

Seminar on Advanced Topics of Predictive Maintenance

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(in German: Seminar on Advanced Topics of Predictive Maintenance)

Module-ID: FIN-INF-120489

Abbreviation PredMa_Masterseminar	Credit Points 6	Semester every	Term starting at 1.	Duration 1 Semester	Language english	Level Master
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Link:	LSF
Limited accessibility:	true
Responsibility:	Prof. Dr.-Ing. Benjamin Noack, Prof. Dr. Myra Spiliopoulou
Lecturer:	Prof. Dr.-Ing. Benjamin Noack, Prof. Dr. Myra Spiliopoulou
Classes:	Seminar <i>Advanced Topics of Predictive Maintenance</i>

Applicability in curriculum:	- M.Sc. INF: Informatik - M.Sc. INF: Schlüssel- und Methodenkompetenzen - M.Sc. INF: Informatik Wahlpflicht (SPO 2027) - M.Sc. INF: Schlüssel- und Methodenkompetenz (SPO 2027) - M.Sc. INGINF: Informatik - M.Sc. INGINF: Schlüssel- und Methodenkompetenzen - M.Sc. WIF: Wirtschaftsinformatik - M.Sc. WIF: Informatik - M.Sc. WIF: Schlüssel- und Methodenkompetenzen - M.Sc. WIF: Informatik Wahlpflicht (SPO 2027) - M.Sc. WIF: Wirtschaftsinformatik (SPO 2027) - M.Sc. WIF: Schlüssel- und Methodenkompetenz (SPO 2027) - M.Sc. DKE: Learning Methods and Models for Data Science - M.Sc. DKE: Applied Data Science - M.Sc. DE: Methoden des Digital Engineering - M.Sc. DE: Methoden der Informatik - M.Sc. DE: Digital Engineering (SPO 2027) - M.Sc. DE: Schlüssel- und Methodenkompetenz (SPO 2027) - M.Sc. VC: Computer Science - M.Sc. VC: Computer Science (SPO 2027)
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Intended learning outcomes:

Students who complete the course ...

- read scientific articles given to them on introductory topics of predictive maintenance
- discuss these articles and reflect on them
- compare the methods that appear in these articles and discuss the pros and contra of each method in comparison to other methods
- summarize article contents on predictive maintenance in a report and present them
- formulate questions on these articles and answer questions formulated by other seminar participants

Content:

In this seminar, the participants will learn about

- challenges and methods for data acquisition in industrial processes
- data analysis tools in predictive maintenance
- process modeling, fault detection, and state prediction for industrial applications

Workload:

28h in presence (consultation meetings, presentations) + 156 h self study

Pre-examination requirements:	Type of examination:	Teaching method / lecture hours per week (SWS):
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	Referat	Seminar (2 SWS)
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Prerequisites according to examination regulations:	Recommended prerequisites:
none	• Signal and information processing • Learning algorithms • Underpinnings of engineering sciences and/or business informatics (some topics only) • Principles of scientific writing

Media:	Literature:
	Literature depends on topic assignment and is given to each student together with the assignment

Comments:

Revision #1

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