

## SSM 201 Class Assignments and Schedule

### Quiz/Test Question:

Quiz 1 (week 4) Feb. 3 or 5

What constraints/limits should society place on the development of new materials, products, and processes?

INDUSTRIAL ECOLOGY

CONSTRUCTION ECOLOGY

DESIGN FOR THE ENVIRONMENT

BIOMIMICRY

CARRYING CAPACITY

ECOLOGICAL FOOTPRINT

ECOLOGICAL RUCKSACK

THE BIOPHILIA HYPOTHESIS

ECO-EFFICIENCY

THE NATURAL STEP

FACTOR 4 & FACTOR 10

Why is fossil fuel usage non-sustainable?

### Day 1 -

introductions, review syllabus

**In-class Question:** What does sustainability mean to you? Write, share, then discuss. go over Google Docs, (go over some RAD strategies)

**Assignment:** Read Foreword, Preface, and pg. 1-11 If we cover RAD, use some RAD strategies in your reading assignment

**Student ASSIGNMENT: Interview** 5-10 people asking them what does sustainability mean to you? Why did you choose this person? What was your first thoughts to their response? Why do you agree, disagree, or a neutral to their response?

Day 2 - BEFORE CLASS: Interview 5-10 people and submit it on Google Docs.

TEACHER CLASS NOTES: Go over ch.1 PPT

STUDENT ASSIGNMENT: Review

### Day 3 -

TEACHER CLASS NOTES: Ch.1 Continue from slide 20.

Eutrophication Video:

<https://www.youtube.com/watch?v=wMZ8xfHPNu8>

Also watch 3:10-3:42. <https://www.youtube.com/watch?v=IsXtsR1llk0>

*Stop and look at ppt slide notes on slides 39, 44, 67*

**Assignment:** Create a chart, table, summary or drawing detailing the country/countries of origin and the basics of each of the following sustainable building rating systems: U.S. Green Building Council/LEED, breem, DGNB, BGA Green Mark, and Singapore Green Building Council.

**Reading for Next Class:** Pg. 29-52 (Green Building Foundations, Ethics & Sust., Basic Concepts & Vocab)

Day 4 - BEFORE CLASS: Read and submit 3 questions from pg. 29-52

TEACHER CLASS NOTES: Ch.2 PPT pg.37-38 have great reflection questions  
stopped at slide 56

STUDENT ASSIGNMENT: Read and submit three questions from pg.52-73

**Day 5 - BEFORE CLASS:** Read and submit three questions from pg.52-73

TEACHER CLASS NOTES:

Vocab terms for next weeks quiz Feb. 3 or 5:

INDUSTRIAL ECOLOGY

CONSTRUCTION ECOLOGY

DESIGN FOR THE ENVIRONMENT

BIOMIMICRY

CARRYING CAPACITY

ECOLOGICAL FOOTPRINT

ECOLOGICAL RUCKSACK

THE BIOPHILIA HYPOTHESIS

ECO-EFFICIENCY

THE NATURAL STEP

FACTOR 4 & FACTOR 10

[HTTP://WWW.EPA.GOV/AIRNOW/WORKSHOP\\_TEACHERS/CALCULATING\\_CARBO](http://www.epa.gov/airnow/workshop_teachers/calculating_carbon_footprint.pdf)

STUDENT ASSIGNMENT: Read and submit three questions from Ch.3 Pg.79-111

**Day 6 - 1/29/15**

Keola was sick so we're doing an alternative assignment:

To make up for today's class, please go back to Ch.3 pages 83-88 and give me a summary (2-5 sentences/a paragraph) for each of the 7 key figures/people who laid the foundation for today's ecological design otherwise known as green design. PLEASE ask any questions you have about the assignment.

