**Exam #2 Review Sheet**

Exam Date: Thurs. June 1 40-points 40 questions

Please bring an un-wrinkled scantron and #2 pencil (soft lead) to class. The exam is cumulative with emphasis on the material below. Review assignments, information given in the protein calorie estimate about calorie needs (e.g. BMR, thermogenesis, etc.) and class notes.

**Supermarket Savvy**

Whatis the primary goal of a supermarket?

What is ‘unit pricing’, and why is it a valuable tool for shoppers in the market?

How is the market laid out to enhance sales?

What tips should you keep in mind if you wish to make the most nutritious choices at the market?

**Carbohydrates (carbs)**

**Terms:** simple carbohydrate (e.g. glucose, fructose. sucrose, lactose), complex carbohydrates (e.g. fiber, glycogen, starch), blood sugar (glucose), milk sugar (lactose), table sugar (sucrose), fructose (fruit sugar), lactose intolerance, milk allergy, added vs. natural, soluble and insoluble fiber, syrups, fast v. slow carbohydrates

What are the primary functions of carbs in our body?

Know the role(s) of glucose in the body that were discussed in class.

What are our (dietary and body) sources of glucose?

What are the food sources of carbohydrates?

What is the difference between ‘natural’ sugar and ‘added’ sugar?

What is considered to be the maximum amount of ‘added’ sugar we should get in our daily diet?

What is basic difference between simple and complex carbohydrates?

In which category of carbohydrate (simple or complex) does each of the following belong? Starch, Added Sugar, Natural Sugar, Fiber, Glycogen

**Diabetes and Hypoglycemia**

**Terms:** blood sugar, insulin, glucagon, hypo/hyperglycemia, glycogen (liver/muscle), fasting blood sugar level, inflammation, dialysis (artificial kidney), Type 1 diabetes, Type 2 diabetes, gestational diabetes

**Know**

What is the role of Insulin? Glucagon?

What is the relationship between glucagon and glycogen?

Do natural and added sugar impact blood sugar levels the same?

How many calories in a gram of carbohydrate, protein, lipid?

Know the differences/similarities between cause/treatment of DM 1 and DM 2

What are the general dietary and lifestyle recommendations for people with diabetes?

What are the recommendations for fast, slow, simple, complex carbs for people with diabetes?

What are the long-term consequences of uncontrolled elevated blood sugar level?

Why are people with diabetes advised to replace saturated (high in animal foods) fat with unsaturated (high in plant foods) fats

What is the primary cause of death in people with diabetes?

What is hypoglycemia, why is it dangerous?

What are the dietary recommendations to prevent/treat hypoglycemia?

What is meant by ‘carb spares protein’?

What does the suffix ‘emia’ (as in anemia, hypoglycemia and hyperglycemia) refer to?  
What is the purpose of dialysis?

How has genetic engineering improved the treatment of insulin dependent diabetics?

**Protein**

**Terms:** Essential amino acid (EAA) and non-essential amino acid, DNA, BMR, thermogenesis, BSL, edema, antibodies, gene, kwashiorkor, anorexia nervosa (aka anorexia), marasmus, malnutrition.

**Know**: What the two main priorities of the body?

Why is protein a non-preferred source of glucose/fuel for the body?

What can the body do with excess protein?

What are the risks/benefits of a high protein diet?

What does the body do with the nitrogen from a protein that was used to make glucose, energy or fat?

What are the jobs of protein in our body?

What is the approximate protein need/pound body weight for the average US adult?

How do protein and energy needs compare/pound body wt. between babies and adults…higher, lower, the same?

How many common amino acids are there? In what form is protein absorbed into the blood?

What happens if a foreign protein enters the blood (e.g. fish protein)?

What happens to protein synthesis when an EAA is missing from the diet?

How is DNA related to protein synthesis?

Under what conditions is protein used to make glucose?

**Vitamins**

**Terms:** water v. fat-soluble vitamins, antioxidant, enrichment, fortification, beta-carotene, folic acid, neural tube defects, phytochemicals, golden rice

**Know** the basics about vitamins.

Which vitamins do we make and from what?

Which vitamins act as antioxidants? What is an antioxidant?

Which vitamins are added to foods that are enriched…? Fortified…?

How does beta-carotene relate to Vitamin A levels?

How does vitamin D relate to Calcium absorption?

What is the relationship between vitamin D and cholesterol?

How does the body make vitamin D?

Why is folic acid now added as a part of enrichment? How does folic acid relate to pregnancy? What foods are rich in folic acid?

What is the primary cause of childhood blindness in the world? How does it relate to ‘golden rice”?

**Minerals**

**Terms:** inorganic, ash content of the diet, osteoporosis, osteopenia fluorosis, calcium citrate, anemia, iodine, goiter, cretinism

**Know** the basics about minerals.

What factors help/hinder iron absorption?

What is the major contributor of sodium to our diet?

How much iron on average is in the US food supply?

Where is most calcium found in the body?

What is osteoporosis? Who is at most risk?

What food is fortified with iodine?

Hemoglobin contains what mineral?

Thyroxine contains what mineral?

What is the primary cause of vitamin and/or mineral overdose?

What are the recommendations to reduce the risk of osteoporosis?

**Supplements**

Why are whole foods and not supplements, the better source of nutrients?

What does it tell you if there is a USP label on a supplement package?

How well regulated are supplements compared to food and drugs, particularly regarding safety, claims, purity of package content and efficacy of supplements?

What is the primary cause of vitamin and/or mineral overdose?

**NOTE: The material below will NOT be on Exam 2. It will be covered on the Exam 3 (final).**

**Heart Smart Diet**

**Lipids and Heart Disease** (cardiovascular disease)

**Terms:** triglycerides, glycerol, fatty acids (including, saturated, unsaturated trans, essential fatty acids, omega-3 acids fatty acids), inflammation, anti-oxidant, soluble and insoluble fiber, lipoprotein (HDL, LDL chylomicrons), arteries, veins, cholesterol, partial hydrogenation, stroke, heart attack, DASH diet, USDA Plate Diet, Mediterranean Diet (you may need to read about the latter in the text)

**Know:** major food sources of the different types of fatty acids

What are the major roles of lipids in our body? In our diet?

Which fatty acid type is the most atherogenic (artery clogging)? In what foods are they most common?

Where does atherosclerosis occur, arteries/veins? What occurs to cause a heart attack, or stroke?

Know what makes up a heart healthy diet and heart healthy behavior (as discussed in class).