

SYLLABUS

Name: Industry 4.0 (elective course) (ZIPAOZ>SI6I4.019S)

Name in Polish:

Name in English: Industry 4.0

Information on course:

Course offered by department: Faculty of Organization and Management

Course for department: Silesian University of Technology

Default type of course examination report:

ZAL

Language:

English

Short description:

The main goal of the course is to acquaint students with the set of problems grouped under the label of "Industry 4.0" (or the fourth industrial revolution).

This goal is to be achieved by realization of the following three sub-goals:

1/ to develop a view on the Industry 4.0 based on a historical perspective

2/ to describe the most important elements/traits of the Industry 4.0

3/ to analyze the possible effects (both positive and negative) of this revolution upon human civilization.

Description:

During the course the following issues will be tackled:

1/ The genesis of the concept of the Industry 4.0/the Fourth Industrial Revolution; some remarks on the world Economic Forum. A representation of the course,

2/ The Industry 4.0/the 4th industrial revolution - in a historical perspective /from the first to the fourth industrial revolution/

3/ The development of the future-thinking (from SF-literature to the Club of Rome reports)

4/ Future - thinking and politics: from Stockholm (1973) to Rio de Janeiro (2023)

5/ Automation, robotics, 3D, smart factory

6/ Internet of Things

7/ Big Data, Internet, networks

8/ Artificial Intelligence, cloud computing, cognitive computing

9/ Augmented reality

10/ Industry 4.0 and medicine

11/ Industry 4.0 and ecology /agriculture

12/ debates and controversies over Industry 4.0 /its both positive and negative consequences. Industry 4.0 in the perspective of Technology Assessment

13/ The fourth industrial revolution from the Polish perspective

Bibliography:

Klaus SCHWAB, The Fourth industrial revolution, 2016

Klaus SCHWAB, Thierry MALLERET, The Great Narrative. For a Better future, 2022

Learning outcomes:

knows:

-K1A_W1 advanced issues in the field of engineering useful for formulating and solving typical engineering tasks

- K1A_W7 fundamental problem of the contemporary civilization related to production engineering

is able to:

-K1A_U9 select and use appropriate techniques and modern engineering tools

-K1A_U11 independently plan and implement own life; long learning

is ready to:

-K1A_K1 critically evaluate knowledge and consult experts in special fields

Assessment methods and assessment criteria:

1- Evaluation of students' activities during the lectures asking

Element of course groups in various terms:

Course group description	First term	Last term
missing group description in English (ZIPAOZ>SI-6-19-O)	2022/2023-L	

Course credits in various terms:

<without a specific program>			
Type of credits	Number	First term	Last term
European Credit Transfer System (ECTS)	2	2022/2023-L	