KATEDRA KONSTRUKCJI BUDOWLANYCH
I MECHANIKI BUDOWLI

PROPOZYCJE TEMATÓW PRAC DYPLOMOWYCH INŻYNIERSKICH (studia pierwszego stopnia) NA ROK AKADEMICKI 2024/2025 (termin złożenia pracy 28.02.2025)*

(KONTAKT DO SEKRETARIATU KATEDRY: wb.kkbimb@pb.edu.pl)

KIERUNEK STUDIÓW: CIVIL ENGINEERING	
Opiekun/e-mail:	**Dr hab. inż. Mirosław Broniewicz, prof. PB/ m.broniewicz@pb.edu.pl**
Kierunek – specjalność	**Civil Engineering**
1. Temat:	**Spatial structure of the roof of tennis courts**
Zakres pracy:	1. Review of the literature and technical and functional requirements for the design of welded structures of sports facilities. 2. Development of the concept of the main structure of the pavilion as a lattice frame made of closed sections. 3. Dimensioning of main structural elements and connections in accordance with the recommendations of Eurocode 3. 4. Comparative analysis of the obtained results and selection of the optimal design. 5. Description of the construction technology of the facility. 6. Preparation of working drawings of the steel structure. 7. Summary and final conclusions. 8. Presentation of a list of standards and scientific and technical literature.
Słowa kluczowe:	**sports facilities, steel structure, closed sections, design of elements and connections**
Opiekun/e-mail:	**Dr hab. inż. Mirosław Broniewicz, prof. PB/ m.broniewicz@pb.edu.pl**
Kierunek – specjalność	**Civil Engineering**
2. Temat:	**Design of a steel advertising support structure with dimensions of 6x8 m**
Zakres pracy:	1. Review of the literature and technical and functional requirements for the design of advertising supporting elements. 2. Development of the concept of the main structure made of closed sections. 3. Dimensioning of main structural elements and connections in accordance with the recommendations of Eurocode 3. 4. Description of the construction technology of the facility. 5. Preparation of working drawings of the steel structure. 6. Summary and final conclusions. 7. Presentation of a list of standards and scientific and technical literature.

Słowa kluczowe:	**advertising objects, steel structure, closed sections, design of elements and connections**
Opiekun/e-mail:	**Dr hab. inż. Mirosław Broniewicz, prof. PB/ m.broniewicz@pb.edu.pl**
Kierunek – specjalność	**Civil Engineering**
3. Temat:	**Design of a steel structure for a lightweight garden roof between two-story buildings**
Zakres pracy:	1. Review of the literature and technical and functional requirements for the design of lightweight garden roofs. 2. Dimensioning of main structural elements and connections in accordance with the recommendations of Eurocode 3. 3. Comparative analysis of the obtained results and selection of the optimal design. 4. Description of the construction technology of the facility. 5. Preparation of working drawings of the steel structure. 6. Summary and final conclusions. 7. Presentation of a list of standards and scientific and technical literature.
Słowa kluczowe:	**spatial covers, steel structure, cold-formed sections, design of elements and connections**
Opiekun/e-mail:	**Dr hab. inż. Mirosław Broniewicz, prof. PB/ m.broniewicz@pb.edu.pl**
Kierunek – specjalność	**Civil Engineering**
4. Temat:	**Design of a steel structure for a photovoltaic car shelter**
Zakres pracy:	1. Review of the literature and technical and functional requirements for the design of lightweight photovoltaic car shelters. 2. Dimensioning of main structural elements and connections in accordance with the recommendations of Eurocode 3. 3. Comparative analysis of the obtained results and selection of the optimal design. 4. Description of the construction technology of the facility. 5. Preparation of working drawings of the steel structure. 6. Summary and final conclusions. 7. Presentation of a list of standards and scientific and technical literature.
Słowa kluczowe:	**steel shelters, steel structure, cold-formed sections, design of elements and connections**
Opiekun/e-mail:	**Dr inż. Robert Grygo/ r.grygo@pb.edu.pl**
Kierunek – specjalność	**Civil Engineering**

5. Temat:	**Load-bearing capacity and deformability of reinforced concrete beams made of recycled aggregate**
Zakres pracy:	1. Literature review. 2. Development of recipes for concrete mixtures using recycled aggregate. 3. Execution of the experiment plan. 4. Construction of reinforced concrete beams, experimental tests. 5. Conclusions and design recommendations.
Słowa kluczowe:	**recycled aggregate, structural elements based on recycled aggregate, load-bearing capacity and deformability of reinforced concrete beams**
Opiekun/e-mail:	**Dr inż. Julita Krassowska/ j.krassowska@pb.edu.pl**
Kierunek – specjalność	**Civil Engineering**
6. Temat:	**Design of a house with a timber structure**
Zakres pracy:	1. Literature review consistent with the topic of the work. 2. Selection of the construction scheme. 2. Material and construction assumptions. 3. Static calculations and dimensioning. 4. Summary and conclusions. 5. Construction and architectural drawings.
Słowa kluczowe:	**structure design, house, timber**

* Wpisać odpowiedni termin:
Pracę dyplomową student obowiązany jest złożyć w następujących terminach:
1) do 28 lutego – jeśli studia kończą się w semestrze zimowym;
2) do 30 września – jeśli studia kończą się w semestrze letnim