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DSCI 493/593

Sustainable Business Operations

Week 7 – The Built Environment

Spring 2012

Prof. Mark E. Ferris



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Topics

- Presentation by Mary Ann Lazarus – Green Commercial Building
- Discussion of 2 page paper on NGO's
- DSCI 493/593 Presentation on Built Environment
- Group work on YouTube.
- Group Update on Undergraduate Social Media Sustainability Project and Work Plan

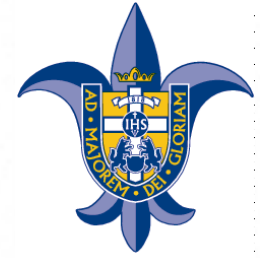


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The Built Environment



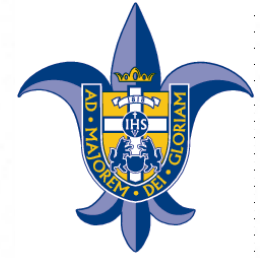
Greenburg, Kansas



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- The Storm
- <http://www.youtube.com/watch?v=t5Ps56JNgls&feature=fvsvr>
- Rebuilding
- <http://www.youtube.com/watch?v=o4SIVdVCs-I>
- The Plan
- <http://www.youtube.com/watch?v=1zjITqRVvK0&feature=related>
- BNIM Award Winning Design
- <http://www.youtube.com/watch?v=pCpUyqi-n9M>

Discussion - Greenburg

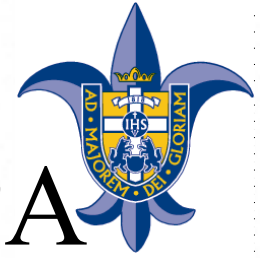


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- What did they do?
- Is this applicable elsewhere?
- What can we learn going forward?



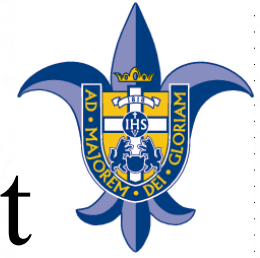
Green Building Definition EPA



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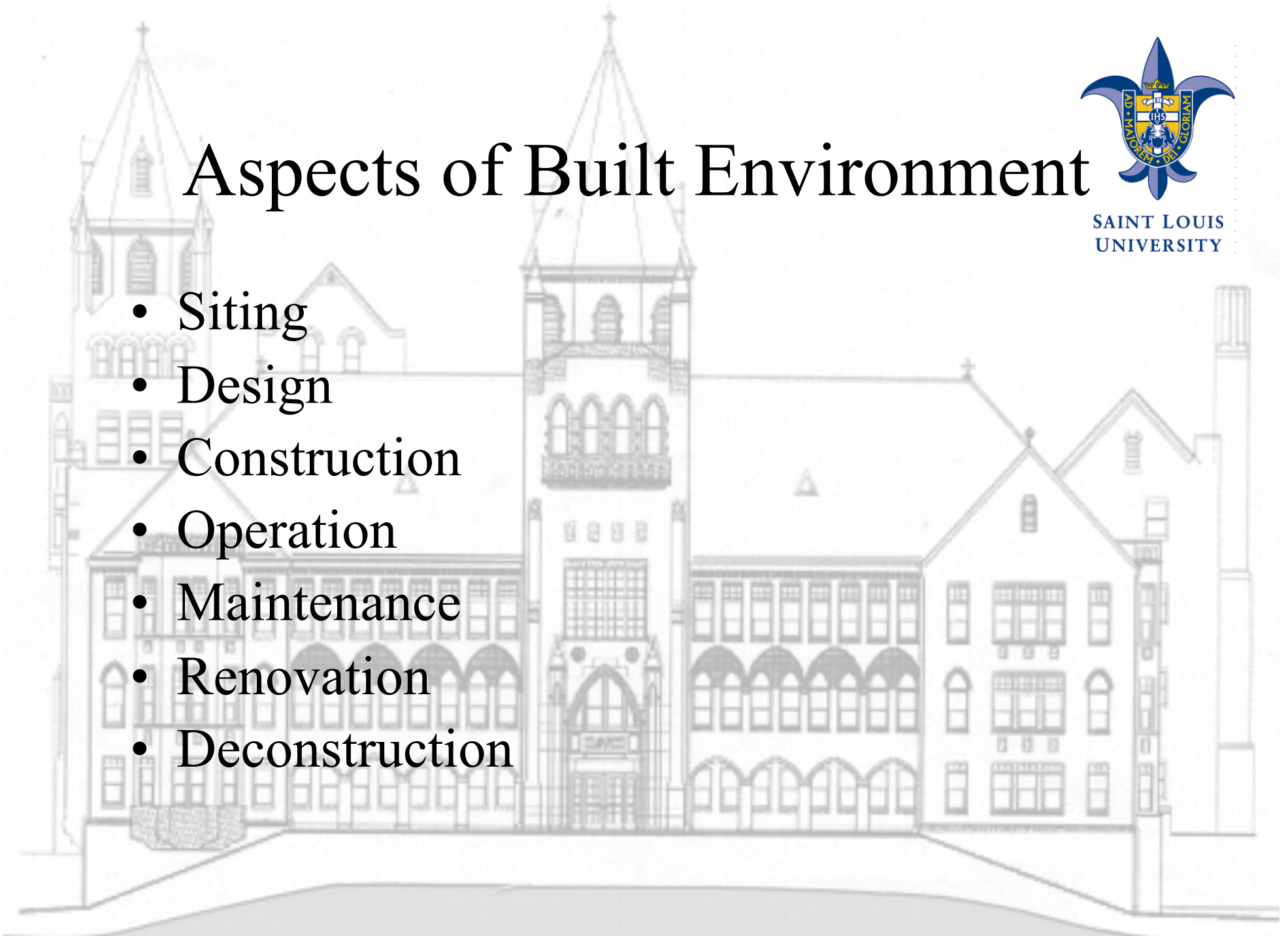
- Green building is the practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's life-cycle from siting to design, construction, operation, maintenance, renovation and deconstruction.
- This practice expands and complements the classical building design concerns of economy, utility, durability, and comfort. Green building is also known as a sustainable or high performance building.

