

Dr. Todd Deal Chemistry 2542 Nutritional Biochemistry

The Vitamin Project

(Click on a vitamin name below to learn all you want to know!)

- ⇒ [Vitamin A](#) (beta carotene)
- ⇒ [Vitamin B9](#) (folic acid)
- ⇒ [Biotin](#)
- ⇒ [Vitamin B2](#) (riboflavin)
- ⇒ [Vitamin B3](#) (niacin)
- ⇒ [Vitamin B5](#) (pantoic acid)
- ⇒ [Vitamin B6](#) (pyridoxine)

During Spring Quarter of 2006 Dr. Deal tasked his students with teaching their peers and designing and developing a “learning object” as part of their course activities. The result is “The Vitamin Project” a website that provides a web of student created tutorials on 12 vitamins. This PowerPoint presentation provides a “tour” of the process.

This tutorial project was developed by and is sole property of the students in Dr. Todd Deal's CHEM 2542 class, Spring Semester 2006.

Todd Deal's Homepage

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S. Todd Deal, Ph.D.
Professor of Chemistry

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This is Dr. Deal's website. Under the "Courses" you can access his current courses.

Courses	Research Gro	
Baptist Student Union	Personal L	
Chemistry Department	The Vitamin Project	Georgia Southern Homepage

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Courses Page

http://www.georgiasouthern.edu/~stdeal/courses.html

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WELCOME!

You've discovered Dr. Deal's Course Website!! If you are currently enrolled in one of my courses, you will find great stuff to help your learning. If you are just surfing, check out the course syllabi. As always, this site is constantly UNDER CONSTRUCTION!



[CHEM 1140 Introduction to General & Organic Chemistry](#)

[CHEM 1145 Principles of Chemistry I](#)

[CHEM 2542 Nutritional Biochemistry](#)

[CHEM 3341 Organic Chemistry I](#)

[CHEM 3342 Organic Chemistry II](#)

[CHEM 4890 BioOrganic Research](#)

[CHEM 5541 Biochemistry I](#)

The “Vitamin Project” is part of the “Nutritional Biochemistry” course.

CHEM 2542

http://www.georgiasouthern.edu/~stdeal/CHEM2542/2542.html

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Nutritional Biochemistry

Last taught Spring 2006

[CHEM 2542 Syllabus](#)

The project is described in the course syllabus.

Detailed description: This is a screenshot of a web browser window. The title bar at the top reads 'CHEM 2542'. The address bar shows the URL 'http://www.georgiasouthern.edu/~stdeal/CHEM2542/2542.html'. Below the address bar is a search bar with the text 'Google'. A horizontal menu of links is visible, including 'CNET', 'NY Times', 'DirtsurfBLOG', 'USA Gym', 'Drills&Skills', 'Google', 'SboroWeather', 'Zeitgeist', 'Date/Time', and 'Wired Mac'. The main content area features the title 'Nutritional Biochemistry' in a large blue serif font, followed by the text 'Last taught Spring 2006' in a smaller blue serif font. A blue underlined link 'CHEM 2542 Syllabus' is located on the left side and is circled in red. A light blue speech bubble on the right side of the page contains the text 'The project is described in the course syllabus.' The browser window has a standard Mac OS X interface with three colored window control buttons (red, yellow, green) in the top-left corner.

http://www.georgiasouthern.edu/~stdeal/CHEM2542/CHEM2542Sbus.pdf

http://www.georgiasouthern.edu/~stdeal/CHEM2542/CHEM2542Sbus.pdf ^ Google

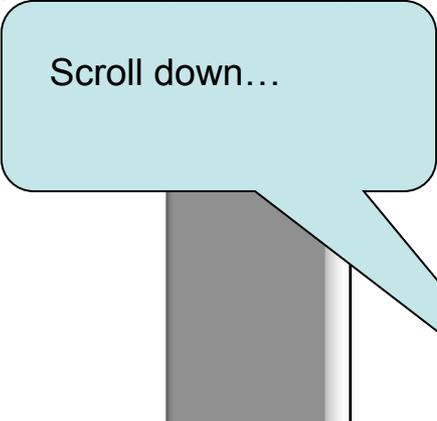
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Course Syllabus
CHEM 2542 A
Nutritional Biochemistry
Spring Semester 2006

