Title	Code
Computer Graphics in Dynamics (Dyn. grafika komp. (PI))	**1010401161010210758**
Field: **EDUCATION IN TECHNOLOGY AND INFORMATICS**	Year / Semester: **3 / 6**
Specialty: **-**	Course: **core**
Hours: Lectures: **-** Classes: **1** Laboratory: **1** Projects / seminars: **-**	Number of credits: **6**
	Language: **polish**

Lecturer:

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Status of the course in the study program:

Core course of the study for Education in Technology and Informatics, Faculty of Technical Physics.

Assumptions and objectives of the course:

Acquaintance with the basis of programming of Windows environment. Acquainting with mathematical bases of computer graphics. Ability to apply computer graphics to animation dynamical problems.

Contents of the course (course description):

Graphic programming tools in C++ language. Programming for the Windows environment. Design of user-interface. Representation of objects in visual field. Principle of drawing with the preservation of given scale. Affine transformations in D-2 and D-3 space. Planar geometric projections and perspective views. Modelling of solids and surfaces Techniques of animation. Animations in real time and with the given coefficient of time scale. Design of animations for chosen kinematic and dynamic problems.

Introductory courses and the required pre-knowledge:

Fundamental knowledge of mathematics, numerical methods and programming. Vector and matrix algebra, fundamental knowledge of analytic and differential geometry.

Courses form and teaching methods:

Marks for individual work and documentation of computer programms. Credit.

Form and terms of complete the course - requirements and assessment methods:

Lectures illustrated by exemplifying programs. Computer laboratory classes - individual work of students.

Basic Bibliography:

1. I. O. Angell, Wprowadzenie do grafiki komputerowej, WNT, Warszawa 1988.
2. J.D. Foley, A. van Dam, S.K. Feiner, J.F. Hughes, R.L. Philips, Introduction to Computer Graphics, 1994.
3. P. Kiciak, Podstawy modelowania krzywych i powierzchni. Zastosowania w grafice komputerowej, WNT, Warszawa 2000.

http://www.put.poznan.pl/

4. A. Marciniak, Grafika komputerowa w języku Turbo Pascal, Wydawnictwo Nakom, Poznań 1998.

Additional Bibliography:

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http://www.put.poznan.pl/