Sustainable Boston: Preserving and Enhancing the Boston Area's Environmental and Cultural Heritage for the Future

2018 Team R Capstone Project

About the Capstone Project

The capstone project represents the culmination of your academic experience at CGS. This interdisciplinary, project-based assignment allows you to integrate what you have learned both at CGS and in other Boston University courses and apply it to real-world problems. Using a team oriented, project-based learning approach you will incorporate material from different fields and look at the scientific, ethical, aesthetic, legal, social and economic issues that influence your topic.

The umbrella topic for Team R is Sustainable Boston. We interpret this notion broadly to include all aspects of the Boston area's environmental, educational, and cultural heritage that may be under threat and are worth sustaining. You are not limited to the geographical boundaries of the City of Boston; indeed, we encourage you to explore nearby communities such as Cambridge, Somerville, Brookline, and Chelsea, all of which can easily be reached by public transportation. We expect that you will go out into the community to gather data and first-hand information.

As you begin this project, keep three thoughts in mind. First, you are expected to work together, to share ideas, and to collaborate for the success of your group. Second, successful capstone projects address relatively narrow topics and devise local solutions that may be applied to global problems. Finally, the Capstone paper is not a fifty-page term paper. Instead, it should be a synthesis that combines separate elements to form a coherent whole.

The Capstone Project and HUB General Education Areas

Boston University's new general education program—The HUB—requires students to take courses that broaden their perspectives and develop their academic skills. The general education requirements of a college or university reveal its priorities; such requirements tell us what that particular school thinks makes for a good, educated person and citizen. Your CGS courses, as the name of the College suggests, all fulfill HUB requirements by exposing you to the methods, perspectives, and traditions of a wide range of disciplines. The Capstone Project, not surprisingly, is a crucial part of your general education experience, and helps to fulfill the HUB capacities described below.

-Research and Information Literacy

-Writing Intensive Course
-Creativity/Innovation
-Teamwork/Collaboration

Mechanics of the Project

Groups

The Capstone Project is a group project. You will be a member of the group during the entire project. Each group will need to work out for itself some form of division of labor and responsibility. Each member of the group will be responsible not only to herself or himself, but to the other members as well. We encourage you to use Google Documents or other sharing options as a way to easily add to, edit, and co-edit your Capstone paper. All students are required to document their specific contributions by posting their work to their E-portfolio. Your E-portfolio should be updated as the work is done and not only at the end of the project. Each student should create a specific Capstone tab in E-portfolio for his or her work.

Project Grades

You will receive one grade for the project. This grade will make up 25% of your semester grade for each CGS course in which you are enrolled. There are three components to the Capstone grade: the paper itself, the oral defense, and peer evaluation of your participation. You will be evaluated as a group on the written report (in other words, each member of the group will receive the same paper grade), but as individuals on the oral defense and participation. Your final Capstone grade will be a combination of these three components, and is determined by consultation among your three professors.

Note that you will receive only **your individual Capstone grade**, as this is what constitutes 25% of your semester grade in each course.

The Written Report

The length of the Capstone paper should be a *maximum* of 50 pages typed, double-spaced. This does not include preliminary pages (table of contents, etc.), endnotes, footnotes, works cited, bibliography, or appendices. Copies of the report must be provided for **each faculty member** and also each member of the group in order to prepare for the oral defense.

The Oral Defense

After the final report has been submitted to the faculty, your group will meet at an appointed time to defend its work before your team faculty. The oral defense can last up to two hours, though defenses of one to one-and-a-half hours are preferable. Each group member should have his or her own copy of the Capstone Project and should be

prepared to answer questions on all aspects of the report.

Capstone Format

Each Capstone group is charged with the task of formulating a policy recommendation related to their topic. For that purpose, each group will constitute itself as a panel of experts that has been charged with the responsibility of surveying the history and scope of a particular problem in the Boston metropolitan area. The group must consider many possible solutions before recommending what it determines to be the best solution for the local area. The group may be a special commission of inquiry, bureaucrats in a government agency, or an independent panel of scientists, scholars, or citizens.

Format for the Written Report

Your group will develop a recommendation that is presented to a government agency or another appropriate group. Your paper should relevant background information and a thorough discussion of the problem you are investigating. We assume you will have numerous subsections that flow in a logical order.

