Digital Media in Neoteric Dimension

DiMeND

DiMeND introduces design as a computational enterprise in which mediating technologies are developed to compose and describe design and architecture.

Covering Topics:
computational design, design computing, modern logic, creative coding, visual complexity, shape arithmetic, spatial relations, data envisioning, with computer programming in a visual context.

Working Environment:
Processing 3

FALL 2021   ARCH 4341 Media Elective
ARCH 5352 Computer Application to Architecture

Wednesdays 5:30pm ~ 8:20pm . 601

DiMeND **D**igital **Me**dia in **N**eoteric **D**imension
FALL 2021

Course Instructor   **Kuhn Park**   kuhn.park@ttu.edu   room 1003E   806.834.1242

Meeting Place   **601**
Meeting Time   **Wednesdays 5:30 PM to 8:20 PM**

Catalog Description

ARCH 4341-007 Media Elective (3) Analog or digital media options chosen from approved list

ARCH 5352-001 Computer Applications to Architecture (3) Survey of digital computer applications to the issues and processes of architecture and planning. May be repeated for credit

Course Description

Digital **Me**dia in **N**eoteric **D**imension introduces design as a computational enterprise in which mediating technologies are developed to compose and describe design and architecture. The class covers topics such as media art and design, shapes, modern logic, shape arithmetic, symmetry, spatial relations, action and reaction, shape computations, physical computing, and shape grammars.

Hands-on design exercises and projects are continually framed and examined in the large context of current digital and physical technologies.

Student Learning Objectives

Evaluate and accomplish digital and physical design theories and skills, and practice to design and architecture

Methods of Assessment

Assessment is divided among assignments and a final project.

Potential for Course Modality Change

The University will follow CDC, State, and TTU System guidelines in continuing to manage the campus implications of COVID-19. Any changes affecting class policies or delivery modality will be in accordance with those guidelines and announced as soon as possible.

If Texas Tech University campus operations are required to change because of health concerns related to the COVID-19 pandemic, it is possible that this course will move to a fully online delivery format. Should that be necessary, students will need to have access to a webcam and microphone for remote delivery of the class. Additionally, students will need to have access to:

-    Zoom
-    Miro
-    Processing

Textbook

Reas, Casey & Fry, Ben, *Processing, Second Edition: a programming handbook for visual designers and artists*, MIT Press: Cambridge, Mass., 2014; p xxvi, 672 p.

Reas, Casey & Fry, Ben, *Getting Started with Processing*, O'Reilly Media / Make, June 2010; 208 p.

Online resource: Processing: http://processing.org/

Reference

[Technical]

Maeda, J., *Design by Numbers*. MIT Press: Cambridge, Mass., 1999; p 256 p.

Design by Numbers (online resource): http://dbn.media.mit.edu/

Hartmut Bohnacker, Generative Design: *Visualize, Program, and Create with Processing*, Princeton Architectural Press, 2012

Greenberg, Ira, *Processing: Creative Coding and Computational Art*, Friends of Ed, 2007

Fry, Ben, *Visualizing Data*, O'Reilly, 2007

Banzi, Massimo, *Getting Started with Arduino*, O'Reilly, 2009

Online resource: Arduino (online resource): http://www.arduino.cc/

O'Sullivan, Dan and Igoe, Tom, *Physical Computing: Sensing and Controlling the Physical World with Computers*, Thomson - Course Technology, 2004

Igoe, Tom, *Making Things Talk: Practical Methods for Connecting Physical Objects*, O'Reilly, 2007

Manuel Lima, *Visual Complexity: Mapping Patterns of Information*, Princeton Architectural Press, 2013

Isabel Meirelles, *Design for Information: An Introduction to the Histories, Theories, and Best Practices Behind Effective Information Visualizations*, Rockport Publishers, 2013

[Theoretical]

Mitchell, W. J., *The Logic of Architecture: Design, Computation, and Cognition*, the MIT Press, 1990

Minsky, Marvn, *Society of Mind*, Simon & Schuster, 1988

Ortony, Andrew, *Metaphor and Thought*, Cambridge University Press, 1993

Maeda, John, *Creative Code: Aesthetics + Computation*, Thames & Hudson, 2004

Maeda, John, *MAEDA @ MEDIA*, Rizzoli, 2000

Watanabe, Makoto Sei, *Induction Design: A Method for Evolutionary Design*, Birkhaüser, 2002

