

**uCertify**

# Course Outline

**Anatomy and Physiology All-in-One**



20 May 2024

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Here's what you get

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## 1. Course Objective

The Anatomy and Physiology All-in-One course helps you develop a profound understanding of how the human body operates at every level, equipping you with invaluable knowledge for careers in health care and enriching your appreciation of the remarkable complexities. Throughout the course, you will delve into foundational principles and terminology essential for understanding the structure and function of various body systems. From the microscopic structures of cells to the complex interplay of organs and systems, the course helps you explore the anatomy and physiology that underlies every aspect of human health and function.

## 2. Pre-Assessment

Pre-Assessment lets you identify the areas for improvement before you start your prep. It determines what students know about a topic before it is taught and identifies areas for improvement with question assessment before beginning the course.

## 3. Exercises

There is no limit to the number of times learners can attempt these. Exercises come with detailed remediation, which ensures that learners are confident on the topic before proceeding.

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EXERCISES

## 4. Quiz

Quizzes test your knowledge on the topics of the exam when you go through the course material. There is no limit to the number of times you can attempt it.



## 5. Expert Instructor-Led Training

uCertify uses the content from the finest publishers and only the IT industry's finest instructors. They have a minimum of 15 years real-world experience and are subject matter experts in their fields. Unlike a live class, you can study at your own pace. This creates a personal learning experience and gives you all the benefit of hands-on training with the flexibility of doing it around your schedule 24/7.

## 6. ADA Compliant & JAWS Compatible Platform

uCertify course and labs are ADA (Americans with Disability Act) compliant. It is now more accessible to students with features such as:

- Change the font, size, and color of the content of the course
- Text-to-speech, reads the text into spoken words
- Interactive videos, how-tos videos come with transcripts and voice-over
- Interactive transcripts, each word is clickable. Students can clip a specific part of the video by clicking on a word or a portion of the text.

JAWS (Job Access with Speech) is a computer screen reader program for Microsoft Windows that reads the screen either with a text-to-speech output or by a Refreshable Braille display. Student can easily navigate uCertify course using JAWS shortcut keys.

## 7. State of the Art Educator Tools

uCertify knows the importance of instructors and provide tools to help them do their job effectively. Instructors are able to clone and customize course. Do ability grouping. Create sections. Design grade scale and grade formula. Create and schedule assessments. Educators can also move a student from self-paced to mentor-guided to instructor-led mode in three clicks.

## 8. Award Winning Learning Platform (LMS)

uCertify has developed an award winning, highly interactive yet simple to use platform. The SIIA CODiE Awards is the only peer-reviewed program to showcase business and education technology's finest products and services. Since 1986, thousands of products, services and solutions have been recognized for achieving excellence. uCertify has won CODiE awards consecutively for last 7 years:

- **2014**

1. Best Postsecondary Learning Solution

- **2015**

1. Best Education Solution
2. Best Virtual Learning Solution
3. Best Student Assessment Solution
4. Best Postsecondary Learning Solution
5. Best Career and Workforce Readiness Solution
6. Best Instructional Solution in Other Curriculum Areas
7. Best Corporate Learning/Workforce Development Solution

- **2016**

1. Best Virtual Learning Solution
2. Best Education Cloud-based Solution
3. Best College and Career Readiness Solution
4. Best Corporate / Workforce Learning Solution
5. Best Postsecondary Learning Content Solution
6. Best Postsecondary LMS or Learning Platform
7. Best Learning Relationship Management Solution

- **2017**

1. Best Overall Education Solution
2. Best Student Assessment Solution
3. Best Corporate/Workforce Learning Solution
4. Best Higher Education LMS or Learning Platform

- **2018**

1. Best Higher Education LMS or Learning Platform
2. Best Instructional Solution in Other Curriculum Areas
3. Best Learning Relationship Management Solution

- **2019**

1. Best Virtual Learning Solution
2. Best Content Authoring Development or Curation Solution
3. Best Higher Education Learning Management Solution (LMS)

- **2020**

1. Best College and Career Readiness Solution
2. Best Cross-Curricular Solution
3. Best Virtual Learning Solution

## 9. Chapter & Lessons

uCertify brings these textbooks to life. It is full of interactive activities that keeps the learner engaged. uCertify brings all available learning resources for a topic in one place so that the learner can efficiently learn without going to multiple places. Challenge questions are also embedded in the chapters so learners can attempt those while they are learning about that particular topic. This helps them grasp the concepts better because they can go over it again right away which improves learning.

