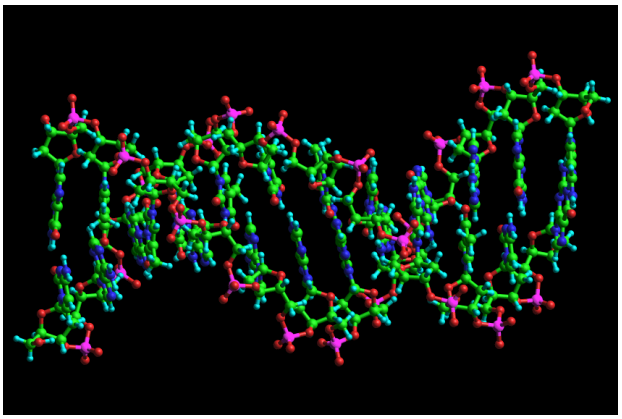
Rider Institute Online

Biology

Fall 2024 beginning September 3rd

Dr. Todd H. Rider, thor@riderinstitute.org

Website: riderinstitute.org



This online course (for students in upper elementary through high school) covers biology from its fundamental principles through cutting-edge research, including cell biology, biochemistry, DNA/RNA/proteins, microbiology, and botany. No prior knowledge is required. Supplementary readings and simple home experiments are recommended (but not required) each week.

The course is conducted via Google Meet on Tuesdays 8:30-9:30 p.m. Eastern (5:30-6:30 p.m. Pacific).

You can pay for individual blocks of 8 weeks (see below) or $368 per household for the entire fall course. To register, please pay in advance by credit card (riderinstitute.org/donate) or by check (made payable to "Rider Institute Inc." and mailed to: Todd Rider, 5 Green Needles Road, Littleton, MA 01460) and also send an email (thor@riderinstitute.org). Payments are nonrefundable.

Biology Part I ($184 per household for 8 weeks)

Sep. 3	Cell types and structures
Sep. 10	Cell pathways
Sep. 17	Cell division
Sep. 24	Biomolecules and enzymes
Oct. 1	Respiration and fermentation
Oct. 8	Photosynthesis
Oct. 15	Botany
Oct. 22	Molecular biology and biotechnology

Biology Part II ($184 per household for 8 weeks)

Oct. 29	DNA
Nov. 5	RNA
Nov. 12	Proteins
Nov. 19	Bacteria
Nov. 26	Viruses
Dec. 3	Viruses (cont'd)
Dec. 10	Prions and fungi
Dec. 17	Protozoa and helminths

Spring 2025 beginning Jan. 7:

More Biology and Human Physiology

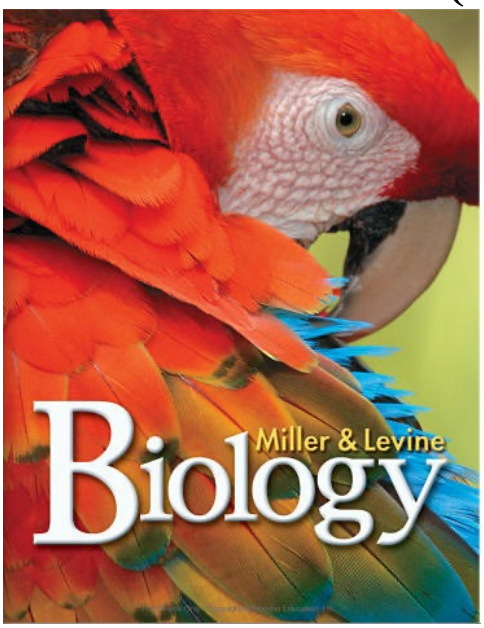
(if enough students are interested)

Dr. Rider has over 30 years of experience in science education and research:

riderinstitute.org/education

riderinstitute.org/about

Recommended (but not required) textbook—one of these:

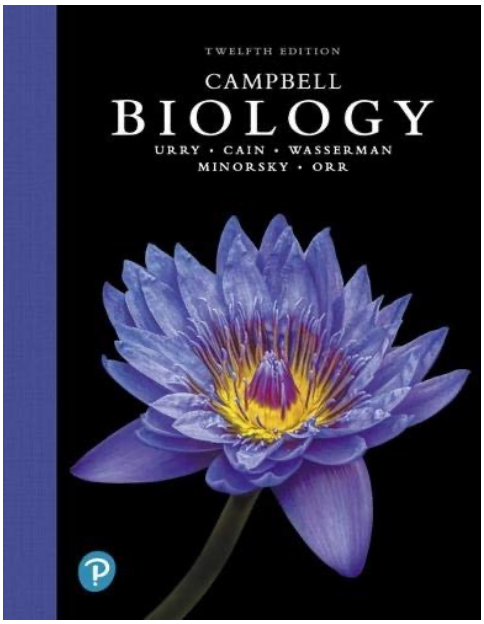


For less advanced students:

Bee edition (2019 or later) or Macaw edition (2010 or later) or Dragonfly edition (2005)

For more advanced students:

12th ed. (2020) or 11th ed. (2016) or 10th ed. (2013) or 9th ed. (2010)



New textbooks are insanely expensive, but more affordable used copies are available from reputable dealers at amazon.com, abebooks.com, etc. You can also save money (without losing much scientific content) by buying an edition that is recent but not the very latest. Don't pay for online access codes (those are just an expensive gimmick) and don't rent a book (a good printed textbook that you can keep is an invaluable resource that can be useful in later courses).

Recommended (but not required) home lab activities

Each week I will suggest simple lab activities that students can do at home with adult supervision, using common household items or supplies from online dealers. I especially recommend www.homesciencetools.com, which sells science kits and individual items.