The Exam is M/C & T/F, worth 100 pts.

**Methodology**
- Types of research designs: Anecdotal/case studies; Observational/Epidemiological/Associational; Experimental
- Appropriate and inappropriate uses of each type of study
- Specific studies discussed in class:
  - red meat studies: methods; claims, problems with studies

**Obesity Statistics & Definitions**
- BMI: Definition; cut-offs for underweight, normal, overweight, obese; problems with using BMI as measure; other ways to estimate body fat; TOFI; race and BMI
- Regional Differences: States/Regions with lowest and highest % obese
- Ethnic Differences: ethnic groups with highest and lowest % obese
- Obesity as a Function of Education, Gender, and Income
- Changes since 1985

**Why Diets Don’t Work**
- “conventional” wisdom about causes of weight gain
  - recommendations for how to lose weight
  - calories in/calories out “energy balance model
  - problems with conventional wisdom

- Proietto Study: Hormonal alterations after starvation diet; changes in ghrelin, leptin, peptide YY; implications
- Keys Starvation Study
- Vermont Prison Overfeeding study
- Bouchard Twin studies: genetic factors in weight gain, fat composition
- Specific genes and obesity: FTO gene and correlations with weight, insulin regulation, triglycerides; is it the “fat” gene?
- keeping weight off: common traits in those who maintain weight loss
- changes in brain activity after dieting
- Nasogastric tube diet: why does it work?

**Are all calories equal?**
- Assessment of “calories is a calorie” claim: is it true?
- Evidence discussed in class: Ludwig Weight Loss maintenance study; Carmody Rat Thermogenesis study (meat vs. sweet potatoes); processed vs. whole foods; types of diets; individual differences

**How to Live Longer**
- Centenarian studies: demographics
- Predictors of living to 100
- nature vs. nurture (7th day Adventists example)

**USDA Dietary Guidelines**
- basic recommendations
- impacts of saturated, unsaturated, and trans-fats on each type of cholesterol
- comparison of high fat vs. High carb diets on LDL, HDL, & triglycerides

**Sugar**
- sugar, glucose, & insulin relationship: weight effects
- effects of high fructose corn syrup (HFCS) on weight: Höebel study comparing HFCS vs. sucrose
- effects of HFCS on visceral fat

**Articles covered in class and posted on Syllabus**

- Carmody Rat Thermogenesis Study
- CDC Obesity Statistics
- 2015-2020 Dietary Guidelines