SYLLABUS

Design of lubricated contacts 15 credits M7025T

Design av smorda kontakter

Course syllabus admitted: Autumn 2018 Sp 1 - Autumn 2020 Sp 2

DECISION DATE
2018-02-15

Luleå University of Technology 971 87 Luleå, Sweden
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LULEÅ TEKNISKA UNIVERSITET

Design of lubricated contacts 15 credits M7025T

Design av smorda kontakter

Second cycle, M7025T

Education level	Grade scale	Subject	Subject group (SCB)
Second cycle	G U 3 4 5	Maskinelement	Mechanical Engineering

Entry requirements

Fundamental knowledge of mechanical engineering, materials science and technology, physics, mathematics and machine elements.

Selection

The selection is based on 30-285 credits

Examiner

Nazanin Emami

Course Aim

The student on completion of this course will be able to:

1. Knowledge and understanding

- Understand the significance of tribology in the design of lubricated contacts
- Improve their ability in thinking and performing in a professional and engineering manner
- Get experience from working in larger development projects including several collaborating projects
- Get better knowledge and understanding of ongoing basic research and applied research projects at Division of Machine Elements.
- Get experience from engineering reasoning and problem solving from idea to prototype testing with focus on sustainable development

2. Skills and abilities

- Apply the available tribological knowledge, models and experimental techniques in the analysis, design and optimization of lubricated contacts
- Create new tribological knowledge, obtain new data, mechanisms maps, models or simulative techniques that enable analysis, design and optimization of lubricated contacts
- Be familiar with, and be able to use, their knowledge in different application areas of tribolgical system
- Show ability of working in a team and on their own
- Get more experience in system thinking and be able to lead smaller industrial/research project
- Get experience from collaboration between different competence areas
- Show ability in oral and written communication

3. Ability of assessment and attitude

- Critically assess the validity and relevance of the available tribological knowledge, e.g. research articles and report
- Apply their knowledge and experience to carry out sustainable technical development in tribology

Contents

This course is essentially ‘project work’ based and its contents are as follows:

- Work on projects (either individually or in a small team)
- Special lectures pertaining to project tasks, if required

Realization

Each course occasion´s language and form is stated and appear on the course page on Luleå University of Technology's website.
The project work will be carried out by students (individually or in a small team) closely supervised by senior researchers. The project work may involve analytical and/experimental approaches and techniques. Some specialized lectures may also be organized depending on the nature of projects being carried out, if needed.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided. The student will be evaluated based on the following:

- Interim assessment
- Final presentation of project results and discussion
- Extent and quality of the work accomplished as is evidenced from the written report

Based on these, the students will be given a pass or fail grade.

Overlap

The course M7025T is equal to U7002T, M7034T

Literature. Valid from Autumn 2014 Sp 1

Tribology and machine component design related books; monographs; technical reports and research articles.

Course offered by

Department of Engineering Sciences and Mathematics

Items/credits

Number	Type	Credits	Grade
0001	Project work & report	12	TG G U 3 4 5
0002	Final presentation	2	TG U G#
0003	Interim assessment	1	TG U G#

Study guidance

Study guidance for the course is to be found in our learning platform Canvas before the course starts. Students applying for single subject courses get more information in the Welcome letter. You will find the learning platform via My LTU.

Last revised

by Mats Näsström 2018-02-15

Syllabus established

by Mats Näsström 2014-02-14