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WEB RESOURCES FOR STUDENTS IN NURSING AND ALLIED HEALTH TRACKS

This video list has been carefully compiled for students working through their prerequisite classes before entering clinical. Knowing that the student's time is valuable, I've made every effort to pare it down to the bare essentials. I've noted where portions of the content under each heading can be skipped.

The majority of these resources are found within Khan Academy, an online learning website. How should you use this list? I recommend that you first create an account on Khan Academy (it's free). By working within your own account you will be able to track your progress. Plus, Khan Academy uses some game-like elements to reward you for your hard work; kind of cheesy, but who doesn't like earning points!? The videos that are not from Khan Academy are marked with a double asterisk **

Second, just start at the top and begin working your way through. Each of you will be starting from your own unique foundation, so use your best judgement as to what you can skip and what you should focus on. For example, if you're well versed in the properties of water, hydrogen ion concentration, and understand the pH scale, you can skip #5 under General Biological Concepts. Enjoy, and be the Happy Scholar!

GENERAL BIOLOGICAL CONCEPTS

Under **Science & Engineering -> Biology**

1. Intro to Biology https://www.khanacademy.org/science/biology/intro-to-biology
2. Polar vs Non-Polar Molecules https://www.youtube.com/watch?v=c4iObbrDPOE
3. **Types of Chemical Bonds http://chemistry.about.com/od/chemicalbonding/a/chemicalbonds.htm
4. Chemistry of Life https://www.khanacademy.org/science/biology/chemistry--of-life (you can skip the Electron Shells and Orbitals section)
5. Water, Acids, and Bases https://www.khanacademy.org/science/biology/water-acids-and-bases

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6. Properties of Carbon ->Carbon ->Carbon as a Building Block of Life https://www.khanacademy.org/science/biology/properties-of-carbon/carbon/v/carbon-as-a-building-block-of-life
7. Macromolecules https://www.khanacademy.org/science/biology/macromolecules
8. Energy and Enzymes-> Energy in Metabolism https://www.khanacademy.org/science/biology/energy-and-enzymes/energy-in-metabolism/v/introduction-to-metabolism-anabolism-and-catabolism
9. Energy and Enzymes -> ATP and Reaction Coupling -> ATP: Adenosine Triphosphate https://www.khanacademy.org/science/biology/energy-and-enzymes/atp-reaction-coupling/v/adenosine-triphosphate (you can skip the Hydrolysis and Reaction Coupling sections.
10. Energy and Enzymes -> Introduction to Enzymes https://www.khanacademy.org/science/biology/energy-and-enzymes/introduction-to-enzymes/v/introduction-to-kinetics
11. Membranes and Transport->The Plasma Membrane->Fluid Mosaic Model of Cell Membranes https://www.khanacademy.org/science/biology/membranes-and-transport/the-plasma-membrane/v/fluid-mosaic-model-of-cell-membranes
12. Membranes and Transport->Diffusion and Osmosis ->Diffusion https://www.khanacademy.org/science/biology/membranes-and-transport/diffusion-and-osmosis/v/diffusion-video
13. Membranes and Transport->Diffusion and Osmosis ->Concentration Gradients https://www.khanacademy.org/science/biology/membranes-and-transport
14. **YouTube: Osmosis: A Solute and Solvent Love Story https://www.youtube.com/watch?v=IaZ8MtF3C6M
15. **YouTube: Biology: Cell Structure https://www.youtube.com/watch?v=URUJD5NEXC8
16. **YouTube: From DNA to Protein https://www.youtube.com/watch?v=D3fOXt4MrOM&index=1&list=PLRDeoovdwtqY4g2MBl6v9G2NUzuowYXxN

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Microbiology

Under **Science & Engineering -> Biology**

1. Structure of a Cell ->Introduction to Cells -> Microscopy https://www.khanacademy.org/science/biology/structure-of-a-cell/introduction-to-cells/a/microscopy (this is a short article, not a video)
2. Structure of a Cell ->Prokaryotic and Eukaryotic Cells->Prokaryotic and Eukaryotic Cells https://www.khanacademy.org/science/biology/structure-of-a-cell/prokaryotic-and-eukaryotic-cells/v/prokaryotic-and-eukaryotic-cells
3. The six classifications of microbes (hint: not all are microscopic) **http://www.microbeworld.org/types-of-microbes Be sure to click into the details for each classification.
4. Biology->DNA as the genetic material->Structure of DNA->DNA https://www.khanacademy.org/science/biology/dna-as-the-genetic-material/structure-of-dna/v/dna-deoxyribonucleic-acid

