Online Biology with a Lab!

*Online Best Practices at Work*

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Slidedeck: z.umn.edu/onlinebest
Our guiding questions for today

01. How can interactive group work and authentic assessment be designed into online work?

02. How can course design elements make an online course sustainable for instructors and usable for students?

03. Are online best practices feasible?
A little about us

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Non-biology majors potentially high enrollment

Central support: ATSS

Local unit: CBS-BTL

Collaborative development team

Course redesign and move to fully online

A little about the pieces of our puzzle
Engage students in online interactive groups.

Create sequenced, varied, authentic assessments.

Build in maintainable sustainability.

Create a usable learning environment.
Engage students in online interactive groups.
Engage students in online interactive groups.
But online group work is hard.

Your chances of survival increase if you work together. Follow the steps to success for the strategies and tools to do that.

GET STARTED!

Begin with Step 1.

Complete the Take Action form.
Design with groups in mind.
Define the needs

1. **Scaffold** group work process
2. Increase **accountability** for engagement
3. **Authentic**, relatable assessment tasks
Explicitly state expectations for group work.

START HERE! Course Guide to this online course [Estimated time to complete: 20 - 30 minutes]

Working in groups

Note: This is an interactive, cooperative, collaborative online course. You have weekly deadlines you must meet to earn points. Many courses and activities will be done in groups. You will also be reviewing each other's work, participation, and effort. Below is information on how group assessment will work.

Expectations for group work

We have high expectations for performance on all group work; if and when an assignment calls for group work, you will be expected to participate actively. “Social loafing” or not working but taking credit for the work of the group, will result in a loss of points for the corresponding assignment. If you are assigned a group project and you perceive that a group member is not participating, follow these steps:

- Confer with your other team members to confirm that your perception is accurate.
- Promptly articulate the concern to the group member who is not contributing in writing with adequate notice, copying the other team members, the and the instructor(s).
- If the problem does not correct, escalate the issue directly to the instructors, copying “all” team members, including the person who has not contributed, asking the instructor(s) directly.
- If you receive an email from a team member indicating that they think you are not contributing, and you disagree, you should respond to the entire team, copying the instructor(s), articulation of what you contributed, and when, to the assignment. Providing supporting evidence of the contribution, such as emails, or access to online documents, is helpful.
- The instructor is your “supervisors” in this course and reserve the right to assign points on any group assignment differentially to each team member or to retroactively down a team member’s grade on an assignment, if credible evidence of non-participation emerges.

Group roles

For some assignments, you will be assigned a “group role.” For these assignments:

- All group members will post their own thoughts, share ideas, knowledge and research in response to the assignment question.
- ADDITIONALLY, you will each have a role to play. “If you have any questions about what it will mean to play these roles in your discussions, ask now!”
- Group role assignments AND group role responsibilities are all listed in this spreadsheet. This spreadsheet will be updated as new role assignments are made throughout the course.

Working with a group online

Working with a group online requires skills you may not have used before. Use these guidelines gathered from the internet to help you.

Agree to communicate in one place

Note: this course has been left open to you; you do not have to read the entire text. For the purposes of this class, we think that all group communication occurs inside Moodle in the following areas:
Assign rotating group roles

- Harmonizer
- Summarizer
- Skeptic
- Researcher
- Facilitator

### Note: Group roles change with Unit 5. See updated list below! Most recent info at top of list.
(if this is confusing, ask for help.)

#### UNIT 5
(Weeks 12, 13, 14)

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#### UNIT 4
(Weeks 9, 10, 11)

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#### UNIT 3
(Weeks 5, 6, 7, 8)

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Peer and Self Evaluation - BIOL 1001
Spring 2017

Instructions
1. At the end of each unit, you will fill this survey out one time for yourself and one time for each of your group-mates.
2. This means that you will complete this evaluation 5 times.
3. You are evaluating participation and effort for the entire UNIT that is ending now.
*Don't forget to evaluate yourself!!*

Your instructor will be reviewing these evaluations and may contact you in case any data inconsistencies arise.
These peer and self evaluations will count toward the participation portion of your final grade.

* Required

What is your name? (Click the dropdown menu below) *
Choose

Your email address: *
Your answer

Who are you evaluating? (Click the dropdown menu below) *
Consistent assignment and process

Essential Questions [W4] [DUE: Tuesday of this week, 11:55pm CST]

This is a group assignment. You can use any course or other materials and will discuss answers with your group.

Why are we doing this?
This assignment will give you a chance to apply your learning to real-life issues and problems. Group assignments will also help you learn group skills and time management.

Detailed Instructions
Note you will follow this process for all weekly Essential Question assignments.

1. Check the group role spreadsheet to see what role you will be playing, and what your responsibilities are (changed at the beginning of each unit).
2. Everyone should get started by posting their own initial thoughts to each of the questions listed below.
3. From there, assume your group role and do your part to keep the conversation moving toward your best group answer.
4. Cite sources for scientific rationale in your answers, either from the book or elsewhere.
5. If you are the *Summarizer* you are responsible for
   a. drafting the final best group answer that includes the summary for each question listed below,
   b. posting your final best group summary into the assignment entitled "Essential Questions Group Summary Submission".

