

CI 647: SCIENCE/MATH APPLICATIONS

FOR NUTRITION/ENERGY CONTENT

Spring, 2009, WVU On-Line Course Offering

COURSE REGISTRATION. Two sections of CI 647 are available (<http://www.arc.wvu.edu/courses>): 001 (CRN 15371) & 7D1 (CRN 15582, Extended Learning). Both are identical and WEB and include meeting on-line every other Monday from 8 p.m. to 9:30 p.m. beginning Jan. 26. Course starts January 12. Instructor (jim.rye@mail.wvu.edu) will contact registered students via their MIX e-mail with details.

COURSE DESCRIPTION. CI 647 is most appropriate for **grade 4 through secondary** teachers of science and mathematics. It targets key elements of **21st Century Learning** (e.g., global, civic, health, & ICT literacy) and **CSOs** in algebra, data analysis, energy, experimental design, forces and motion, environment, inquiry, measurement, technology. It is rich in examples of how to integrate science and math learning and includes **problem-based learning** related to the obesity epidemic and environmental issues, e.g., interrelationships between transportation infrastructure, air quality, climate change, and food production. Specific content includes:

- **pedometers** as technology tools for learning experimental design and physics;
- **food composition as a data source** for proportional and algebraic reasoning, exploring relationships and variability, examining physical properties of matter and energy transformation;
- **MS Excel™** as a technology tool to understand variables, develop/use equations for data analysis and problem solving, and create/communicate with graphic representations;
- **human energy expenditure data** to hone skills in measurement (e.g., unit analysis) and contrast with energy intake data;
- **energy balance** as a current concept for “science in personal and social perspectives;”
- **public/environmental health** e.g., physical inactivity epidemic, built environment, diet.

Through this course participants will become familiar with **robust on-line sources** including articles and tools from *American Journal of Public Health*, Centers for Disease Control & Prevention, National Institute for Environmental Health Science, Institute of Medicine, United States Dept Agriculture, *Science Activities*, and the National Science Teachers Association.

TECHNOLOGY NEEDS. Includes an Internet connection (**broadband** preferred) and computer with sufficient memory and speed to facilitate learning in an online environment; audio/video viewing software, PowerPoint™, Adobe Acrobat Reader™, Excel™ and word processing software; skills to word process, organize electronic correspondence and files, participate in on-line discussion forums and WIMBA live classroom, use a web browser/search Internet, do email (includes attachments), read PowerPoint™ and Adobe Acrobat™ (.pdf) files

REQUIRED MATERIALS. Discovering Nutrition, 2nd Edition (can be obtained from WVU bookstore) and an Accusplit *Eagle* (AE) pedometer (instructor will email details).