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Natural Building Education

How designers and builders have passed down regenerative construction methods and why this unconventional wisdom matters now more than ever.

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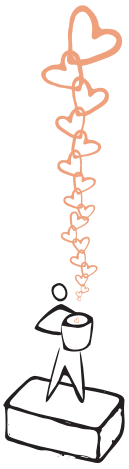


Community College Dreams

by Mateo Salinas Clarke

On the potential for Community Colleges to be hyperlocal, democratic institutions for natural building.

Your first exposure to community college might have been as a joke. For example, the TV Series “Community” often portrayed the fictional Greendale Community College as a dysfunctional institution with absurd courses like "Introduction to Ladders" and "Advanced Breath Holding." The whole joke of the series comes from the idea that community colleges are remedial at best or a slapstick clown show at worst. Unfortunately, the comedic exaggeration is based on a broader, often dismissive cultural view. In a 2009 speech, then-President Obama acknowledged this perception of community colleges as the overlooked “stepchild of the higher education system” while emphasizing their critical role in workforce development and innovation. Of course, some elites may look down on community colleges and two-year junior colleges when compared to the Ivy League. But what elite institutions are missing is exactly what community colleges can provide: the ability to innovate and provide hands-on experience in the advancement of the natural building trades. Community colleges are ideally placed to promote natural building, and as a current student in the Adobe Certificate Program at Santa Fe Community College (SFCC), I've experienced firsthand the potential they hold in providing affordable and credible hands-on education.

ROOTED IN THEIR COMMUNITIES

I love community colleges because they are accessible and near-universal in the US. A key feature of community college is the open admissions process. There are no barriers to enrollment through standardized tests, personal essays, deep debt, the ability to drop everything for four years, or legacy status, as there are with most universities and colleges. You can just show up and take classes. If you’re anywhere in the US you’re likely not far from one. The majority of community colleges serve rural areas and smaller communities.

Importantly, the mission of community colleges is often aimed toward the underserved and groups that have been systematically excluded from higher education through mobility, discrimination, price, and class. Minority Serving Institutions (MSIs) are a federally defined category of schools that are eligible for special funding based on the demographics of their student bodies. This includes Historically Black Colleges and Universities; Asian American and Native American Pacific Islander Serving Institutions; Hispanic Serving Institutions; and Tribal Colleges and Universities. Community colleges make up almost half of all MSIs. These colleges are essential because they directly serve

students who confront the real barriers of systemic racism along with the various academic, financial, political, and personal challenges.

Another key benefit of community colleges is their flexibility to cater to both full-time and part-time students. The majority of community college students are women and one out of every four women at community college is a mother or caregiver, contributing significant unpaid labor on top of their coursework. My first experience of a college classroom was the not-so-uncommon community college experience while my mom was pregnant with me.

My first conscious experience of a community college was taking two calculus classes at Austin Community College (ACC) over the summers while attending the University of Texas at Austin (UT) for a Bachelor's in Economics. Even more than at UT, the other students in my ACC class had diverse backgrounds, ages, and experiences. Making friends, forming study groups, and getting support at ACC was easier than at my giant state school. Overall, the course credit was cheaper and a better value than it would've been through my university. Go Riverbats!

I only learned about just how democratic community college funding is a few years ago, when my friend, Stephanie Gharakhanian, was elected to Austin Community College's Board of Trustees. One night, over drinks, she convinced me to serve on ACC's regional advisory board. Similar to how a city council delegates some work to unelected task forces, the ACC Board of Trustees appoints unelected members of the community to serve on different advisory committees. Serving on one of these committees involves attending public meetings and voting on proposals for the vision of the community college system. While I served on the regional committee, we helped initiate a free on-campus childcare program and created two new campuses, among other wins. The community gets to vote on bonds that fund these colleges and gets to elect board members who guide their execution.

For all these reasons, community colleges make me hopeful that we still have the power to create our own education and empowerment. What would happen if the natural building movement could leverage the educational and workforce development power of our community colleges? What if we could use all these existing colleges to offer a platform for natural building knowledge to be disseminated widely and affordably, reaching individuals who might otherwise be excluded from higher education due to financial or social constraints?

