**CP6006| VISUALIZATION FOR PLANNERS**

**COA8811 | URBAN DESIGN DIGITAL MEDIA LABORATORY**

Georgia Institute of Technology | College of Architecture

School of City and Regional Planning

**COURSE SCOPE**

Visual communication and representational techniques are central to all fields of design; for one must be able to represent ideas graphically and communicate them visually. In our expanding digital environment, this presents challenges in the academic setting as well as in practice, as completing a project requires primary knowledge of a common set of software platforms and the ability to migrate visual and quantitative data across platforms for analytical, design and representational purposes. This course focuses on these core issues and their relationship to urban design practice and projects.

Working with the six main software platforms utilized in everyday urban design practice, the course concentrates on: [1] developing an understanding of the platforms, [2] developing the knowledge needed to migrate data across platforms, [3] visual communication and representational techniques and examples, and [4] concepts of presentation.

**COURSE OBJECTIVES AND LEARNING OUTCOMES**

The course will teach students the following.

[1] Students will be able to gather existing data, analyze the information, and graphically represent their findings in a clear cohesive manner.

[2] Students will be able to draw and create data in various platforms in both two dimensional and three dimensional form as well as exchange the data between platforms in order to alter the representation and information communicated in mapping, diagram and drawing.

[3] Students will be able synthesize their concepts and ideas into transparent and legible documents and presentations.

Through analysis and explorations focused on in typical urban design practice, the course reviews the following platforms: ESRI ArcGIS, Autodesk AutoCAD, Google SketchUp, parts of the Adobe Creative Suite, including Photoshop, Illustrator, and InDesign. While the exercises focus specifically on working within and representing information at the urban scale, this knowledge easily overlaps to other concentrations.

**EXERCISES**

This course is based around the discussion and completion of seven individual exercises. Each exercise is based on describing an individual issue through different drawing types and graphic techniques. The exercises include discussions centered around the practical knowledge of the individual platforms as well as concepts related to graphic intent and clarity.

[1] Defining a framework for site planning and urban design report – InDesign

[2] Mapping and Information Layering - GIS

[3] Data Visualization and Diagrammatic Techniques – Illustrator

[4] Technical Drawing – CAD

[5] Three Dimensional Modeling – Sketchup

[6] Photo-montaging – Photoshop

[7] Digital Media Production – Putting pieces together

**GRADING**

As much of this information is gained through discussion and supervised laboratories, course attendance and engagement is essential. Exercises 10% each (70% total), Participation and attendance in class 30%

**OTHER REQUIREMENTS**

Students are expected to read a small list of reading assignments as part of preparation for individual discussions.

Students are expected to research examples of drawings and presentation they appreciate and understand.

**COURSE SCHEDULE**

COURSE INTRODUCTION

EXERCISE 01

August 17 | Course Overview, Introduction to Urban Design and Digital Media

Introduction to InDesign

August 24 | InDesign

August 31 | Introduction: Representational Techniques for Problems in Urban Design and Planning

September 7 | Labor Day – Official School Holiday

September 14 | A Framework for Organizing Data and Tools: GIS, Diagrammatic and graphic tools (Illustrator and Photoshop), CAD and 3D modeling (Sketchup)

EXERCISE 02

September 21 | Mapping and information layering using GIS

EXERCISE 03

September 28 | Introduction to Illustrator

October 5 | Migrating Data from GIS to Illustrator

October 12 | Fall Break

EXERCISE 04

October 19 | Introduction to AutoCAD

October 26 | AutoCAD, Migrating Data from AutoCAD to Illustrator

EXERCISE 05

November 2 | Introduction to SketchUp,

November 9 | Migrating Data from AutoCAD to Sketchup, Migrating Data from Sketchup to Illustrator

EXERCISE 06

November 16 | Introduction to Photoshop

November 23 | Photoshop

EXERCISE 07

November 30 | Digital Media Production

Course Wrap Up

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October 10-14 Fall Break

October 25 Drop Day

November 25-27 Thanksgiving Holiday

December 7-11 Exam Week

**ADDENDUM**

[1] Students with disabilities needing academic accommodation should provide documentation tthe

Office of Disability Services, disabilityservices.gatech.edu, and bring an accommodation letter to the instructor indicating the nature of accommodations required.  This should be done within the first week of class or as soon as possible after a new disability condition arises.  All effort will be made to provide reasonable accommodation

[2] Georgia Tech aims to cultivate a community based on trust, academic integrity and honor. Students are expected to act according to the highest ethical standards. For policy information on Georgia Tech’s Academic Honor Code, please see [http://www.catalog.gatech.edu/rules\_regulations/#18].

[3] All cell phones should be turned off during class and when entering the classroom.

[4] In case of emergency (i.e. fire, accident, criminal act), please call the Georgia Tech Police at 894-2500. Please note that Perry Minyard, IT Support Administrator is also a firefighter and an Emergency Medical Technician (EMT) certified in performing CPR.

**REFERENCES AND READINGS**

Armstrong, Helen, ed. *Graphic Design Theory: Readings from the Field*. New York: Princeton Architectural Press, 2009.

Bender, Diane M. *Design Portfolios: Moving from Traditional to Digital*. New York: Fairchild Publications: 2012.

Bertin, Jacques. *Semiology of Graphics: Diagrams, Networks, Maps*. Redlands, California: ESRI Press, 2011.

Ching, Francis D.K. *Architectural Graphics*, Fifth Edition. Hoboken, NJ: Wiley, 2009.

Ching, Francis D.K. *Design Drawing*, Second Edition. Hoboken, NJ: Wiley, 2010.

Klanten, Bourquin, Ehmann, van Heerden. *Data Flow: Visualising Information in Graphic Design*. Berlin: Die Gestalten Verlag, 2008.

Klanten, Bourquin, Ehmann, Tissot. *Data Flow 2: Visualising Information in Graphic Design*. Berlin: Die Gestalten Verlag, 2010.

Lima, Manuel. *Visual Complexity: Mapping Patterns of Information*. New York: Princeton Architectural Press, 2011.

Nyhan, Brendan and Jason Reifler. ”Opening the Political Mind? The effects of self-affirmation and graphical information on factual misperceptions.” Dartmouth College, September 20, 2011.

Reas, Casey and Chandler Williams. *Form+Code in Design, Art, and Architecture*. New York: Princeton Architectural Press, 2010.

Szalapaj, Peter. *Contemporary Architecture and the Digital Design Process*. Oxford: Architectural Press, 2005.

Tufte, Edward R. *Envisioning Information*. Cheshire, Connecticut: Graphics Press, 1990.

Tufte, Edward R. *The Cognitive Style of PowerPoint: Pitching Out Corrupts Within*. Cheshire, Connecticut: Graphics Press, 2006.

Tufte, Edward R. *Visual Explanations: Images and Quantities, Evidence and Narrative*. Cheshire, Connecticut: Graphics Press, 1997.