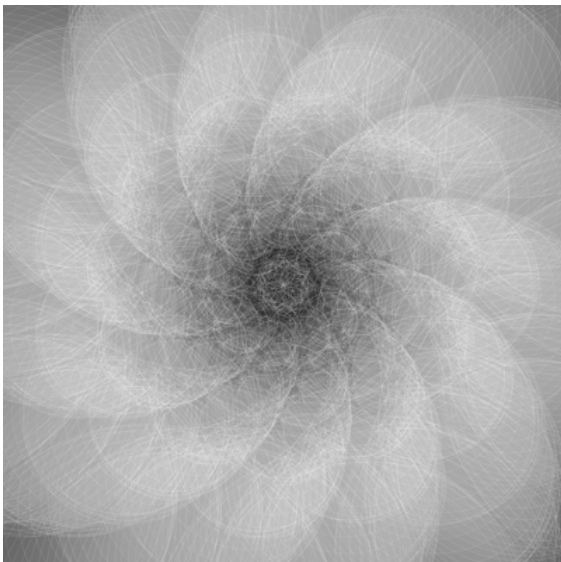Terzidis, Kostas, *Expressive Form: A Conceptual Approach to Computational Design*, Spon Press, 2003

Schedule

TBA over Miro or website

Requirements and Submission guide

- Students are required to attend all classes, study all assigned materials, readings and actively participate in the class discussions.

- Students are required to download and install class required applications in their machine (As of Fall 2003, students are required to provide and maintain their own computers for use during class. computing specification: College Computer Requirement).

- Class folder at Microsoft OneDrive and/or Miro board for submission and posting of student works

- Naming convention: all online submission should start with: your full last name + the first initial of your first name + "_" + appropriate submission name (example: DoeJ_a01.pde)

UNIVERSITY AND COLLEGE POLICES

Academic Regulations:
Consult the Texas Tech University 2021-2022 Undergraduate and Graduate Catalog for information about Dropping a Course, Change of College, Class Attendance, Reporting Illness, Absence Due to Religious Observance, Civility in the Classroom, and Grading Practices… etc. statement.

University Official Publications:
Policies, Declarations, Accreditation
Academic Regulations

Civility in the Classroom Statement:
Texas Tech University is a community of faculty, students, and staff that enjoys an expectation of cooperation, professionalism, and civility during the conduct of all forms of university business, including the conduct of student–student and student–faculty interactions in and out of the classroom. Further, the classroom is a setting in which an exchange of ideas and creative thinking should be encouraged and where intellectual growth and development are fostered. Students who disrupt this classroom mission by rude, sarcastic, threatening, abusive or obscene language and/or behavior will be subject to appropriate sanctions according to university policy. Likewise, faculty members are expected to maintain the highest standards of professionalism in all interactions with all constituents of the university
Statement of Ethical Principles

Academic Integrity Statement:
Academic integrity is taking responsibility for one's own class and/or coursework, being individually accountable, and demonstrating intellectual honesty and ethical behavior. Academic integrity is a personal choice to abide by the standards of intellectual honesty and responsibility. Because education is a shared effort to achieve learning through the exchange of ideas, students, faculty, and staff have the collective responsibility to build mutual trust and respect. Ethical behavior and independent thought are essential for the highest level of academic achievement, which then must be measured. Academic achievement includes scholarship, teaching, and learning, all of which are shared endeavors. Grades are used to quantify the successful accumulation of knowledge through learning. Adhering to the standards of academic integrity ensures grades are earned honestly. Academic integrity is the foundation upon which students, faculty, and staff build their educational and professional careers. [Texas Tech University Quality Enhancement Plan, Academic Integrity Task Force, 2010]
TTU Academic Catalog: Academic Integrity

Religious Holy Day Statement:
"Religious holy day" means a holy day observed by a religion whose places of worship are exempt from property taxation under Texas Tax Code §11.20.

A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent from classes for the observance of a religious holy day shall be allowed to take an

examination or complete an assignment scheduled for that day within a reasonable time after the absence.

A student who is excused under section 2 may not be penalized for the absence; however, the instructor may respond appropriately if the student fails to complete the assignment satisfactorily.

Disabilities:
Students with disabilities will find numerous programs designated to coordinate academic accommodations and promote access to every phase of university life. Such programming is coordinated through Student Disability Services.

SDS personnel oversee and coordinate programs to ensure accessibility on an individual basis to students with disabilities. Texas Tech strives to provide all students equal access to a college education and support in adjusting to the college experience.

Prospective and current students interested in receiving more information regarding programs for students with disabilities should contact Student Disability Services, 335 West Hall, 806.742.2405 or visit online at www.studentaffairs.ttu.edu/sds. Email: sds@ttu.edu

ADA Statement:
Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as possible to make necessary arrangements. Students must present appropriate verification from Student Disability Services during the instructor's office hours. Please note that instructors are not allowed to provide classroom accommodation to a student until appropriate verification from Student Disability Services has been provided. For additional information, please contact Student Disability Services office in 335 West Hall or call 806-742-2405

Discrimination, Harassment, and Sexual Violence:
Texas Tech University is committed to providing and strengthening an educational, working, and living environment where students, faculty, staff, and visitors are free from gender and/or sex discrimination of any kind. Sexual assault, discrimination, harassment, and other Title IX violations are not tolerated by the University.