Aspects of Built Environment



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- Siting
- Design
- Construction
- Operation
- Maintenance
- Renovation
- Deconstruction

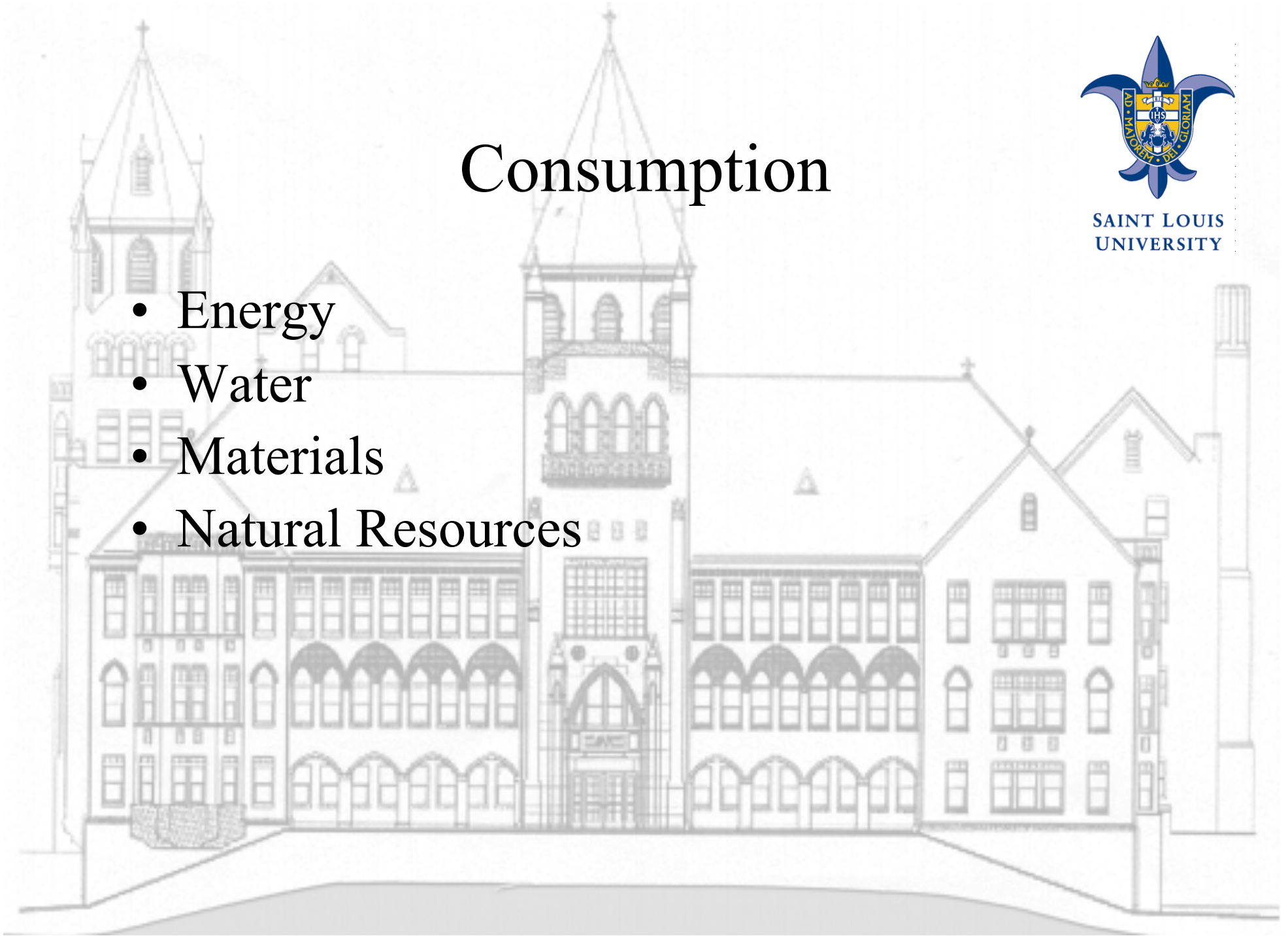


Consumption

- Energy
- Water
- Materials
- Natural Resources



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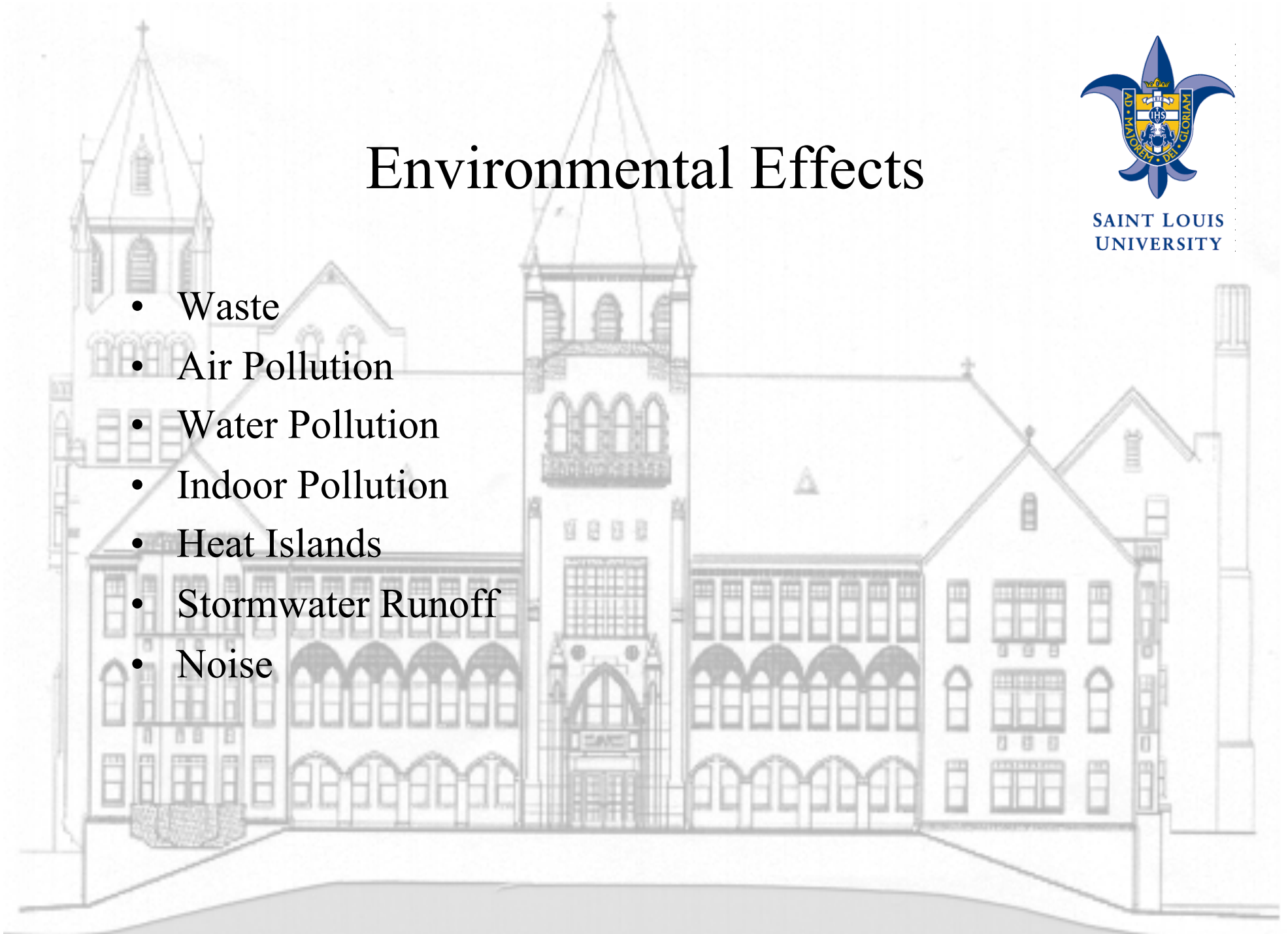


