**Nazwa przedmiotu:**

Programming 4 (in Graphical Environment)

**Koordynator przedmiotu:**

mgr inż. Krzysztof Mossakowski

**Status przedmiotu:**

Obowiązkowy

**Poziom kształcenia:**

Studia I stopnia

**Program:**

Informatyka

**Grupa przedmiotów:**

Wspólne

**Kod przedmiotu:**

brak

**Semestr nominalny:**

4 / rok ak. 2009/2010

**Liczba punktów ECTS:**

4

**Liczba godzin pracy studenta związanych z osiągnięciem efektów uczenia się:**

**Liczba punktów ECTS na zajęciach wymagających bezpośredniego udziału nauczycieli akademickich:**

**Język prowadzenia zajęć:**

polski

**Liczba punktów ECTS, którą student uzyskuje w ramach zajęć o charakterze praktycznym:**

**Formy zajęć i ich wymiar w semestrze:**

|  |  |
| --- | --- |
| Wykład:  | 30h |
| Ćwiczenia:  | 0h |
| Laboratorium:  | 30h |
| Projekt:  | 0h |
| Lekcje komputerowe:  | 0h |

**Wymagania wstępne:**

\* Structural programming \* Object oriented programming

**Limit liczby studentów:**

**Cel przedmiotu:**

Students will be familiar with Windows programming concepts. They will know advantages and disadvantages of both the native Win32 API and the .NET Framework programming for Windows. They will be able to decide which of available Windows programming libraries use in for a given project. Exercises will teach students some practical aspects of Windows programming.

**Treści kształcenia:**

 \* Win32 API: o windows, messages, basic data structures, error handling o mouse and keyboard input o GDI - Graphics Device Interface o resources, controls, and dialog boxes \* Windows Forms: o application and its settings o forms, properties and events o resources, controls and their containers o custom controls \* WPF (Windows Presentation Foundation): o XAML, application, windows, and pages o controls and layout containers o controls styles and templates o graphics and multimedia o events and commands o resources and data binding \* Selected issues of Windows programming: o DLL (Dynamic Linking Library) o clipboard, registry, printing, memory, processes and threads, file system o Windows Shell o Windows visual styles o Windows Mobile o GUI (Graphical User Interface) guidelines o multilingual applications

**Metody oceny:**

 There are 12 tasks, each scheduled for 90 minutes. Solutions are scored from 0 to 10 points. Additionally, 1 point can be added to the tasks score for a correction of the solution delivered next week. The main criterium of the solutions score is the compliance with the tasks objectives. However, the quality of the source code is also judged. Final marks are proposed after 10 tasks. Students who are not satisfied with propositions can try to accomplish the last 2 tasks. In both cases one, the worst result is cancelled, so the final mark is based on the total number of points scored respectively in 9 or 11 tasks. The final mark is calcuted from the percentage of the total number of points as follows: \* 0% - 50% : failed \* 51% - 60% : 3.0 \* 61% - 70% : 3.5 \* 71% - 80% : 4.0 \* 81% - 90% : 4.5 \* 91% - 100% : 5.0

**Egzamin:**

**Literatura:**

 1. Mark Walmsley, Graphics Programming in C++: Writing Graphics Applications for Windows 98, Springer-Verlag, 1998 2. Herbert Schildt, Windows 95 Programming Nuts and Bolts : for experienced programmers, Osborne MacGraw-Hill, 1995 3. Andy Wigley, Daniel Moth, Peter Foot, Microsoft mobile development handbook, Microsoft Press, 2007 4. Jeffrey Richter, Applied Microsoft .NET framework programming, Microsoft Press, 2002

**Witryna www przedmiotu:**

**Uwagi:**

## Efekty przedmiotowe