MATERIALS & METHODS IN ARCHITECTURE:
Concrete Procedures

Columbia University GSAPP
Spring 2014
A4627: Seminar / Tech. Elective

COURSE SESSIONS: TUESDAY + FRIDAY, EVERY OTHER WEEK*
Tuesdays 6-8pm, 300 Avery
Fridays 11-1pm, 200 Buell

Instructor: Keith Kaseman

CONCRETE PROCEDURES is geared to develop a keen level of sophistication with which one may both comprehend and deploy concrete in the world. Our fundamental goal is to cultivate a diverse cloud of innovative procedural demonstrations, iterating through a working atmosphere biased towards agile participation, experimental discovery, systematic refinement and replicable specification. With efforts within this course including direct research, material experimentation, procedural trial and error, rigorous refinement and comprehensive documentation along the way, the most valued assets for any participant to bring to this course are curiosity and persistence. Through this intensive hands-on seminar / workshop, technical aptitude with concrete will rapidly accelerate over the course of the semester, culminating in new constructs that will demonstrate participants' customized mastery of developed procedures.

CONCRETE ACTION
We will immediately launch into the realm and practice of casting concrete. Individual participants will produce a series of 4"x4"x2" concrete samples over the first two weeks of the semester. This rapid exploration will prove to be the first hands-on experience in casting concrete for many, and will serve as a collective catalog of initial interests with which we will orchestrate teams of approximately 4 members, to work through the rest of the semester on final projects and one associated research presentation (see below).

CONCRETE PROCEDURAL UNITS (CPU)
Serving as both the primary thrust and final project for the semester, numerous concrete modules are to be developed by teams (of 3) and cast in accordance with the following goals / rules:

- CPUs must geometrically define a bounding box of 18" x 12" x 9";
- CPUs must be more than an extrusion (biaxial / tri-axial symmetry vs. asymmetry to be explored)
- Formwork ingenuity / intricacy / precision / invention are equally paramount!
- Multiple precise aggregation logics required (stacking, bundling, interlocking, etc.);
- Temporal action must be conveyed through casting / finishing…

Each CONCRETE PROCEDURAL UNIT will be accompanied by comprehensive documentation that describes the iterative development process that takes place over the course of the semester. Most importantly, meticulously documented procedural instructions / specifications will be required (templates to be provided) upon final delivery. This is the ultimate goal: to develop and communicate an elegantly constructed, innovative CONCRETE PROCEDURE at the scale of a replicable UNIT.

CONCRETE RESEARCH*
Each team will be required to compile and present research on topics sparked by pursuits, developments, precedents and / or interests established through iterative work performed towards CONCRETE PROCEDURAL UNITS. Potential topics, formats and research leads will be discussed during the weeks leading up to the RESEARCH PRESENTATIONS (see schedule below).

MATERIALS
Participants are responsible for all material costs and storage. It is anticipated that most materials will be relatively inexpensive, primarily including wood, foam, latex, fabric, concrete mix, buckets, gloves, etc. Specialized materials may be required for certain endeavors (silicon, additives, etc.) but the quantities built into the projects as outlined above should keep everything within reason, especially as the vast majority of the semester's work will be in teams of 4+. However, all participants should anticipate incurring costs in line with such a materials-based course, and as may be developed by particular interests cultivated by team-project ambitions.

GRADING

Attendance, participation, progress, submittal deliveries and quality of work will be tracked throughout the semester - final grades will be determined from this matrix in accordance with GSAPP standards. While all modes of work will be weighed accordingly, consistent, proactive and diligent participation is the default expectation for all seminar participants.

OPERATIONS + PROTOCOL

This course will not provide elementary instruction for the use of tools within the Avery Digital Fabrication Lab. Further, all participants are required to have successfully completed the official orientation to the Avery Woodshop. Participants will have access to the dedicated casting space in Fayerweather Hall, and are of course required to clean up after each working session.

PLEASE NOTE: It is strictly prohibited to cast concrete in carpeted rooms (such as Ware Lounge), or to pour any form of concrete (pre-cured, powder, rubble, etc.) down ANY sink on campus. Respectful maintenance and upkeep of all facilities used for this course are of utmost importance – any deviation from this protocol will severely and negatively impact standing in this course.

***WORKING SCHEDULE**

Please note that we will meet on Tuesdays and Fridays, every other week as outlined below. Tuesday sessions will be hands-on work sessions utilizing the fabrication / woodshop and casting space in Schermerhorn Hall, with time scheduled in these facilities specifically for our class. Fridays will typically be geared towards group discussions with all physical work on the table, team-sessions and / or research presentations. Potential anomalies to this schedule will be discussed in class.

Please note: Dates / weeks in red signify times when Keith is scheduled to be in class and / or on campus.

Week 1	**COURSE INTRO / OVERVIEW**
Jan 21	KK Presentation: Previous Conc. Procedures / Precedents Nathan C. PROTOCOLS
Jan 24	Group Discussion: Concrete Samples I
Week 2	**SHOP SESSION + WORK WEEK**
Jan. 28	Workshop Sample II Session
Jan 31	No Class Scheduled – Sample II Blog Post Updates by end of Friday, Jan 31
Week 3	**WORKSHOP SESSION + GROUP DISCUSSION**
Feb. 4	Workshop Sample III Session
Feb. 7	Group Discussion: Team Formation, Research Topics (Preliminary), Sample III Review
***Week 4**	**WORK WEEK**
(Feb. 11 + 14)	Progress Blog Posts
Week 5	**TEAM WORKING SESSIONS**
Feb. 18	Workshop Session – CONCRETE PROCEDURES (Team Work)
Feb. 21	Group Discussion: Team Progress Updates
Week 6	**WORK WEEK**
(Feb. 25 +28)	Progress Blog Posts
Week 7	**TEAM WORKING SESSIONS**
March 4	Workshop Session – CONCRETE PROCEDURES (Team Work)
March 7	**TEAM PROGRESS + PROJECTION REPORTS (PRESENTATIONS)**
Week 8	**STUDIO VI KINNE TRIPS**
(March 11 + 14)	(No class session)
Week 9	**SPRING BREAK**
(March 18 + 21)	(No class session)
Week 10	**WORK WEEK**
(March 25 + 28)	Progress Blog Posts
Week 11	**TEAM WORKING SESSIONS + RESEARCH PRESENTATIONS**
April 1	Workshop Session – CONCRETE PROCEDURES (Team Work)
April 4	**RESEARCH PRESENTATIONS (Group A)**

Week 12	**WORK WEEK**
(April 8 + 11)	Progress Blog Posts
Week 13	**TEAM WORKING SESSIONS + RESEARCH PRESENTAIONS**
April 15	Workshop Sessions
April 18	**RESEARCH PRESENTATIONS (Group B)**
Week 14	**WORK WEEK**
(April 22 + 25)	Progress Blog Posts
Week 15	**STUDIO FINAL REVIEW WEEK**
(April 29 + May 2)	< Working Consultations Optional – Office Hours TBD>
Week 16	**FINAL PROJECTS DUE!!!**
(May 9)	All submittals due – final formats and requirements TBD.