Report any incidents to the Office for Student Rights & Resolution, (806)-742-SAFE (7233) or file a report online at titleix.ttu.edu/students.

Faculty and staff members at TTU are committed to connecting you to resources on campus. Some of these available resources are:

- TTU Student Counseling Center
  Phone: 806-742-3674
  Website: https://www.depts.ttu.edu/scc
  (Provides confidential support on campus.)
- TTU 24-hour Crisis Helpline
  Phone: 806-742-5555
  (Assists students who are experiencing a mental health or interpersonal violence crisis. If you call the helpline, you will speak with a mental health counselor.)

- Voice of Hope Lubbock Rape Crisis Center
  Phone: 806-763-7273
  Website: voiceofhopelubbock.org
  (24-hour hotline that provides support for survivors of sexual violence.)
- The Risk, Intervention, Safety and Education (RISE) Office
  Phone:806-742-2110
  Website: https://www.depts.ttu.edu/rise/
  (Provides a range of resources and support options focused on prevention education and student wellness.)
- Texas Tech Police Department
  Phone: 806-742-3931
  Website: http://www.depts.ttu.edu/ttpd/
  (To report criminal activity that occurs on or near Texas Tech campus.)

LGBTQIA Support Statement:
Within the Center for Campus Life, the Office serves the Texas Tech community through facilitation and leadership of programming and advocacy efforts. This work is aimed at strengthening the lesbian, gay, bisexual, transgender, queer, intersex, and asexual (LGBTQIA) community and sustaining an inclusive campus that welcomes people of all sexual orientations, gender identities, and gender expressions.
Office of LGBTQIA, Student Union Building Room 201, www.lgbtqia.ttu.edu, 806.742.5433

Retention of Work

The College of Architecture reserves the right to retain, exhibit, and reproduce work sub-mitted by students. Work submitted for grade is the property of the college and remains as such until it is returned to the student.

NAAB CRITERIA

2 – Shared Values of the Discipline and Profession

The program must report on how it responds to the following values, all of which affect the education and development of architects. The responses to each value must also identify how the program will continue to address these values as part of its long-range planning. These values are foundational, not exhaustive.

Knowledge and Innovation: Architects create and disseminate knowledge focused on design and the built environment in response to ever-changing conditions. New knowledge advances architecture as a cultural force, drives innovation, and prompts the continuous improvement of the discipline.

3 – Program and Student Criteria

These criteria seek to evaluate the outcomes of architecture programs and student work within their unique institutional, regional, national, international, and professional contexts, while encouraging innovative approaches to architecture education and professional preparation.

3.1 Program Criteria (PC)

A program must demonstrate how its curriculum, structures, and other experiences address the following criteria.

PC.5 Research and Innovation – How the program prepares students to engage and participate in architectural research to test and evaluate innovations in the field.

ATTENDANCE

Students are responsible for attending class. A total of **two absences** is considered excessive, requiring the student to drop the class or receive a grade of "F". Whether an absence is excused or unexcused is determined by the instructor, with the exception of absences due to religious observance and officially approved trips according to guidelines specified in the TTU Catalog. Students are expected to comply with TTU rules for reporting student illness requiring absence from class for more than one week, or immediate family deaths.

Failure to work in class with undivided attention, any tardiness, leaving early, lack of participation, walking in and out of lectures, general socializing, goofing around, disruptive behavior, etc. will count as absences.

GRADING CRITERIA

A: **superior work** . exceptional performance strongly exceeding requirements of assignments; initiative proving independent resourcefulness; strong positive attitude toward the work; a growing level of improvement

B: **good, above average** . adequate performance above the norm, accurate and complete, beyond requirements of assignments, good initiative, positive attitude toward the work, improvement showing marks of progress

C: **average** . mediocre or conservative performance, satisfying all requirements of assignments with a neutral and ordinary level of initiative, attitude, and performance

D: **not acceptable** . performance not meeting the passing standards of the course, initiative unacceptable, work below standard

F: **failing** . ineffective performance not satisfying the requirements to an extreme degree, level of initiative, attitude, and improvement non-existent

COVID-19 INFORMATION

Face Covering Policy:

As of May 19, 2021, face coverings are now optional in TTU facilities and classrooms, and all other COVID-19 campus protocols have been lifted. It is highly recommended that those who have not been vaccinated for COVID-19 wear face coverings to help prevent the spread of the virus

Seating Charts and Social Distancing:

There is no longer a mandated social distancing protocol for classroom seating, but diligence is encouraged when indoors and not wearing masks. A seating chart might be used in the classroom to facilitate attendance, class interactions and other in-class engagement activities.