The distributed nature of community colleges also allows them to be laboratories for experimentation in natural building that responds to the local climate and resources. It might make sense for a program in the southwest to be focused on adobe, but perhaps a program in the Great Plains focuses on straw bale, while a program in the northeast could leverage the growing hempcrete movement. Community colleges could offer bio-regionally specific courses that fit the needs of their communities and the strengths of their local ecology and climate. A few people with a lot of passion can be force multipliers.

CASE STUDY: ADOBE COURSES IN SANTA FE

The Adobe program at SFCC began in 2012 under the leadership of veteran Adobe practitioner and educator Quentin Wilson. My instructor, Kurt Gardella, took the generational baton to become the current primary educator, using the courses and curriculum at SFCC developed by Quentin and supported by The Earthbuilders' Guild. In Santa Fe, there is a practical need for adobe education in the construction workforce, and also a cultural relevance in preserving historic traditions that contribute to its sense of place.

The SFCC coursework is a hybrid approach, blending conceptual learning during lectures with hands-on experience in workshops. I live in Denver, Colorado, so being a student at a campus 400 miles away may seem strange, but through the hybrid curriculum, I'm able to do lectures and coursework remotely and occasionally embark on the six-hour commute to New Mexico for our practical workshops a couple of weekends per semester. It sounds like a big commitment but I look forward to these road trips down I-25, through the San Luis Valley, Taos Valley, and into Santa Fe. The drive into Northern New Mexico has an enchanting power on me that provides a sense of relief from the day-to-day stressors in my life.

To receive a certificate in Adobe Construction you must complete coursework that looks something like this:

Core Classes

- Adobe 101 (soil selection and testing, adobe block production)
- Passive Solar Adobe Design (site planning, building layout, natural heating and cooling)
- Walls (earthen mortars, block coursing, lintels, bond beams)
- Floors (poured earth, earth block & rammed earth floors)
- Finishes (interior and exterior earthen & lime plasters, natural paints)
- Roofs (flat roofs, shed roofs, gable roofs for adobe structures)

Electives

- Preservation (common examples of deterioration in adobe structures and their solutions)
- Adobe Building Practicum (hands-on field work with local companies & organizations)
- Compressed Earth Blocks
- Rammed Earth

As a student, the sense of community and shared purpose is palpable. Through hands-on practice cultivating the "relational soil" of our learning environment, the program workshops are immediately rewarding. Much like in social movements, where deep connections and trust among participants are essential, our in-person interactions foster a unique bond that goes beyond simply acquiring skills. You can learn a lot remotely and through online videos, but there is something very special about having an in-person learning community where you actively nurture these connections. It is important to feel the textures, hear the sounds, and develop tactile experience with a trowel. Despite many of us commuting from far-flung locations, we are always excited to take turns digging earth and mixing mud. While I commute from the north, I have classmates who take equally long journeys from New Mexico's southern border near El Paso for workshops. I even have classmates from Australia and Germany who were drawn by the desert landscapes and lifestyles. We share a bond of passion for earthen construction, both as a solution to the climate crisis and as a cultural heritage practice that extends beyond the classroom or workshop.

Students are hungry for this type of coursework. SFCC routinely has its adobe classes waitlisted. Kurt, my instructor, shared with me that although

it has taken "many years of hard work to build the program to a sustainable student base" the Adobe Certificate program at SFCC is "beginning to see workforce development progress." A recent example is Elliot Fredericksen, who is finishing the program with the Adobe Building Practicum class. Through connections made at SFCC, and after he "endured the byzantine Department of the Interior screening process," Elliot was hired by the National Park Service as a WG 7 adobe mason. His community college instruction and certificate were, in his words "absolutely indispensable with regards to being able to pursue this craft at a professional level."

