



## RTU Course "Navigation and Fly Complexes of Aircraft"

15E02 Avionikas katedra

### General data

Code	TAA508
Course title	Navigation and Fly Complexes of Aircraft
Course status in the programme	Compulsory/Courses of Limited Choice
Course level	Post-graduate Studies
Course type	Professional
Field of study	Transport
Responsible instructor	Trifonovs-Bogdanovs Pjotrs
Academic staff	Trifonova-Bogdanova Tatjana
Volume of the course: parts and credits points	1 part, 4.0 Credit Points, 6.0 ECTS credits
Language of instruction	LV, EN, RU
Possibility of distance learning	Not planned
Abstract	Aerobatic and navigating complex components functioning. Aerobatic and navigating complex interaction of components and integral functioning.
Goals and objectives of the course in terms of competences and skills	To learn aerobatic and navigation complex components functioning. To learn aerobatic and navigation complex integrated functioning.
Structure and tasks of independent studies	To independently prepare reports in various aircraft navigation and aerobatic complex algorithms and structure circuits. Working with the professional literature. Lessons in Aviation institute's specialized audience.
Recommended literature	1. О. Бабич. Обработка информации в навигационных комплексах. Москва. Машиностроение. 1992 г. 512 стр. 2. Moir I., Seabridge A. Civil Avionics Systems. Wiley-Blackwell. 2006. 396 lpp. 3. P. Trifonov-Bogdanovs. Žiroskopiskās pilotāžas ierīces. RTU. Rīga. 2002g. 64 pp. 4. П. Трифонов-Богданов. Инерциальные навигационные системы полуаналитического типа. РАУ. 1998г. 107 стр.
Course prerequisites	Mathematics, Aviation equipment and systems.

### Course outline

Theme	Hours
Aerobatic aircraft and navigating complex components.	4
Difficult movements. Carioles and gear acceleration.	12
Semi-analytical inertial navigation system algorithms. Structural scheme.	16
Semi-analytical inertial navigation system components. Platform, accelerometer.	8
Non-platform inertial navigation system. Algorithms, structure.	8
Radio-navigation system as a complex structure. Correction.	8
Aerobatic and navigating complex structure. Operating modes.	4
Modern aircraft aerobatic and navigation complexes.	4

### Learning outcomes and assessment

Learning outcomes	Assessment methods
The student understands inertial navigation system algorithms and structure circuits.	Pract. works: Inertial navigation systems, exam.
The student is able to analyze inertial navigation system in different modes.	Pract. works: Inertial navigation systems, exam.
The student is able to make conclusions on a variety of aerobatic aircraft complex operation in different modes.	Individual work, seminars, exam.
The student is able to make conclusions on the various aircraft navigation complex operation in different modes.	Individual work, seminars, exam.

### Study subject structure

Part	CP	ECTS	Hours per Week			Tests		
			Lectures	Practical	Lab.	Test	Exam	Work
1.	4.0	6.0	2.5	0.5	1.0		*	