

Heuristic Evaluation

A heuristic evaluation on the twelve websites selected for the Competitive Analysis (See Competitive Analysis document) was performed using Jakob Nielsens's 10 Heuristics. The analysis and associated matrices follow.

PART I – Analysis

Scoring for Evaluation

Outcome of Heuristic Evaluation

PART II – Matrices

Key for Evaluation According to Jakob Nielsen's 10 Heuristics - correlates the abbreviation used for the evaluation with the name and URL of the website (or DVD)

Evaluation According to Jakob Nielsen's 10 Heuristics – the Heuristic Evaluation

Notes – observations made while performing the Heuristic Evaluation

Unique and Innovative Elements - a list of innovative features I found during the analysis

Screen Shots - screen shots of each website's homepage

PART I Analysis

Scoring for Evaluation

To perform the heuristic evaluation, a score for how well each resource met the criteria was given ranging from 1 to 5 where:

- 1 - criteria not met,
- 2 – minimally met criteria,
- 3 – somewhat met criteria,
- 4 – mostly met criteria, and
- 5 – completely met criteria.

The best possible score for a website, therefore, is fifty. The applications were evaluated in Firefox, except when the application did not work in that browser. For example, The Anatomy Lesson quiz features did not work in Firefox, but did work in Microsoft Internet Explorer (IE); McGraw-Hill only works in IE.

Outcome of Heuristic Evaluation

The final scores for the nine websites and one DVD ranged from 20 to 46. The average score was 37; the median score was 36.5.

The McGraw-Hill website and Interactive Physiology DVD tied for the best score. The McGraw-Hill site is easy to use, aesthetically pleasing, and explicit in language but still familiar. The site has features not found in the other sites which enhance the user experience. For example, icons serve to show type of page (informational versus animation versus activity) as well as position within topic. These icons can also be used to navigate backwards or forwards through a topic. And Help is always available from the main navigation bar. The biggest drawback is that it only works in IE. Likewise, the Interactive Physiology DVD is easy to use. It has a nice clean interface and uses breadcrumbs. The major disadvantage is that the DVD is audio; there isn't text to follow along with.

The Inner Body website scored the worst; mainly because the site is overloaded with Google Ads. Google Ads are above, below, on both side bars, and embedded within website content. An advertising pop up window also appears. Usability suffers because it is hard to discern which links are ads and which are content. In fact, links in the text do not display definitions for the term highlighted as expected; but rather, display an ad unrelated to the term.

For the sites that fell in between, a major reason for lower scores was an inconsistent interface. For example, many of the sites had the appearance that individuals worked on the site independently without corroboration. Other sites faltered with navigation; they did not provide a means to reach other parts of the site easily; and, or did not indicate position within the application.

Unique and Innovative Elements

The matrix below titled Unique and Innovative Elements notes features I found worthwhile to highlight. A unique feature on the Direct Anatomy site - the ability to draw and type labels on the figure - I found appealing and would like to incorporate in my project. It also shows seven layers of anatomical detail.

PART II - Matrices

Key for Evaluation According to Jakob Nielsen's 10 Heuristics

Key	Name	URL
GBS	Get Body Smart	www.getbodysmart.com
PEN	Penn Medicine Medical Animation Library A.D.A.M.	http://www.pennmedicine.org/health_info/animationplayer
IB	Inner Body	http://www.innerbody.com/
TAL	The Anatomy Lesson	http://www.wesnorman.com/
MGH	McGraw-Hill Essential Study Partner Anatomy & Physiology	http://www.mhhe.com/biosci/esp/2002_general/Esp/default.htm
CC	Connecticut College Human Anatomy and Physiology Animations	http://www.conncoll.edu/academics/departments/biology/humanphysanim/index.html
WISC	Wisc-Online Learning Objects	http://www.wisc-online.com/Default.aspx
DA	Direct Anatomy	http://www.directanatomy.com/index.html
W	Walgreens	http://www.walgreens.com/marketing/library/animation/default.jsp
IP	Interactive Physiology	DVD
FN	FarmNet Animal Physiology	http://www.teachnet.ie/farmnet/Animal_physiology.htm
SG	The Animal Physiology Study Guide	http://academics.smcvt.edu/dfacey/animalphysiology/Communication/AnPhystemplate.htm

Evaluation According to Jakob Nielsen's 10 Heuristics

Selected Websites*

Evaluation Criteria	GBS	PEN	IB	TAL	MGH	CC	WISC	DA	W	IP	FN	SG
Visibility of System Status The system should always keep users informed about what is going on through appropriate feedback within reasonable time.	5	5	3	5	5	3	5	4	5	5	5	5
Match between System and the Real World The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.	5	4	2	3	4	5	2	4	3	5	5	4
User Control and Freedom Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue. Support undo and redo.	2	5	2	3	5	5	2	4	5	5	5	5
Consistency and Standards Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.	2	3	1	1	5	1	3	4	5	5	4	2
Error Prevention Even better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.	4	5	5	5	5	5	5	4	5	5	4	5

Websites Evaluated According to Jakob Nielsen's 10 Heuristics, continued

Evaluation Criteria	GBS	PEN	IB	TAL	MGH	CC	WISC	DA	W	IP	FN	SG
Recognition Rather than Recall Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialog to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.	4	3	2	4	5	5	3	5	4	5	2	5
Flexibility and Efficiency of Use Accelerators – unseen by the novice user – may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.	3	1	1	1	3	1	3	2	1	1	1	1
Aesthetic and Minimalist Design Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.	3	5	1	2	5	2	3	3	4	5	3	1
Help Users Recognize, Diagnose, and Recover from Errors Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.	5	5	1	5	4	5	5	5	5	5	2	5
Help Documentation Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.	4	3	2	5	5	4	4	5	4	5	4	3
Totals	37	39	20	34	46	36	35	40	41	46	35	35

