de tipul BAC 200. | | * Designing a DC power system (SSE) and power supply for an IAR-99 type airplane. * Designing an AC power system (ACS) and power supply for a MIG-21 type airplane. * Designing a DC power system (SSE) and supply network for a BAE HAWK T.MK.21 aircraft. * Designing a DC power system (SSE) and supply network for an aircraft type L 39. * Designing a DC power system (SSE) and supply network for an A-4 SKYHOWK aircraft. * Designing a DC power system (SSE) and supply network for an ALPHA JET type airplane. * Designing a DC power system (SSE) and power supply for a BAC 200 aircraft. | |  |