A substantial portion of the paper should be your recommended solution to the problem you are investigating. Your solutions must consider opposing viewpoints, potential opposition, and barriers. Above all, your should offer a "doable" solution that recognizes the economic, cultural, and environmental constraints that shape all action in a densely urban area such as Boston.

Plagiarism

The following explanatory text appears on the Academic Conduct Code section of the Boston University website. For more information and examples of types of plagiarism, consult the Conduct Code here:

https://www.bu.edu/academics/policies/academic-conduct-code/

A Definition of Plagiarism

The following definition of plagiarism is taken from H. Martin and R. Ohmann's *The Logic and Rhetoric of Exposition*, revised edition, Holt, Rinehart and Winston, 1963.

"The academic counterpart of the bank embezzler and of the manufacturer who mislabels products is the plagiarist, the student or scholar who leads readers to believe that what they are reading is the original work of the writer when it is not. If it could be assumed that the distinction between plagiarism and honest use of sources is perfectly clear in everyone's mind, there would be no need for the explanation that follows; merely the warning with which this definition concludes would be enough. But it is apparent that sometimes people of goodwill draw the suspension of guilt upon

themselves (and, indeed, are guilty) simply because they are not aware of the illegitimacy of certain kinds of "borrowing" and of the procedures for correct identification of materials other than those gained through independent research and reflection…

"The spectrum is a wide one. At one end there is a word-for-word copying of another's writing without enclosing the copied passage in quotation marks and identifying it in a footnote, both of which are necessary. (This includes, of course, the copying of all or any part of another student's paper.) It hardly seems possible that anyone of college age or more could do that without clear intent to deceive. At the other end there is the almost casual slipping in of a particularly apt term which one has come across in reading and which so admirably expresses one's opinion that one is tempted to make it personal property. Between these poles there are degrees and degrees, but they may be roughly placed in two groups. Close to outright and blatant deceit—but more the result, perhaps, of laziness than of bad intent—is the patching together of random jottings made in the course of reading, generally without careful identification of their source, and then woven into the text, so that the result is a mosaic of other people's ideas and words, the writer's sole contribution being the cement to hold the pieces together. Indicative of more effort and, for that reason, somewhat closer to honest, though still dishonest, is the paraphrase, an abbreviated (and often skillfully prepared) restatement of someone else's analysis or conclusion, without acknowledgment that another person's text has been the basis of the recapitulation."

SUSTAINABLE BOSTON
TOPICS

1. **Sustaining Urban Green Spaces.** Currently over 50% of all humans on Earth live in urban areas and this is projected to increase to over 70% in the next 20 years. Urban areas represent a mosaic of habitats including open green spaces. What is the value to humans of green spaces? How much of a city should be devoted to these spaces? Examine the role of green spaces in urban areas on the quality of urban life. Specifically, how does and should Boston treat green spaces as it strives for a sustainable future?

2. **Sustainable Architecture in Boston.** By American standards, Boston is an older US city and has both old and new buildings. Indeed, this is what creates some of Boston's attractiveness. However, older buildings are not as energy efficient. What role should green construction and energy efficiency play in the future designs for a sustainable Boston?

3. **The Role of Commercial Fisheries in a Sustainable Boston.** New England and Boston were founded on the fins of North Atlantic cod. However, much of the New England

fishery is overfished and depleted. What role can commercial fishing play in creating a sustainable Boston?

4. **Sustaining an Adequate Freshwater Supply.** Freshwater is a vital and limited resource. As Boston grows and looks to the future what must be done to maintain the freshwater supply? Boston currently has one of the cleanest water supply systems in the country. What is being done and what needs to be done in the future?

5. **What the roles do Research Universities play in making Boston Sustainable?** What is the interrelationship between a research university and a city? What long-term benefits (social, economic, scientific) does a research university provide to a city? Is the university community a sustainable component of the larger city?

6. **Sustaining "Biophilia" in an Urban Setting.** Boston is composed of residential areas, business areas, and areas of light (or even heavy) industry. Interspersed are small and large parks that serve as home to various wildlife species. What is the role of wildlife in an urban setting? How should non-human species be managed to sustain Boston as an "urban ecosystem?"