* Score range for how well resource met criteria is 1 to 5: 1 = not met 2 – minimally met 3 – somewhat met 4 – mostly met 5 – completely met

Notes

Criteria	System	Notes
Visibility of System Status	GBS PEN IB TAL MGH CC WISC DA W IP FN SG	<p>Has status bar when loading new graphics heavy page. Videos and interactive tools have messages while loading.</p> <p>System has Google ads intermixed with content. Even highlighted and underscored words lead to ads unrelated to the word when clicked. Pop ups for advertisers also occur. Shows status bar when tutorial is being loaded.</p> <p>All pages are simple, static pages – loads quickly. Works only in IE - Notice on homepage, but directed to only Mac users. Has icons that show position within topic – for example, how many pages there are and of what type. Simple pages load quickly. In some cases, tells user that the page may take awhile to load and that there is sound associated with the animation. Gives percent complete when open animations Displays a spinning wheel while the page loads – does not indicate percentage complete Individual videos have messages while loading. Videos load in a separate window – no back functionality – must close the window and start over to view another video. Simple pages load quickly All pages are simple, static pages – loads quickly All pages simple – frames used</p>
Match between System and the Real World	GBS PEN IB TAL MGH	<p>Language is user friendly. Organized by body system</p> <p>In A.D.A.M the audio and text do not match. Lists of videos by specialty or alphabetically. Mixes physiology with health.</p> <p>For zoom uses ‘Eye Glass’ instead of ‘Zoom’. Refers to text icon without explaining what it is. Next and Back arrows are not labeled as such. Refers to areas by their name; hard to know what they are referring to.</p> <p>Uses familiar language. The site is arranged according to body area rather than body systems. It’s hard to get an overall view of what is in each section – sections meant to be accessed sequentially. Wording matches except for one case – “run this ESP” – does not explain that ESP means Essential Study Partner. Organized by body systems. Language is natural and user friendly. Menu by body system</p>

	CC WISC DA W IP FN SG	Refers to animations and videos as “objects”. List of videos in alphabetical order. Familiar language used. Spelling errors. Organized by body system. Language is familiar. Organized by body system, alphabetically or by medical specialty. Videos load in a separate window – no back functionality – must close the window and start over to view another video. Familiar language used Familiar language used Hard to follow – lots of text – long questions as links to relevant information
User Control and Freedom	GBS PEN IB TAL MGH CC WISC DA W IP FN SG	Unexpected results when use the back and next buttons – does not necessarily go back to the last page visited. Simple design – not applicable Must use browser back buttons. Has many Google ads interspersed, hard to know which are part of the application and which aren't at first. Not all pages have a link back to the main page. Simple menu and navigation allows users to go back easily. Icons on the bottom of the page allow user to go back and forth between individual pages easily. Simple design – main menu is always available “Close window” takes user out to main menu – not to the previous screen. Has the ability to make screen larger or smaller. Ability to draw on figure. Has undo and redo buttons. If choose wrong video, can click on another. System provides breadcrumbs. Drop down menus on topic information pages have a drop down with all pages in the unit. Simple design – not applicable Simple design – not applicable

Consistency and Standards	GBS	Expand Page button expands the page when clicked, but is replaced by a Labels On button. When Labels On is clicked, the page returns to its original size. Toggles between Expand Page and Labels On . Menu bars and Icons are not consistent throughout application.
	PEN	Does not tell which titles are videos or A.D.A.M.; it does tell which are interactive tools. When access a video or A.D.A.M. animation, the sound is turned on.
	IB	Not consistent - Unexpected results - When I selected the zoom on scapula, it displayed the hand. Inconsistent page functionality between tutorials and system part definitions – next and back arrows in tutorial; not in systems – must use browser back button.
	TAL	Menu is below the fold, in center of page. For Practice Examinations, when click picture the proper page is displayed, when click the text link, page is not found. Page layout is not consistent throughout the application.
	MGH	Very consistent throughout – page style, icons
	CC	All topics are the same form – do not know until access the particular topic whether it is a quiz or informational or activity. Application is not consistent at all – seems to have been written by several different individuals.
	WISC	Videos written by different people so they are not consistent. Must roll over text in list to find out whether animation is an exercise or tutorial. Sometimes they use “student”, other times they use “learner”.
	DA	Underlined words are NOT links. Standard icon not used for zoom.
	W	The interface for each video is consistent. When select a video, get a screen which describes the video and a link to launch the video.
	IP	The interface is consistent across all topics. Icons used are standard.
Error Prevention	FN	Very simple design – just static pages – old standards
	SG	Very simple design – just static pages in frames, type is different for different sections. Messages are not consistent for glossary
	GBS	Page not found within application condition detected – could not get back to application.
	PEN	No errors
	IB	No errors
	TAL	No errors
	MGH	No errors
	CC	No errors
	WISC	No errors
	DA	No errors. Sometimes chosen function is slow to load – does not give the option to quit.

	W IP FN SG	Explains the application and how to fix errors that may occur. No errors Broken links No errors
Recognition Rather than Recall	GBS PEN IB TAL MGH CC WISC DA W IP FN SG	Instructions say to click the blue type words – has labels that are blue but are not links. Long lists of animations – they are grouped by medical specialty or alphabetical – includes both diseases and conditions, and anatomy and physiology in same list. When a label is clicked, its definition text replaces the instructions in the Instructions box. Hard to know where you are in the application at times. Help is always accessible from the main navigation bar Explanation of how to use each page is given on that page. Videos each have their own instructions. Long list of videos – Physiology 1 has 51 videos listed in alphabetical order under the menu option General Education. There is no indication to show user which videos were accessed. Help is an option on top of navigation bar – always accessible. Windows are small enough that can have the help window open at same time as application window without obscuring either. The directions for use are on a main site page. The videos come up in another window, can move the video window so can see the directions too. Does not indicate which videos were watched. Breadcrumbs and drop down menus allow the user to navigate easily and know position in the application. Menu is only on top – need to click ‘Back to Top’, or scroll up to get to menu Main menu always visible. Questions into text always visible. Glossary always visible