Personal Hygiene:

We all should continue to practice frequent hand washing, use hand sanitizers after touching high-touch points (e.g., door handles, shared keyboards, etc.), and cover faces when coughing or sneezing.

Illness-Based Absence Policy

If at any time during this semester you feel ill, in the interest of your own health and safety as well as the health and safety of your instructors and classmates, you are encouraged not to attend face-to-face class meetings or events. Please review the steps outlined below that you should follow to ensure your absence for illness will be excused. These steps also apply to not participating in synchronous online class meetings if you feel too ill to do so and missing specified assignment due dates in asynchronous online classes because of illness.

1. If you are ill and think the symptoms might be **COVID-19 related**:

    a. Call Student Health Services at 806.743.2848 or your health care provider.
    b. Self-report as soon as possible using the ttucovid19.ttu.edu management system. This website has specific directions about how to upload documentation from a medical provider and what will happen if your illness renders you unable to participate in classes for more than one week.
    c. If your illness is determined to be COVID-19-related, remaining documentation and communication will be handled through the Office of the Dean of Students, including notification of your instructors.
    d. If your illness is determined not to be COVID-19-related, please follow steps 2.a-d below.

2. If you are ill and can attribute your symptoms to **something other than COVID-19**:

   a. If your illness renders you unable to attend face-to-face classes, participate in synchronous online classes, or miss specified assignment due dates in asynchronous online classes, you are encouraged to visit with either Student Health Services at 806.743.2848 or your health care provider. Note that Student Health Services and your own and other health care providers may arrange virtual visits.
   b. During the health provider visit, request a "return to school" note.
   c. E-mail the instructor a picture of that note.
   d. Return to class by the next class period after the date indicated on your note.

Following the steps outlined above helps to keep your instructors informed about your absences and ensures your absence or missing an assignment due date because of illness will be marked excused. You will still be responsible to complete within a week of returning to class any assignments, quizzes, or exams you miss because of illness.

If you have interacted with individual(s) who have tested positive for COVID-19:
Maintain a list of those persons and consult Student Health Services at 806-743-2911 or your primary care provider on next steps.

Do not return to class until you are medically cleared by your Health Care Provider.

ONLINE CLASS INFORMATION

Online Classroom Decorum
Texas Tech University is a community of faculty, students, and staff sharing an expectation of cooperation, professionalism, respect and civility in all forms of university communication and business. This expectation applies to all interactions in a classroom setting where an exchange of ideas and creative thinking should be encouraged and where intellectual growth and development are fostered.

As we consider ways in which we maintain a productive and cooperative online environment, many of the same standards from a face-to-face instruction transfer to the online setting. In this way, at the instructor's discretion, disruptive behavior may result in disciplinary referrals pursuant to the Texas Tech University Code of Student Conduct. Students are expected to maintain online behaviors that are conducive to learning.

Examples of behavior that may be considered disruptive include:

- Disrupting the flow of a class session(s) by making off-topic comments.
- Enabling or participating in online classroom hijacking ("Zoombombing") by participating in online classroom streams without being enrolled in the course or by sharing streaming classroom links with parties not enrolled in the course.
- Spamming, hacking, or using TTU or Blackboard platforms for commercial purposes.
- Cyberbullying or online harassment.
- Habitually interfering with or stopping instructional delivery.

Expectations for Student Participation in Online Synchronous Courses
This course is designated as an online synchronous course. That means that we will meet in real time at a regularly scheduled class time via a video conferencing tool (e.g., Collaborate, Zoom, Teams, etc.).

To ensure that you are fully engaged in class discussions and account team meetings during class time, you are expected to do the following:

1. Maintain the same level of civility and professionalism that would be expected in a face-to-face classroom setting.

2. Attend all classes regularly.

3. Log into the video conference on time and remain logged in for the duration of the class period.

4. Activate your camera so that you are visible to the instructor and other students in the class. If you have concerns about leaving your camera on (such as childcare obligations, privacy issues, or a particular circumstance during a class period), please talk to the instructor.

5. Refrain from engaging in non-class related activities during class time that create a distraction for other students in the class and/or limit your ability to engage in the course.

Failure to meet these expectations may result in the following consequences:

1. Being counted as absent for the class meeting.

2. Not receiving credit for class participation for that class period.

3. Other consequences as stipulated in the syllabus, Texas Tech Code of Student Conduct, or other university policy.

Repeated failure to meet expectations (e.g., attendance, participation in class, etc.), in addition to the above consequences, may result in the one or more of the following consequences:

1. Referral to the appropriate Associate Dean.

2. Academic penalty, ranging from a warning to failure of the course.