Instructor: S. Todd Deal
Office: Chemistry 3212
Contact Info: E-mail: stdeal@georgiasouthern.edu, Phone: 681-0637
Course Website: http://www.georgiasouthern.edu/~stdeal/CHEM2542/2542.html
Office Hours: By appointment
Lecture: M, W, & F — 10:00 – 10:50 AM in Nursing 1006
Laboratory: T — 2:00 – 4:50 PM in Chemistry 2228 (Pre-lab briefing @ 2 PM in Nursing 1006)

LECTURE SCHEDULE

WEEK OF	TITLE
January 9	Carbohydrate Structure
January 16	Carbohydrate Structure (cont.)
January 23	Review of Protein Structure
January 30	Lipid Structure
February 6	Biochemical energetics
February 13	Digestion & Absorption of Macronutrients
February 20	Carbohydrate Catabolism – Glycolysis
February 27	Carbohydrate Catabolism – Citric Acid Cycle
March 6	Carbohydrate Catabolism – Oxidative Phosphorylation
Monday, March 6 is the last day to withdraw from class without academic penalty!	
March 13	SPRING BREAK!!!!
March 20	Carbohydrate Catabolism – Glycogen



each of the six experiments, and each report will be graded on a 25 pt. basis for a total of 150 pts. for this part of the course.

The Biochemistry of the Vitamins & Minerals

During much of the semester, our focus will be on the structure and metabolic biochemistry of the macronutrients. Equally important to human nutrition are the micronutrients, the vitamins and minerals. Given that we do not have time to cover these important nutrients in lecture and that you all need a well-developed understanding of them, I am assigning you the teaching responsibilities for the members of this class and the classes that will follow you! You will be organized into pairs, and each pair will be assigned a vitamin or mineral to research. Based on your research, you will be responsible for preparing an interactive web page/site dedicated to teaching others about your assigned vitamin/mineral. This page will be incorporated into a class-wide website that will "go live" sometime in early April.

I will provide you with a format/template that you will use to create your webpage. Your webpage **must** include the chemical structure of the vitamin/mineral, information about its known biochemical/metabolic functions, any dietary requirements (RDA, etc.), and its dietary sources. You **must** also include complete details of *at least* one biochemical reaction in which your vitamin/mineral is involved. Your webpage should also include information about any diseases or known disorders caused by dietary deficiencies of your vitamin.

Finally, your webpage should include a quiz/problem set to assess the knowledge gained by someone who visits your page. This will most likely be in a multiple choice format. Please understand that you will be graded on the quality of this quiz/problem set (see below). Therefore, you will want to make sure that the majority of your questions are thought-provoking that require higher order thinking skills.

What about the grading? This project is worth 50 pts. You will be graded on 1) the creativity & "interactiveness" of your design, 2) how well your webpage presents the information, and 3) your quiz/problem set. You are the teacher for this project – focus on enhancing your students' learning experience!

Project assignment described.

The Big Picture

During Spring Quarter of 2006 Dr. Deal tasked his students with teaching their peers and designing and developing a “learning object” as part of their course activities. The result is “The Vitamin Project” a website that provides a web of student created tutorials on 12 vitamins. This PowerPoint presentation provides a “tour” of the process.