Cellular Respiraton

Under **Science & Engineering -> Biology**

1. Cellular Respiration-> Introduction to Cellular Respiration->ATP https://www.khanacademy.org/science/biology/cellular-respiration-and-fermentation/intro-to-cellular-respiration/v/adenosine-triphosphate
2. Cellular Respiration-> Introduction to Cellular Respiration->ATP Hydrolysis Mechanism https://www.khanacademy.org/science/biology/cellular-respiration-and-fermentation/intro-to-cellular-respiration/v/atp-hydrolysis-mechanism
3. Cellular Respiration-> Introduction to Cellular Respiration->Introduction to Cellular Respiration https://www.khanacademy.org/science/biology/cellular-respiration-and-fermentation/intro-to-cellular-respiration/v/introduction-to-cellular-respiration
4. Cellular Respiration->Steps of Cellular Respiration->Overview of Cellular Respiration https://www.khanacademy.org/science/biology/cellular-respiration-and-fermentation/overview-of-cellular-respiration-steps/v/overview-of-cellular-respiration

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5. Cellular Respiration->Glycolysis->Overview of Glycolysis https://www.khanacademy.org/science/biology/cellular-respiration-and-fermentation/glycolysis/v/glycolysis
6. Cellular Respiration->Pyruvate Oxidation and the Citric Acid Cycle->Krebs/citric acid cycle https://www.khanacademy.org/science/biology/cellular-respiration-and-fermentation/pyruvate-oxidation-and-the-citric-acid-cycle/v/krebs-citric-acid-cycle
7. Cellular Respiration->Oxidative Phosphorylation->Oxidative Phosphorylation and the Electron Transport Chain https://www.khanacademy.org/science/biology/cellular-respiration-and-fermentation/oxidative-phosphorylation/v/oxidative-phosphorylation-and-the-electon-transport-chain

A&P I

Under **Science & Engineering -> Biology ->Structure of a Cell->Introduction to Cells**

1. Scale of Cells https://www.khanacademy.org/science/biology/structure-of-a-cell/introduction-to-cells/v/scale-of-cells
2. Cell Theory https://www.khanacademy.org/science/biology/structure-of-a-cell/introduction-to-cells/v/cell-theory

Under **Science -> Health and Medicine -> Human Anatomy and Physiology**
https://www.khanacademy.org/science/health-and-medicine/human-anatomy-and-physiology

The following headings can all be found under Human Anatomy and Physiology. There are several videos and readings for each body system. This list is arranged in the order that most HACC professors teach them:

1. Integumentary System Introduction
2. Skeletal System Introduction
3. Muscular System Introduction
4. Hematologic System Introduction
5. Circulatory System Introduction

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6. Lymphatic System Introduction
7. Immunologic System Introduction
8. Respiratory System Introduction

A&P II

Under **Science -> Health and Medicine -> Human Anatomy and Physiology**
https://www.khanacademy.org/science/health-and-medicine/human-anatomy-and-physiology

The following headings can all be found under Human Anatomy and Physiology. There are several videos and readings for each body system. This list is arranged in the order that most HACC professors teach them:

1. Gastrointestinal System Introduction
2. Urinary System Introduction
3. Endocrine System Introduction
4. Reproductive System Introduction
5. Nervous System Introduction
6. **YouTube: Saltatory conduction in myelinated axons
   https://www.youtube.com/watch?v=mOgHC5G8LuI&index=8&list=PLRDeoovdwtqY4g2MBl6v9G2NUzuowYXxN

Miscellaneous

These videos are just for the pure joy and wonderment that the biological world holds. Check them out if you have some time. There's nothing here to memorize. There's no need to pause and look up terms (unless you want to). Just enjoy!

1. . **YouTube: A fantastic TED talk about molecular biology
   https://www.youtube.com/watch?v=WFCvkkDSfIU&index=3&list=PLRDeoovdwtqY4g2MBl6v9G2NUzuowYXxN

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2. **YouTube: The inner life of the cell
   https://www.youtube.com/watch?v=B_zD3NxSsD8
3. .**YouTube: Current research on protein folding
   https://www.youtube.com/watch?v=cAJQbSLlonI
4. **YouTube: A fun animation of the life of a motor protein
   https://www.youtube.com/watch?v=tMKlPDBRJ1E
5. **YouTube: Flu Attack! How a virus invades your body
   https://www.youtube.com/watch?v=Rpj0emEGShQ&list=PLRDeoovdwtqY4g2MBl6v9G2NUzuowYXxN&index=9

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