**Reading for Next Class:** Ch.4 Pg.115-141

**-Submit 3 questions you have/had from the reading**

**Day 7- BEFORE CLASS:** Study for quiz. Chapters 1-4

TEACHER CLASS NOTES: Go over powerpoint 3&4 focusing on Ch.4

STUDENT ASSIGNMENT: Review

**Day 8- 2-5-15**

BEFORE CLASS: Study for Quiz

TEACHER CLASS NOTES: Quiz took about 30-60 minutes. Finish Going Over Chapter 4 PPT

**Reading for Next Class:** Ch.4 Pg.115-141

**-Submit 3 questions you have/had from the reading**

**Bonus Videos:**

**1 Bligh St, Sydney - Heart Of Glass Documentary** - <https://www.youtube.com/watch?v=8EnQ4iU3hDo>

**Aquacell Blackwater Recycling System at 1 Bligh St Sydney -**

[https://www.youtube.com/watch?v=eDap\\_qOg\\_kU](https://www.youtube.com/watch?v=eDap_qOg_kU)

**Engineering Excellence 2012 :: 1 Bligh Street ( 53 minutes)**

<https://www.youtube.com/watch?v=6rCamiTG8HA>

**White Grey Black Water**

<https://www.youtube.com/watch?v=cCmMLhcvWcs>

Mithun Off Grid Living Building Challenge - Seattle - and other:

<http://agritecture.com/post/12796677867/center-for-urban-agriculture-seattle-the-coolest>

[http://mithun.com/projects/project\\_detail/center\\_for\\_urban\\_agriculture/--](http://mithun.com/projects/project_detail/center_for_urban_agriculture/--)

<http://www.archdaily.com/484334/the-sustainability-treehouse-mithun/>

## **Day 9 (week 5) -**

TEACHER CLASS NOTES: Ch.5 ppt 1-15, discusses the usgbc.org website and fees. The differences between credentials and certification. Rating system follows for both. Green Associate and Accredited Professional differences.

### **Links from today's class:**

<http://www.usgbc.org/leed>

<http://kalihikaivista.com/building-green>

<http://kalihikaivista.com/files/pdfs/4.%20KAI%20VISTA%20LEED%20INITIATIVES.pdf>

<http://www.forkauaionline.com/unlimited-building-15-leed-certified-homes-at-kukuiula/>

<http://www.kaimukihawaii.com/d/c/green-hawaiian-home-kaimuki-bia-hawaii.html>

<http://energy.hawaii.gov/wp-content/uploads/2014/03/19-BBG-EBOM-Presentation.pdf>

<http://www.gentryhawaii.com/uploads/images/Five-O-So-Green-Homes.pdf>

<http://pbrhawaii.com/?project=new-hawaiian-home>

<http://www.michaelheacock.com/profile/liveinspired.html>

### **STUDENT ASSIGNMENT:**

Feel free to review the links. Find a LEED Certified Home in Hawaii (out of Hawaii if you can't find one you like) and tell us 3-5 reasons why you like that home.

Review Ch.5

## **Day 10 - 2-12-15**

### **START OF CLASS : SEE google docs file: SSM 201 Ch.5 Pop Quiz**

TEACHER CLASS NOTES: Continue discussion from ppt. slide 15. to finish. go over the following:

Casey and Keola, please turn in last classes assignment electronically.

Today we reviewed the rest of Ch.5 and the LEED rating system.

### **Heavener Football Complex, University of Florida**

<http://news.ufl.edu/archive/2009/05/ufs-football-complex-receives-highest-green-building-certification.html>

[http://www.environmentalleader.com/2010/02/09/university-of-florida-football-complex-uses-25-less-energy-t  
han-similar-buildings/](http://www.environmentalleader.com/2010/02/09/university-of-florida-football-complex-uses-25-less-energy-than-similar-buildings/)

[http://www.sportsbuilders.org/events/presentations/pontevedra\\_1earmaghani.pdf](http://www.sportsbuilders.org/events/presentations/pontevedra_1earmaghani.pdf)

<https://www.youtube.com/watch?v=Emvm7a03NM0>

**Reading for Next Class:** Ch.5 Pg.175-187

**-Submit 3 questions you have/had from the reading**

### **Day 11 (week 6) 2-17-15 -**

BEFORE CLASS:review ch.6

**TEACHER CLASS NOTES:** Go over Ch.6, spend the next two classes going over Ch.6 and the LEED certification process,forms, and videos.

**Class assignment:** Differences between LEED and Green Globes Rating Systems, list a minimum of 6 differences. Which differences/parts of the systems do you like/dislike? Why do you feel that way?

**NEXT CLASS:** We will review your Hawaii LEED Project assignments, the differences between LEED and Green Globes (pg187), and review both the LEED and Green Globes websites and how to navigate them.