DealTest

http://academics.georgiasouthern.edu/cet/SB/DealTest/

CET Evals SteveMerlot Bonham WebHub LSUsports Cocoa Google MapQuest digg COOL Drills&Skills

Linking PowerPoint Presentations for Sharing Class Projects

Download-able Files:

Original PowerPoint Files (for demo):

- [Selenium.ppt](#)
- [VitaminA.ppt](#)
- [Master.ppt](#)

[Archive.zip](#) (ZIPPED Files with 3 PowerPoint Show Files: Master.pps, VitaminA.pps, & Selenium.pps)

[Ppt_as_courseware.ppt](#) (The handout I've distributed)

Big Picture

Project “Big Picture”

Home Presentation Linked to...
Related Presentations

Concerns: Related Pres Structure (requirements/template?)
 File Name Conventions

The diagram illustrates a central presentation titled "Vitamins & Minerals - HOME -" which is linked to several other presentations. The central presentation lists 12 vitamins and minerals: Vitamin A, B1, B2, B6, B12, C, D, E, K, Calcium, Chloride, Chromium, Copper, Fluoride, Iodine, Iron, Magnesium, Manganese, Molybdenum, Phosphorus, Potassium, Selenium, Sodium, Sulfur, and Zinc. Red arrows point from the central presentation to four other presentations: "Vitamin A" (by Adam, Barbara, Cindy, & Dave), "Selenium" (by Janice, Carl, & Tom), and three "Etc." presentations (each by Team Members). Blue arrows point from each of these four presentations back to the central presentation. Each presentation has a "Go V&M Master" link at the bottom.

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The Vitamin Project

http://chemistry1.che.georgiasouthern.edu/stdeal/ Google

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Welcome to the Vitamin Project!

What do vitamins really do in my body? How much vitamin A (or D or E) do I really need? What if I don't want to take a daily supplement, how can I be sure I am getting enough of each vitamin? What happens if I don't get enough of each vitamin?

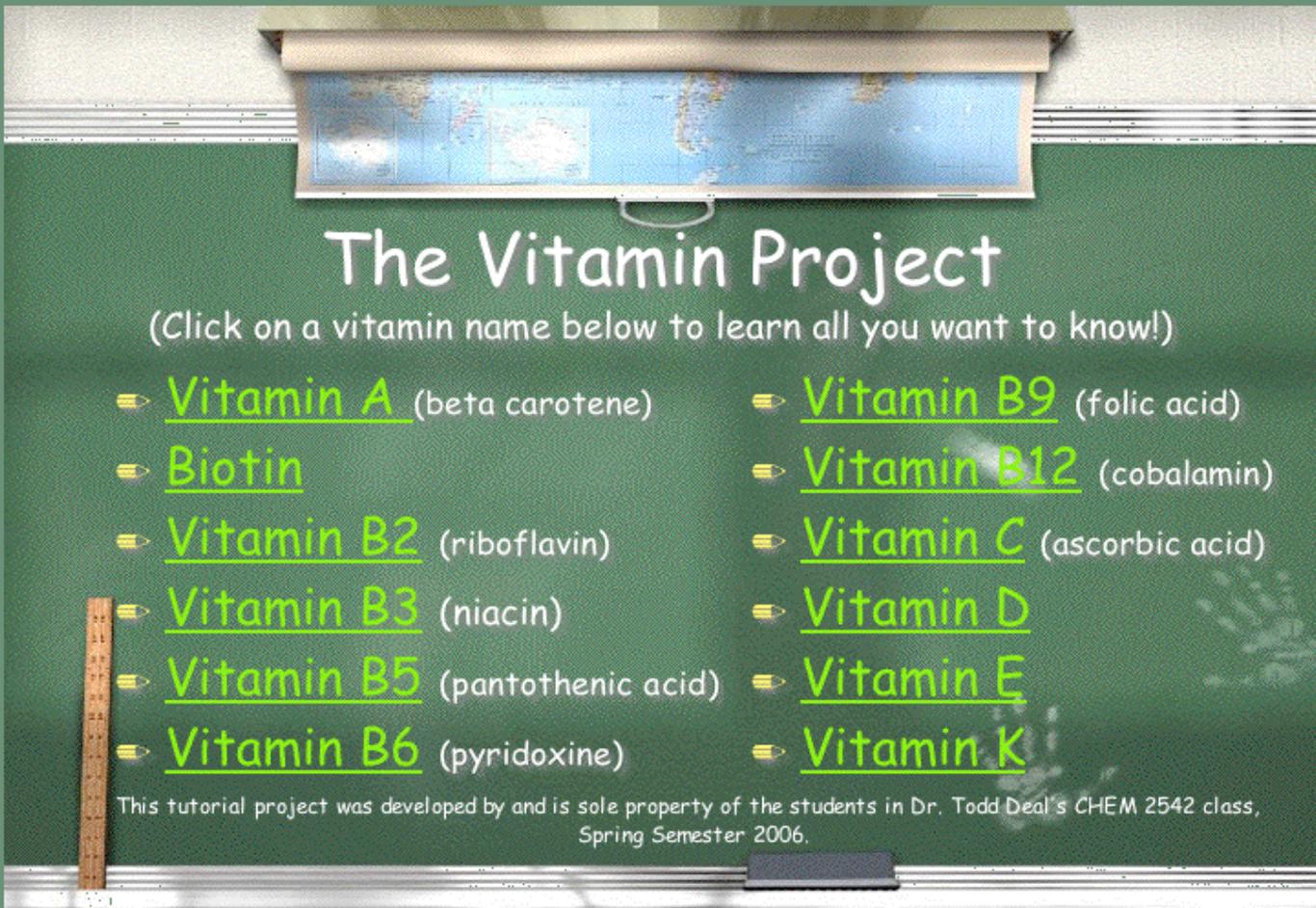
Have you ever thought about vitamins in your diet or asked any of the questions above? If so, you've come to the right place to learn everything you ever wanted to know about vitamins. This site was created by Dr. Deal's Nutritional Biochemistry (CHEM 2542) students at Georgia Southern University as a class project. Spend some time exploring the site, learning about chemistry and nutrition of vitamins, and even taking a quiz or two to see what you've learned! We hope you enjoy it, and THANKS for visiting!