Learners can do Flashcards, Exercises, Quizzes and Labs related to each chapter. At the end of every lesson, uCertify courses guide the learners on the path they should follow.

## Syllabus

## Chapter 1: Introduction

- About This Course
- Icons Used in This Course

## Chapter 2: Learning a New Language: How to Speak Fluent A&P

- A Word about Jargon
- Looking at the Body from the Proper Perspective
- Getting Organized
- Whaddya Know? Lesson 1 Quiz

## Chapter 3: Better Living through Chemistry

- What's the Matter?
- Keep Your Ion the Prize
- Building Blocks That Build You
- Metabolism: It's More Than Just Food
- Charging Your Batteries
- Whaddya Know? Lesson 2 Quiz

## Chapter 4: The Secret Life of Cells

- Keeping Same Things the Same: Homeostasis
- Division of Labor
- Controlling the Ins and Outs
- Divide and Conquer
- Whaddya Know? Lesson 3 Quiz

## Chapter 5: Joining Forces: Cells Organize into Tissues

- Covering Up: Epithelial Tissues
- Making a Connection: Connective Tissues
- Flexing It: Muscle Tissues
- Getting the Signal Across: Nervous Tissue
- Whaddya Know? Lesson 4 Quiz

## Chapter 6: It's Just Skin Deep: The Integumentary System

- Meet & Greet and Love the Skin You're In
- Digging Deep into Dermatology
- No Skin Is Complete without Accessories
- Your Sensational Skin

- Whaddya Know? Lesson 5 Quiz

## Chapter 7: More than a Scaffold to Build On: The Skeletal System

- Meet & Greet Your Body's Foundation
- Boning Up on Bone Structures
- Turning Bones into Bone
- The Axial Skeleton
- The Appendicular Skeleton
- Artful Articulations
- Whaddya Know? Lesson 6 Quiz

## Chapter 8: Getting in Gear: The Muscles

- Meet & Greet Your Mighty Muscles
- Structure Matches Function
- The Electric Slide
- Push, Pull, & Hold
- What's in a Name?
- Whaddya Know? Lesson 7 Quiz

## Chapter 9: Your Electric Personality

- Meet & Greet the Far-Reaching Nervous System
- Integrating the Input with the Output
- Feeling Impulsive?
- Minding the Central Nervous System
- Taking the Side Streets: The Peripheral Nervous System
- Sensory Overload
- Whaddya Know? Lesson 18 Quiz

## Chapter 10: Raging Hormones: The Endocrine System

- Meet & Greet Your Body's Chemical Messengers
- Honing In on Hormones
- The Ringmasters
- The Cast of Characters
- Whaddya Know? Lesson 9 Quiz

## Chapter 11: The River(s) of Life

- Blood Is Thicker than Water

- The In-Between
- Of Sirens and Lymphs
- Whaddya Know? Lesson 10 Quiz

## Chapter 12: Spreading the Love: The Cardiovascular System

- Meet & Greet Your Pumping Station
- Home Is Where the Heart Is
- Your Heart Song
- Moving to the Beat of Your Own Drum
- Whaddya Know? Lesson 11 Quiz

## Chapter 13: Underground Defenses: The Lymphatic System

- Meet & Greet Your Body's Customs and Border Control
- Immunity: A Three-Act Play
- Act 1: Innate Immunity
- Act 2: Adaptive Immunity
- Act 3: Becoming Immune
- Whaddya Know? Lesson 12 Quiz

