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NUTR 411.01: Nutrition for Sports and Exercise

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The University Of Montana
Department of Health and Human Performance
NUTR 411
Nutrition for Sport and Exercise

Instructor: Chuck Dumke, Ph.D.
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Office hours: 8-11 am, Tuesday and Thursday (or by appointment)

Prereq: HHP 236N, HHP 377/378, SC 202N or BIOL 313 and junior standing.
Semester: Fall 2012
Credits: 3 credit hours
Time: Mon, Wed, and Fri 9:10-10:00 am
Place: Lecture is held in PJWCEHS 123

Text:: Manore, M., Meyer, N., and Thompson, J., Sport Nutrition for Health and Performance, 2nd edition, (2009), Human Kinetics.

Various research and review articles may also be assigned throughout the semester.

At Library:

Williams, M., Nutrition for Health, Fitness and Sport. (2010) McGraw & Hill

McArdle, Katch, and Katch, Sports & Exercise Nutrition, 3rd Edition, (2008). Lippincott, Williams and Wilkins.

Jeukendrup, A., Gleeson, M., Sport Nutrition, 2nd Edition, (2010), Human Kinetics.

Benardot, D., Advanced Sports Nutrition, (2006), Human Kinetics.

Larson-Meyer, Vegetarian Sports Nutrition, (2007), Human Kinetics.

Course Description:

Nutritional parameters of athletic performance including intervention planning, energy production, the energy nutrients, vitamins and minerals, principles of balanced diets, timing and composition of intakes, hydration, weight management strategies, and nutritional needs for special situations.

Order of Topics to be Covered: (Chapters listed are from Manore, Meyer and Thompson, 2nd edition)

- Exercise Physiology: Implications for Sports Nutrition; Chapters 1, and your previous Ex. Phys. Texts/notes.
- Energy Balance, Chapters 5 and 6.
- Carbohydrate as Fuel for Exercise, Chapter 2.
- Fat as Fuel for Exercise, Chapter 3.
- Protein Requirements of Athletes, Chapter 4.
- Fluids, Chapter 8.
- Micronutrients, Chapters 9, 11, 12 and 13.
- Antioxidants, Free Radicals and the Physically Active, Chapter 10.
- Nutritional Ergogenic Aids, Chapter 16.
- Eating Disorders, Osteoporosis, and the Triad Chapter 15.

Evaluation:	Assessment Method	Percent of Total Grade
	Exam I	19%
	Exam II	19%
	Final Exam	19%
	Ergogenic Aid Presentation	7%
	Athlete Project:	22%
	Diet and activity analysis	3%
	Overview/Interview	13%
	Presentation	6%
	<u>Quizzes</u>	<u>14%</u>
	Total	100%

Grading:

		A	93-100%	A-	90-92%
B+	88-89%	B	83-87%	B-	80-82%
C+	78-79%	C	73-77%	C-	70-72%
D+	68-69%	D	63-67%	D-	60-62%
F	<60%				

Exams:

Exams will cover material for each third of the class (non-accumulative). *Exam dates subject to change.*

Exam I: Monday, **October 1st**, in class

Exam II: Monday, **October 29th**, in class

Exam III: Monday, **December 10th**, 8:00 am University Final Exam schedule

Group Projects:

Because of the nature of a big class, you will have two main group projects: a **nutritional ergogenic aid handout/presentation**, and an **athlete project**. You will form a group or team of **SIX** as soon as possible in the early part of the semester. This group will work together on the requirements for the two projects. Three from the team will be chosen to present the work of all six members for the two different presentations. Each of the six members will all get the same grade provided you all feel equal input/work was completed by all. At the end of the semester you will grade your group-mates level of involvement on a scale from 0-10. This will help me in assessing each member's level of involvement.

Nutritional Ergogenic Aid Handout/Presentation:

All students from each team of six will work together. Three from the team will present to the rest of class. Talk should last for ~8 mins, with a minute or two for questions. Power point is allowed, however you **MUST** show early to load your talk. Presentations will be the week beginning **Nov 12th**. You must provide a **ONE PAGE** handout for your aid covered to give to the rest of the class. This should include **one exam question** on the handout that may be used for the third exam. Each team must also provide one **one page summary** of six research articles reviewed by each team member for the presentation. Below are things you should cover for your chosen ergogenic aid. Approach this as if you are teaching the rest of the class or a potential client/subject. Imagine someone asked you about the efficacy of using a particular supplement. What would you say?

- What is it? Where is it found?
- Claims?
- Theory, proposed mechanism
- Dosage and cost?
- Effectiveness, and/or sports performance changes (Most important part! This can only be proven with research.)
- Is it safe?
- Legal and ethical aspects
- What are YOUR recommendations?