Before you enter the site, read the following carefully. The links on the Vitamin Project homepage (which you can access through the link at the bottom of this page) will behave differently depending on your operating system, which browser you use, and the configuration of your browser. Below are some typical scenarios.

Mac users: Clicking on the name of one of the vitamins will start a download of a Powerpoint file in .ppt format to your download folder or desktop. Go to that location to view the presentation. You must have Microsoft Powerpoint installed on your computer in order to view the file.

Windows users: Clicking on the name of one of the vitamins will open the associated Powerpoint file within your browser. You may use the links within the presentation to move within the file.

[Let's learn about Vitamins!](#)



The Vitamin Project

(Click on a vitamin name below to learn all you want to know!)

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- ⇒ [Vitamin B6](#) (pyridoxine)
- ⇒ [Vitamin B9](#) (folic acid)
- ⇒ [Vitamin B12](#) (cobalamin)
- ⇒ [Vitamin C](#) (ascorbic acid)
- ⇒ [Vitamin D](#)
- ⇒ [Vitamin E](#)
- ⇒ [Vitamin K](#)

This tutorial project was developed by and is sole property of the students in Dr. Todd Deal's CHEM 2542 class, Spring Semester 2006.

Biotin



Amy Abbott
Katie Dizenzo

[Vitamins Home Page](#)

Vitamin A

Amy Barrett and
Art Sanchez

[Vitamins Home Page](#)

Vitamin B₉ (Folate)

Sandy Allen
and
Milena Perez

[Vitamins Home Page](#)



Vitamin B₁₂

Jennifer Wigley
Natalie Petro

Riboflavin...The "Energetic" B Vitamin

By: Andrea Parkman
And
Jessica Langham

[Vitamins Home Page](#)

Joint Presentation - Slide 1
southern.edu/stdeal/VitaminProject/Home

The Vitamin Project

(Click on a vitamin name below to learn more about it if you want to know!)

