

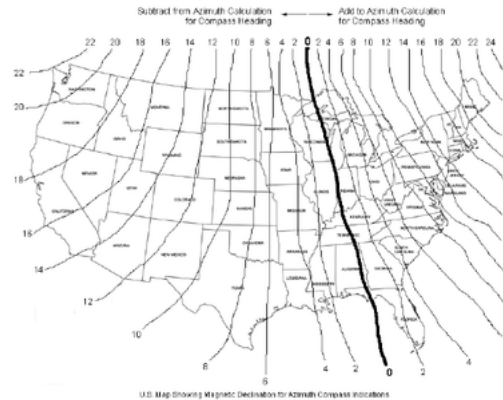
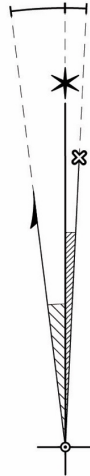
Project Polaris
ARCHITECTURAL DESIGN
WORKSHOP

MIT ARCHITECTURE
ARCH 4.181
SPRING 2023
W 10:00 – 1:00
RM 1-371
CREDITS: 9 (3-0-9) g

Syllabus

INSTRUCTORS

Brandon Clifford (Instructor) - bcliffor@mit.edu



OVERVIEW

Where is North? This question is crucial to humankind's ability to orient ourselves in time and place. It is not only important for navigation, but also fundamental to aligning our places of being. This course seeks to engage in one possible origin of architectural thought: Polar Alignment. There are a range of methods that align with north in the northern hemisphere. Some are terrestrial and magnetic while others are celestial and observant. Each method brings with it a set of biases, error tolerance, and cultural meaning. To address the various anomalies of each method, scale becomes essential to build accuracy, confirm observations, and build cultural significance. Orienting ourselves involves geometry (earth measure) as much as it does geography (earth drawing).

Students will build upon methods developed in the Crop Circle Kit (cropcirclekit.org) to impart cardinal direction. This will involve historic analysis, geometric experimentation, and computational development. The workshop will culminate in a colossal field drawing that inscribes the earth with knowledge about orientation.

STRUCTURE

Through a semester long project, students will manifest a method of marking the earth at a colossal scale, which coincides with a cultural pre-occupation. Adjacent to their field drawing exercises to orient North, students will craft a theoretical framework that positions their field-drawing in a lineage of human curiosity. For every drawing, there is a book. This book can be considered a field guide, a cookbook, an instruction set, or a manual. It will narrate the human context throughout time and offer rigorous methods for manifesting the field drawing. In conjunction, these two media will enrich an understanding of something often dismissed as pre-determined.

The workshop will alternate days, between the lab and the field. Lab days will be presentations from teams on their investigation and context. Field days will be opportunities to manifest drawings and measurements at scale.

Evaluation Criteria and Grading

The following criteria will be used for the evaluation of your work, both in terms of helping your progress and in final grading:

- Investigation: How rigorous are your investigations?
- Translation of Investigation: How clear are your findings communicated in your presentation of your investigations?
- Presentation Quality: To what degree do your presentations convey what they ought to?
- Participation: How actively and how constructively are you involved in class discussions and exercises?
- Contribution: To what degree do your findings constitute a contribution to the class, field, or larger context? To what degree are those findings novel?

A: Excellent - Project surpasses expectations in terms of inventiveness, appropriateness, verbal and visual ability, conceptual rigor, craft, and personal development. Student pursues concepts and techniques above and beyond what is discussed in class.

B: Above Average - Project is thorough, well researched, diligently pursued, and successfully completed. Student pursues ideas and suggestions presented in class and puts in effort to resolve required projects. Project is complete on all levels and demonstrates potential for excellence.

C: Average - Project meets the minimum requirements. Suggestions made in class are not pursued with dedication or rigor. Project is incomplete in one or more areas.

D: Poor - Project is incomplete. Basic skills including graphic skills, modelmaking skills, verbal clarity or logic of presentation are not level appropriate. Student does not demonstrate the required design skill and knowledge base.

F: Failure - Project is unresolved. Minimum objectives are not met. Performance is not acceptable. This grade will be assigned when you have more than two unexcused absences.

Policies

Attendance at all class meetings is mandatory. If any meeting (lecture or workshop session) is to be missed, please notify the instructor prior to the scheduled class. Please remember to silence cell phones and be courteous when using laptops in class. Most importantly, be respectful and engage during fellow students' pin-ups. This course is committed to the principle of equal access. Students who need disability accommodations are encouraged to speak with the faculty member/department administrator early in the semester so that accommodations can be implemented in a timely fashion.

Graduates: A variety of issues may impact your academic career including faculty/student relationships, funding, and interpersonal concerns. In the Office of Graduate Education (OGE), GradSupport provides consultation, coaching, and advocacy to graduate students on matters related to academic and life challenges. If you are dealing with an issue that is impacting your ability to attend class, complete work, or take an exam, you may contact GradSupport by email at gradsupport@mit.edu or via phone at (617) 253-4860.

The MIT online course management system, aka Canvas, will be used exclusively in the course. Lecture handouts and exercise descriptions will be available there shortly after class is held. Students will also be submitting exercises and materials through this system and must do so by the assigned due date.

Suggested Readings

- Ball, Robert S. "A Glimpse through the Corridors of Time." *Scientific American* 13, no. 322supp (1882): 5139–5142.
- Brown, Peter Lancaster. *Megaliths, Myths and Men an Introduction to Astro-Archaeology*. Blandford Press, 1976.
- Carpo, Mario. "Introduction." *The Alphabet and the Algorithm*. Cambridge, MA: MIT Press, 2011.
- Dean, Carolyn. *A Culture of Stone : Inka Perspectives on Rock*. Durham, NC: Duke University Press, 2010.
- Emmons, Paul and Jonathan Foote "Making Plans: Alberti's Ichnography as Cultural Artefact." In Sharr, Adam. *Reading Architecture and Culture: Researching Buildings, Spaces and Documents*. London: Taylor and Francis, 2012.
- Emmons, Paul. "Footprint Plans." *Drawing Imagining Building : Embodiment in Architectural Design Practices*. Abingdon, Oxon ;; Routledge, 2019.
- Heggie, D. C. *Megalithic Science : Ancient Mathematics and Astronomy in North-West Europe*. New York, N.Y: Thames and Hudson, 1981.
- Humboldt, Alexander Von. *Cosmos: A Sketch of A Physical Description of the Universe*. New York: Harper & Brothers Publishers, 1866.
- Thibaut, G. *The Śulvasūtras*. Calcutta: C.B. Lewis, Baptist Mission Press, 1875.
- Thom, Alexander. *Megalithic Lunar Observatories*. Oxford: Clarendon Press, 1971.
- Thom, Alexander. *Megalithic Sites in Britain*. Oxford: Clarendon Press, 1967.

Schedule

2/8	Introduction	Ex. 0
2/15	Field Day – True North	Ex. Final
2/22	<i>Cancelled</i>	
3/1	Proposals	
3/8	Field Day	
3/15	Field Workshop - Outpost Office	
3/22	Midterm – Presentations	
3/29	HOLIDAY – Spring Break	
4/5	TBD	
4/12	TBD	
4/19	Field Day	
4/26	Penultimate – Draft Presentations	
5/3	TBD	
5/10	Optional Resource Day	
5/19	FINAL REVIEW – 9:00AM-12:00PM	