

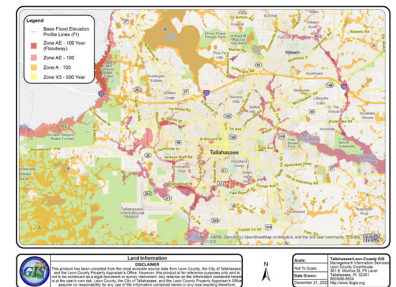
Architecture Climate Change & Society

Buell Center
2021 Course Development Prize

HAZARD MITIGATION + RACE + ARCHITECTURE

Reginald Ellis, Andrew Chin, Mahsan Mohsenin
Florida A&M University

Hazard Mitigation + Race + Architecture is a cross-disciplinary collaboration that brings together the Florida A&M University architecture and African-American history faculty. The goal is to provide a cross-disciplinary approach to climate change and recognize Florida's challenges as an ethical and political issue, rather than one that is purely environmental or physical in nature. Every year, Florida is one of the states that is most impacted by climate change through flooding, hurricanes, etc. According to a 2016 EPA report, the Florida peninsula has warmed more than one degree during the last century. The sea is rising about one inch every decade, and heavy rainstorms are becoming more severe. This is of special concern to minority underserved communities, specifically African-Americans, who are often impacted the most by climate change. But as architecture students learn about sustainability, the intersection of race and architectural adaptations are not widely discussed. Architectural responses to climate change include floating or amphibious structures, design for lateral forces, and merging hazard mitigation with architectural design. The goal of this course is to introduce segregation and planning inequities in the discussions of architectural responses to hazard mitigations.



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COURSE DESCRIPTION

There is a need to provide an interdisciplinary course to prepare architecture students as critical thinkers about the social, practical and scientific measures of climate change. Architecture students have a general grasp of climate change. The National Architectural Accrediting Board (NAAB) criteria require an understanding of environmental systems. The proposed course builds on the NAAB requirement while it investigates segregation, the built environment and climate justice- global warming as an ethical and political issue, rather than one that is purely environmental or physical in nature.

As a cross-disciplinary experience, that brings together architecture faculty and African-American history faculty, the course and its guests are organized along three (3) themes - African-American history, urban & regional planning, and climate change. The lectures will introduce the history of African-American landownership, urban and rural African-American communities, modern planning, urban planning practices in the American South, FEMA hazard mitigation, design with storm surge, and resilience measures in architecture. Within this foundation, the course can address the intersectionality of race, class, geography, climate change and design.

The architecture program at Florida A&M University (FAMU), as a Historically Black College and University (HBCU), aims to provide this course in the context of Florida, where students live the climate change realities of hurricanes and sea level rise. The course also recognizes that FAMU students meet their state mandated General Education US History requirement with an African-American history class. The proposed architecture course serves as a model to bridge the gap between the history of the African American communities, modern planning, segregation, climate justice and design.

COURSE OUTLINE

The 15 week semester course is organized as four steps.

A. African-American Landownership (Associate Professor Ellis)

Students will be introduced to the history of African-American landowners from around 1865 to 1960. The focus of this section will be on African-American history, the history of black landowners and African American's philosophies around the turn of century. This section will be taught from both topical and a chronological perspective to better situate the larger architectural design and environmental issues in a larger historical narrative.

B. Modern Planning and Race (Associate Dean Chin)

The second section, students will be introduced to the history and theoretical foundations of modern urban and regional planning. The focus of this section will be the role of transportation infrastructure, land uses practices and urban design traditions on African-American communities. This section will be presented through a series of case studies that clarify the role of modern planning in building a segregated vision for American cities and suburbs.

C. Hazard Mitigation and Climate Change (Assistant Professor Mohsenin)

In the third section, students will be introduced to climate change and architectural solutions to mitigate for hurricanes, flooding, and sea level rise. This section explores the relationship between climate change and planning concludes with a brief introduction to Computational Fluid Dynamics (CFD) in architecture to evaluate projects for lateral forces.

D. Hazard Mitigation + Race + Planning (Ellis, Chin and Mohsenin)

The final section will focus on building cases studies of African-American communities that highlight their historical origins and purpose, the physical evolution of the neighborhood and its surroundings and their susceptibility to climate change issues. The reflective and practical work will explore waterfront and inland African-American communities (e.g. in North Port St Joe and Tallahassee, FL). Documenting these historic communities and mapping their planned segregation will provide a foundation to propose innovative solutions for floods or hurricanes.

SELECTED RESOURCES

The course requires the students to secure or have access to the following assigned readings, podcasts, web links as their learning media.

A. African-American Landownership

- James R. Grossman, "Amiable Peasantry", or Social Burden: Constructing a Place for Black Southerners," in Rick Halpern and Jonathen Morris's, *American Exceptionalism: US Working Class Formation in an International Context* (New York: Palgrave MacMillan Press, 1997), 221-243.
- W. E. B. Du Bois, *The Philadelphia Negro: A Social Study and History of Pennsylvania's Black American Population; their Education, Environment and Work* (Pennsylvania: University of Pennsylvania Press, 1897).
- Edward A. Ayers, *Southern Crossing: A History of the American South 1877-1906* (Oxford: Oxford University Press, 1995).

B. Modern Planning and Race

- Rothstein, Richard, *The Color of Law: A Forgotten History of How Our Government Segregated America*. (New York ; London : W.W. Norton & Company, 2017).
- Silver, Christopher, and John V. Moeser, *The Separate City: Black Communities in the Urban South, 1940-1968*. (Lexington: The University Press of Kentucky, 2015).
- Birch, Eugenie L, *The Urban and Regional Planning Reader*. (London: Routledge, 2009).
- NYTimes, Mapping Segregation <https://www.nytimes.com/interactive/2015/07/08/us/census-race-map.html>

C. Hazard Mitigation and Climate Change

- Barsley, Edward. *Retrofitting for Flood Resilience*, Routledge. 2020.
- English, Elizabeth C. Meiyi Chen, Rebecca Zarins, Iryna Humenyuk. An innovative strategy to increase the resilience of flood-vulnerable communities. Presented at the 8th International Conference on Building Resilience. 2018.
- FEMA. *Reducing Damage from Localized Flooding*. 2005.
- Ovink, Henk. *Too Big: Rebuild by Design's Transformative Response to Climate Change*. 2018.

FACULTY BIOS

Dr. Reginald Ellis is an Assistant Dean for the School of Graduate Studies and Research and an Associate Professor of History and African-American Studies at Florida A&M University. Ellis earned a Ph.D. in History from The University of Memphis. His recent publication is "*Between Washington and Du Bois: The Racial Politics of James Edward Shepard* (Gainesville: University Press of Florida, 2018)."

Andrew Chin is the Associate Dean for the School of Architecture + Engineering Technology and an Associate Professor of architecture at the Florida A&M University. He earned his Master of Architecture from the University of Florida, and a Master of Science & Regional Planning from Florida State University. His funded research provides community design assistance for African-American communities in North Florida.

Dr. Mahsan Mohsenin is an Assistant Professor at the School of Architecture and Engineering Technology at Florida A&M University. Her research interests focus on Sustainability, Energy Modeling, and New Building Skins. She earned a Ph.D. from NC State University, and her publications appeared in different peer-reviewed journals and conference proceedings related to the field of building technology.