



## KARTA OPISU PRZEDMIOTU - SYLABUS

Nazwa przedmiotu

Systemy komunikacyjne w lotnictwie [S2AiR1E-ISLiSA>SKwL]

### Przedmiot

Kierunek studiów

Automatyka i robotyka/Automatic Control and Robotics

Rok/Semestr

2/3

Studia w zakresie (specjalność)

Inteligentne systemy latające i systemy autonomiczne

Profil studiów

ogólnoakademicki

Poziom studiów

drugiego stopnia

Język oferowanego przedmiotu

angielski

Forma studiów

stacjonarne

Wymagalność

obligatoryjny

### Liczba godzin

Wykład

15

Laboratorium

0

Inne

0

Ćwiczenia

0

Projekty/seminaria

0

### Liczba punktów ECTS

3,00

### Koordynatorzy

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### Wykładowcy

### Wymagania wstępne

Wiedza: Student starting this module should have basic knowledge regarding signal processing.

Umiejętności: He/she should have skills allowing solving basic problems related to communication systems and should understand the need to extend his/her competences. Kompetencje Społeczne: Student should show attitudes as honesty, responsibility, perseverance, curiosity, creativity, manners, and respect for other people.

### Cel przedmiotu

The objective of the lectures is to teach the accurate and concise use of correct radio phraseology. This should enhance safety and efficiency of the flight. Students learn the basic concepts of communication theory and procedures. The classes takes the student from the basic principles of VHF and HF communication to its application in the VFR (Visual Flight Rules) and IFR (Instrument Flight Rules) environment. The course cover all aspects of radio telephony phraseology in the aerodrome, approach, area, and radar control environment. The distress and urgency procedures as well as the procedures to follow in the event of a communication failure are also covered.

## Przedmiotowe efekty uczenia się

### Wiedza

1. has extensive and in-depth knowledge in selected areas of physics useful for formulating and solving tasks connected with communication systems - [K\_W1]
2. has well-established theoretical knowledge related to flight communication systems - [K\_W7]
3. has theoretical knowledge related to flight communication procedures- [K\_W11]

### Umiejętności

1. is able to acquire, integrate, interpret and evaluate information from literature, databases and www sources on flight communication systems - [K\_U1]
2. is able to apply control and planning methods to solve engineering as well as scientific problems - [K\_U9]
3. is able to integrate knowledge coming both from different sub-domains of computer sciences and communication systems to formulate and solve engineering tasks connected with use of air systems - [K\_U10]
4. is able to carry out critical analysis of the used flight communication procedures - [K\_U19]
5. is able to evaluate usefulness of methods and tools for solving a communication problem - [K\_U22]

### Kompetencje społeczne

1. Student understands the need to learn throughout life; can inspire and organize the learning process of other – [K\_K1]
2. Student is able to interact and work in a group, assuming different roles in it – [K\_K3]
3. Student can think and act in a creative and enterprising way - [K\_K5]

## Metody weryfikacji efektów uczenia się i kryteria oceny

Efekty uczenia się przedstawione wyżej weryfikowane są w następujący sposób:

Efekty uczenia się przedstawione wyżej weryfikowane są w następujący sposób:

Formative assessment:

Based on answers to question in the written exam.

Total assessment:

- a) verification of assumed learning objectives related to lectures:
- i. evaluation of acquired knowledge on the basis of the written exam,
  - ii. discussion of correct answers in the exam,
  - iii. monitoring students activities during classes,

Additional elements cover:

- i. discussing more general and related aspects of the class topic,

## Treści programowe

1. Fundamental communication systems equipment
2. Basic definitions
3. Common abbreviations
4. General operating procedures
5. VFR/IFR communications
  - a) aerodrome control
  - b) approach control
  - c) general radar phraseology and area control
6. Distress and urgency procedures

## Tematyka zajęć

brak

## Metody dydaktyczne

Learning methods:

1. Lectures: multimedia presentation, presentation illustrated with examples presented on black board, solving tasks, multimedia showcase, discussion.

## Literatura

Podstawowa

1. Communications, JAA ATPL Training, Jeppesen Sanderson Inc, 2004

2. Manual of radiotelephony, Doc 9432 ICAO, Fourth edition 2007

Uzupełniająca

1. Annex 10 to the Convention on ICAO - Aeronautical telecommunications Vol II, Sixth edition October 2001

### Bilans nakładu pracy przeciętnego studenta

	Godzin	ECTS
Łączny nakład pracy	75	3,00
Zajęcia wymagające bezpośredniego kontaktu z nauczycielem	20	1,00
Praca własna studenta (studia literaturowe, przygotowanie do zajęć laboratoryjnych/ćwiczeń, przygotowanie do kolokwii/egzaminu, wykonanie projektu)	55	2,00