Flexibility and Efficiency of Use	GBS PEN IB TAL MGH CC WISC DA W IP FN SG	<p>Some screens have an Expand button – but the function is only good on that screen – need to expand each screen individually</p> <p>None available</p> <p>None available</p> <p>None available</p> <p>User can choose which type of page to visit by clicking the appropriate icons at the bottom of page</p> <p>None available</p> <p>User can make the video window larger or smaller – but the function is only good on that screen – need to adjust for each video</p> <p>User can open or collapse navigation bar.</p> <p>None available</p> <p>None available, DVD is audio – there is not text associated with it. Can only change the sound level.</p> <p>None available</p> <p>None available</p>
Aesthetic and Minimalist Design	GBS PEN IB TAL MGH CC WISC DA W IP FN SG	<p>Some pages have extra unneeded links – interior page has link to application itself.</p> <p>Very simple</p> <p>Screen is loaded with ads – around, in between, and within application text, and menus.</p> <p>Inconsistent design – no standard page layout. Text on top of graphics is hard to read.</p> <p>Pages are aesthetically pleasing, minimal design</p> <p>Explanations wordy. Each topic is unique – design not unified – site does not hang together. Thought not given to color pallet. Text over graphics hard to read.</p> <p>Ads by Google on all pages causes clutter. Also login information above video window gives a cluttered look.</p> <p>Ad by Google on right side appears as a sidebar. Text is too small to read comfortably.</p> <p>Minimalist Design. But drop down list has too many options that must scroll through. Picture is misleading – has the play, sound and slider but is not functional.</p> <p>Very clean design</p> <p>Has cheesy animations. Misalignments of text with graphics. No structure to information. Text over graphics in homepage menu hard to read. Mottled green background obscures text. Text is small serif type. Three frame design. No graphics.</p>

Help Users Recognize, Diagnose, and Recover from Errors	GBS PEN IB TAL MGH CC WISC DA W IP FN SG	No errors No errors Help documentation gives a link – link not found. No errors Search functionality does not work – error message that word was not found. No errors No errors No errors No errors Links are broken No errors No errors
Help Documentation	GBS PEN IB TAL MGH CC WISC DA W IP FN SG	Not all pages have instructions. On Interactive animations the active icon for expand and rotate is not that much different from the inactive icon. Help documentation infers that the option is available for all selected structures, which is not true. For systems, help is in a box next diagram, but is replaced by system definitions when body parts are selected. Items referred to in help are not in the place they are said to be. Very good at explaining use of the system, but scattered throughout Very good help documentation – explains system features in easy to understand, concise language Help is given on each diagram, but is not always clear. Spelling errors. Help is given in each video. Some are better than others. Help is in a separate window and explains each tool in tool box Help is on the main page and lets user know what will happen, what is needed, etc. But it leads user astray – says to choose alphabetical option. That may not be what the user wants – better to explain the three options available. Can tile window with video and page with help – if user realizes it. Help document is in one file. Although that is not ideal, the application is simple and self-explanatory enough that Help should not be needed very often. Help given at point of need Minimal help given

Unique and Innovative Elements

Resource	Unique / Innovative Elements
MGH	<p>Has icons that show position within topic – for example, how many pages there are and of what type.</p> <p>Simple menu and navigation allows users to go back easily. Icons on the bottom of the page allow user to go back and forth between individual pages easily.</p> <p>Help is always accessible from the main navigation bar</p>
DA	Ability to draw on figure. Has undo and redo buttons.
PP	Search results in two categories – by body system and media type. Can also search the index. Ability to hear audio pronunciation of terms

Screen Shots of Home Pages (above the fold)

The screenshot shows a Mozilla Firefox browser window displaying the homepage of GetBodySmart. The title bar reads "GetBodySmart: Interactive Tutorials and Quizzes On Human Anatomy and Physiology - Mozilla Firefox". The address bar shows the URL "http://www.getbodysmart.com/". The page content includes a logo for "Get Body Smart by ConceptCreators, Inc.", a list of "CURRENT SUBJECT AREAS" such as Overview of Human Body Systems, Skeletal System, Muscle Tissue Physiology, Muscular System, Nervous System, Circulatory (Cardiovascular) System, Respiratory System, Urinary System, and Histology. To the right, there is an advertisement for "Anatomy & Physiology REVEALED 2.0" featuring a cadaver dissection image. Below the main content, there are links for Mission, Contact, Feedback, Site Map, Updates, A & P Links, and Related Websites. The page is updated on 11-07-2010. There is also a link to "Questions on Body Systems" and an advertisement for "Online Anatomy with Lab" from Mayville State.



Medical Animation Library - Mozilla Firefox

File Edit View History Bookmarks Yahoo! Tools Help

Most Visited Getting Started Latest Headlines Zotero / Items Zotero / Items Cherryleaf Technical Au...

WEB SEARCH

Medical Animation Library

Penn Medicine

Departments & Services For Patients Research & Trials Education Find a Doctor

Search the site

Medical Animation Library

Arrhythmia Peristalsis

Choose a topic below to view a medical animation or video.

This content is "bandwidth intensive." The latest versions of the following browser plug-ins must be installed: [Shockwave](#) and [Quicktime](#).

