### **OBJECT-ORIENTED DESIGN**

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| **Тип дисципліни** | Elective |
| **Рівень вищої освіти** | First (Bachelor) |
| **Мова викладання** | English |
| **Кількість кредитів ЄКТС** | 8,0 |
| **Форми здобуття освіти** | Full-time |

**Результати навчання.** A student who has successfully completed the discipline must: skillfully use the theoretical foundations of object-oriented software development technology; perform analysis and synthesis of software; demonstrate experimental skills in software development using an object-oriented approach; to implement complex software packages using the C # language and analyze the correctness of their operation; perform abstract and structural synthesis of software that uses the mechanisms of inheritance, polymorphism, organization and invocation of virtual functions.

**Зміст навчальної дисципліни.** Application of the principles of procedural and object-oriented programming. Basic concepts of C #, objects, classes, imitation, overload, polymorphism, exception handling, flows. Meta-classes, delegations, templates. Object-oriented approach to the development and implementation of application software systems, the feasibility and effectiveness of systematic application of the object-oriented approach at all stages of the life cycle of the application software system, analysis of software system requirements and its preliminary design, implementation, testing and follow-up.

**Запланована навчальна діяльність**: number of classroom hours - not less than 1/3 of the total number of hours planned for the study of the discipline.

**Методи навчання:** lectures (using methods of problem-based learning and visualization); laboratory and practical classes (using trainings, master classes, workshops), independent work (individual tasks).

**Форми оцінювання результатів навчання**: oral examination, defense of laboratory and practical work, test control.

**Форма семестрового контролю:** credit.

**Навчальні ресурси:**

1. Modular learning environment MOODLE. Access to the resource: <https://msn.khmnu.edu.ua>
2. Electronic library of the university. Access to the resource: <http://lib.khmnu.edu.ua/asp/php_f/p1age_lib.php>

**Викладач**: PhD O. Melnychenko