## Chapter 14: Oxygenating the Machine: The Respiratory System

- Meet & Greet the Old Windbags
- A Breath of Fresh Air
- Breathe In the Good, Breathe Out the Bad
- All in One Breath
- Whaddya Know? Lesson 13 Quiz

## Chapter 15: Fueling the Fire: The Digestive System

- Meet & Greet the Alimentary School
- Nothing to Spit At
- The Stomach: More Than a Vat of Acid
- Breaking Down Digestive Enzymes
- Double Duty: The Small Intestine and the Liver
- One Last Look Before Leaving
- Whaddya Know? Lesson 14 Quiz

## Chapter 16: Cleaning Up Your Act: The Urinary System

- Meet & Greet the Body's Recycling and Waste Management System

- Focus on Filtration
- The Yellow River
- The Homeostasis Machines
- Whaddya Know? Lesson 15 Quiz

## Chapter 17: Why Ask Y? Gamete Production

- Producing Gametes
- Meet & Greet the Male Reproductive System
- Meet & Greet the Female Reproductive System
- Whaddya Know? Lesson 16 Quiz

## Chapter 18: Baking the Bundle of Joy

- Fertilization: A Battle for the Ages!
- And So It Begins
- Finishing Out the Trimesters
- The Fun Part: Labor and Delivery
- Whaddya Know? Lesson 17 Quiz

## Chapter 19: From Cradle to Grave

- Programming Development
- Human Life Span
- Whaddya Know? Lesson 18 Quiz

## 10. Practice Test

**Here's what you get**



### **Features**

Each question comes with detailed remediation explaining not only why an answer option is correct but also why it is incorrect.

#### **Unlimited Practice**

Each test can be taken unlimited number of times until the learner feels they are prepared. Learner can review the test and read detailed remediation. Detailed test history is also available.

Each test set comes with learn, test and review modes. In learn mode, learners will attempt a question and will get immediate feedback and complete remediation as they move on to the next question. In test mode, learners can take a timed test simulating the actual exam conditions. In review mode, learners can read through one item at a time without attempting it.

## 11. Performance Based Labs

uCertify's performance-based labs are simulators that provides virtual environment. Labs deliver hands on experience with minimal risk and thus replace expensive physical labs. uCertify Labs are cloud-based, device-enabled and can be easily integrated with an LMS. Features of uCertify labs:

- Provide hands-on experience in a safe, online environment
- Labs simulate real world, hardware, software & CLI environment
- Flexible and inexpensive alternative to physical Labs
- Comes with well-organized component library for every task
- Highly interactive - learn by doing
- Explanations and remediation available
- Videos on how to perform

### Lab Tasks

- Understanding the Body Cavities
- Understanding Abdominal Regions
- Understanding the Monomer Units
- Understanding Water Molecules
- Understanding the Isotopes
- Understanding ATP Molecules
- Understanding Nutrients
- Understanding Molecules
- Understanding Cell Structures and Organelles
- Understanding Components of the Cell Membrane
- Understanding Transport Terms
- Understanding DNA
- Understanding the Cell Membrane
- Understanding Structures
- Understanding Cell Terms
- Understanding Cells
- Understanding a Part of a Cell Cycle

- Understanding the Events of the Cell Cycle
- Labeling Epithelial Tissues
- Understanding Epithelial Tissues and their Locations
- Understanding Tissue Types
- Understanding Epithelial Tissues
- Understanding Types of Epithelial Tissues
- Understanding Muscle Tissue Type
- Understanding the Types of Cells
- Understanding Epidermis
- Labeling the Skin Structures
- Understanding Layers of Skin
- Understanding Epidermis Layers
- Understanding Articulations
- Understanding Vertebral Column
- Understanding Lateral View of Skull
- Understanding Bone
- Understanding Joint Movement Types
- Understanding Bone Growth
- Understanding Bones Shape
- Understanding Lower Limb and Foot Bones
- Understanding Bones
- Understanding Joints
- Classifying Bones
- Understanding Bones
- Understanding the Ossification Process
- Understanding Pair of Ribs
- Understanding Bones and Features of the Pelvis
- Understanding Features of the Thoracic Cage
- Understanding Bones and Features of the Skull
- Understanding Bone Remodeling
- Labeling Compact Bones
- Understanding the Skeletal Muscle Fiber
- Understanding the Neuromuscular Junction
- Understanding Muscles
- Understanding Muscle Structures
- Understanding Muscles

