

# Elementary particle physics - course description

General information	
Course name	Elementary particle physics
Course ID	13.2-WF-FizD-EPP-S17
Faculty	<a href="#">Faculty of Physics and Astronomy</a>
Field of study	Physics
Education profile	academic
Level of studies	Second-cycle studies leading to MS degree
Beginning semester	winter term 2021/2022

Course information	
Semester	4
ECTS credits to win	2
Available in specialities	Theoretical physics
Course type	obligatory
Teaching language	english
Author of syllabus	<ul style="list-style-type: none"><li>prof. dr hab. Krzysztof Urbanowski</li></ul>

Classes forms					
The class form	Hours per semester (full-time)	Hours per week (full-time)	Hours per semester (part-time)	Hours per week (part-time)	Form of assignment
Lecture	30	2	-	-	Credit with grade

## Aim of the course

To acquaint students with the fundamental constituents of matter, their classification and outline the methods of a description of them and a description of their interactions.

## Prerequisites

Mathematical analysis, mathematical physics, theoretical and relativistic relativistic, foundations of quantum physics.

## Scope

Lectures: Historical development of particle physics - the classification of elementary particles. Symmetries. Models of elementary particles and their classification. Relativistic kinematics. Lagrange function in particle physics, fields, currents, symmetries and conservation laws.

## Teaching methods

Conventional lectures

## Learning outcomes and methods of theirs verification

Outcome description	Outcome symbols	Methods of verification	The class form
Acquire a general knowledge of the basics of particle physics. Skills in using literature and solving basic problems in particle physics. Understanding the need for learning throughout life.	<ul style="list-style-type: none"><li><a href="#">K2_W01</a></li><li><a href="#">K2_W06</a></li><li><a href="#">K2_U03</a></li><li><a href="#">K2_U08</a></li><li><a href="#">K2_U10</a></li><li><a href="#">K2_K01</a></li></ul>	<ul style="list-style-type: none"><li>an evaluation test</li></ul>	<ul style="list-style-type: none"><li>Lecture</li></ul>

## Assignment conditions

**LECTURE:** positive assessment of the test.

## Recommended reading

[1] D. Griffiths, *Introduction to elementary particle physics*, Wiley 1987.

[2] G. Kane, *Modern elementary particle physics*, Adison- Wesley, 1993.

[3] F. Halzen, A. D. Martin, *Quarks and leptons: An introductory course in modern particle physics*, Wiley 1984.

[4] D. Perkins, *Wstęp do fizyki wysokich energii*, PWN, 2004.

## Further reading

[1] J. Karaśkiewicz, *Elementy klasycznej i kwantowej teorii pola*, UMCS 2003.

# Notes

Modified by dr Marcin Kořmider (last modification: 09-05-2021 21:44)

Generated automatically from SylabUZ computer system