Environmental Effects



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- Waste
- Air Pollution
- Water Pollution
- Indoor Pollution
- Heat Islands
- Stormwater Runoff
- Noise

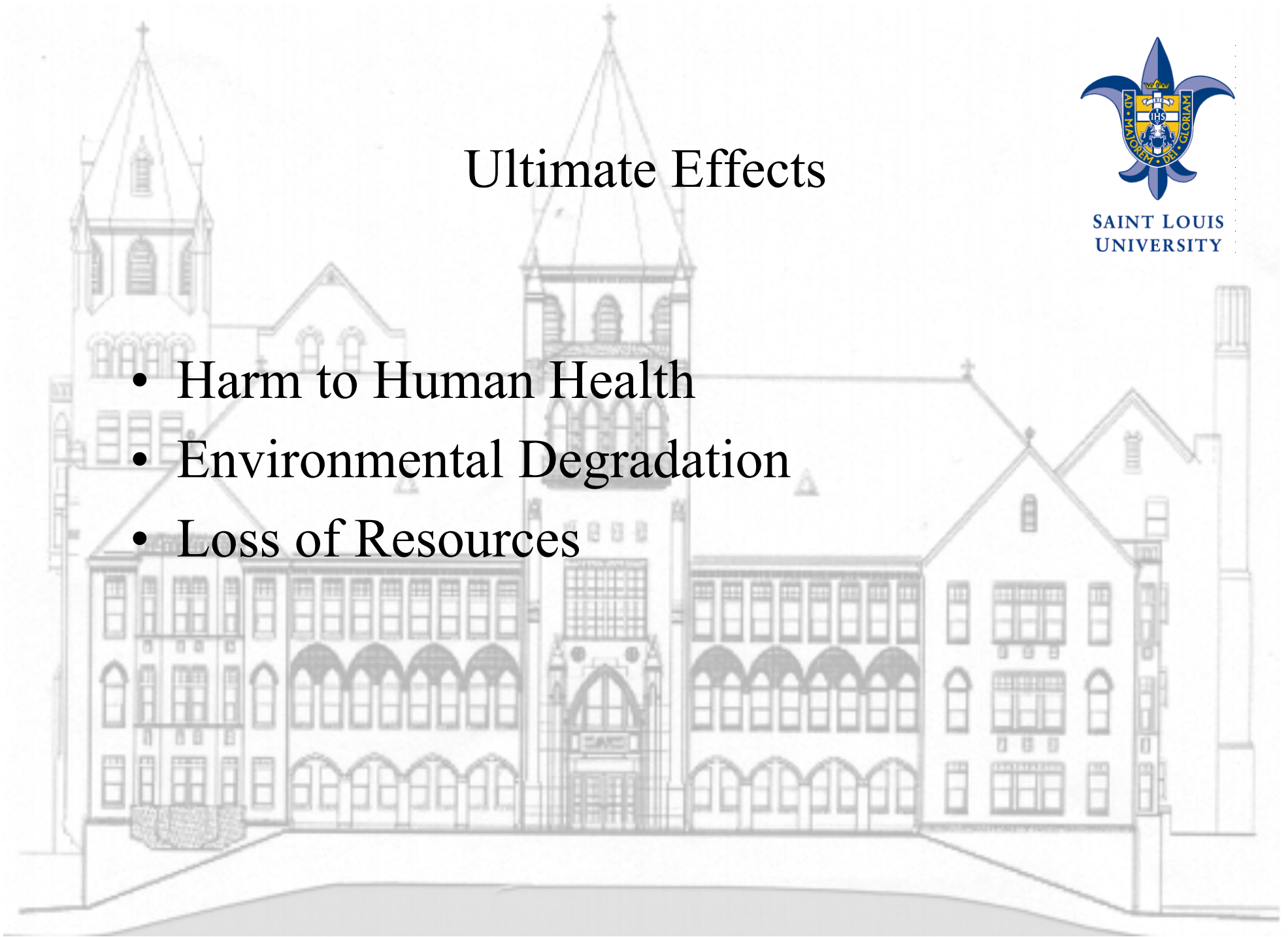


Ultimate Effects

- Harm to Human Health
- Environmental Degradation
- Loss of Resources



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Green Buildings Reduce Overall Impact



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- Efficiently using energy, water and other resources
- Protecting occupant health and improving employee productivity
- Reducing waste, pollution, and environmental degradation

Green Building History



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- American Institute of Architects (AIA) formed Committee on Environment (1989)
- Environmental Resource Guide published by AIA (1992)
- EPA and DOE launch Energy Star Program (1992)
- 1st local green building program Austin(1992)
- US Green Building Council (USGBC) founded (1993)
- Greening of the White House Clinton Admin (1993)
- USGBC launches their Leadership in Energy and Environmental Design (LEED) Pilot (1998)

US DOE Solar Decathlon



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- The U.S. Department of Energy Solar Decathlon challenges collegiate teams to design, build, and operate solar-powered houses that are cost-effective, energy-efficient, and attractive.
- The winner of the competition is the team that best blends affordability, consumer appeal, and design excellence with optimal energy production and maximum efficiency.