- Understanding Muscles of the Head and Neck
- Understanding Fibre
- Understanding Sacromere Structure
- Understanding Muscles
- Understanding Lower Back Muscles
- Understanding Female Muscles
- Understanding Head Muscles
- Understanding Types of Muscle Tissue
- Understanding Muscle Types
- Understanding Steps of Muscle Fiber Stimulus
- Understanding Steps of Muscle Contraction
- Understanding Muscle Components
- Understanding Muscle Cell Tissues
- Understanding Parts of the Brain
- Understanding Graphic Organizer
- Understanding Sound Waves
- Understanding Brain Structure
- Understanding Neural Structure
- Understanding Electrophysiological Concepts
- Understanding Nervous System
- Understanding the Structures of the Eye
- Understanding the Structures of the Ear
- Understanding the Brain Parts
- Understanding Acceleration of Nerve Impulse
- Understanding Layers Around the Brain
- Understanding Types of Nervous System
- Understanding Synaptic Transmission
- Understanding Neurophysiology and the Functioning of Neurons
- Understanding Neurons
- Representing Action Potentials
- Understanding Raging Hormones
- Understanding Releasing Hormones
- Understanding Structures of the Endocrine System
- Understanding the Endocrine System
- Understanding Clusters
- Understanding Blood Cells

- Understanding Metabolism Control
- Understanding Glands
- Understanding Homeostasis
- Understanding Hormones with their Origins
- Understanding Hormones with their Functions
- Understanding the Cardiac System
- Understanding the Valve Action
- Understanding the Heart Valves
- Understanding Anatomical Terms
- Understanding Events on the EKG
- Understanding Blood Vessel
- Understanding the Structure of the Heart
- Understanding Capillaries
- Understanding the Order of Blood
- Understanding Anatomical Terms
- Understanding the Lymphatic Structure
- Understanding Pathogens
- Understanding Lymph
- Understanding Immune Chemical
- Understanding Immune Cells
- Understanding Lymphatic Organs
- Understanding the Lymphatic System
- Understanding Structure
- Understanding the Alveoli
- Understanding Lungs
- Understanding Trachea
- Understanding Inhalation and Exhalation
- Understanding Respiratory tract
- Understanding Respiratory Structures
- Understanding Upper Respiratory Structures
- Learning About Lungs
- Understanding Respiratory Volume
- Learning Lung
- Understanding the Anatomy of the Stomach
- Understanding Organs
- Understanding Tooth Structure

- Understanding Digestive Enzymes
- Understanding Enzymes
- Understanding the Mouth's Anatomy
- Learning Nutrient
- Understanding Digestive Process
- Understanding Sphincter
- Understanding Nephron Structure
- Understanding Nephron Location
- Understanding Hormones
- Understanding the Anatomical
- Understanding Hormones of the Renin-angiotensin System
- Understanding Structures of the Internal Parts
- Understanding Structure of Kidney
- Understanding Urine
- Understanding Kidney Structure
- Understanding Female Reproductive Terms
- Understanding the Structures of the Male Reproductive System
- Understanding the Female Reproductive Sysytem
- Understanding Meiosis
- Understanding Chromosomes
- Understanding the Sperm-Froming Cell
- Understanding Ovarian Structures
- Understanding Reproductive Structure
- Understanding Organs
- Understanding Reproductive Phases
- Undertanding Hormone
- Understanding Gamete Formation
- Understanding Spermatogenesis
- Understanding the Month of Fetal Development
- Understanding Cells
- Understanding Nursing and Milk Release
- Understanding Germ Layers
- Understanding Life Stages

**Here's what you get**

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**PERFORMANCE BASED  
LAB**

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