Arch 610 Bibliography: Digital Architectural Design

Nancy Yen-wen Cheng – revised Jan 3, 2009

DIGITAL MEDIA – GENERAL

Kerlow, Isaac Victor, **The Art of 3D Computer Animation and Imaging**, New York: Van Nostrand Reinhold 2004. Computing Ctr Docs Rm F710 /K 4 (3rd Ed.), AAA T385.K45(2nd ed.) In-depth view of modeling, rendering, animation, and post-processing with concepts and practical guidelines clearly spelled out. Covers production with insight into the industry. Eye-popping graphics.

Ashford, Janet & J. Odam, **Getting Started in 3D**, TR897.5 .A85 1998: A fun, picture-filled introduction to computer modeling and rendering. Examples are oriented towards using graphics for illustration rather than realistic representation.

Birn, Jeremy, **Digital Lighting & Rendering**, AAA T385 .B557 2000 Exquisitely illustrated book explains how to achieve professional results, explaining the process without a bias towards one specific software. http://www.3Drender.com

Spalter, Anne Morgan, **The Computer in the Visual Arts**, N72.E53 S65 1999: Textbook with clear technical explanations of digital graphic tools and artistic applications. Strong creative examples. Not focused on architecture, dated.

*Weishar, Peter, **Digital Space: Designing Virtual Environments**, NA2728 .W43 1998: Oriented towards creating virtual sets for the entertainment industry, this book is filled with useful how-to tips and tricks for 3D modeling and rendering.

DIGITAL MEDIA - ARCHITECTURAL

Association for Computer Aided Design in Architecture **(ACADIA) conference proceedings**: Papers present digital media theory, tool developments, teaching and practice applications. (see CUMINCAD paper index: http://cumincad.scix.net for latest)

Burry, Mark (editor): **Cyberspace: the World of Digital Architecture**, 2001. NA2700 .C93 2001 http://books.google.com/books?id=8MPR2AEnM7sC

*Eastman, Chuck et. al., **BIM Handbook: A Guide to Building Information Modeling for Owners**, Managers, Designers, Engineers and Contractor, 2008. TH437 .B53 2008 Explains the new generation of coordinated intelligent 3D models.

Iacovoni, Alberto, **Game Zone**, Basel, 2003. NA2728 .I24 2004

Kelay, Yehuda, **Architecture's New Media**. Cambridge, MA: MIT Press, 2004. NA2728 .K35 2004. Explains CAAD topics from virtual environments to automated construction.

Liu, Yu-Tung (editor): **Diversifying Digital Architecture**, 2003 FEIDAD Award, 2004, NA 2543.T43.D645 2004. Competition reflecting trends in digital design.

Rahim, Ali, **Catalytic Formations: Digital Design in Architecture**, Routledge, 2006. AAA NA2728 .R33 2006. Connects concepts to cutting-edge processes, forms and resulting experiences

Uddin, M. Saleh, **Digital Architecture**, New York: McGraw-Hill 1999, NA2728 .U327 1999: Categorizes and explains different ways that computer graphics can be used for architectural design. Excellent images.

Oosterhuis, Kas. **Hyperbodies : toward an e-motive architecture.** NA2728 .06713 2003 Responsive architecture

DIGITAL MEDIA - ARCHITECTURAL FABRICATION

Aranda, Benjamin & Chris Lasch, **Tooling**, AAA NA2728 .A58 2006 Explains how algorithms can create interesting form.

Beesley, Philip and Nancy Cheng, Shane Williamson. **Fabrication: the digital practice of architecture**, 2004. TH1095 .A53 2004 Conference proceedings

Kieran, Stephen & James Timberlake, **refabricating ARCHITECTURE: How Manufacturing Methodologies Are Poised to Transform Building Construction** , AAA TH213.5 .K54 2004

Kolarevic, Branko, **Architecture in the Digital Age: design and manufacturing**, 2003, NA2543.T43 A724 2003

Larson, Kent, **Louis I. Kahn : unbuilt masterworks**, 2000. NA737.K32 L37 2000. Beautiful architectural visualizations show the power of computer graphics.

Marcosandmarjan : interfaces / intrafaces, NA2728 .M38 2005. Inhabitable, mimetic sculptures created with lasercutting – from the London Bartlett school.

Menges, Achim and Michael Hensel, eds, "Techniques and Technologies in Morphogenetic Design," **AD Architectural Design**, vol. 76/2, March/April 2006

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Neumann, Oliver & Philip Beesley, **Futurewood : innovation in building design and construction,** Riverside Architectural Press, 2007

*Schodek, Daniel and Martin Bechthold, James Kimo Griggs, Kenneth Kao, Marco Steinberg, **Digital Design and Manufacturing: CAD/CAM Applications in Architecture and Design**, Wiley 2004. Survey of fabrication techniques, tools and applications.

Stacey, Michael, **Digital Fabricators**. TH1095 .D54 2004

DESIGN PROCESS, VISUALIZATION & COGNITION

*Buxton, Bill, **Sketching User Experiences: Getting the Design Right and the Right Design**, Morgan Kaufman, 2007.   TS171 .B89 2007 Vivid explanation of user-centered design process, dynamic illustrations and stories of what did or didn't work. Product and web design focus translates easily to architecture.

Lawson, Bryan. 1990. **How designers think: The design process demystified.** 2nd ed. Oxford: Butterworth. Walks through sketching processes, includes well-known architects

*March, L., and P. Steadman. **The geometry of environment. An introduction to spatial organization in design.** London: RIBA, 1971. NA2750 .M26 1974 Classic demonstration of how geometric transformations are used in architecture.

Schön, D.A. **The reflective practitioner**. *How professionals think in action.* New York: Basic Books, 1983. Classic analysis of design process, influential in education, engineering and other fields.

DESIGN DRAWING

*Leggitt, Jim, **Drawing Shortcuts** / AAA NC730 .L44 2002 Hand-rendering book includes use of digital wireframes, photo-retouching, cameras, etc. Explains overlay rendering.

Cheng, Nancy, **Digital Sketching website.** http://sketching.uoregon.edu Animated sketches reveal design process and thinking.

DIAGRAMMING

White, Edward T., **Site analysis : diagramming information for architectural design** / NA2540.5.W48 1983. What information to seek, how to record and analyze it, how to use it for design.

*Tufte, Edward, **Envisioning Information** / QA90 .T914 1990. Lush illustrations illustrate information design principles.