

Module Handbook (<https://modhb.uni-kl.de/>)

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Course EIT-PAN-304-K-4

System Theory (2V, 3.0 LP)

Course Type

SWS	Type	Course Form	CP (Effort)	Presence-Time / Self-Study
2	V	Lecture	3.0 CP	28 h / 62 h
(2V)			3.0 CP	28 h / 62 h

Basedata

SWS	2V
CP, Effort	3.0 CP = 90 h
Position of the semester	1 Sem. in SuSe
Level	[4] Bachelor (Specialization)
Language	[EN] English
Lecturers	Pandit, Madhukar, Prof. Dr.-Ing. (EXT DEPT: EIT) (/staff/630/)
Lifecycle-State	[NORM] Active

Contents

- Metrische, normierter und lineare Hilberträume
- orthogonale Basissysteme
- Transformationen
- verallgemeinerte Fourierreihen
- iterativ lernende Regelungen
- Zustandsdarstellung linearer und nicht-linearer
- dynamischer Systeme
- Anwendung der Theorie auf Beispiele in Nachrichten- und Regelungssystemen

Literature

- W. A. Porter: Modern Foundations of Systems Engineering;
- D. Luenberger: Optimization by Vector Space Methods; Wiley

Requirements for attendance (informal)

Modules:

- [EIT-EOT-601-M-3] Theoretical Electrical Engineering I (M, 5.0 LP) (/mhb/modules/EIT-EOT-601-M-3/)
- [EIT-EOT-602-M-4] Theoretical Electrical Engineering II (M, 5.0 LP) (/mhb/modules/EIT-EOT-602-M-4/)
- [MAT-00-01-M-1] Higher Mathematics I (M, 8.0 LP) (/mhb/modules/MAT-00-01-M-1/)
- [MAT-00-02-M-1] Higher Mathematics II (M, 8.0 LP) (/mhb/modules/MAT-00-02-M-1/)
- [MAT-00-03A-M-1] Higher Mathematics: Vector Analysis and Differential Equations (for Engineering Students) (M, 8.0 LP) (/mhb/modules/MAT-00-03A-M-1/)
- [MAT-00-03B-M-1] Higher Mathematics: Complex Analysis and Numerics (for Engineering Students) (M, 8.0 LP) (/mhb/modules/MAT-00-03B-M-1/)

Requirements for attendance (formal)

None

References to Course [EIT-PAN-304-K-4]

Module	Name	Context
[EIT-PAN-304-M-4 (/mhb/modules/EIT-PAN-304-M-4/)]	System Theory	P: Obligatory 2V, 3.0 LP