**Day 12, 2-19-15 -** BEFORE CLASS:Finish LEED and GG differences.

TEACHER CLASS NOTES: Review your Hawaii LEED Project assignments, the differences between LEED and Green Globes (pg187), and review both the LEED and Green Globes websites and how to navigate them.

**What is a bioswale? see below**

<http://en.wikipedia.org/wiki/Bioswale>

<https://www.youtube.com/watch?v=OCFscOWyWek>

<https://www.youtube.com/watch?v=G0TVTIRpG8I>

**ADDITIONAL YOUTUBE RESOURCES IF WE HAVE TIME:**

<https://www.youtube.com/watch?v=6dJqYQA-Ha8>

[https://www.youtube.com/watch?v=9oy3\\_wT1TVU](https://www.youtube.com/watch?v=9oy3_wT1TVU)

STUDENT ASSIGNMENT: Review

## Day 13 - 2-23-15, Week 7 no class on thursday

### BEFORE CLASS:

- Reading for Next Class: Ch.6 Pg.189-213

-Submit 3 questions you have/had from the reading

### TEACHER CLASS NOTES:

#### Chapter 7 In-class Assignment

Answer the following questions in complete sentences and as much detail as you can include.

- 1.) What is integrated design?
- 2.) Why do green assessment rating systems put so much emphasis on IDP(integrated design process)?
- 3.) What is a charrette and why are they used?
- 4.) What are the similarities and differences between LEED and Green Globes documentation? (list at least 4-5 differences)

Reading for Next Class: Ch.8 Pg.216-240

-Submit 3 questions you have/had from the reading

#### Ch.7 Case Study: Theaterhaus, Stuttgart Germany

<http://www.daimler.com/dccom/0-5-1723064-1-1724377-1-0-0-1727776-0-0-135-876574-0-0-0-0-0-0-0.html>

[https://books.google.com/books?id=gSRHAAAQBAJ&pg=PT235&lpg=PT235&dq=building+of+theaterhaus&source=bl&ots=PT-3sRfiAv&sig=sAoD\\_zGuBeKlcC8Y5MVu4Jg4T4o&hl=en&sa=X&ei=SwftVK2FI86vogTo14HADA#v=onepage&q=building%20of%20theaterhaus&f=false](https://books.google.com/books?id=gSRHAAAQBAJ&pg=PT235&lpg=PT235&dq=building+of+theaterhaus&source=bl&ots=PT-3sRfiAv&sig=sAoD_zGuBeKlcC8Y5MVu4Jg4T4o&hl=en&sa=X&ei=SwftVK2FI86vogTo14HADA#v=onepage&q=building%20of%20theaterhaus&f=false)

#### BONUS - UNIVERSITY OF FLORIDA PROJECTS:

<https://www.youtube.com/watch?v=unSHTz1s7ZM>

## Day 14- 3-3-15 Week 8 This Chapter has lots of great topics of discussion to cover.

### BEFORE CLASS:

TEACHER CLASS NOTES: Reviewed Pages 215-216

**SSM 201 Ch.8 In-class Assignment #1:** In your own words, list and describe 10 general approaches to land use that are followed when and building a high performance green building.

STUDENT ASSIGNMENT: Finish and submit class assignment online.

## Day 15-

BEFORE CLASS: Review the rest of Chapter 8 and have in-class assignments ready for class.

TEACHER CLASS NOTES: Go over highlights of Chapter 8 and have students work on the following class assignments.

### Chapter 8 In-class Assignment #2

Answer the following questions in complete sentences and as much detail as you can include.

- 1.) What are the similarities and differences between green, brown, and grayfields? (I left blackfields out because they are basically extremely contaminated grayfields).  
What challenges and opportunities do each of these types of properties present?
- 2.) What are the benefits of using sustainable landscaping concepts?
- 3.) What are 5 characteristics of a sustainable landscape? Explain them in your own words.
- 4.) Which 3 Principles of Sustainable Landscape Construction do you feel are most important?  
Explain why you feel its most important for each of your answers.
- 5.) What are some of the positives and negatives of living roof? List and least two each.