Sort topics by: Medical Specialty • [Alphabetical](#)

Allergy and Immunology

- Allergies
- Asthma inhalers
- Breathing
- Buying cold and flu medicines
- COPD inhalers
- Coughing
- Difference between a cold and the flu
- Hives
- Immune response
- Lungs – interactive tool
- Lymph nodes
- Lymphatics and the breast
- Phagocytosis
- Pill cutter – how to use
- Vaccines

Cancer

- Cancer of the throat or larynx
- Lymphatics and the breast
- Sun's effect on skin

Child Care

- Bedwetting

Neurology

- Alzheimer's disease
- Athetosis resulting from basal ganglia injury
- Bladder function - neurological control
- Brain – interactive tool
- Brain components
- Concussion
- Feeling pain
- Nerve conduction
- Nervous system formation
- Parkinson's disease
- Reflex response
- Skull – interactive tool

Ob/Gyn

- Amniotic fluid
- Conception – pregnancy
- Conception of identical twins
- Egg cell production
- Egg production
- Female reproductive system – interactive tool
- Fetal development – interactive tool
- Formation of twins
- Intracytoplasmic sperm injection

Related Links

[Find a Doctor](#)

[Request an Appointment](#)
Online or call
800-789-PENN (7366)

[Medical Services](#)

[Visitor Information](#)

[Encyclopedia Articles](#)

zotero

PEN - Medicine Medical Animation Library A.D.A.M.

InnerBody.com | Human Body, Anatomy Charts, Anatomical Models - Mozilla Firefox

File Edit View History Bookmarks Yahoo! Tools Help

Most Visited Getting Started Latest Headlines Zotero / Items Zotero / Items Cherryleaf Technical Au... WEB SEARCH

InnerBody.com | Human Bod...

InnerBody

Your Guide to Human Anatomy Online

Cervical Fusion NJ
Specializing in Cervical Fusion New Jersey
Complex Cervical Surgery
www.UniversitySpine.com

Brachial Plexus Treatment
Info On Our Approach To Treatment Tailored
To The Needs Of Each Child
www.KennedyKrieger.com/BP-Treatment

Anatomy Chart
Looking for Anatomy Chart? Find exactly what you want today.
Yahoo.com

Medical Illustrations
Medical Legal Illustrations, Models Animations & More. Order Online Now
www.MediVisuals.com

Full Body Scan
Find The Cancer or Heart Disease Your Regular Physical Can Miss
www.ThePLC.net

Illustration Anatomy
Find Clipart With Less Digging. A Decision Engine Makes Search Easy!
www.Bing.com

Anatomy Chart
Looking for Anatomy Chart? Find exactly what you want today.
Yahoo.com

Medical Illustrations
Medical Legal Illustrations, Models Animations & More. Order Online Now
www.MediVisuals.com

Anatomy Chart
Looking for Anatomy Chart? Find exactly what you want today.
Yahoo.com

Medical Illustrations
Medical Legal Illustrations, Models Animations & More. Order Online Now
www.MediVisuals.com

ENTER HERE

Anatomy Chart
Looking for Anatomy Chart? Find exactly what you want today.
Yahoo.com

Medical Illustrations
Medical Legal Illustrations, Models Animations & More. Order Online Now
www.MediVisuals.com

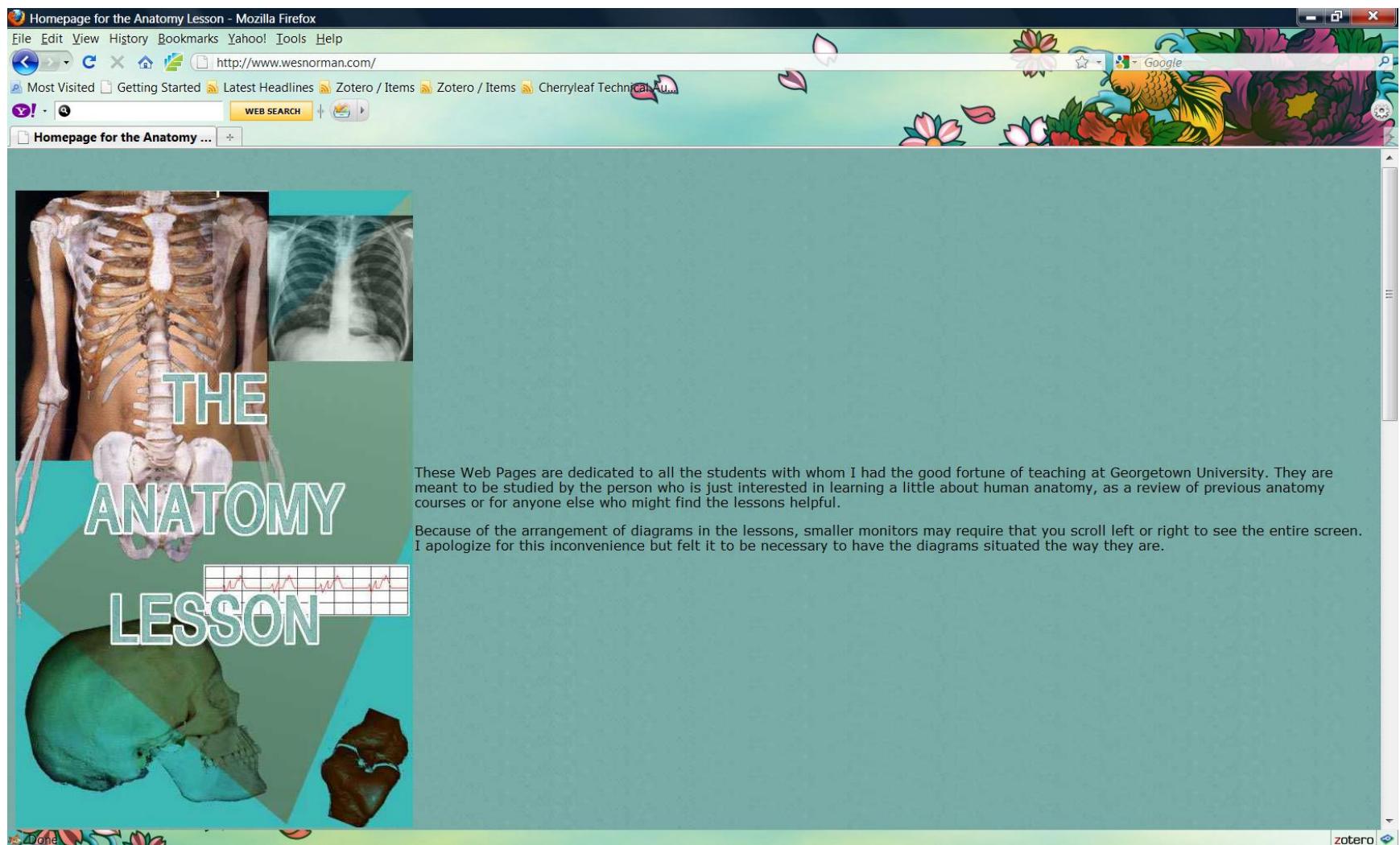
Welcome to inner exploration of Human Anatomy. Each topic has animations, 100's of anatomy graphics, and thousands of descriptive links. Study the anatomy of the human body online using anatomy charts, models and diagrams. It's fun, interactive and an ideal reference site for students or those who just want to know more about the medical descriptions and anatomical terms used by doctors and nurses. Enter and find that particular anatomy chart you've been seeking, along with extensive information.

