

## ARCHITECTURAL DESIGN 1 –SPORT FACILITIES

<b>General information</b>	
<i>Subject</i>	Architectural Design 1 –sport recreation and resort facilities
<i>Faculty</i>	Faculty of Civil Engineering, Architecture and Environmental Engineering
<i>Course of study</i>	Architecture
<i>Profile</i>	General academic
<i>Type of study</i>	II level with the degree of M.Sc. Eng. Arch.
<i>Starting semester</i>	Summer semester

<b>Information about the subject</b>	
<i>Semester</i>	1
<i>Number of ECTS points</i>	6
<i>Subject type</i>	obligatory
<i>Language of instruction</i>	English
<i>Syllabus prepared by</i>	Justyna Kleszcz PhD Eng. Arch.

<b>Type of class</b>					
<i>Course type</i>	<i>Number of classes per semester (full time studies)</i>	<i>Number of classes per week (full time studies)</i>	<i>Number of classes per semester (part time studies)</i>	<i>Number of classes per week (part time studies)</i>	<i>Credit type</i>
Lecture	15	1	-	-	Exam
Project	60	4	-	-	credit with a grade

<b>Subject objective</b>
<p>1. The objective in terms of knowledge is to familiarize the student with the principles of designing sports and recreation facilities, including: modern standards, technological guidelines and ergonomic forms and aesthetics of buildings, functional and spatial solutions, interior and public areas, building surroundings with arrangement of recreational places, pedestrian and cycling communication, access to fast public transport, parking spaces and other accompanying facilities.</p> <p>2. The goal in terms of skills is to teach the student to prepare architectural designs based on technological assumptions concerning a specific type of sports, recreation or spa function. Particular attention is paid to the principles of sustainable development in the design of functional systems, designing sports and recreation buildings as well as energy-saving and ecological solutions.</p> <p>3. The objective in terms of personal and social competence is to teach the student to present and defend his own design solution in a group.</p>

<b>Initial requirements</b>
Informal: General knowledge of first level compulsory and optional subjects. Design architecture of service facilities.

<b>Subject scope</b>
<p>Lecture: The lecture topics cover the general methodology of designing the architecture of sports, recreation and health facilities, and in particular such issues as:</p> <ul style="list-style-type: none"> <li>– – the concept of architectural space,</li> <li>– – architectural space and man,</li> <li>– – creating a new value for the recreation and sports space,</li> <li>– – designing complex functional and spatial programmes for sports facilities,</li> </ul>

- - dimensioning of space and elements of equipment,
- - physical space restrictions,
- - elements of architectural composition,
- - the form of architectural design, the content of architectural design,
- - ergonomic aspects of space for the viewer, sportsman, coaching staff, administration, media,
- - the rules of composing architectural space using the dependence between forms, combinations of materials, relationships between the structure and the form,
- - lighting, colour, interior microclimate,
- - integration of elements complementing the shaped space,
- - space accessibility factor for all users,
- - taking into account the needs of disabled people and other non-standard users.

Project: Analysing the principles of designing sports and recreation and health buildings based on spatial and technical-functional and functional assumptions affecting construction and material solutions. Based on the assumed planning and technological assumptions, the design concepts of the sports or spa complex and the details of the main architectural structures of one of the selected themes will be prepared (multifunctional sports hall for 2500-3000 spectators, indoor swimming pool with a water surface area of 785.00 m<sup>2</sup>) according to detailed programme and functional-spatial guidelines.

#### **Educational methods**

Explanation methods: lectures - conventional, problematic, conversational, informative and speeches.

Research methods: exercises - analytical and design methods, case studies with accompanying discussion and analysis, interactive and creative education, teamwork and individual work carried out according to a detailed schedule of classes.