**Reading for Next Class:** Ch.9 Pg.243-284 (stop at Renewable Energy Systems)

**-Submit 3 questions you have/had from the reading.**

### ADDITIONAL YOUTUBE RESOURCES:

Bioretention

<https://www.youtube.com/watch?v=CJSrXbTyE3A>

Pervious Concrete (it's usually mostly impervious)

<https://www.youtube.com/watch?v=yjJXBNpr2Ew>

Construction of a large scale Bioretention Basin

<https://www.youtube.com/watch?v=U08l29uf-yg>

Rain Gardens

<https://www.youtube.com/watch?v=V8xygw7gl00>

<https://www.youtube.com/watch?v=J1gNS89Zhmk>

[https://www.youtube.com/watch?v=V1S\\_qVwzfsA](https://www.youtube.com/watch?v=V1S_qVwzfsA)

London's Green Roof Concept

<https://www.youtube.com/watch?v=PzgmQp-7QuY>

Vertical Gardening

[https://www.youtube.com/results?search\\_query=vertical+landscaping](https://www.youtube.com/results?search_query=vertical+landscaping)

[https://www.youtube.com/watch?v=1oC\\_ghwmBV4](https://www.youtube.com/watch?v=1oC_ghwmBV4)  
<https://www.youtube.com/watch?v=DoSXOeG3IU4>  
<https://www.youtube.com/watch?v=eu-JVHUyD70>  
<https://www.youtube.com/watch?v=X53K7Y3P-pA&feature=trueview-instream>

#### Vegetated/Green Roofs

<https://www.youtube.com/watch?v=pp79mGpomf4>  
<https://www.youtube.com/watch?v=mMjxvw5bOhk>  
<https://www.youtube.com/watch?v=dWOxYrk3hKg>  
<https://www.youtube.com/watch?v=IXhKqXGqs8c>  
<https://www.youtube.com/watch?v=P2ibfEn1qo8>  
<https://www.youtube.com/watch?v=bw8SNtSitWY>  
<https://www.youtube.com/watch?v=cbzOUC0UICo>  
[https://www.youtube.com/watch?v=RpR9\\_7iB4gl](https://www.youtube.com/watch?v=RpR9_7iB4gl)

#### Rain Barrels

<https://www.youtube.com/watch?v=xSSyNfFwqw8>

#### Green Roof Maintenance (40 min)

<https://www.youtube.com/watch?v=AW2kppl4II0>

STUDENT ASSIGNMENT: Review

**Day 16- 3-10-15 Week 9- This Chapter one of the LONGEST Chapters. 60 pages.**

BEFORE CLASS:

TEACHER CLASS NOTES:

#### Chapter 9 Assignment #1

Answer the following questions in complete sentences and as much detail as you can include.

- 1.) In your opinion, what are the top 3 energy design strategies? Why do you think these are the top 3? Use references from the book and other sources (internet, etc.) to explain each of your choices.
- 2.) What are the similarities and differences of energy goal setting in LEED and Green Globes?
- 3.) Explain the positives and negatives of using windows. How can we best maximize energy and natural light in a high-performance building?

**Reading for Next Class:** Ch.9 Pg.284-304



**-Submit 3 questions you have/had from the reading.**

STUDENT ASSIGNMENT: Review

**Day 17- 3-12-15 Week 9**

TEACHER CLASS NOTES:

**Chapter 9 Assignment #2**

Answer the following questions in complete sentences and as much detail as you can include.

- 1.) What are the advantages and disadvantages to renewable energy systems such as photovoltaics, wind, and biomass power? What additional advantages and disadvantages not listed in the book can you come up with?
- 2.) The above listed renewable energy systems are most common, but what other renewable energy systems are out there?
- 3.) What biomass efforts are currently happening on Kauai and in Hawaii?

**Reading for Next Class:** Ch.10 Pg.309-350

**-Submit 3 questions you have/had from the reading.**

**Day 18- 3-17-15 Week 10 WE HAD THE FIELD TRIP LAST WEEK SO WE ARE CATCHING UP ON CHAPTER 9 ASSIGNMENTS**

TEACHER CLASS NOTES:

STUDENT ASSIGNMENT: Review

**Day 19- 3-19-15 Week 10**

**COVER ALL OF CHAPTER 10 IN 1 CLASS (students didn't show up)**

BEFORE CLASS:

TEACHER CLASS NOTES:

**Chapter 10 Assignment**

Answer the following questions in complete sentences and as much detail as you can include.

