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| **Informacje ogólne/General information** | **Nazwa przedmiotu/**  **Name of the subject** | Wybrane zagadnienia z biologii roślin drzewiastych / Selected topics in woody plant biology |
| **Jednostka prowadząca/Unit offering the subject** | Instytut Dendrologii Polskiej Akademii Nauk  Institute of Dendrology, Polish Academy of Sciences |
| **Język przedmiotu/Language of the subject** | Język angielski/ English |
| **Limit miejsca w grupach/Limit of the places in groups** |  |
| **Terminy zajęć/Time of classes** | three meetings: 1) **Nov. 7, 2022; 2) Nov. 28, 2022; 3) tba** |
| **Information about the subject** | **Typ przedmiotu/Type of the subject** | Seminarium obowiązkowe/ Seminar Obligatory |
| **Imię i nazwisko koordynatora przedmiotu/Person coordinating the subject** | dr hab. Daniel J. Chmura, [djchmura@man.poznan.pl](mailto:kalemba@man.poznan.pl) |
| **Imię i nazwisko osób prowadzących/First and last names of people conducting the subject** | Pracownicy naukowi Instytutu Dendrologii PAN/ Academics of Institute of Dendrology PAS |
| **Imię i nazwisko osób egzaminujących/First and last name of the examiner or the creditor** | Pracownicy naukowi Instytutu Dendrologii PAN/ Academics of Institute of Dendrology PAS; osoba zaliczająca/ credits: dr hab. Ewelina Ratajczak, dr hab. Joanna Mucha |
| **Sposób realizacji/**  **Implementation method** | Wykład i dyskusja dydaktyczna (z wykorzystaniem środków audiowizualnych poprzez MS TEAMS) / Lecture and didactic discussion with the use of audiovisual means via MS TEAMS |
| **Wymagania dodatkowe/**  **Additional Requirements** | Wiedza z zakresu podstaw biologii, fizjologii i biochemii roślin, genetyki roślin, biologii molekularnej, ekologii/ Knowledge of the basic biology, plant physiology and biochemistry, plant genetics, molecular biology, ecology |
| **Liczba punktów ECTS/Number of ECTS\* credits** | 2 ECTS |
| **Metody dydaktyczne/ Didactic methods used** | Wykład z prezentacją multimedialną, metoda studium przypadku, dyskusja dydaktyczna. Student: praca własna z literaturą/ Lecture with multimedia presentation, case study method, didactic discussion. Student: own work with the literature. |
| **Zakres tematów/ Scope of topics** | Genetic Applications in Biogeography / Zastosowania genetyki w biogeografii  The biogeography of plant–fungus interactions / Interakcje roślina - grzyb w ujęciu biogeograficznym  Mechanisms of invasive trees and shrubs spread / Mechanizmy rozprzestrzeniania się inwazyjnych gatunków drzew i krzewów |
| **Materiały dodatkowe/ Additional materials** |  |
| **Efekty ksztełcenia/ Learning outcomes** | **Efekty kształcenia dla przedmiotu ujęte w kategorii: wiedzy, umiejętności I kompetencji społecznych/ Learning outcomes for the subject included in the category of knowledge, skills and social competences** | **Knowledge**  **W-G.**  **W-K.**  PhD Studentgains organized knowledge of methods and research techniques used in the range of problems in woody plant biology, including biogeography, genetic and adaptive variation, plant invasiveness,.  PhD Student is familiar with analytical tools and methods, is able to describe the principles behind the methods, and define the scope of questions possible to address with available research techniques.  PhD Student is familiar with presentation of scientific results.  **Skills**  **U-W** - using knowledge,  **U**-**K** - communication,  **U-U** – learning  **U-W.** PhD student is able to identify appropriate analytical approach for specific research problems in woody plant biology.  **U-K.** PhD student has the ability to discuss the advantages and disadvantages of particular methods in addressing research problems introduced in the subject  **U-U.** PhD student has the ability to analyze and synthesize information and formulate conclusions and critical opinions.  **Social competences**  **K-K** - critical appraisal  PhD student understands the significance of scientific investigations in the discussed aspects of woody plant biology. |
| **Metody sprawdzenia efektów kształcenia/ Assessment methods & criteria** | Assessment methods:  - discussions and active participations in lectures – P8S\_U  - presentation |
| **Warunki zaliczenia i literatura/ Credit requirements and literature** | **Forma i warunki zaliczenia/ Form and conditions of completing the course** | - presence and active participation in lectures   * presentation |
| **Literatura/ Literature** | Meeting 1:  DeSalle R, Amato G (2004) The expansion of conservation genetics Nat Rev Genet 5:702-712 doi:10.1038/nrg1425  Fady B, Esposito E, Abulaila K, Aleksic JM, Alia R, Alizoti P, Apostol EN, Aravanopoulos P, Ballian D, Kharrat MBD, Carrasquinho I, Albassatneh MC, Curtu AL, David-Schwartz R, de Dato G, Douaihy B, Eliades NGH, Fresta L, Gaouar SBS, Illoul MH, Ivetic V, Ivankovic M, Kandemir G, Khaldi A, Khouja ML, Kraigher H, Lefèvre F, Mahfoud I, Marchi M, Martín FP, Picard N, Sabatti M, Sbay H, Scotti-Saintagne C, Stevens DT, Vendramin GG, Vinceti B, Westergren M (2022) Forest Genetics Research in the Mediterranean Basin: Bibliometric Analysis, Knowledge Gaps, and Perspectives Current Forestry Reports doi:10.1007/s40725-022-00169-8  Kling MM, Ackerly DD (2021) Global wind patterns shape genetic differentiation, asymmetric gene flow, and genetic diversity in trees Proc Natl Acad Sci U S A 118 doi:10.1073/pnas.2017317118  Noguerales V, Cordero PJ, Ortego J (2016) Hierarchical genetic structure shaped by topography in a narrow-endemic montane grasshopper BMC Evolutionary Biology 16:1-15 doi:10.1186/s12862-016-0663-7  Poli P, Guiller A, Lenoir J (2022) Coupling fossil records and traditional discrimination metrics to test how genetic information improves species distribution models of the European beech Fagus sylvatica Eur J For Res 141:253-265 doi:10.1007/s10342-021-01437-1  The set of literature for the following meetings will be distributed in due time |