**Nazwa przedmiotu:**

Apprenticeship

**Koordynator przedmiotu:**

Radosław Nowak, PhD Eng.

**Status przedmiotu:**

Obowiązkowy

**Poziom kształcenia:**

Studia I stopnia

**Program:**

Electric and Hybrid Vehicles Engineering

**Grupa przedmiotów:**

Obowiązkowe

**Kod przedmiotu:**

1150-MT000-ISP-0329

**Semestr nominalny:**

6 / rok ak. 2022/2023

**Liczba punktów ECTS:**

4

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

1) Number of contact hours - 161 hours , including/and
practice – 160 h;
consultation – 1 h.
2) TOTAL – 161 hours.

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

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**Język prowadzenia zajęć:**

angielski

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

4 ECTS points – 165 hours of student’s individual work, including:
a) participation in a hiring unit – 160 h;
b) preparing report on practice and its acceptance - 5 h.

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

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

**Wymagania wstępne:**

Individual or group realization during the time free from other classes (preferably holidays).

**Limit liczby studentów:**

According to University Regulations

**Cel przedmiotu:**

The aim of the professional practice is for a student to learn practical aspects related to the profile of study in the Faculty, e.g.:
• modern methods of design, modelling, production and verification in machine industry or electrical engineering within the scope of :
- production preparation, structure and construction of systems and products, design of technological processes, construction of equipment;
- different ways of producing goods e.g. machining, or forming process,
- use, logistics, diagnostics device and repair of vehicles, rail vehicles and construction machinery;
• CAD/CAM computer-aided, iterated systems;
• systems ensuring quality of goods, general technical safeguards (Safety Rules and Regulations);
• mechatronic, pneumatic, hydraulic power train systems (e.g. controlling, forming or regulating) in vehicles, construction machinery, mechanisms and assistive devices;
• studies of active and passive safety of goods, durability and reliability of load bearing structures of machines and vehicles, chassis, braking systems etc.,;
• automation of vehicle and machine operation, single- and dual- (hybrid) source power trains, participation in research or implementation projects;
• recycling, ecology and environmental protection against the effects of use, malfunction or repair of vehicles, construction machinery and electro-mechanical and mechatronic devices etc.

**Treści kształcenia:**

The content of the practice is establishes individually, according to the chosen degree programn and may take different forms, depending on the specification of a unit (its profile). For example, for Vehicles degree program, the Program comprises: production and assembly technology of car parts, vehicle diagnostics, study of transmission systems etc.; whereas for Computer Aided Engineering degree program Projects: CAD construction and design, methods of MES, MEM engineering calculations, databases, CAD-CAM, work in construction office etc.
Students doing practice in MZA in Warsaw experience 3-4 work posts, where they:
- learn tasks connected with organization of particular department of a company
- instruction for working on a particular post
- work under an assigned Supervisor.
It is preferred to choose a unit, which enables to perform work within the degree program, chosen by a student and according to student’s interest. The character of professional practice ought to comply with the field of study and Dean’s Representative for Professional Practice has to accept the performing unit chosen by a student, on condition that it fulfills professional practice requirements.

**Metody oceny:**

Verbal evaluation: pass/fail
Student’s report on professional practice is evaluated, an employer also evaluates a student.
In particular cases, a student may obtain a pass from professional practice based on a document confirming: performed practice, internship, professional work, on condition that it fulfills requirements of professional practice. Pass is granted by the Representative for Professional Practice.

**Egzamin:**

nie

**Literatura:**

Assigned (in particular cases) by the Practice Supervisor

**Witryna www przedmiotu:**

http://www.simr.pw.edu.pl/Strona-glowna-Wydzialu/Studia/Praktyki-studenckie

**Uwagi:**

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## Efekty przedmiotowe