- In the U.S. Department of Energy Solar Decathlon, collegiate teams design and build energy-efficient houses powered by the sun. These teams spend almost two years creating houses.

Solar Decathlon Criteria



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- Affordable, attractive and easy to live in
- Maintains comfortable and and healthy indoor environmental conditions
- Supplies energy to household appliances
- Provides adequate hot water
- Produces as much or more energy than it consumes

New Zealand Entry



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- First Light, Victoria University of Wellington's U.S. Department of Energy Solar Decathlon 2011 entry, is inspired by the traditional New Zealand holiday home—the "Kiwi bach." First Light's design reflects a relaxed lifestyle in which socializing and connecting with the outdoors are central to living.
- Video
- http://www.solardecathlon.gov/team_new_zealand.html

Homework Assignment



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- Scan D. Gallagher (2010) UN Global Compact Environmental Stewardship Strategy (See Syllabus) and write 1 page summary
- Preview the following two links on the Kyoto Protocol and the Clean Development Mechanism (CDM)
- http://unfccc.int/kyoto_protocol/items/2830.php
- <http://edm.unfccc.int/>
- Write a two page summary about sustainability and the built environment.
- Write a one page speaker review paper.
- A one page summary of your progress on the YouTube Video Group Project. Include your marketing strategy. One per group.
- Work on your YouTube assignment.
- Continue searching for online articles and videos for your topic.