Plain Bearing Technology – Design, Dimensioning and Testing



Fachbereich Maschinenbau und Verfahrenstechnik Faculty of Mechanical and Process Engineering

Organisation

Dozent(in)/Dozenten

Lecture (2 SWS) Tutorial/Practical (2 SWS)

Workload

Credits

Teilnahmevoraussetzungen

Prüfungsform

Ggf. Online-Ressourcen

Dr.-Ing. André Gabener

Monday | 14:30-17:30 | Room 05.1.015

180h | 60h (Präsenzzeit) | 120h (Selbststudium)

6 CP Master

oral (TBC)

Moodle Kurs-Link

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Content

You will learn the **fundamentals of tribology** and the practical use of it. **What is tribology**?: Colloquial we can say: It's the **science of mating surfaces, friction and wear**. The exciting point about tribology: You can find it everywhere in your daily life. From an engineering point of view it is exciting due to it's **multidisciplinary character**: Tribology covers elements from **material science**, **mechanics**, **chemistry & design**.

In this lecture I will show you from an industrial point of view the **triangle of design**:

Testing – Numerical Simulation – Analytical Solution

After the course you will be able:

- to design plain bearings including the theoretical and experimental determination of friction and wear behavior
- to select appropriate tests to determine either material properties or behavior of complete tribo systems

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What else to say

I am happy to give you a (practical) insight into the exciting world of tribology and the daily life of a development engineer in industry including the skills and knowledge that is required. Parallel to the lecture we will have different practical elements:

- Tutorials (e.g. applied mechanics)
- Testing
- Numerical simulation
- A small design project including a presentation of results
- Visit of production site of Saint-Gobain Performance Plastic in Willich

If you are excited you might have already a look to:

Horst Czichos, Karl-Heinz Habig: "Tribologie-Handbuch - Tribometrie, Tribomaterialien, Tribotechnik", Springer 2015



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