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| Details zum Modul | | | | | | | | | | | | | | | | | | | | | | | | |
| Code | | | | | | | | | | | | | | **Studienjahr** | | | | | | | **Studiensemester** | | | |
| BA014 | | | | | | | | | | | | | |  | | | | | | | **Wahlfach** | | | |
| Bezeichnung | | | | | | | | | | | | | | **VL** | | **UE** | | | **LU** | | **ECTS** | | | |
| Lineare Algebra | | | | | | | | | | | | | | 3 | | 0 | | | 0 | | 7.5 | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | |
| Sprache | | | | Englisch | | | | | | | | | | | | | | | | | | | | |
| Studium | | | | **Bachelor** | | |  | | | | **Master** | |  | | | | | **Doktor** | | | | | **X** | |
| Studiengang | | | | PhD in Betriebswirtschaftslehre | | | | | | | | | | | | | | | | | | | | |
| Lehr- und Lernformen | | | | Präsenzvorlesung | | | | | | | | | | | | | | | | | | | | |
| Modultyp | | | | **Pflichtfach** | | | | |  | | | | **Wahlfach** | | | | | | | **X** | | | | |
| Lernziele | | | | Ziel dieses Kurses ist es, den Studierenden detaillierte theoretische Kenntnisse über Themen der linearen Algebra zu vermitteln und verschiedene Beispiele aus deren Anwendungsbereichen zu untersuchen. | | | | | | | | | | | | | | | | | | | | |
| Lerninhalte | | | | Der Inhalt dieses Kurses umfasst Vektoren, Matrizen, den Begriff der Determinante, lineare Gleichungssysteme, innere Produkträume, lineare Transformationen, Eigenwerte und Eigenvektoren sowie numerische Methoden. | | | | | | | | | | | | | | | | | | | | |
| Methoden und Verfahren | | | | Formale Erklärung vom Vortragenden und Analyse | | | | | | | | | | | | | | | | | | | | |
| Teilnahmevoraussetzungen | | | | Keine | | | | | | | | | | | | | | | | | | | | |
| Koordination | | | | Assoc. Prof. Dr. Mehmet Hakan ÖZDEMİR (stellvertretend) | | | | | | | | | | | | | | | | | | | | |
| Vortrgende(r) | | | | Assoc. Prof. Dr. Mehmet Hakan ÖZDEMİR (stellvertretend) | | | | | | | | | | | | | | | | | | | | |
| Mitwirkende(r) | | | |  | | | | | | | | | | | | | | | | | | | | |
| Praktikumsstatus | | | | Keine | | | | | | | | | | | | | | | | | | | | |
| Fachliteratur | | | | | | | | | | | | | | | | | | | | | | | | |
| Bücher / Skripte | | | | Larson, R., Falvo, D. C., Elementary Linear Algebra Sixth Edition, Houghton Mifflin Harcourt Publishing Company, 2009  Anton, H. Lineare Algebra: Einführung, Grundlagen, Übungen,, Spektrum, 1998. | | | | | | | | | | | | | | | | | | | | |
| Weitere Quellen | | | |  | | | | | | | | | | | | | | | | | | | | |
| Lernmaterialien | | | | | | | | | | | | | | | | | | | | | | | | |
| Dokumente | | | |  | | | | | | | | | | | | | | | | | | | | |
| Hausaufgaben | | | |  | | | | | | | | | | | | | | | | | | | | |
| Prüfungen | | | |  | | | | | | | | | | | | | | | | | | | | |
| Zusammensetzung des Moduls | | | | | | | | | | | | | | | | | | | | | | | | |
| Mathematik und Grundlagenwissenschaften | | | |  | | | | | | | | | | | | | % | | | | | | | |
| Ingenieurwesen | | | |  | | | | | | | | | | | | | % | | | | | | | |
| Konstruktionsdesign | | | |  | | | | | | | | | | | | | % | | | | | | | |
| Sozialwissenschaften | | | |  | | | | | | | | | | | | | %40 | | | | | | | |
| Erziehungswissenschaften | | | |  | | | | | | | | | | | | | % | | | | | | | |
| Naturwissenschaften | | | |  | | | | | | | | | | | | | % | | | | | | | |
| Gesundheitswissenschaften | | | |  | | | | | | | | | | | | | % | | | | | | | |
| Fachkenntnis | | | |  | | | | | | | | | | | | | %60 | | | | | | | |
| Bewertungssystem | | | | | | | | | | | | | | | | | | | | | | | | |
| Aktivität | | | | **Anzahl** | | | | | | | | | | | | | **Gewichtung in Endnote (%)** | | | | | | | |
| Zwischenprüfungen | | | | 1 | | | | | | | | | | | | | 40% | | | | | | | |
| Quiz | | | |  | | | | | | | | | | | | | % | | | | | | | |
| Hausaufgaben | | | |  | | | | | | | | | | | | | % | | | | | | | |
| Anwesenheit | | | |  | | | | | | | | | | | | | % | | | | | | | |
| Übung | | | |  | | | | | | | | | | | | | % | | | | | | | |