Not sure what anatomy chart you're looking for? Our user-friendly interface will help you browse through the thousands of possibilities to find what exactly you need, from the smallest bone in the human skeleton to a single blood vessel out of the over 60000 miles of vessels in the human circulatory system. We offer an exciting, interactive experience for learning all about anatomy online, whether your interest is academic or casual, let us guide you as you explore human anatomy and physiology.

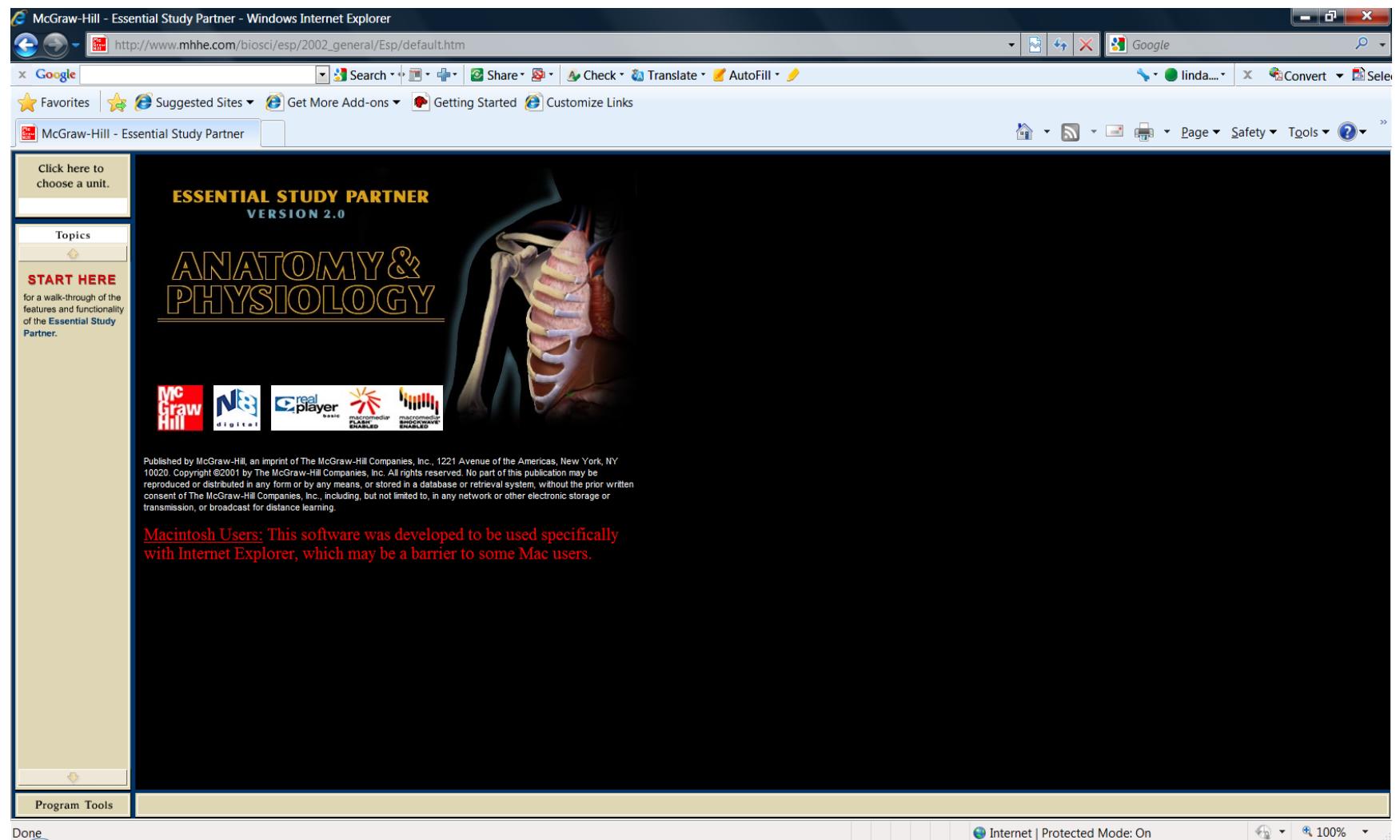
Top 100 Websites As featured on Cool The Education Source Popular Science About Us

zotero

IB – Inner Body



TAL - The Anatomy Lesson



MGH - McGraw-Hill Essential Study Partner Anatomy & Physiology

Human Physiology Animations Homepage at Connecticut College - Mozilla Firefox

File Edit View History Bookmarks Yahoo! Tools Help

http://www.conncoll.edu/academics/departments/biology/humanphysanim/index.html

Most Visited Getting Started Latest Headlines Zotero / Items Zotero / Items Cherryleaf Technical Au...

