

— Plano de Ensino 2024.2 —

Código	DCC831
Disciplina	Theory and Practice of SMT solving
Turma	...
Professor	Haniel Barbosa
Horário	2a/4a 14:55-16:35
Sala	407, CAD 3

Ementa.

- Satisfiability Modulo Theories
- CDCL(T) architecture
- Theory solvers
- Quantifiers
- Proofs
- State-of-the-art review

Programa.

Class	Date	Content
1	25/09 (Wed)	SMT intro and overview
2	30/09 (Mon)	Propositional Logic
3	02/10 (Wed)	Clausification and Resolution
4	07/10 (Mon)	DPLL and CDCL
5	09/10 (Wed)	Efficient SAT solving
6	14/10 (Mon)	First-order Logic and SMT
7	16/10 (Wed)	From SAT to SMT
8	21/10 (Mon)	Laboratory: SMT introduction
9	23/10 (Wed)	Theory solvers: EUF
–	28/10 (Mon)	Holiday: Dia do Servidor Público
–	30/10 (Wed)	No class
10	04/11 (Mon)	Theory solvers: Difference Logic, Arrays
11	06/11 (Wed)	Theory solvers: Arithmetic
12	11/11 (Mon)	Theory solvers: Arithmetic
13	13/11 (Wed)	Theory solvers: bit-vectors
14	18/11 (Mon)	Exam 1
–	20/11 (Wed)	Holiday: Dia da Consciência Negra
15	25/11 (Mon)	Theory combination
16	27/11 (Wed)	Quantifiers
17	02/12 (Mon)	Quantifiers
18	04/12 (Wed)	Laboratory: Applications
19	09/12 (Mon)	Proofs
20	11/12 (Wed)	Proofs
21	16/12 (Mon)	Proofs
22	18/12 (Wed)	Proofs
–	23/12 (Mon)	Blocked: Recesso de fim de ano
–	25/12 (Wed)	Holiday: Natal

–	30/12 (Mon)	Blocked: Recesso de fim de ano
–	01/01 (Wed)	Holiday: Ano novo
23	06/01 (Mon)	Laboratory: Proofs
24	08/01 (Wed)	Project check-in
25	13/01 (Mon)	Exam 2
26	15/01 (Wed)	Seminars
27	20/01 (Mon)	Seminars
28	22/01 (Wed)	Seminars
29	27/01 (Mon)	Seminars
30	29/01 (Mon)	Seminars

Bibliografia. A disciplina não possui um livro-texto. Diversos materiais de leitura, entre notas de aula, tutoriais, capítulos de livros e artigos, serão passados durante o semestre e serão disponibilizados na página da disciplina.

- Decision Procedures: An Algorithmic Point of View by Daniel Kroening and Ofer Strichman
- A Mathematical Introduction to Logic by Herbert B. Enderton (online version).

Avaliações.

1	Prova 1	25%	18/11
2	Prova 2	25%	13/01
3	Projeto	30%	
4	Seminário	20%	
