

Don State Technical University
HIGHER EDUCATION SYLLABUS IN

1.1.Name of the study programme (in the original language)	Машиноведение, системы приводов и детали машин
1.2.Name of the study programme in English	Machine science, drive systems and machine parts
1.3.Qualification (degree)	Researcher, lecturer and researcher
1.4.Mode of education	full-time study, part-time study
1.5.Educational department	Faculty "Technology of mechanical engineering", department "Information support of automated technological complexes"
1.6.Workload (ECTS)	240
1.7.Duration of education	4 years (full-time study) 5 years (part-time study)
1.8.Field	Mechanical engineering
1.9.Profile	Machine science, drive systems and machine parts
1.10.Code of the field	15.06.01
1.11.Teaching languages	Russian
1.12.Other necessary languages	
1.13.Approved by the educational department (date)	
1.14.Admission requirements	Diploma of higher education (specialist's or master's degree), entrance examinations (foreign language, philosophy, special discipline)

2.Aim of the programme

The aim of the program is to prepare highly qualified specialists in the field of mechanical engineering, systems of drives and machine parts – researchers, teachers-researchers with professional knowledge of the processes of creation and use of machines, drives, components and parts of machines; owns the methods and means of testing and diagnostics of drives and machine parts; research and quality control units and parts of machines; using computer

software for simulation of drive machine; assessing and predicting their performance; knowledgeable of normative-technical documentation and system certification of machinery, and the documentation and rules of safety when using different machines and drives machines; is able to apply their knowledge and skills in both domestic and European cultural and technological space; professionals that meet modern international standards of cultural and professional skills prepared for further self-education and continuous professional self-improvement.

3.Characteristics of the programme

3.1.Main disciplines/modules	Machine science, drive systems and machine parts Research project Foreign language History and philosophy of science Psychology and pedagogy of the higher school
3.2 Elective disciplines	design and implementation of educational program on basis of Federal Educational Standard management and marketing in sciences

4.Employment and further education opportunities

4.1 Job opportunities	Research activities in this area. Teaching activities on higher education educational programs.
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5. Programme learning outcomes

1. Ability to conduct professional and pedagogical activities in the field of machine science, drive systems and machine parts using modern and relevant regulatory framework.
2. To collect and analyze scientific and technical information, as well as to carry out research and testing of technical devices, to process the results with the use of modern information technologies and technical means for solving problems in the creation of new elements and structures of drives of machines with effective operational properties.
3. Present the results of their research and present them in the form of scientific publications, information and analytical materials and presentations.
4. Make plans, programs, schedules, estimates of orders, applications, instructions and other technical documentation.
5. To carry out dynamic, resource and strength tests of elements and structures of machine drives.

6. To plan and conduct theoretical and experimental research to find and verify new ideas to improve the performance of elements and structures of machine drives and methods of their calculation.

7. To use in practice the integrated knowledge of natural science, General professional-oriented and special disciplines for understanding the problems of the direction "mechanical engineering", to be able to put forward and apply ideas, to make an original contribution to this field of science and technology.

8. Independently analyze the state and dynamics of the operation of drives of machines and their elements using appropriate modern methods and analysis tools.

9. Independently use the scientific results and known scientific methods and techniques to solve new scientific and technical problems in the field of machine drives and machine parts.

6.Education style (Teaching, learning, assessment)

6.1. Learning and teaching approaches: individual work plan, teamwork, problem solving method, experience-based learning, project method.

6.2. Assessment methods: case study method, multimedia presentations, reports, abstracts, creative assignments.

7.Contact information (responsible chair, head of the programme)

Department «Information support of automated technological complexes», the head of the program is Doctor of Technical Sciences, Professor Shishkarev Mikhail Pavlovich, tel. (863) 2381514, (863) 2738777