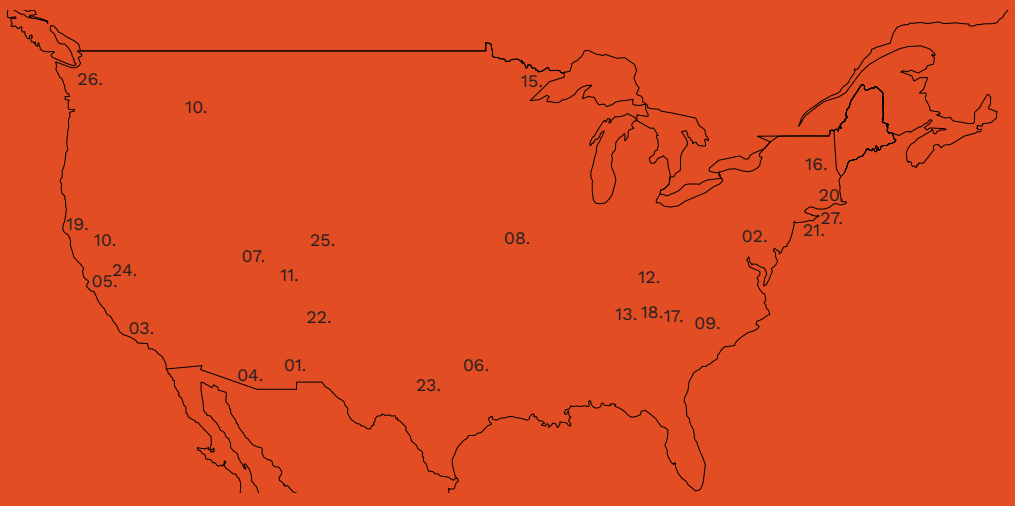
GET INVOLVED

When you go to vote, every two to six years there is likely to be a Community College Board Trustee race on your ballot. Those individuals are generally responsible for establishing policies that govern the educational programs and overseeing the college president and leadership to ensure the interest of the communities they serve. What blows my mind is that if you want, it's relatively easy to run for your community college board. Or if elections aren't your thing, it's easy to suggest to your local community college that they include natural building as part of their trades curriculum. Ask them how they are training our future workforce in the green construction and energy transition. Be ready to point them to some examples like Santa Fe Community College that have set a precedent for this type of certificate program as a viable and in-demand offering.

If your local community college does offer a class in natural building, I'll bet the class is pretty affordable, and taught by a passionate and thoughtful member of your local community. If they don't offer a class maybe that thoughtful instructor could be you. You would be able to connect with new people who share a worldview around sustainability and a dedication to traditional practice. By seeking and providing support we flex the muscle of mutual aid and praxis. The best education takes theory into practice. More than any other academic environment, community colleges are positioned to bring practical education to the most people for the greatest change. The world needs more adoberos and earthen builders. So too, it needs more community colleges teaching them.

EDUCATIONAL OPPORTUNITIES AVAILABLE IN THE UNITED STATES

Do not despair eager American natural builder. We have created a brief list of the many options available to continue your journey.



WORKSHOPS AND INTERNSHIPS

01. Adobe In Action
A.I.A. and the EarthUSA conference they host are resources for earth building, with hands-on and online courses.

02. Build Naturally
Sigi Koko has been consistently leading (and selling out) workshops on straw and natural plaster for decades.

03. CalEarth
Learn from the originals about super-adobe. They offer workshops and longer-term apprenticeships.

04. The Canelo Project
Bill and Athena Steen are among the pioneers of the natural building revival.

05. California Straw Building Association
Spring and summer in California belong to CASBA. Workshops abound.

06. Cob Hill Natural Building School
Attend comprehensive workshops with discounts for veterans, military, and first responders.

07. Community Rebuilds
Build affordable housing and learn about straw, earthen plaster, and carpentry in Moab, Utah.

08. Dancing Rabbit Eco Village
Dancing Rabbit offers some cob workshops and online coursework on natural building.

09. Mud Dauber School of Natural Building
This school teaches how to build with cob, straw, plaster, or hempcrete.

10. Muddy Hands
Amanda Fischer does hands-on workshops in northern California for straw and natural plaster.

11. Strawbale.com
Timbo & Dainella are always running workshops in Montana and Colorado.

12. The Year of Mud
They offer workshops on plastering, timber framing, dry stack, and other natural techniques.

13. This Cob House
Alex Sumerall's project draws people to workshops from around the country.

ONLINE RESOURCES

ACTeco
ACTeco is a European collection of organizations that offer online courses in earth and straw building.

