



Launching Your Distance Learning Lab Science Course

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Whether you are offering a course that is:

- Completely new
- Redesigned
- Well-established but in need of improvement
- Amazing but capable of being even better

Planning is the key to a strong start and an excellent course.

Before the Course Starts, Ask Big Questions

- What are my desired learning outcomes, and how do I enable students to meet them?
- How will my students order and receive their course/kit materials?
- How do I facilitate communication within my course?
- How do I assess student learning and maintain academic integrity?



Consider Learning Outcomes for Course Conversion

Is the course being converted from the classroom to online?

- The same learning outcomes may be used in both settings.
- You'll need lab materials that support your existing learning outcomes.

Consider Learning Outcomes for a New or Revised Course

- Curriculum recommendations are often provided by academic and professional organizations, such as:

[American Society for Microbiology](#)

[Human Anatomy & Physiology Society](#)

[American Chemical Society](#)

- Your institution may provide resources to assist faculty in course design.
- You'll need lab materials that support your learning outcomes.

Obtain Lab Materials

You can get the required materials through multiple approaches:

- Choose virtual labs.
- Provide lab instructions and a shopping list to your students.
- Assemble kits yourself.
- Select a kit from a vendor.



Obtain Lab Instructions and a Shopping List

With careful planning, you can keep costs relatively low. However:

- Students must invest time and money shopping for needed materials.
- Students often purchase materials that far exceed what is needed for the course.

Most published lab manuals are not easy to adapt for distance learning.

- You invest time in developing or adapting lab instructions. Replication of a lab setting can be difficult.
- Lab equipment, reagents, specimens, etc. may not be readily available. You can't monitor quality or safety of materials.
- Liability issues can be a concern.

Assemble Kits Yourself

- You have complete control over kit contents.
- This can be time-consuming for those responsible for collecting and assembling components.
- Kits and components take up space.
- Distribution to off-site students can be problematic.
- Who is liable in case of injury?



Select a Kit from a Vendor

Enjoy a convenient experience.

- Kits save time and space.

This option can be expensive because some vendors offer little flexibility in kit contents.

- Carolina Distance Learning™ lets you choose the best value from many options.

Choose labs that match your learning outcomes, but be aware that your options may be limited due to vendor availability.

- Carolina Distance Learning™ lets you choose only the ones you want.

Some vendors, such as Carolina Distance Learning™, have liability insurance policies.

Allow Time for Your Lab Materials to Arrive

Select lab materials as early as possible.

- Allow time for components to arrive and kits to be assembled if building your own.
- Allow time for production if using a vendor kit.

Notify students of the need to purchase lab materials as far in advance as possible.

- Advise students to plan for expenses, safe storage of perishables, etc.



Give Students a Deadline

If using vendor kits, let students know approximately when to order, and when they need to have the kit in hand.

- Requiring proof of kit purchase by a set deadline encourages students to order on time.

Decide what provisions you will make for military students or students who are abroad.

Teach Lab Safety

You can produce your own lab safety training program.

- Allow adequate time for preparation and editing.

Safety training may be included with a vendor kit.

- Carolina Distance Learning™ includes safety and instructional videos, a safety manual, and a safety agreement.



Set Guidelines for Communication

Establish how course communication will occur:

- E-mail
- Announcements
- Discussion board
- Chat rooms

Clearly explain when you will respond to student inquiries.

- Responding within 24 hours is recommended.

Be Transparent

Transparency is important—especially in an online environment.

Make learning outcomes available from the 1st day of class.

- Refer to them often.

Students should understand how assessments and assignments address desired learning outcomes.

Communicate how student work will be assessed.

- Rubrics
- Checklists
- Examples of previous student work

Set Expectations for Academic Integrity

Explain your expectations upfront with regard to different types of assignments:

- Open book/open note
- Community/group projects
- Proctored
- Peer-reviewed

Use plagiarism-detection technology to ensure work is your students' own. Provide clear guidelines for acceptable ways of:

- Getting assistance with assignments
- Correctly citing sources
- Preparing for assessments

Set Expectations for Time Management

Let students know at the onset of the course when:

- Learning modules will open
- Assignments and assessments become accessible and their due dates
- For lengthy or complex labs, a suggested timeline is helpful

Communicate the circumstances (if any) in which extensions may be granted.

Tell Students How They Can Get Help

Provide students with a list of contacts in case difficulties or challenges arise, including:

- Technical problems with personal computers or mobile devices
- Learning management system (LMS) issues
- Customer service for a vendor-supplied lab kit
- Student disability services
- Tutoring services

Accommodate Students with Disabilities

Plan ahead for students who need accommodations for disabilities.

- Know your institution's policies and resources.
- Select course materials that follow ADA (Americans with Disabilities Act) guidelines, including:
 - Videos with captions and/or transcripts
 - Documents and web pages accessible with screen readers

Make Connections

Introduce yourself to your students as soon as the course begins.

- Consider including a photo or doing a video introduction.

Have students introduce themselves and get to know one another during the first week of class.

- Use the discussion board as a venue to meet.
- Greet each student personally and allow them to interact.

Set the stage for open communication throughout the term.

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