Grading and feedback
- Your instructor will provide general feedback to the class each week about essential questions; examples of group work might be included.
- Your effort and participation in all group work including the Essential Questions forums will be assessed by your group member once in every unit, and it will count toward your final grade.
- Your instructor will randomly choose 2 group’s summaries to grade each week. At the end of the term, each group’s top 4 scores will be kept. You don’t know which 4 will be graded for your group, so do your best on each!

If you need help
- If you need help using the Moodle forum.
- If you are unsure of what group you are in, what your group role is, or what your group responsibilities are, ask for help right away!
- Ask your group members for help.
Create authentic, sequenced, varied assessment plan.
Why are some people skeptical of the value of online assessments?

- Does answering this question relate to my life in any way?
- I never have to articulate or defend my reasoning.
- I got this answer from my roommate.
- The answer is often obvious and requires little understanding (the answer is all of the above!)
- All of the above.
“Farmers often plant large acreage of a single crop in order to maximize yield and simplify harvesting. This is true of almonds in the central valley of California. From what you have learned in this unit, what are some of the pros and cons associated with monoculture?”
Authentic assessments use real research, real data

1. Learn about an ongoing citizen science project
2. Use the project's data set to investigate novel questions.
Authentic assessments use real **tests**, real **products**

- Design an experiment
- Create a scientifically supported advertisement.
Multiple choice quizzes and simulations can be appropriately applied.
**Varied**: Automatically graded quizzes, ideally with automated feedback

Bloom's Taxonomy

Identify definitions and concepts

Automatic
Varied: Essential Questions:

1) Submit individual answers to group → discuss
2) Submit group answers to instructor → grade
Varied: Group discusses and gives feedback on drafts. Instructor assesses checkpoints and final product.

Bloom's Taxonomy

- Automatic
- 2-Stage Group
- Peer + Instructor
- Identify definitions and concepts
- Apply to real-world problems
- Design experiments, Evaluate claims
Build in maintainable sustainability.
Proximate and scaffolded information

Lab Schedule

Lab Overview

Weekly Instructions

Assignment Instructions

Lab Procedures
**Random Grading**

Weekly assignments grade only a portion (for the instructor it was grade 2 each week, kept the 5 highest scores)
For repetitive assignments, embed Google Docs Instructions.

```html
<iframe frameborder="0" width="100%" height="900"
src="Insert the share link here*/pub?embedded=true">
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*remove “edit?usp=sharing”*
For lab equipment, hire a vendor.
Test for usability.
Test for usability.

USER EXPERIENCE

LOOK
Glaubwürdigkeit
Vertrauen
Harmonie
Stimmung

FEEL
"JOY OF USE"
Interaktion
Reaktion

USABILITY
Funktionalität
Intuitivität
Berechenbarkeit
We had some usability questions to explore

1. Getting oriented - is this class a good fit for you?

2. Navigate through a week of content - is it clear what you need to do?

3. Are complex assignment instructions clear?

4. Are multi-part assignment instructions clear, e.g., schedule and sequence?
We made some (a lot of) changes

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- **Clarify essential questions instructions**
- **Consistently list due dates**
- **Syllabus (and get started guide)**
Aside: a nice, simple, effective, versatile usability scale
During and after the course

What did you learn this week? [W3] [Tuesday of this week, 11:55pm CST]


Why are we doing this?
Are you learning what you thought you’d learn? Are you having any difficulty? Are you frustrated? This weekly activity will give you the chance to monitor your own learning, and hopefully allow you to correct any issues along the way.

Detailed instructions
Think back to what you what we covered this past week, then answer the following questions below.

• 3 things you learned
• 2 things you don’t understand
• 1 thing that could have helped you learn better this week.

Grading and feedback
• You will receive participation points for completing this activity each week.
• Your instructor will be reviewing these answers on a regular basis and addressing any issues (good or bad) that may come up.

You are not eligible to take this questionnaire.
View All Responses
Result: Fairly smooth first run of new course!
What will we do differently next time?

01 **Groups**: Spend even more time on initial group building, and maybe rotate group members mid way.

02 **Groups**: Improve assessment plan, e.g., grade weighting and peer/self assessments

03 **Usability**: Start Here! Guide continues to improve

04 **Usability**: Standardize course navigation

05 **Labs**: More graded check-point lab assignments
Citations

- Images on Best practices slide 3 are free for UMN faculty use.
- Puzzle pieces by Davo Sime from the Noun Project
- Circles created by hash from Noun Project
- overlap by Xela Ub from the Noun Project
- group discussion by Drishya from the Noun Project
- Lion image: Pixabay
- Lecture hall image: [https://commons.wikimedia.org/wiki/File:5th_Floor_Lecture_Hall.jpg](https://commons.wikimedia.org/wiki/File:5th_Floor_Lecture_Hall.jpg)
- Network by Alena Artemova from the Noun Project
- Star by Tom Walsh from the Noun Project
Questions?

Slidedeck: z.umn.edu/onlinebest

Thank you!

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