#### **Education results and verification methods**

<i>Description</i>	<i>Symbol</i>	<i>Verification method</i>	<i>Type of class</i>
The student has advanced knowledge on how to creatively solve architectural, aesthetic-functional and landscape-functional problems, also how to provide disabled people with comfort and safety of using sports and recreation facilities.	K_W03 K_W04	- exam - oral, descriptive, test, etc. - exam test with points	lecture
The student has detailed knowledge of selected issues in the field of sports and recreation and spa architecture, and also has knowledge in the field of design methodology for various functional, spatial and technological programmes: sports halls, spas with hotel facilities and adaptation of the area to the specificity of the complex.	K_W01	- exam - oral, descriptive, test, etc. - exam test with points	lecture
The student is can use research and design methods and tools and assess their suitability for collecting, analysing and synthesizing data from the field of sports, recreational and health resort architecture, has the ability to formulate and verify complex applications and adopted design assumptions in the field of sports, recreation and health architecture . The student can design a sports and spa building with a complex functional and spatial layout, construction and	K_U01 K_U02 K_U04 K_U06 K_U10	- project - preparation of the project	project

technology, according to particular specifications, taking into account industry guidelines. The student can also prepare a project for the development of its surroundings			
The student is prepared for independent creative activity, including architectural concepts in the field of designing sports, recreational and health facilities, which requires cooperation in teams of specialists. The student is aware of the social role of an architect in creating and promoting a healthy environment, including physical fitness of urban society and implementation of initiatives serving specific tasks for sustainable development.	K_K03 K_K07	<ul style="list-style-type: none"> <li>– observation and evaluation of participation in the classes</li> <li>– observation and evaluation of the student's practical skills</li> </ul>	lecture project

### Requirements to obtain a credit

Separate grades for the lectures and the projects. A credit for the project exercises is required before the student can take the exam. Attendance and active participation in the classes. The final grade for the complete project.

Lectures: The student's knowledge is verified in terms of the topics discussed during the lectures to confirm that the student is focused on contemporary architecture of public facilities in the field of sports and recreation architecture as well as the principles of sustainable development.

Project: The student prepares a conceptual architectural project and confirms that they are prepared to cooperate and act in a team, assuming different roles.

Principles for the grade: A grade for the achievement of the educational effect in the category: knowledge, skills and competences is based on a test with points:

50% - 60% correct answers	satisfactory
61% - 70%	satisfactory plus
71% - 80%	good
81% - 90%	good plus
91% - 100%	very good

### Student's work

<i>Student's work</i>	<i>Full time study (h)</i>
Interaction with the teacher (classes; consultations; exam, etc.)	100
Student's individual work (preparation for the classes, test exam; literature research preparation of: written paper, project, presentation, report, speech; etc.)	80
<i>Total</i>	180
<i>ECTS points</i>	<i>Full time study</i>
Work with a teacher	4
Work without a teacher	2
<i>Total</i>	6

### Basic literature

1. Neufert E., Neufert P., *Architects' Data*, Wiley-Blackwell.
2. Geraint J., Rod S., *Stadia, A Design and Development Guide*, Architectural Press, 2000.
3. Mason P., *Sports Stadium: In 10 Simple Steps (How to Design the World's Best)*, Wayland 2017.
4. Llorella A., *Stadium Design*, DAAB, 2006.
5. Wimmer M., *Stadium Buildings Construction and Design Manual*, DOM Publishers, 2006.

**Complementary literature**

1. Bartkowicz B., *Wpływ funkcji wypoczynku na kształtowanie struktury przestrzennej miast*, Politechnika Krakowska, 1985.
2. Kappler H.P., *Baseny kąpielowe*, Arkady, 1977.
3. Kosiński W., *Organizacja przestrzenna wypoczynku weekendowego*, PWN, 1981.
4. Majsterkiewicz T., *Założenia dla projektantów stadionów*, Polski Związek Lekkiej Atletyki, Komisja Obiektów i Urządzeń, 2010,
5. Mokrzyński J., *Architektura wolnego czasu*, Arkady, 1973.
6. Mokrzyński J., *Urządzenia Turystyczne*, Arkady, 1973.
7. Nowakowska Z., *Projektowanie architektoniczno-urbanistyczne wstępne*, Politechnika Krakowska, 1994.

**Notes**

Classroom with equipment for multimedia presentations and large scale project layouts