Athlete Project: (*Chapter 14 of MMT is a good resource in collecting valid dietary data*)

All students from each team of six will work together. Three from the team will present to the rest of class. Each team will be required to interview a high-level athlete (a varsity level UM athlete or elite athlete you may know) or a clinical patient who can complete a three-day analysis of their eating and exercising patterns and be questioned about his/her nutritional habits and beliefs. You will be required to get approval from the instructor on your team's selection of an athlete to interview.

The assignment has **three separate parts with three different due dates**. The first due date is to verify your selection of a subject by **October 5th**. Some examples of appropriate subjects, (little overlaps allowed, so first come first serve): serious high school athlete; UM strength and power athlete (football players, weightlifters, throwers, sprinters); UM endurance athlete (distance runners, cyclists, triathletes); intermittent sports (basketball, soccer, volleyball, lacrosse); elite masters athlete, or clinical patients.

1. **3 day diet analysis.** Your subject must write down their complete three day dietary intake and energy expenditure following your instructions (you will be given a checklist of things required of you and your athlete). You will then input this into a software package to obtain their dietary analysis. A copy of the diet AND activity analysis (Food Processor print out and word processed food and activity record) is due **November 2nd** (#'s 2-5 on the **checklist**).

2. **Overview and interview.** You will then be required to go over the results of this analysis with your subject, and answer any of their questions. You will also then conduct an interview. Each interview should aim for at least 20 questions (depending on the athlete's time) and should be 3-4 pages long. I will provide a list of some questions on Moodle. However many of your questions will stem from the results of the dietary analysis. At the beginning of your write-up of the interview provide the name, title and affiliation of the person you interviewed. Provide all relevant information the reader will need to identify the caliber of the athlete you interviewed. This should include awards, training volume, goals, etc.... Follow the title and credentials of your subjects with your questions and answers. Try to use the interviewee's words rather than your own when writing up your interview. Only summarize answers in your own words if the person interviewed speaks extensively. You should finish with a summary of your insights, impressions, reactions and commentary about the person and his/her nutritional practices and the interview. *Most importantly*, you should include your group's recommendations to the subject to improve their diet to maximize their athletic goals. You should follow these instructions and the checklist provided on the athlete project instructions provided on Moodle. The entire project including Step 1 (dietary and expenditure analysis) and 2 (interview write-up) is due **November 26th**. Be aware that you will need copies of all items handed in, in order to prepare for your presentation. You must also include on one page a summary of what each of your six team members contributed. What aspects of the project from start to finish did each member of the team complete? I will then also be asking for a blinded score of your teammates performance from each of you.

3. **Presentation.** Again, three from your team will present to the class a summary of your athlete project. These should be a different three than did the ergogenic aid presentation. You are required to formulate a ~10 min (depending on # of groups) presentation based on your experience with this athlete (use alias instead of real name unless cleared by subject). The presentation should include level of competition, training volume, salient features of dietary analysis (macro and micronutrient intakes) and energy expenditure, interview results, and your recommendations for improving their nutrition specific for their goals. You will sign up for presentation times on **November 26th**. Presentations will be the last 3 days of class (Dec 3-7th).

Quizzes

Quizzes will be given in class or as take home assignments. These are meant to keep you abreast of the information that will be evaluated on the exams.

Attendance and Exam Policy: (Very important! In reference to student code of ethics!)

Absences: Students are expected to attend all classes and be prepared to participate in class discussions and activities. Attendance will be taken at the beginning of each class period. If more than **five** classes are missed your grade will be dropped by 5% for every missed day there after. These are *five* excused OR unexcused absences!

Tardiness: Students are expected to arrive on time to class. If you have more than two tardies your final grade will be reduced by 1% for every other tardy (i.e. if you're late 5 times for class and you have a final grade of 94% you will end up with a grade of 89%). Arriving more than 20 minutes late for a class will be considered an absence. If you are late it will be your responsibility to make sure the attendance record indicates your presence by notifying the instructor at the end of class.

Class Participation: Students are expected to have completed all assigned readings and work before each class in order to be prepared to participate in class discussions.

Cell Phone Policy: Phones (and the like) are expected to be turned off for the duration of class time. If caught using your phone, you may be asked to leave the class for the remainder of the day. This day will then count towards one of your 5 absences.

Exams: A make-up exam will be given only at the discretion of the instructor and only in the case of unavoidable situations. If you miss a scheduled exam it is your responsibility to contact the instructor within 2 days of the missed exam to be eligible for a make-up exam. The instructor will then determine whether a make-up exam will be allowed. Messages left by telephone, email or in writing do not constitute an agreement for a make-up exam. No exams will be given earlier than the scheduled time.

UM's POLICY ON ACADEMIC HONESTY – Students must read

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available for review online at

http://life.umt.edu/vpsa/student_conduct.php.

Plagiarism: Representing another person's words, ideas, data, or materials as one's own.

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and **Disability Services for Students (DSS)**. If you think you may have a disability adversely affecting your academic performance, and you have not already registered with DSS, please contact DSS in Lommasson 154. I will work with you and DSS to provide appropriate accommodation.