

**Welcome to 20.020**

**20.902/20.947**

**February 5th, 2008**



**Introduction to Biological Engineering Design**

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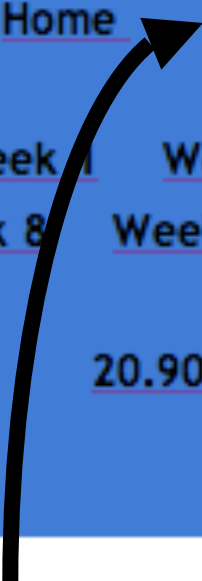
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<http://openwetware.org/wiki/20.20>

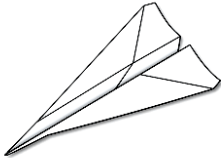
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Tuesdays/Thursdays

11:30-1



Start with challenge/puzzle/activity

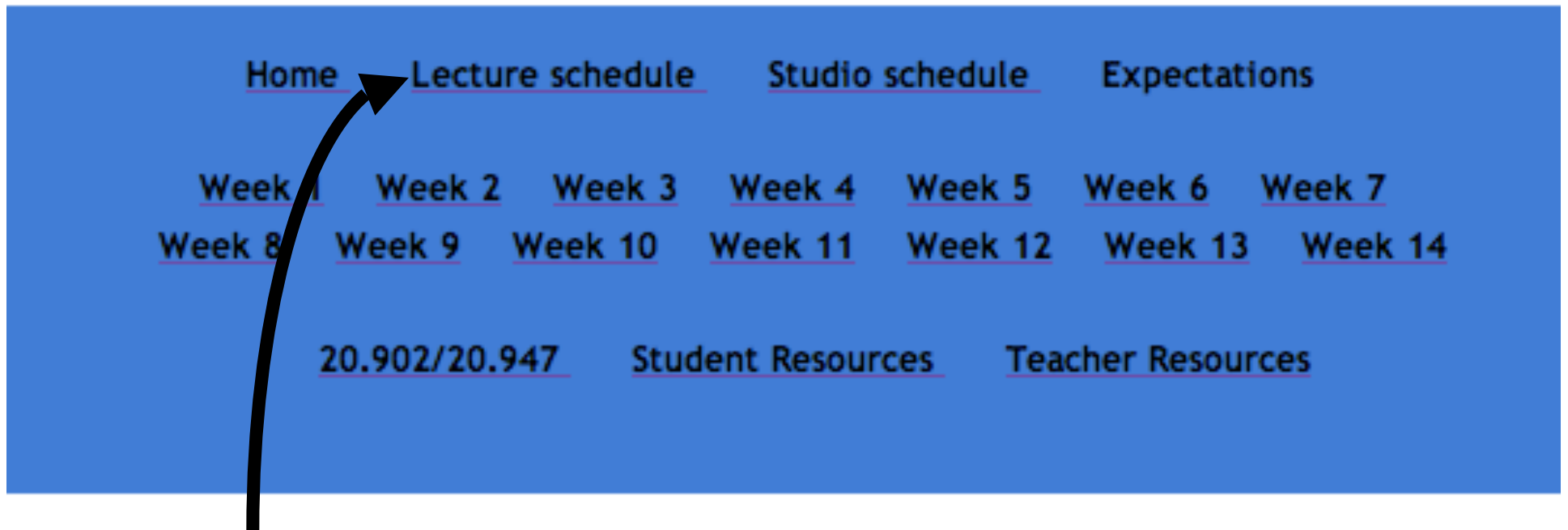


Follow-up with group discussion



End with response log





- ❖ How can biology be made easier to engineer?
- ❖ What are the consequences of success?
- ❖ How has nature solved physical challenges?
- ❖ In what ways does nature innovate?



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## Wednesdays

2-5

Challenge

What is the challenge to address?

Importance of challenge?

Impact of solution?

Project name

Your title here

Possible competing technologies?

Knowns and unknowns?

Device-level diagram

Your design here

Model for system operation?

Plan for validation and debugging?

Buildable?

Cost?

Time?

Parts-level diagram

Parts list here

Sourcing?

Description and annotation of function?

Safety?

Security?

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3 ideas  
presentation

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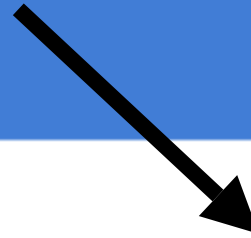
Parts list here

Tech spec  
review

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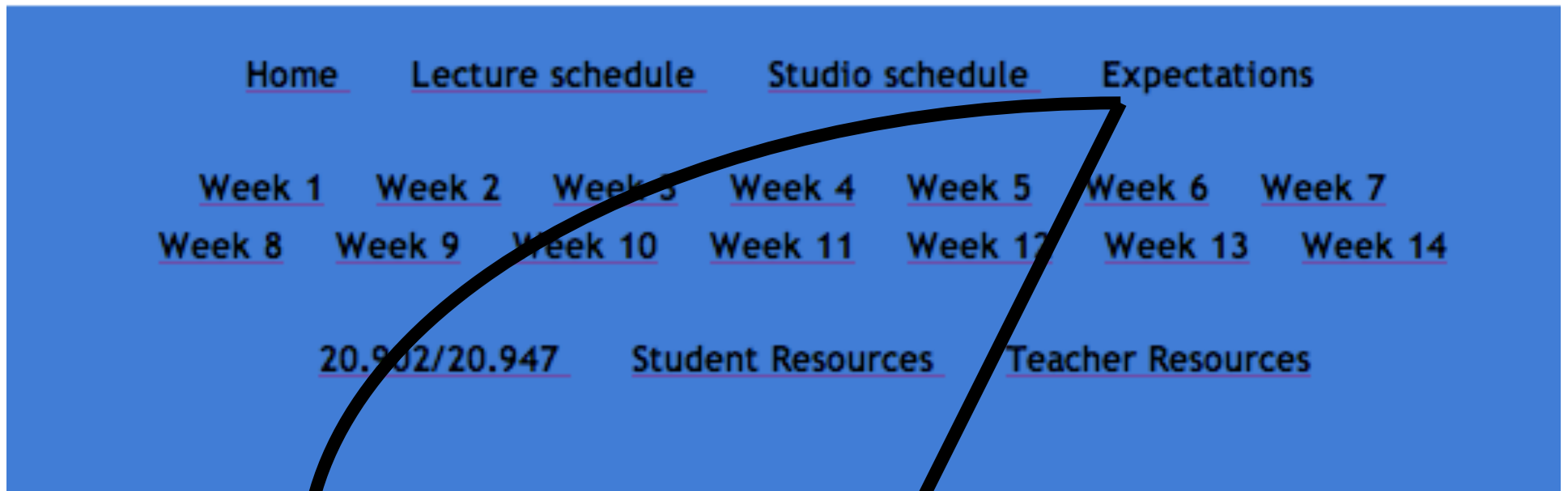
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## Project

- 3 ideas presentation
- Tech spec review
- Final presentation

**60%, team grades**



**Project**

- 3 ideas presentation
- Tech spec review
- Final presentation

**60%, team grades**

**Personal Design Portfolio**

**25%, individual grades**

**Lecture Response Log**

**10%, individual grades**

**Instructor Leverage**

**5%, individual grades**

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Advanced Reading

**50%**

- Present with a partner
- Present solo
- Respond to other presentations

20.020 Leadership

**50%**

- 2 progress reports
- 2 mentoring journal logs
- team average
- instructor leverage

**For tomorrow: read paper + email  
top 5 choices for presenting**



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Last thing: be great!