

Title Satellite Navigation Systems	Code POZ04WTS2ICC19
Field Electronics and Telecommunications	Year / Semester 1 / spring
Specialty -	Course core
Hours Lectures: 2 Classes: - Laboratory: - Projects / seminars: -	Number of credits 2

Lecturer:

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Status of the course in the study program:

Obligatory course for students of Electronics and Telecommunications

Objectives of the course:

Making students familiar with basic principles of satellite navigation systems and their applications

Course description:

Needs and goals of navigation; history of navigation systems; satellite orbits; time scales; navigation equations; required quality of navigation; sources of navigation errors; relativistic effects and their importance for navigation; architecture, signals and working of global navigation satellite systems (GNSS): GPS, GLONASS, Galileo; differential and supporting systems: DGPS, WASS, EGNOS, SBAS, GBAS, ABAS; GNSS receivers; examples of GNSS applications.

Initial knowledge:

Signal theory, telecommunication systems

Teaching methods:

Lectures

Assessment methods:

Written egzam

Bibliography:

1. J. Markiewicz, Globalny System Pozycyjny GPS, WKŁ, Warszawa, 2003
2. Academie de Marine et al., System nawigacyjny Galileo, WKŁ, Warszawa, 2006
3. J. Januszewski, Systemy satelitarne GPS, Galileo i inne, Wydawnictwo Naukowe PWN, Warszawa, 2006
4. R. Prasad, M. Ruggieri, Applied Satellite Navigation using GPS, GALILEO and Augmentation Systems, Artech House, 2005