- Vitamin A (beta carotene)
- Vitamin B₉ (folic acid)
- Biotin
- Vitamin B₁₂ (cobalamin)
- Vitamin B₂ (riboflavin)
- Vitamin C (ascorbic acid)
- Vitamin B₃ (niacin)
- Vitamin D
- Vitamin B₅ (pantothenic acid)
- Vitamin E
- Vitamin B₆ (pyridoxine)
- Vitamin K

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Vitamin C

By:
Leslie Richards
Matt Spaulding

[Vitamins Home Page](#)

Niacin - Vitamin B₃

Creators:
Audrea Nicole Franklin
Natasha Tina-Michelle Cheatham

[Vitamins Home Page](#)

Vitamin D

By:
Haley Hughes &
Erika Bandy



[Vitamins Home Page](#)

Vitamin B-5 Pantothenic Acid

By: Renee Bonnell
and
Jocelyn Barksdale

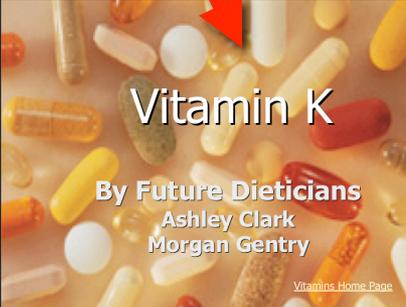
[Vitamins Home Page](#)

Vitamin B₆



Jayne Potts & Natalia Galantini

[Vitamins Home Page](#)



Vitamin K

By Future Dieticians
Ashley Clark
Morgan Gentry

[Vitamins Home Page](#)

Student Feedback

"I really enjoyed this type of learning. The students were allowed to be creative and learn while having fun. (Of course its not as fun as Dr Deal's class!)"

"I HATE writing papers. That's why I was excited to find out that this project on the vitamins was a power point presentation. I am a visual, auditory, and whatever else learner (I use many methods when I learn new information), so, power points work really well for me because they break everything up into main ideas. As Dr. Deal would say 'The Big Picture'."

"I am the type of learner who learns by reading and using my knowledge to explain it to others. I feel that a lot of student[s] might also be this way. This is very beneficial also because everyone usually sometime or another will have to do a presentation in their career. Practice makes perfect and I think that the idea of using presentation skills in college classes can give student a more interactive way of learning instead of just taking notes."

"I felt this project really did teach me a lot about (VITAMIN ASSIGNED). Now, when I'm sitting in some of my other Nutrition classes and we begin discussing (X RELATED TO VITAMIN) or (Y RELATED TO VITAMIN) I know what they are talking about."

"I enjoyed the assignment very [much] and appreciated completing something 'usefull' for a change. I like that our class created something that is going to last a while and possible be a help to others. I also learned very much about the vitamins through the project."

Peer Reviewed Publication - MERLOT

Material Detail

http://www.merlot.org/merlot/viewMaterial.htm?id=243777

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Material Type: Drill and Practice
Cost involved: no
Location: [go to material](#) or [mirror site](#)
Date Added: March 02, 2007
Date Modified: August 16, 2007

Author: Todd Deal 
Georgia Southern University
Submitter: [Steve Bonham](#)

Description:
[Dr. Todd Deal](#) (Chemistry, Georgia Southern University) used an active learning/peer-teaching project in the Spring of 2006 entitled "The Vitamin Project." The project resulted in a web page (created by Dr. Deal) linked to a dozen courseware projects created by pairs of students. Each of these projects included a Q & A practice module. I assisted Dr. Deal by offering students a demo and quick and dirty tutorial on Creating Courseware with PowerPoint - a workshop designed for Georgia Southern faculty. Here's the PowerPoint/handout provided to students: [CreatingCourseware_w_Ppt.ppt](#)
The feedback from students about this experience was very positive. Here are some student comments:

- "I am the type of learner who learns by reading and using my knowledge to explain it to others. I feel that a lot of students might also be this way. This is very beneficial also because everyone usually sometime or another will have to do a presentation in their career. Practice makes perfect and I think that the idea of using presentation skills in college classes can give student a more interactive way of learning instead of just taking notes."
- "I enjoyed the assignment very much and appreciated completing something 'useful' for a

About this material:

Peer Reviews (accepted for review)
Comments (none)
Assignments (none)
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