The Design Computing curriculum is quite dynamic: The following information will almost certainly change!

**Digital Media**

These courses offer opportunities to learn about current software tools for computer drawing, CAD, 3D modeling, rendering, and web-site construction.

**380: Computers In Architecture**
- Prerequisites: None
- Lectures, demonstrations and exercises introduce students to major computing concepts, and applications used in architecture. Topics: Macintosh, Windows, & internet 'survival skills'; applications: word processing, 2D graphics, 3D graphics, and spreadsheets.

**481: 3D Modeling and Rendering**
- Prerequisites: Arch 380 or permission
- Lectures and weekly exercises develop an understanding of and ability to apply the underlying principles of 3D graphics and rendering software. Topics include modeling, lighting, shading, smoothing, texturing, rendering and, animation.

**478: 2D CAD + Working Drawings**
- Prerequisites: Arch 380 or permission
- Lectures and exercises develop understanding of working drawings (WD) and the use of 2D CAD to create them. Topics WD organization, conventions, content, limitations, plus CAD primitives, attributes, layering, symbols, data exchange, plotting.

**Design Computing Seminars**

In these classes students are explore Design Computing concepts and theories through reading, listening, writing and discussion.

**484: Design Computing Seminar**
- Prerequisites: None
- Weekly colloquium exploring design computing, design thinking, design process, and new computer aided tools for design. Guest speakers present current design computing research and ideas. Students respond through weekly writing and individual research.

**482: Web Weaving**
- Prerequisites: Arch 380 or permission
- Learn to create interactive design-oriented web sites: present a design project, a personal portfolio site, or the work of an online studio. In addition to looking at the technologies involved, discuss the social and user issues of such sites.

**483: Design of Virtual Environments**
- Prerequisites: permission
- Explores through a blend of technical exercises constructing computational artifacts, readings, and discussions of relevant literature, the possibilities of online virtual environments. Incorporates a term project or paper based on exercises and readings.

**485: Digital Craft Workshop**
- Prerequisites: Arch 481, 482, 483, 478, or permission
- Your opportunity to apply skills from other courses to a project of your own choosing, and share skills and techniques with your peers. You will work on your own project, but share your goals and process with the class in a seminar-style process.

**486: CG Programming for Design**
- Prerequisites: permission
- Introduction to concepts of computer programming with an emphasis on creative interactive graphics and design. Weekly exercises with term project. Significant lab time required.

**498: Simulation-Based Design**
- Prerequisites: permission
- An exploration of strategies and approaches to design based on simulation.

**598: Comput’l Lighting Analysis**
- Prerequisites: permission
- Lighting design from a computational point of view.

**Digital Computing Technology**

These courses delve into concepts and technologies related to or enabling the application of computing to design, construction, and architecture. Students learn practical skills and are challenged to apply them to real situations and assess their impacts.

**416: Fr’h’and Dwg in the Dig’l Realm**
- Prerequisites: none
- Develop and apply traditional visual sensitivities to drawing done with digital tools. Class sessions are spent hands-on, working with paint programs, graphics tablets, scanners, etc.

**417: Adv Topics in Digital Drawing**
- Prerequisites: Arch 416 or permission
- Continuation and development of topics from A416.

**598: Advanced Rendering**
- Prerequisites: Arch 481 or permission
- The focus is the theory and applications of physically-based and image-based rendering algorithms and tools that are used to simulate complex physical processes for generating digital images that mimic the physical world.

**597: Research Practicum**
- Prerequisites: permission
- A "research studio" for MS students, in which a topic is explored and developed into a research paper.