- 1.) What is watery?
- 2.) In your own words, what are the 8 steps in Developing a High Performance Hydrologic Strategy?

3.) Review the videos below and share 5 things that you learned, found interesting, and some ways you can apply that learning to you life/better the enironment.

The water treatment process

<https://www.youtube.com/watch?v=9z14l51ISwg>

Eco-Friendly Wastewater Treatment System

<https://www.youtube.com/watch?v=pXaXjzbccPo>

Constructed Wetlands for wastewater treatment

<https://www.youtube.com/watch?v=arVtT-RCc7k>

Constructed Wetlands for Wastewater Treatment

<https://www.youtube.com/watch?v=wxxleTPZbGQ>

The Living Machine® System - How it works

[https://www.youtube.com/watch?v=tr\\_ev33P7IY](https://www.youtube.com/watch?v=tr_ev33P7IY)

Living Machine

<https://www.youtube.com/watch?v=QEJgT4C40o4>

LOTT Clean Water Alliance Regional Services CenterLOTT Clean Water Alliance

<https://www.youtube.com/watch?v=uPOglebPQaw>

<http://www.lottcleanwater.org/>

#### **ADDITIONAL YOUTUBE RESOURCES:**

Best Septic Tank Ever

<https://www.youtube.com/watch?v=rCPrLOphjy0>

Small On-Site Wastewater Treatment Systems

<https://www.youtube.com/watch?v=XgEPTntzSWQ>

**STUDENT ASSIGNMENT: REVIEW CHAPTERS 5-10 AND BE READY FOR A QUIZ WHEN WE GET BACK FROM SPRING BREAK.**

**Day 20- 3-31-15 Week 11-**

Quiz #2 Chapters 4-8

**Reading for Next Class:** Ch.11 Pg.353-387

**-Submit 3 questions you have/had from the reading.**

## **Day 21- 4-2-15 Week 11**

### **In-Class Assignment**

1. What are the positives and negatives of each of these schools of thought (the ecological school and LCA school) on selecting Green Building Materials and Products? Which do you feel is more environmentally friendly and why do you feel that way?
2. There are three philosophies/points of view on what makes a Green Build Product. Please summarize in your words each of these philosophies.
3. Summarize the ATHENA and BEES life cycle assessment tools. What are the similarities and differences between these two LCA's?
4. What are the 4 major types of building materials? List each type and give a short description of each. Follow this by giving at least two positives and two negatives of each material. (if you can only think of one + or - for each I'll accept that for now).

**Next Class we will Review Ch.11 and go into the first half of Ch. 12.**

**Reading for Next Class:** Ch.12 Pg.389-408

**-Submit 3 questions you have/had from the reading.**

## **Day 22- 4-7-15 Week 12**

**BEFORE CLASS:**

This covers the main differences between LEED 3 and 4.

<http://www.renewableenergyworld.com/rea/blog/post/2014/02/nailing-down-the-difference-between-leed-v3-and-leed-v4>

Return student Quiz #2.

**TEACHER CLASS NOTES:**

What is a VOC? <https://www.youtube.com/watch?v=Ys5jpls2Juo>

XX Office Building <http://www.freener-reifer.com/projects/office-building-double-xx/>

Building Green's Top 10 Green Products 2014

<http://www.treehugger.com/green-architecture/buildinggreens-top-ten-green-products-year-are-not-sexy-they-will-make-difference.html>

Green Concrete <http://carboncure.com/>

**Reading for Next Class:** Ch.12 Pg.409-434

**-Submit 3 questions you have/had from the reading.**

### **Day 23- 4-9-15 Week 12**

BEFORE CLASS:

TEACHER CLASS NOTES:

#### **Chapter 12 Assignment #1**

Answer the following questions in complete sentences and as much detail as you can include.