WEB SEARCH

Human Physiology Animatio...

The Human Physiology Animations Homepage at Connecticut College

Systems: Nervous | Muscle | Endocrine | Circulatory | Respiratory | Digestive | Excretory

Welcome to the Human Physiology Animations
Homepage at Connecticut College

The animations found on this site require the Shockwave/Director plugin.
You can download it [here](#).

Animations on this site were developed by Ben Hayes, Bess Bayne, and
Stephen Loomis, Jean C. Tempel '65 Professor of Biology, [Connecticut College](#).

[Back to the homepage](#)

zotero

CC - Connecticut College Human Anatomy and Physiology Animations

Mozilla Firefox

File Edit View History Bookmarks Yahoo! Tools Help

Most Visited Getting Started Latest Headlines Zotero / Items Zotero / Items Cherryleaf Technical Au...

WEB SEARCH

http://www.wisc-online.com/ListObjects.aspx

Google

http://www.wisc-online.com/ListObjects.aspx

WISC-ONLINE
Learning activities help people succeed - find your success here!

home | my wisc-online | learning objects | forum | gamebuilder | login

LEARNING OBJECTS

51 learning objects

A Typical Animal Cell
In this interactive object, learners identify the parts of an ani... [View](#)

An Overview of Pulmonary and Systemic Circulation
In this animated and interactive object, learners examine how blo... [View](#)

Anatomical Terminology: Body Regions
Students identify the various regions of the human body through d... [View](#)

Anatomical Terminology: Relative Position
In this interactive learning activity, learners review the terms ... [View](#)

Anatomy of the Ear
The student identifies the anatomical parts of the ear and learns... [View](#)

Ads by Google

Math
K-8 math Algebra I & II Geometry Trig Pre-Calculus Calculus AB & BC www.DenvilleSylvanLes...

Become an Electrician
Study to be an Electrician Today! Request Information from WyoTech. info.Everest.edu

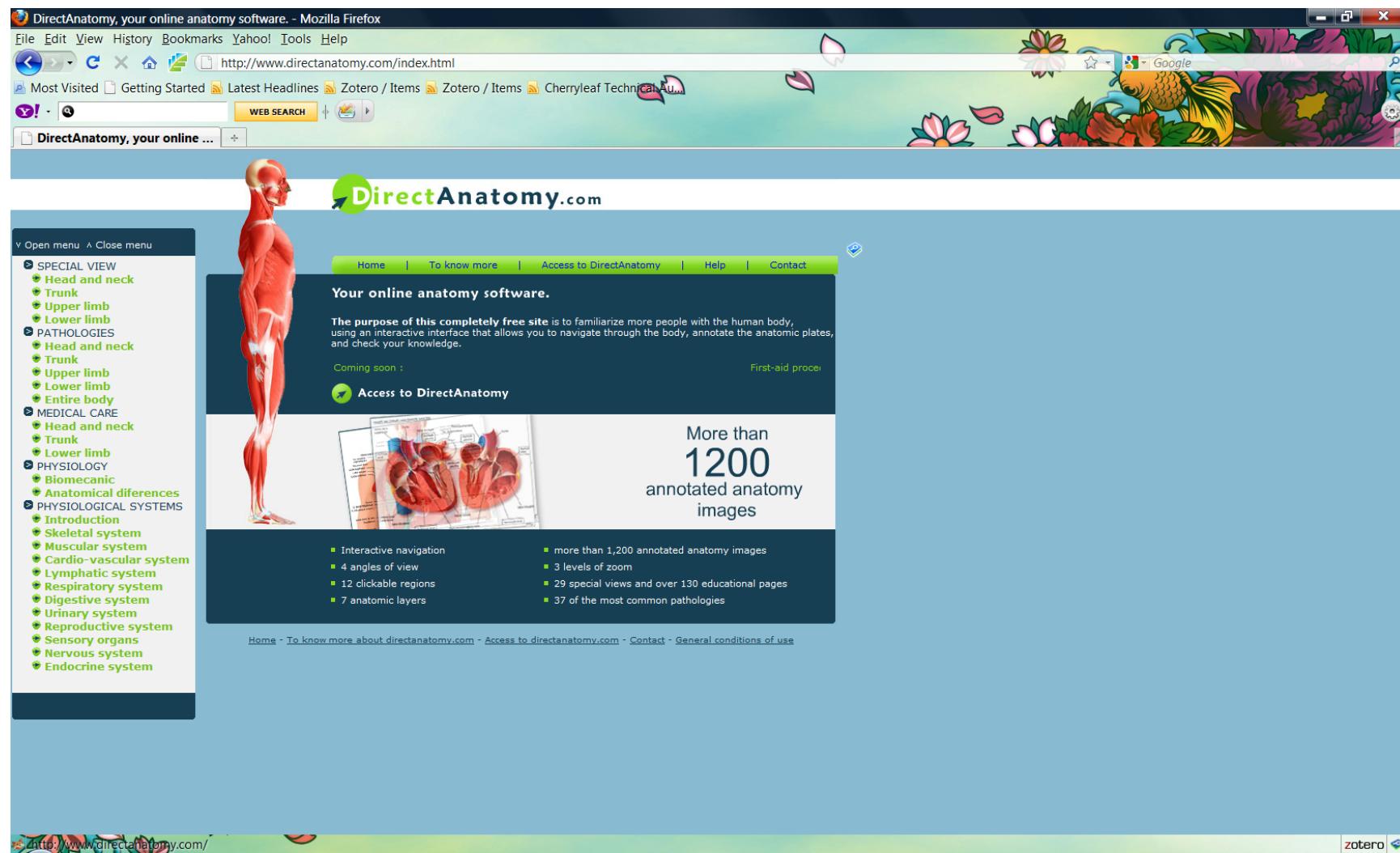
University of Miami MBA
Earn the University of Miami MBA. Full-time, evening, wknd programs. www.bus.miami.edu/grs

