

BHH-Modulbeschreibung

Modulbezeichnung	Computational Logic		
Modul-Nr./Code			
Modulverantwortliche/ Modulverantwortlicher	Stefan Schiffner		
ECTS-Punkte	6		
Workload	Gesamtworkload	Präsenzstudium	Selbststudium (inkl. begleitetes Selbststudium)
	150 h	50 h	100 h
Lernort	<input checked="" type="checkbox"/> BHH <input type="checkbox"/> Berufsschule <input type="checkbox"/> Berufspraxis		
Qualifikationsziele des Moduls	<p>Students master the syntax and semantics of various logical systems and can develop them further. They are familiar with classical calculi such as natural deduction and resolution and can apply them to concrete problems, in particular, they are familiar with the relevance of calculi in automatic and interactive theorem proving. They are familiar with the concepts of soundness and completeness in this context. Lastly students will gain a working knowledge and understanding of logic programming and are able to express simple facts through prolog programs.</p>		
Inhalte des Moduls	Lehrveranstaltung	Präsenzstudium	Selbststudium (inkl. begleitetes Selbststudium)
	Computational Logic	50	100
	<ul style="list-style-type: none"> – refresher and formal introduction (syntax and semantics) to propositional and first order logic – introduction to the concept of calculus – study of classical calculi such as resolution and natural deduction w.r.t. to their applicability to automatic theorem proving – prolog lab sessions (implementing their own simple resolution theorem prover) 		
Zeitliche Verortung im Studienverlauf	<input type="checkbox"/> 1./2. Semester <input type="checkbox"/> 3./4. Semester <input checked="" type="checkbox"/> 5./6. Semester <input checked="" type="checkbox"/> 7./8. Semester		
Dauer des Moduls	1 Semester		
Lehr-/Lernform(en)	Seminar		

Sprache	English
Prüfungsform, -umfang, -dauer	Presentation
Voraussetzungen für die Teilnahme	Fundamentals in mathematics and logic
Literaturempfehlungen	<ul style="list-style-type: none"> – O'Regan, G. (2017). The Nature of Theorem Proving. In: Concise Guide to Formal Methods. Undergraduate Topics in Computer Science. Springer, Cham. – Fitting, M. (1996). First-Order Logic and Automated Theorem Proving. Texts in Computer Science. Springer, New York. – Hölldobler, S. (2001) Logik und Logikprogrammierung. Synchron, Synchron, Wiss.-Verl. der Autoren, Heidelberg.
Häufigkeit des Angebots des Moduls	Annual
Verwendbarkeit des Moduls	N.A.
Besonderheiten	Extracurricular Course