MASTER OF SCIENCE IN ARCHITECTURE (DESIGN COMPUTING)

Design Computing: An Emerging Field

The Master of Science in Architecture Program in Design Computing at the University of Washington offers an opportunity to pursue graduate study in design computing – an emerging field concerned with the development of a new generation of design software, application of simulation, analysis, and fabrication in the design process, and utilization of digital technologies to create smart environments. Students from many disciplinary backgrounds (including applicants without a previous design degree) join together to pursue education and research in areas that include design methods, augmented and virtual reality, simulation and analysis, collaboration and community, digital fabrication, human computer interaction for design, smart environments and other related topics.

The DMG: A Research Community

The Program in Design Computing is usually completed in 4 or 5 quarters. Students in the program become part of the Design Machine Group, a research studio dedicated to fostering collaborative exchange and reflective exploration of design and information technology. The projects in this research lab focus on design, computing and the built environment. Visit the DMG web site for additional information: http://dmg.be.washington.edu/

Curriculum: Preparation & Opportunity

The program involves a minimum of 45 credits of required course work, taken at the UW's Seattle campus and divided between "core" and "selective" courses. The core courses (Theory of Design Computing, Research Practice, Research Practicum, Thesis Research, and Thesis) consist of 24 credits.

The remaining 21 credits (called "selectives") are drawn from a variety of courses offered within the department and across campus (see next page for partial list) selected in consultation with the program director to strengthen and focus the student's interests, understanding, and skills relative to design computing.

Students are encouraged to develop projects to the point of publication and travel support is available for students to present papers at appropriate conferences.

ELIGIBILITY

The program is open to students with a Bachelors degree and welcomes candidates from both design and non-design fields. In particular, we seek students who wish to better understand the many ways computing interacts with, challenges, facilitates, and enables the human designer and influences the built environment.

Candidates seeking to enhance their design computing skills as part of a career as a licensed architect are welcome to apply, but should earn a professionally accredited degree in architecture (e.g. the 2+ or 3+MArch) prior to applying to the MS in Architecture program.

ADMISSIONS

The deadline for admission into all MS Arch programs is February 15 for entry fall quarter of the following academic year. Admission to the program is highly competitive. The Admissions Committee gives priority to applicants whose demonstrated abilities will enable them to complete the program expeditiously and with a high level of achievement.

Admissions requirements:
http://arch.be.washington.edu/admissions/ms-arch

MS ARCH Design Computing
CURRICULUM

A minimum of 45 quarter credits is required to complete the program, divided between 24 credits of coursework required of each MS student and 21 credits of selectives picked from available courses to fit the individual interests and specialization. The five core courses establish a frame of reference and action within which design computing can be understood, and help the student develop and explore their individual area of thesis research, culminating in a written thesis. The 21 selective credits are found in course work that develops digital media skills, explores application areas, or lets the student explore topics of personal interest. While selective opportunities can be found in many departments, they must be approved by the program director in order to be counted toward the MS degree.

	AUTUMN	WINTER	SPRING
YEAR 1	ARCH 587 Design Computing Theory (3)	Selective (3)	ARCH 597 Research Practicum (5)
	ARCH 588 Research Practice (3)	Selective (3)	Selective (3)
	Selective (3)	Selective (3)	Selective (3)
	Selective (3)	Selective (3)	
	12 CREDITS	12 CREDITS	12 CREDITS
YEAR 2	ARCH 599 Thesis Research Preparation (4)	ARCH 700 Master's Thesis (9)	ARCH 700 Master's Thesis (if needed)
	Selective (3)		
	Selective (3)		
	10 CREDITS	9 CREDITS	

Design Computing Selectives	credits	qtr
ARCH 478 - CAD and Working Drawings	(3)	Aut
ARCH 481 - 3D Modeling and Rendering	(3)	Aut
ARCH 482 - Web Weaving	(3)	Wtr
ARCH 486 - Algorithmic Geometry in Architectural Design	(3)	Spr
ARCH 487 - Fundamentals of BIM	(3)	Aut, Wtr
ARCH 498 - Creating Responsive Environments	(3)	Spr
ARCH 526 – Topics in High Performance Building	(3)	Aut
ARCH 527 - Introduction to Digital Design & Fabrication	(3)	Aut, Wtr, Spr
ARCH 528 - Digital Design for Fabrication & Construction	(3)	Wtr
ARCH 529 - Advanced Digital Projects	(3)	Spr
ARCH 533 - Advanced Environmental Systems	(3)	Spr
ARCH 582 - Computational Lighting Design	(3)	Wtr
ARCH 598 – Performative Design Practices	(3)	Wtr
ARCH 598 - AEC Seminar (with Arch/CM 404)	(3)	Wtr
CSE 440 – Introduction to HCI	(5)	Aut, Sum
DXARTS 470 - Sensing and Control Systems for Digital Arts	(5)	Aut, Sum
HCDE 455 – User Interface Design	(4)	Aut
HCDE 418 - User Experience Design	(5)	check time schedule
IND E 549 - Human Factors in Engineering Design	(3)	Spr

Note 1: The Master of Science in Architecture curriculum includes a total of 45 course credits. Generally, the requirements for this degree, including thesis, can be fulfilled in 4 or 5 quarters. The degree must be completed on the University of Washington's Seattle campus.

Note 2: 21 credits of design computing courses can selected from among Department of Architecture courses listed here, or other appropriate University of Washington courses numbered 400 and above as approved by the program director.

Note 3: Grey shaded courses on curriculum table are only offered once a year in the quarter identified.