Online course software
Online training and video tutorials for companies and employees www.lynda.com/multিউ

zotero

Done

WISC – WISC-Online Learning Objects



DA – Direct Anatomy

The screenshot shows a Mozilla Firefox browser window with the title bar "Animated Features | Health Info | Walgreens - Mozilla Firefox". The address bar displays the URL <http://www.walgreens.com/marketing/library/animation/default.jsp>. The page content is the Walgreens "Animated Features" section, featuring a decorative background with flowers and a goldfish. The Walgreens logo is at the top left, and a navigation menu includes links for "pharmacy", "clinic", "health info", "photo", and "shop". A search bar and a login link ("Log in to access your profile or register") are also present. The main content area is titled "Animated Features" and contains text about the availability of over 100 animated features on topics like allergy, blood pressure, and cosmetic surgery. It includes a "OPEN ANIMATION PLAYER" button and a note about browser plugins required (Macromedia Shockwave, Apple Quicktime). A sidebar on the left lists categories such as "Health Resources", "Interactive Tools", "Health Publications", and "Health Shops". At the bottom, there is a logo for "ADAM quality" and a statement about URAC accreditation.

File Edit View History Bookmarks Yahoo! Tools Help

Most Visited Getting Started Latest Headlines Zotero / Items Zotero / Items Cherryleaf Technical Au...

WEB SEARCH

Animated Features | Health I...

Walgreens

pharmacy clinic health info photo shop

beauty health & well being home medical personal care contact lens health shops holiday view all save weekly ad

Refill prescriptions online in just a few minutes. [Get started](#) Free Shipping on orders of \$25+ [Get details](#)

shopping list [cart \(0\)](#)

Log in to access your profile or register
Username Password need help?

search

Home > Health Information

Animated Features

View more than 100 entertaining and informative animated features on topics ranging from allergy, blood pressure, and cosmetic surgery to blinking, Alzheimer's disease, and the effect of tobacco use on arteries.

Walgreens Health Library animations launch into a new window. If you don't see the window open, you may need to change your browser settings to allow popup windows.

[OPEN ANIMATION PLAYER](#)

You will need the browser plugins listed here to view animations.

Macromedia Shockwave
Apple Quicktime

User Tips

To quickly view the entire list of available Animated Features:

1. Open the animation player by clicking on the button above.
2. Click on the word "Alphabetically" at the top of the right-hand navigational list.

You also can browse the list using the categories: "Body System" or "Medical Specialty."