7. **Individual vs. Group Rights in a Sustainable Boston.** Under what circumstances should the "good" of the group take precedence over individual rights? In creating a modern, sustainable urban society are individual rights even relevant? What type of modern societal code will be required to create a sustainable Boston?

8. **Museums, Education and Sustainability.** One important aspect of urban centers is the presence of museums that catalogue and analyze culture, society and science. What roles do museums in Boston currently play? What should the future role of museums be in a sustainable city (like Boston?)

9. **Sustaining Human Density While Mitigating Disease**. Infectious diseases can only exist in dense populations and every year there is a local "epidemic." For example, this year a new strain of flu is potentially lethal and spreading rapidly. How can Boston maintain its urban vitality while ensuring the health of its population? In making Boston sustainable what role should potential "outbreaks" play in future planning?

10. **Sustainable Urban Agriculture.** One problem all urban areas face is the production and transport of food to the populace. What roles do urban farming and alternative forms of urban food production play in designing the Boston of tomorrow? What is done now and what must be done to make Boston's food supply sustainable?

11. **Sustaining Boston in a Changing Climate.** Anthropomorphic climate change is a scientific fact. How can a coastal city like Boston prepare for and be sustainable in this environment? What challenges and opportunities does Boston face in the future?

12. **Waste in a Sustainable System.** Humans produce waste. Examine how Boston as an urban area can be sustainable give the amount of waste that is produced. What types of waste do Bostonians produce and what happens to it?

13. **Sustaining Boston's Neighborhoods.** South Boston, Dorchester, Roxbury, the North End. Each neighborhood has a past present and future. What is the role of neighborhood "character" in creating a sustainable Boston? How can neighborhood character be sustained (or should it be sustained) given the natural evolution of urban settings? How can we sustain neighborhood character within an environment of gentrification?

14. **Sustaining Boston's Energy Supply.** Where does the energy to run Boston come from? What can be done to make Boston sustainable?

15. **Creating a Sustainable Boston Public Transportation System.** How can an urban center develop an efficient public transport system that is affordable and available to all community members? What makes public transportation effective (a system that people want to use and can afford to use)? Examine the MBTA system or part of it and develop a plan to make it work now and in the future.

16. **Sustainable Urban Public Education**. It is no secret that American public school districts vary widely in their quality and level of success as measured by test scores, graduation rates, and the like. And school systems in large, urban areas are often viewed as among the most troubled of all. Boston is proud of its educational tradition – Boston Latin, founded in 1635, was the first American public school. But how might we address the struggles of Boston's city school districts in order to provide a sustainable future for these crucially important institutions?

17. **A Sustainable Charles River.** Only recently has the Charles River been considered a "clean" river. Why is the Charles important to making the Boston area sustainable? Or is a clean Charles important to Boston? What ecosystem services does the river provide?

18. **The Individual and community sustainability.** Examine specific roles individuals play or how they contribute to creating a sustainable Boston. Should individual action (community action) be a requirement of community membership?

19. **Modern Waste and Environmental Pollutants.** Toxic compounds are in everyday items (for example BPA in some plastic bottles). What impact do these pollutants have on humans and human health? What can and should a city do to protect citizens from pollutants? Is there a social bias to product placement of pollutant containing products?

20. **Air Quality and Urban Sustainability.** Many major global cities are facing a public health problem with poor air quality. For example, London, where many of you have studied, recorded poorer air quality in January than cities with notorious pollution levels

like Beijing. What is air pollution and what are its major causes? Why is air quality important in creating a sustainable city?

21. **How to Explain and Understand Sustainability?** Sustainability is an emotionally charged word. Earlier this semester a student suggested it had a negative connotation. Examine a specific topic regarding sustainability and Boston or the greater Boston Area. Define an actual or potential problem involving sustainability, understand the issues from social, economic, cultural and scientific perspectives, collect data (both reference material and "field" data), analyze the data and provide solutions for creating a sustainable system.

22. **A Sustainable Immigration System in Boston**. A good deal of hostility toward immigrant groups has been expressed in recent American political discourse. Yet Boston, as the culture of its various neighborhoods makes clear, is a city that was built by immigrants, and is now home to both many recent arrivals and to the descendants of past immigrants. And economists often argue that more, not fewer, immigrants are needed to sustain the American economy. What about Boston? What would be a sustainable immigration policy for the future of the city?