| Projekte | | | |  | | | | | | | | | | | | | % | | | | | | | |
| Abschlussprüfung | | | | 1 | | | | | | | | | | | | | 60% | | | | | | | |
| Summe | | | | | | | | | | | | | | | | | **100** | | | | | | | |
| ECTS Leistungspunkte und Arbeitsaufwand | | | | | | | | | | | | | | | | | | | | | | | | |
| Aktivität | | | | **Anzahl** | | | | | | **Dauer** | | | | | | | **Gesamtaufwand (Stunden)** | | | | | | | |
| Vorlesungszeit | | | | 14 | | | | | | 3 | | | | | | | 42 | | | | | | | |
| Selbsstudium | | | | 14 | | | | | | 13 | | | | | | | 182 | | | | | | | |
| Hausaufgaben | | | |  | | | | | |  | | | | | | |  | | | | | | | |
| Präsentation / Seminarvorbereitung | | | |  | | | | | |  | | | | | | |  | | | | | | | |
| Zwischenprüfungen | | | | 1 | | | | | | 1 | | | | | | | 1 | | | | | | | |
| Übung | | | |  | | | | | |  | | | | | | |  | | | | | | | |
| Labor | | | |  | | | | | |  | | | | | | |  | | | | | | | |
| Projekte | | | |  | | | | | |  | | | | | | |  | | | | | | | |
| Abschlussprüfung | | | | 1 | | | | | | 1 | | | | | | | 1 | | | | | | | |
| Summe Arbeitsaufwand | | | | | | | | | | | | | | | | | **226** | | | | | | | |
| ECTS Punkte (Gesamtaufwand / Stunden) | | | | | | | | | | | | | | | | | **7.5** | | | | | | | |
| Lernergebnisse | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | In der Lage zu sein, über theoretische Kenntnisse zu Themen der linearen Algebra zu verfügen | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | In der Lage sein, Anwendungen zu diesen Themen zu machen | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | In der Lage zu sein, eine Grundlage zum Verständnis der in aktuellen Artikeln verwendeten Methoden zu schaffen | | | | | | | | | | | | | | | | | | | | | | |
| Wöchentliche Themenverteilung | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | Vektoren und Vektorräume | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | Unterräume, Basis, Dimension, Koordinaten und Basiswechsel | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | Matrizen und Matrizenoperationen | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | Der Begriff der Determinante und die Eigenschaften der Determinante | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | Lösen von linearen Gleichungssystemen | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | Lösen von linearen Gleichungssystemen | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | Innere Produkträume | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | Zwischenprüfung, Innere Produkträume | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | Lineare Transformationen | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | Lineare Transformationen | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | Eigenwerte und Eigenvektoren | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | Eigenwerte und Eigenvektoren | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | Eigenwerte und Eigenvektoren | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | Numerische Methoden | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | Abschlussprüfung | | | | | | | | | | | | | | | | | | | | | | |
|  | |  | | | | | | | | | | | | | | | | | | | | | | |
| Beitrag der Lernergebnisse zu den Lernzielen des Programms (1-5) | | | | | | | | | | | | | | | | | | | | | | | | |
|  | **P1** | | **P2** | **P3** | | **P4** | | **P5** | | | **P6** | **P7** | | | **P8** | | | **P9** | | | | **P10** | | **P11** |
| 1 | 5 | | 4 | 5 | | 5 | | 5 | | | 4 |  | | | 4 | | |  | | | | 5 | |  |
| 2 | 5 | | 4 | 5 | | 5 | | 5 | | | 4 |  | | | 4 | | |  | | | | 5 | |  |
| 3 | 5 | | 4 | 5 | | 5 | | 5 | | | 4 |  | | | 4 | | |  | | | | 5 | |  |
| Beitragsgrad: 1: Sehr Niedrig 2: Niedrig 3: Mittel 4: Hoch 5: Sehr Hoch | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | |
| Erstellt von: | | | | | Assoc. Prof. Dr. Mehmet Hakan Özdemir (Leiter des Fachbereichs Numerische Methoden) | | | | | | | | | | | | | | | | | | | |
| Datum der Aktualisierung: | | | | | 13.05.2024 | | | | | | | | | | | | | | | | | | | |