School of Architecture, College of Fine Arts
Carnegie Mellon University

Minor in Computational Design

Description

The minor in Computational Design is intended for students who wish to engage with computation as a vehicle of generative, material, and spatial design exploration. It brings together courses from the School of Architecture and the College of Fine Arts to offer students hands-on experience, and a deep understanding, of computation as a resource in creative design practices. Students minoring in computational design will be eligible for advanced standing in the School of Architecture's Master of Science in Computational Design (MSCD).

The minor offers students the possibility of exploring three areas of computational design: 'making,' 'designing,' and 'theory' (see table of courses on the next page).

Students interested in obtaining a minor in Computational Design need to take a minimum of 54 units of CD courses, including:

- A minimum of 27 units from the 'designing' and/or 'making' areas. Please note that required courses do not count towards the minor.
- A minimum of 9 units from the 'theory' area
- A programming class (either 15-112 or the two minis 48-782 and 48-784. 15-104 is also a possibility, subject to approval).
- Students without any prior programming experience are encouraged to consider taking 15-110 before taking 15-112, 48-782, or 48-784.

Please note:

- The following required courses do not count towards the minor for architecture students in the B.Arch and B.A. programs: 62-122, 62-123, 62-225, and 62-275.
- The following required courses do not count towards the minor for architecture students in the B.X.A. program: 62-122 and 62-123.
- The following courses prioritize enrollment by grad students and therefore undergraduate enrollment may be limited: 48-727 and 48-749.

Contact

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Computational Design course offerings (SoA + CFA) – 2020-218*

	Course Name	Instructor	Units	Area	Term
62-122	Digital Media 1	Eddy Man Kim	6	Designing	F
62-123	Digital Media 2	Eddy Man Kim	6	Designing	S
62-225	Generative Modeling	Josh Bard	9	Designing	F
62-275	Fundamentals of Computational Design*	Daniel Cardoso Llach	9	Designing	S
51-367	Computational Design Thinking	Kyuha Shim	9	Designing	F
48-568	Advanced CAD, BIM, 3DS Visualization	Kristen Kurland	9	Designing	F
62-315	Shaping the Built Environment: Computational and Performative Design Experiments	Dana Cupkova	12	Designing	S
48-530	Human Machine Virtuosity	Josh Bard & Craig Zieglin	12	Making	S
48-555	Introduction to Architectural Robotics	Bidgoli	6	Making	F/S
48-545	Design Fabrication	Jose Pertierra	9	Making	S
60-212	Electronic Media Studio: Interactivity and Computation for Creative Practice	Golan Levin	12	Making	F
48-749	Special Topics in Computational Design	CD Faculty	6	Theory	F/S
48-727	Inquiry into Computational Design	Daniel Cardoso Llach	9	Theory	F
48-599	Independent Study	CD Faculty	Varies	Varies	F/S
48-675	Designing for the Internet of Things	Daragh Byrne	6	Making	F
48-676	Connected Communities	Daragh Byrne	6	Making	F
54-399	Decoding Media	Lawrence Shea	9	Making	F
54-405	Digital Narratives	Lawrence Shea	9	Making	F
48-775	Architectural Interfaces	Kiryiaki Goti	9	Making	F

Note: Shaded rows indicate non-architecture CFA courses offered by CD faculty affiliates.
* Subject to updates