

Brooklyn College
Department of Computer and Information Science

CISC 1600 [3.5] Introduction to Multimedia Computing

3 hours; 3 credits

Introduction to multimedia topics, including: web design, game design, animation, data visualization, simulation and robotics. Introduction to multimedia hardware and software, including game boxes. Human interface design and input using multimedia devices. Graphical and other forms of output to multimedia devices. Emphasis on design and creation of web pages with HTML and cascading style sheets; interactive, graphical web-based programs; simple computer games, movies and narratives. Computer-based sound editing. Introduction to agent-based programming for simulations and robotics. Uses of multimedia in industry. Hands-on exercises.

Objectives

Students will be able to:

1. Design and construct web pages.
2. Write simple interactive web-based programs.
3. Understand the concept of a simple program, like a recipe.
4. Understand the concept of reading data, storing data in a program, manipulating data and outputting data.
5. Understand the concept of iteration, that is, doing something multiple times.
6. Understand the concept of automated decision-making.
7. Convert a design into a program consisting of small, simple parts.
8. Understand the parts of a multimedia system and how they interact.
9. Understand the interplay between design and implementation.
10. Understand aspects of human subjects research and usability.

Syllabus

Unit	Weeks	Topic
I	1—3	Introduction to Web Programming and Web Design: <ul style="list-style-type: none">• HTML• WWW vs Internet; Client-Server model• CSS (style sheets)• Principles of Web Design

II	4—6	Interactive Web Programming: <ul style="list-style-type: none"> • “Processing” • “Many Eyes”
III	7—10	Game Programming, Narrative and Movie Making: <ul style="list-style-type: none"> • “Scratch” • “iMovie” • “GarageBand”
IV	11—14	Agent-based Programming, Simulation and Robotics <ul style="list-style-type: none"> • “NetLogo”

Bibliography

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- Reas, Casey and Fry, Ben: *Processing: a programming handbook for visual designers and artists*, MIT Press, 2007.
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- Wells, Peter, *Digital Video Editing: A User’s Guide*, Crowood Press, 2007.
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