Modulbezeichnung:	**Algorithmic Game Theory (AGT)** (Algorithmic Game Theory)	**5 ECTS**
Modulverantwortliche/r:	Yiannis Giannakopoulos	
Lehrende:	Yiannis Giannakopoulos	

Startsemester: WS 2021/2022	Dauer: 1 Semester	Turnus: jährlich (WS)
Präsenzzeit: 45 Std.	Eigenstudium: 105 Std.	Sprache:

Lehrveranstaltungen:

Algorithmic Game Theory (Optimization in Industry and Economy) (WS 2021/2022, Vorlesung, 2 SWS, Yiannis Giannakopoulos)
Übung Algorithmic Game Theory (WS 2021/2022, Übung, 1 SWS, Yiannis Giannakopoulos)
Algorithmic Game Theory (Optimization in Industry and Economy) (WS 2021/2022, Vorlesung, 2 SWS, Yiannis Giannakopoulos)
Algorithmic Game Theory (Optimization in Industry and Economy) (WS 2021/2022, Vorlesung, 2 SWS, Yiannis Giannakopoulos)

Inhalt:

https://www.studon.fau.de/studon/goto.php?target=univis_2021w.Lecture.41307648

Lernziele und Kompetenzen:

Learning Objectives Upon successful completion of this module, students have a comprehensive understanding of the foundations of algorithmic game theory and algorithmic mechanism design. In particular, they can:
design and analyse efficient mechanisms for various settings involving rational selfish players, most notably Bayesian revenue-maximizing auctions quantify the loss in performance of a system due to selfish behaviour (price of anarchy), most notably in traffic routing understand the concept of differentiating between various equilibria outcomes and selecting the desired ones (potentials and equilibrium refinement) understand the concept of learning dynamics in game-playing, such as best-responses

Verwendbarkeit des Moduls / Einpassung in den Musterstudienplan:

Das Modul ist im Kontext der folgenden Studienfächer/Vertiefungsrichtungen verwendbar:

[1] **Computational and Applied Mathematics (Master of Science)**
(Po-Vers. 2019w | NatFak | Computational and Applied Mathematics (Master of Science) | Gesamtkonto | Specialisation: Modeling and applied analysis (MApA) and optimization (Opti) | Algorithmic Game Theory)

[2] **Computational and Applied Mathematics (Master of Science)**
(Po-Vers. 2019w | NatFak | Computational and Applied Mathematics (Master of Science) | Gesamtkonto | Specialisation: Numerical analysis and simulation (NASi) and optimization (Opti) | Algorithmic Game Theory)

Dieses Modul ist daneben auch in den Studienfächern "Data Science (Master of Science)", "Wirtschaftsmathematik (Master of Science)" verwendbar.

Studien-/Prüfungsleistungen:

Algorithmic Game Theory (Prüfungsnummer: 50821)
Prüfungsleistung, mündliche Prüfung, Dauer (in Minuten): 15
Anteil an der Berechnung der Modulnote: 100%

Erstablegung: WS 2021/2022, 1. Wdh.: WS 2021/2022
1. Prüfer: Yiannis Giannakopoulos