DESCRIPTION OF THE COURSE OF STUDY

Course code		
Name of the course in	Polish	**Model standardowy cząstek elementarnych: wstęp**
	English	**Introduction to the standard model of particle physics**

1. LOCATION OF THE COURSE OF STUDY WITHIN THE SYSTEM OF STUDIES

1.1. Field of study	physics
1.2. Mode of study	Full-time
1.3. Level of study	2nd degree
1.4. Profile of study	General academic
1.5. Person/s preparing the course description	Prof. dr hab. Stanisław Mrówczyński
1.6. Contact	**stanislaw.mrowczynski@ncbj.gov.pl**

2. GENERAL CHARACTERISTICS OF THE COURSE OF STUDY

2.1. Language of instruction	English
2.2. Prerequisites	knowledge of relativistic quantum mechanics

3. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

3.1. Form of classes		15 hrs of lectures
3.2. Place of classes		Courses in the UJK teaching rooms of the Faculty of Exact and Natural Science
3.3. Form of assessment		homework
3.4. Teaching methods		
3.5. Bibliography	**Required reading**	Script: https://ujk.edu.pl/strony/mrow/Intro-SM.html
	Further reading	1. M.E. Schroeder and D.V. Schroder, Introduction to Quantum Field Theory, Perseus Books Publishing, New York, 1995 2. St. Mrówczyński, ABC kwantowej teorii pola, Wydawnictwo UJK, Kielce, 2016

4. OBJECTIVES, SYLLABUS CONTENT AND INTENDED LEARNING OUTCOMES

4.1. Course objectives (including form of classes)
Knowledge (lectures and laboratories) C1. Description of the most important features and formalism of relativistic particle physics. **Abilities (laboratories and project)** C2. Understanding the physical tools related to relativistic particle physics. C3. Developing skills to solve exercises related to relativistic particle physics.

4.2. Detailed syllabus (including form of classes)
Lectures: Description of the Standard Model of particle physics: the Higgs particle and its decays, properties of the strong and the weak interactions.

4.3. Education outcomes in the discipline		
Code	**A student, who passed the course**	**Relation to learning outcomes**
within the scope of **KNOWLEDGE:**		
W01	Can describe the most important features and formalism of relativistic particle physics.	SD_W01 SD_W02 SD_W07
within the scope of **ABILITIES:**		
U01	Understand the physical tools related to relativistic particle physics.	SD_U01 SD_U03 SD_U07
U02	Has skills to solve exercises related to relativistic particle physics.	SD_U01 SD_U03 SD_U07

4.4. Methods of assessment of the intended learning outcomes

Teaching outcomes *(code)*	**Method of assessment (+/-)**																				
	Oral answer			**Project**			**Self-study**			**Group work**			**Exam**								
	Form of classes			***Form of classes***			***Form of classes***			***Form of classes***			***Form of classes***			***Form of classes***			***Form of classes***		
	L	*C*	*P*	*L*	*C*	*P*	*L*	*C*	*P*	*L*	*C*	*P*	*L*	*C*	*P*	*L*	*C*	*P*	*L*	*C*	*P*
W01													***X***								
U01													***X***								
U02													***X***								

4.5. Criteria of assessment of the intended learning outcomes

Form of classes	**Grade**	**Criterion of assessment**
lecture (L)	**3**	at least 50% and not more than 60% of the total number of available points
	3,5	more than 60% and not more than 70% of the total number of available points
	4	more than 70% and not more than 80% of the total number of available points
	4,5	more than 80% and not more than 90% of the total number of available points
	5	more than 90% of the total number of available points

5. BALANCE OF ECTS CREDITS – STUDENT'S WORK INPUT

Category	**Student's workload**	
	Full-time studies	**Extramural studies**
NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/		
Participation in lectures	15	
Participation in laboratories/project		
Preparation for the exam		
Others		
INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/		
Preparation for the lecture	15	
Preparation for the laboratories		
Preparation for the exam		
Gathering materials for the project		
Preparation of multimedia presentation		
*Others**		
TOTAL NUMBER OF HOURS	**30**	
ECTS credits for the course of study	**2**	

Accepted for execution *(date and signatures of the teachers running the course in the given academic year)*

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