Jan Kochanowski University of Kielce

Academic year 2023/2024

Faculty of Natural Sciences

Department of Mathematics

Field of study: Mathematics

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Detailed description of the courses below is available at: <https://matematyka.ujk.edu.pl/engmanual/course_cards.html>

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| MATHEMATICS | | | | | |
| Course unit | Przedmiot | Type | ECTS | Completion requirements | Academic hours per semester |
| WINTER SEMESTER (1) | | | | | |
| Mathematical Analysis III | Analiza matematyczna III | Lecture and classes | 8 | Exam  and graded credit | 120  (60 + 60) |
| Algebra and Number Theory | Algebra z teorią liczb | Lecture and classes | 7 | Exam  and graded credit | 90  (45+45) |
| Introduction to Differential Equations | Wstęp do równań różniczkowych | Lecture and classes | 2 | Exam  and graded credit | 30  (15 + 15) |
| Introduction to differential geometry | Wstęp do geometrii różniczkowej | Lecture and classes | 4 | graded credit | 60  (30+30) |
| Topology I | Topologia I | Lecture and classes | 4 | Exam  and graded credit | 60  (30+30) |
| Statistics I | Statystyka I | Lecture and classes | 4 | graded credit | 60  (30+30) |
| Measure and integral Theory | Teoria miary i całki | Lecture and classes | 4 | Exam  and graded credit | 60  (30+30) |
| Complex Analysis | Analiza zespolona | Lecture and classes | 4 | Exam  and graded credit | 60  (30+30) |
| Topology II | Topologia II | Lecture and classes | 4 | Exam  and graded credit | 60  (30+30) |
| Differential Equations | Równania różniczkowe | Lecture and classes | 4 | Exam  and graded credit | 60  (30+30) |
| BA Diploma Seminar | Seminarium dyplomowe | seminar | 3 | graded credit | 30 |
| Bachelor Thesis Workshop | Pracownia dyplomowa | tutorial | 3 | graded credit | 30 |
| MR Diploma Seminar II | Seminarium magisterskie II | seminar | 3 | graded credit | 30 |
| Masters Thesis Workshop II | Pracownia magisterska II | tutorial | 3 | graded credit | 30 |
| Monographical lecture (Bachelor) | Wykład monograficzny (licencjackie) | Lecture | 1 | graded credit | 15 |
| Monographical lecture II (Master) | Wykład monograficzny (magisterskie) | Lecture | 2 | graded credit | 30 |
| Graph Theory \* | Teoria grafów (fakultatywny) | Lecture and classes | 4 | graded credit | 45  (15 + 30) |
| Geometry of Banach spaces \* | Geometria przestrzeni Banacha (fakultatywny) | Lecture and classes | 4 | graded credit | 45  (15 + 30) |
| Integral transformations \* | Transformacje całkowe (fakultatywny) | Lecture and classes | 4 | graded credit | 45  (15 + 30) |
| Galois Theory \* | Teoria Galois (fakultatywny) | Lecture and classes | 4 | graded credit | 45  (15 + 30) |
| SUMMER SEMESTER (2) | | | | | |
| Mathematical Analysis IV | Analiza matematyczna IV | Lecture and classes | 4 | graded credit | 60  (30 + 30) |
| Functional analysis | Analiza funkcjonalna | Lecture and classes | 4 | Exam  and graded credit | 60  (30+30) |
| Algebraic geometry | Geometria algebraiczna | Lecture and classes | 3 | Exam  and graded credit | 45  (15+30) |
| Analysis of Algorithms and Numerical Methods | Metody numeryczne i analiza algorytmów | Lecture and classes | 3 | graded credit | 45  (15 + 30) |
| Monographical lecture  (Bachelor) | Wykład monograficzny | lecture | 2 | Exam | 30 |
| Monographical lecture  (Master) | Wykład monograficzny | lecture | 2 | graded credit | 30 |
| BA Diploma Seminar | Seminarium dyplomowe | seminar | 6 | graded credit | 30 |
| Bachelor Thesis Workshop | Pracownia dyplomowa | tutorial | 7 | graded credit | 30 |
| Master Diploma Seminar I | Seminarium magisterskie I | seminar | 2 | graded credit | 30 |
| Master Thesis Workshop I | Pracownia magisterska I | tutorial | 2 | graded credit | 30 |
| Master Diploma Seminar III | Seminarium magisterskie III | seminar | 4 | graded credit | 30 |
| Masters Thesis Workshop III | Pracownia magisterska III | tutorial | 6 | graded credit | 30 |
| Category Theory \* | Teoria kategorii (fakultatywny) | Lecture and classes | 4 | Exam  and graded credit | 45  (15 + 30) |
| Signals Analysis \* | Analiza sygnałów (fakultatywny) | Lecture and classes | 3 | graded credit | 45  (15 + 30) |
| Fractals Theory \* | Teoria fraktali (fakultatywny) | Lecture and classes | 4 | graded credit | 45   1. 30) |

\* - to be confirmed