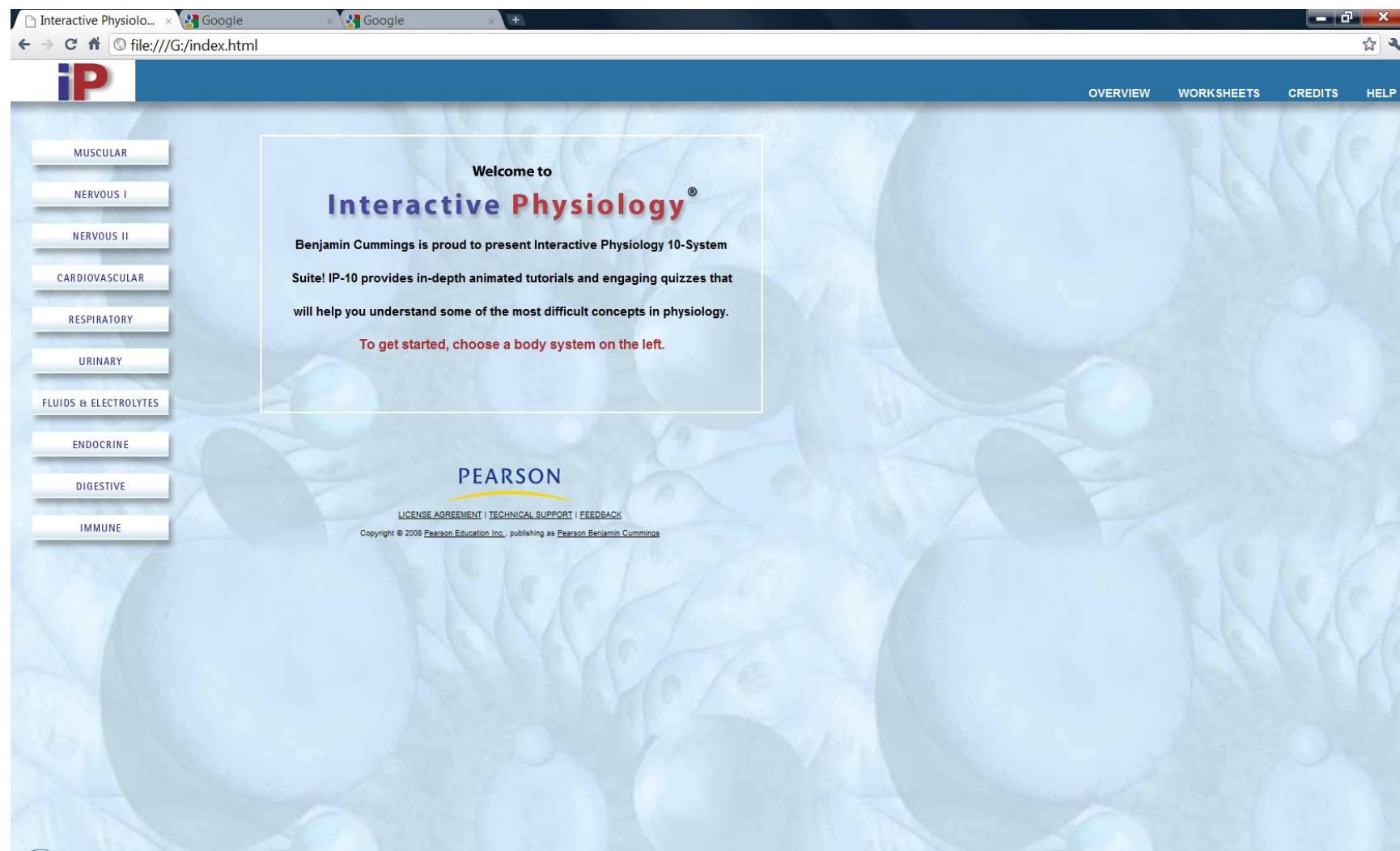
ADAM quality

A.D.A.M., Inc. is accredited by URAC, also known as the American Accreditation HealthCare Commission (www.urac.org). URAC's [accreditation program](#) is an independent audit to verify that A.D.A.M. follows rigorous standards of quality and accountability. A.D.A.M.

Done

zotero

W – Walgreens



IP - Interactive Physiology

The screenshot shows a Mozilla Firefox window with the title bar "Animal Physiology - Mozilla Firefox". The address bar displays the URL http://www.teachnet.ie/farmnet/Animal_physiology.htm. The toolbar includes standard buttons for back, forward, search, and refresh, along with links to "Most Visited", "Getting Started", "Latest Headlines", "Zotero / Items", "Cherryleaf Technical Au...", and a "WEB SEARCH" button.

The main content area features a decorative header with a floral and fish theme. Below it, a large circular graphic is divided into four quadrants, each containing a small image of a different animal organ or system. The central text reads "Animal Physiology".

A horizontal menu bar below the title contains ten items, each with a thumbnail icon and a label: "Animal Classification", "Food and Feeding", "Digestion", "The Breathing System", "Circulatory System", "The Lymphatic System", "The Nervous System", "The Endocrine System", "Reproductive System", and "The Skeletal System".

Below the menu is a line of green hyperlinks: "[Up] [Animal Classification] [Food and Feeding] [The Digestive System] [The Breathing System] [The Circulatory System] [The Lymphatic System] [The Nervous System] [The Endocrine System] [The Reproductive System] [The Skeletal System]".

In the footer, there is a "FarmNet" logo with a circular graphic, followed by the text "Leaving Certificate Agricultural Science". A decorative footer bar at the bottom features a green gradient and floral patterns on both sides.

FN - FarmNet

AnPhystemplate - Mozilla Firefox

File Edit View History Bookmarks Yahoo! Tools Help

http://academics.smvc.edu/dfacey/animalphysiology/Communication/AnPhystemplate.htm

Most Visited Getting Started Latest Headlines Zotero / Items Zotero / Items Cherryleaf Technical Au...

WEB SEARCH

AnPhystemplate

The Animal Physiology Study Guide

Metabolism, Energetics, and Energy Acquisition - Circulatory and Immune Systems - Osmoregulation and Excretion - Communication (the Nervous and Endocrine Systems) - Respiration - Sensory Systems - Muscles

Questions about the Nervous and Endocrine Systems

[What is the general organization of the Nervous System?](#)

[What are neurons?](#)

[What are the supporting cells and what are their functions?](#)

[What is electrochemical equilibrium?](#)

[What is a membrane potential? How is it related to an action potential?](#)

[How do neurons receive and integrate signals?](#)

[Are all postsynaptic potentials excitatory?](#)

[How is an action potential generated and propagated along an axon?](#)

[What is the role of a myelin sheath in action potential propagation?](#)

[How does axon diameter affect the velocity of an action potential?](#)

[How are nerve impulses carried across synapses?](#)

[How do neurotoxins affect nerve function?](#)

[What are hormones?](#)

[How do hormones function?](#)

[How are signals transmitted by the endocrine system?](#)

[What are growth factors in the endocrine system?](#)

Glossary Terms will appear here

Communication: The Nervous and Endocrine Systems

(D. Facey, S. Wellens, B. Weeks, K. Tatro, M. Fitzgibbons, D. Koehler, R. Pouliot, R. Bailey)
(presented by Saint Michael's College, Colchester, VT, USA.)

The Nervous System

The nervous system collects and processes information, analyzes it, and generates coordinated output to control complex behaviors. The nervous system also is partly responsible for homeostasis. It works in conjunction with the endocrine system by employing nerve impulses and by responding rapidly to stimuli to adjust body processes.

What is the general organization of the Nervous System?

The nervous system is broken down into two major systems the **Central Nervous System** and the **Peripheral Nervous System**. These two systems are in control of sensory input, integration, and motor output. The Central Nervous system is made up of mainly the brain and spinal cord. The CNS is in control of the input from sensory receptors from the chemical and electrical signals sent from the PNS. The CNS takes the information and integrates it, then sends out the necessary motor output to the **effector cells** of the body.

The PNS is divided into two systems as well, the **Somatic Nervous System**, and the **Autonomic Nervous System**. The SNS consists of sensory neurons that send information from cutaneous and special sensor receptors in the head, body wall, and extremities to the CNS where the information is integrated and sent back out via motor neurons to skeletal muscles. The sensory neurons convey input from receptors from senses like vision, hearing, taste, smell and others. They also convey input from proprioceptors and general somatic receptors (pain, temperature, and tactile sensations). Motor neurons innervate skeletal muscle and produce voluntary movement. The ANS sends information from sensory neurons to viscera of the CNS. In the ANS the CNS sends information through motor neurons to smooth muscles, cardiac muscles and glands. The ANS is controlled by the hypothalamus and **medulla oblongata** of the brain, which regulate the smooth muscle, cardiac muscle, and specific glands.

The output portion of the autonomic nervous system further breaks down into two divisions, the **sympathetic** and **parasympathetic**. The

zotero

SG - The Animal Physiology Study Guide