- 1.) What uses about 30% of total US energy?
- 2.) What are the benefits of using "daylighting" in building design? (list at least 2-3 benefits)
- 3.) What thermal comfort?
- 4.) What are the environmental and personal factors of thermal comfort? Briefly explain each and why they are important in 1-3 sentences.
- 5.) What is acoustic comfort? What is it important?
- 6.) What is a safe level of electromagnetic radiation? What are the most common and highest exposure items/activities to radiation in everyday life?

**Reading for Next Class:** Ch.13 Pg.435-459

**-Submit 3 questions you have/had from the reading.**

CLASS RESOURCES:

Closed Loop Food Production: <https://www.youtube.com/watch?v=-6YR5WxPmiY>

The Closed Loop Building Materials Facility <https://www.youtube.com/watch?v=k6fFXIT0goc>

H&M Clothing on Closing the loop <https://www.youtube.com/watch?v=bXckKRRQubo>

### **Day 24- 4-14-15 Week 13**

BEFORE CLASS:

TEACHER CLASS NOTES:

#### **Chapter 13 Assignment #1**

Answer the following questions in complete sentences and as much detail as you can include.

- 1.) List and explain at least 3 ways to reduce building site disturbance during the construction process.
- 2.) Describe in your own words the steps to managing IAQ during construction.
- 3.) What is a demolition and deconstruction? How are they similar and how are they different? List at least two benefits and two drawback of each.
- 4.) List and explain in your own words the steps and best practices of building commissioning.

**Reading for Next Class:** Ch.14 Pg.461-485

-Submit 3 questions you have/had from the reading.

CLASS RESOURCES:

Building Commissioning [https://www.youtube.com/watch?v=bNk4T-mzt\\_Q](https://www.youtube.com/watch?v=bNk4T-mzt_Q)

High Performance Building: Perspective and Practice (30 min.)

<https://www.youtube.com/watch?v=OiKhXrDds8U>

The Eco-Sense House - Natural Building, Natural Living

<https://www.youtube.com/watch?v=GuBW0po5u4U>

Earthship Tour <https://www.youtube.com/watch?v=vWBQp59iPs4>

**Day xx- 4-16-15 Week 13 NO CLASS IN TEXAS FOR Phi Theta Kappa**

BEFORE CLASS:

TEACHER CLASS NOTES:

STUDENT ASSIGNMENT: Review

**Day 25- 4-21-15 Week 14**

BEFORE CLASS:

TEACHER CLASS NOTES:

**Chapter 14 Assignment #1**

Answer the following questions in complete sentences and as much detail as you can include.

- 1.) In your own words explain the major trends in the ongoing shift in green buildings.
- 2.) What is TNPV? Give an example using real data from table 14.2.
- 3.) Compare and contrast the similarities and difference of Hard and Soft Costs?
- 4.) State and explain three design and construction strategies that have some of the greatest cost savings in green building construction.

**Reading for Next Class: University of Hawaii Sustainability Policy**

-Submit 3 questions, thoughts, or ideas you have/had from the reading.

STUDENT ASSIGNMENT: Review

**Day 26- 4-23-15 Week 14**

BEFORE CLASS:

TEACHER CLASS NOTES:

Review the UH Sustainability Policy and look up current related items to discussion and policy.

STUDENT ASSIGNMENT:

**Reading for Next Class:** Ch.15 Pg.483-506

**-Submit 3 questions you have/had from the reading.**

**Day 27- 4-28-15 Week 15**

BEFORE CLASS:

TEACHER CLASS NOTES:

**Final Research and Reflection**

Compare and contrast the similarities and differences between sustainability and conservation. What are they? What are current trends? What makes them important? (If you don't think it's important, please give your reasoning with data to back up your claims/ideas.)

2-4 pages, 12 font, double spaced, including a Resource/Bibliography

Resource:

<http://www.iucn.org/?14840/Hawaii-to-host-the-next-IUCN-World-Conservation-Congress>

STUDENT ASSIGNMENT: Review

**Day 28-** BEFORE CLASS:

TEACHER CLASS NOTES:

STUDENT ASSIGNMENT: Review

**Day 29- 4-30-15 Week 15**

BEFORE CLASS:

TEACHER CLASS NOTES:

STUDENT ASSIGNMENT: Review

**Day 30- 5-5-15 Week 16**

BEFORE CLASS:

TEACHER CLASS NOTES:

STUDENT ASSIGNMENT: *Review*