

# Illinois Central College Biology 205 Placement Test - Study Topics

Prerequisite before taking the Biology 205 Placement Test – reading pre-requisite must be met.

## Math

- Squares and square roots
- Fractions
- Decimals
- Exponents and scientific notation
- Ratios and proportions
- Percentages
- Averages (means, medians, and modes)
- Metric measurement and metric conversions
- Graphing and graph interpretation

## Chemistry

- Atomic structure – protons, neutrons, and electrons and their functions in atomic interactions
- Atomic mass, number and energy levels
- Molecule, ion and isotope formation
- Molecular bonding
- Acids, bases and pH
- The nature of solutions, solutes and solvents
- The differences between, and functions of, hydrophobic vs. hydrophilic molecules
- The difference between inorganic and organic molecules and examples of each found in a living organism

## Biology

- Scientific method
- Organization of living organisms
- Cell structure and the functions of cellular components – nucleus, organelles and cytosol
- Plasma membrane structure and function
- Organic molecules of living organisms and their functions
- Basic cellular metabolism and energy conversion
- Membrane transport mechanisms - diffusion, osmosis, facilitated diffusion, active transport, forms of endocytosis and exocytosis
- Enzyme function
- Cell division – DNA replication, mitosis, meiosis, and cytokinesis
- Protein synthesis – transcription and translation

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## Test Preparation Suggestions:

- Study Mathematics, Biology and Chemistry textbooks - *free*
- Use the Get Ready for A&P resources from Pearson Education.
  - Use one of the Get Ready for A&P books on reserve in the ICC library (EP & North) – *free*
  - Purchase or rent Get Ready for A&P from the ICC bookstore. One month rental (without an online access code) is \$15.00. Purchase of the book and access code together is \$59.00.
  - IMPORTANT NOTE: if you have already purchased your Biology 205 textbook through the ICC bookstore, you will have free access to Get Ready for A&P through the “Mastering A&P” website access code included with the purchase.
  - Use one of the Get Ready for A&P resources that can be purchased at the website shown below. You may choose a “subscription to the website” (\$24.99) or a “subscription to the website with eText” (\$44.99)  
<https://www.vitalsource.com/products/get-ready-for-a-amp-p-lori-k-garrett-v9780321842916>
  - Purchase a paper book from another source. Get Ready for A&P, Garrett, 3e, ISBN: 1-321-81336-7.