

PhD in Computational Design (Course Requirements)

Curriculum

Year 1	Fall	Spring
General 9 units	48-711 Research Models and Methods in Architecture (9)	
Computing 24 units	48-756 Application in CAD (12)	48-770 Computation I: Introduction to Programming and Databases (12)
Project 24 units	MS(CD) Project Course I (12)	MS(CD) Project Course II (12)
Elective 12 units	Elective (6)	Elective (6)

Year 2	Fall	Spring
Concentration Selectives 18 units	Concentration Selectives (9)	Concentration Selectives (9)
Computing 24 units	15-211 Fundamentals of Data Structure and Algorithms (12)	15-212 Principles of Programming (12)
Project 24 units	MS(CD) Project Course III (12)	MS(CD) Project Course IV (12)
Electives 12 units	Electives (6)	Electives (6)

Selectives are courses that are accepted as fulfilling the requirement of showing proficiency in core aspects of Computational Design. Most selectives expect some programming skill as a prerequisite. Students without prerequisites should use the elective slot to take such courses without extending the duration of the program, e.g., 21 -127 Concepts of Mathematics, is a prerequisite for 15 -211.

+ Completion of one or more of 15 -212, 15 -213 or 17 -652 is required for candidacy in the PhD program in Computational Design.

Concentration Selectives

These concentration courses, subject to approval by the PhD Program committee, are accepted by the program as fulfilling the requirement of students showing proficiency in some aspects of Computational Design. These courses may be offered by the School of Architecture, School of Computer Science, Department of Civil and Environmental Engineering, Department of Mechanical Engineering, Human Computer Interaction Institute, Robotics, etc.

Approved courses may vary from year to year. Owing to periodic changes to the curricular offerings, students may, under the advice and approval of their Principal Advisor, and the PhD Program Committee, elect alternative courses to fit within this category.

All course numbers/titles and their schedules may be subject to change. Please refer to the School of Architecture Graduate Programs Website [www.arc.cmu.edu] for the latest information.