**Course Syllabus**

Academic year: 2020-2021

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| Institution | University of Petroşani |
| Faculty | Mechanical and Electrical Engineering |
| Field of study | Power Engineering |
| Level | Bachelor |
| Program of study | Industrial Power Engineering |

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| Course | **Electrical Machine and Drives I** |
| Code | 2II5OD40 |
| Year of study (semester) | III (I) |
| Number of hours | 84 |
| Number of credits | 6 |
| Professor | Assoc. Prof., Ph.D. UȚU Ilie |

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| **No.** | **Topic** |
|  | Construction and nominal data of the transformer. Principle of operation and phase transformer equations |
|  | The blank, short-circuit and discharge operation load. Transformer secondary voltage variation. |
|  | Three phase Transformers (construction, connections, wiring diagrams and groups). Coupling and parallel operation of transformers. |
|  | Balance of active power and transformer efficiency |
|  | Element, nominal data and operating principle of the synchronous machine. Power and electromagnetic torque |
|  | Coupling and Parallel operation of synchronous generators, distribution of powers. |
|  | Operating characteristics and methods of starting synchronous motor. Synchronous compensator. |