Architects Climate Action Network
ACAN is putting in the work, with regular webinars available around the world, public working groups for discussions on climate issues and much more.

Bauhaus Erde
BE is putting out some of the best writing and research on regenerative building. It's an excellent resource on large scale development.

BuildingGreen Campus Wide Access
If you're enrolled in higher education, you can likely access the articles on BuildingGreen.com, and if not, get your school to sign up.

Carbon Leadership Forum
CLF has local chapters all over the US, where it's easy to meet like-minded people working on low-carbon building solutions and they have a LOT of research to share on their website.

MEP 2040
The mechanical, electrical, and plumbing specialists equivalent of the AIA2030, which also has some good online resources on their website, particularly about refrigerants.

The Nito Project
The YouTube channel by Benito and Kalin Steen, children of the legendary Bill and Athena, is a source of inspiration with their simple, beautiful demonstrations of natural building methods.

OneClickAcademy
Free online courses from One Click LCA, each catered to aspects of life cycle assessment and the different stakeholders in construction.

STEP certification
A broadly accepted European straw-building certificate that can be completed online with multiple European straw organizations. (or hands-on in Europe if you're over there)

CRAFT SCHOOLS

15. North House Folk School
Traditional craft school teaching straw, timber, and all sorts of handcraft technique

16. Yestermorrow
Perhaps the most well-known craft school in the US in natural building circles for their natural building certificate, and wide spectrum of courses from carpentry to tadelakt.

17. Wild Abundance
A permaculture and carpentry school nestled in the Appalachian mountains.

CONFERENCES

AIA Conference on Architecture
Organized by the American Institute of Architects, this conference steers toward the centrists but always includes good sustainability presentations.

The West Coast Natural Building Conference
Organized annually by CASBA, this conference collects builders and architects from around the country for the information and the community.

Earth USA
The annual conference for advancing earthen-building techniques in the US.

EcoBuild
A conference dedicated to sustainable construction, materials, and energy efficiency.

Greenbuild International Conference and Expo
An annual event for architects focused on sustainable building practices, innovative products, technologies, and strategies for creating environmentally friendly spaces.

Living Future Conference
Organized by the International Living Future Institute, this event focuses on regenerative design and the Living Building Challenge.

The Rocky Mountain Natural Building Conference
Every 2 years NaBA collects an exciting group of builders from the mountain west and beyond for lively discussion and excellent presentations.

HIGHER EDUCATION

18. Appalachian State University
App State's Appropriate Technology program, founded in 1978, is now part of their Sustainable Technology and the Built Environment department.

19. Cal Poly Humboldt
Known for its focus on environmental sciences, this university offers programs in a number of sustainable building practices.

20. Harvard University
Harvard's GSD is one of the leading research hubs for sustainable building methods right now.

21. Parsons School of Design
The Healthier Materials and Sustainable Building course, along with the Healthy Materials Lab provide an excellent option for people who want to make conventional construction less bad.

22. Santa Fe Community College
The Adobe Construction pathway is a good course for academic and hands-on earth-building.

23. University of Texas Austin
UT Austin offers research-oriented graduate programs in sustainable design.

24. University of California Berkeley
There are all sorts of sustainable design efforts going on at Berkeley, notably the Energy, Civil Infrastructure, and Climate program headed by Arpad Horvath.

25. University of Colorado at Boulder
The Environmental Engineering Program at CU Boulder is a well-respected engineering program that focuses heavily on life cycle analysis and sustainability with a thought leader in this arena Sherri Cook.

26. University of Washington
UW has been at the forefront of sustainability research for years. It is the home of the Carbon Leadership Forum, and the Life Cycle Lab, a research group in the College of Built Environment led by Kate Simonen.

27. Yale
The joint degree program of architecture and environmental management has led to a thriving field of research particularly around wood building.