Date of request: 10-OCT-2020

Request ID: E-2020-FCS-68

College: E

Department: FCS

Initiator name: Caroline Webber

Initiator email: caroline.webber@wmich.edu

Proposed effective term: 202140

Does course need General Education approval?: N

Will course be used in teacher education?: N

If 5000 level course, prerequisites apply to: B

Proposed course data:
New Course FCS 5860
New course selected: This new course is not seeking approval as a general education course.

1. Proposed course prefix and number:
FCS 5860

2. Proposed credit hours:
3

3. Proposed course title:
Functional Foods and Disease Prevention

4. Proposed course prerequisites:
CHEM 3550 or CHEM 3700,
FCS 4690 or FCS 6140 & FCS 6150 or the equivalent

5. Proposed course corequisites:
none

6. Proposed course prerequisites that may be taken concurrently (before or at the same time):
none

7. Minimum grade for prerequisites (default grades are D for Undergrad and C for Grad):
C

8. Major and/or minor restrictions:
Include

9. List all the four-digit major and/or minor codes (from Banner) that are to be included or excluded:
PXDM, ATRM, BSCM, PASM
Please enter the new code for MS in nutrition and dietetics, likely NDDM

10. Classification restrictions:
Include

11. List all the classifications (freshman, sophomore, junior, senior) that are to be included or excluded:
SR

12. Level restriction:
Include

13. List the level (undergraduate, graduate) that is to be included or excluded.
GR

14. Do prerequisites and corequisites for 5000-level courses apply to undergraduates, graduates, or both?
Both

15. Is this a multi-topic course?
No

16. Proposed course title to be entered in Banner:
Func. Foods and Disease Prev.

17. Is this course repeatable for credit?
No

18. Is this course mandatory credit/no credit?
No

19. Select class type:
Seminar

20. How many contact hours per week for this course?
3

A. Please choose Yes or No to indicate if this class is a Teacher Education class:
No

B. Please choose the applicable class level:
Both

C. Please respond Yes if this is a current general education course and/or a course being submitted for the new WMU Essential Studies program. Please respond No if it is neither.
No

D. Explain briefly and clearly the proposed improvement.
The proposed improvement is to create a new course, FCS 5860.

E. Rationale. Give your reason(s) for the proposed improvement. (If your proposal includes prerequisites, justify those, too.).
FCS 5860 Functional Foods and Disease Prevention is one of two new courses proposed as part of the new M.S. in Nutrition and Dietetics program. This course will provide an additional option for students beyond their first-year graduate nutritional science and clinical nutrition coursework. "Functional foods" refers to foods or supplements containing bioactive components with health benefits beyond energy and nutrients normally provided by regular foods. Previous goals in food science and food technology focused on improving food safety and elevating food taste. However, that has shifted to supplying healthy and functional foods. "Eat healthfully and live healthfully" is the critical requirement for a high-quality life for the public. Today's consumers expect foods to fulfill roles beyond basic nutrition, which means promoting health and even preventing or managing chronic diseases through augmented foods. This course is essential for dietitians and nutritionists in order for them to understand the scientific basis of functional foods and to use that knowledge when recommending food choices for health maintenance and disease management.
The prerequisites are required in order that students come with the necessary scientific background needed. This background will help students to understand the course content and achieve course objectives.

F. List the student learning outcomes for the proposed course or the revised or proposed major, minor, or concentration. These are the outcomes that the department will use for future assessments of the course or program.
or program. Students will:
1. Explain the concept and significance of transdisciplinary science (food science, nutritional science, nutrient metabolism, molecular biology, nutrigenomics, epidemiology, etc.) for the discovery of bioactive food components and determining its efficacy
2. Identify and demonstrate knowledge of potential health benefits from functional foods and the sources of the foods
3. Describe and apply the practical steps necessary for discovering and producing new functional foods
4. Compare and contrast functional foods, dietary supplements, and medical foods
5. Explain regulatory policy of functional food products on the U.S. market
6. Demonstrate ability to evaluate and appraise available/potentially available products by biochemical basis, technologies, legal
requirements, and clinical assessment

G. Describe how this curriculum change is a response to student learning assessment outcomes that are part of a departmental or college assessment plan or informal assessment activities.
The course meets the CEHD 2017 Strategic Plan's Objective 1.1: Focus on program quality and outcomes stressing evidence-based practices.

The topic of functional foods is of great interest both among students and among nutrition, health and wellness professionals. The course was offered in Fall 2019 as FCS 5220 Topics. Evaluations were done during the semester and at its end. Student comments included:
- "I enjoy this class because it is unique among the other topics we learn about. I think functional foods is popular among the public right now and something many are interested in."
- "I liked the content of the class because I learned new ways to help myself and others using food in healthcare."

- "I feel that these [topics] have real life implications and [make it] easier to encourage others to consume. Thank you for teaching such an interesting topic."

H. Effect on other colleges, departments or programs. If consultation with others is required, attach evidence of consultation and support. If objections have been raised, document the resolution. Demonstrate that the program you propose is not a duplication of an existing one.
There are no other similar courses provided by other departments at WMU and no duplication of existing ones. It is hoped that students from closely aligned backgrounds in health, human performance, and life sciences may also find the course of interest and enroll.

I. Effect on your department's programs. Show how the proposed change fits with other departmental offerings.
The proposed course complements other graduate course offerings in nutritional science, life-course nutrition, supervised practice, and public health/environmental nutrition in the proposed M.S. in nutrition and dietetics. It will provide additional coursework that students can take within the nutrition and dietetics program area, which is needed

J. Effects on enrolled students: are program conflicts avoided? Will your proposal make it easier or harder for students to meet graduation requirements? Can students complete the program in a reasonable time? Show that you have considered scheduling needs and demands on students' time. If a required course will be offered during summer only, provide a rationale.
This proposal will make it easier for students to meet graduation requirements and provides another course offering. It will have no impact on the length of time it takes students to meet graduate requirements. It will be offered online asynchronously, thus making it available to most students and avoid conflicts with other courses. It will likely be offered once a year during the Fall semester.

K. Student or external market demand. What is your anticipated student audience? What evidence of student or market demand or need exists? What is the estimated enrollment? What other factors make your proposal beneficial to students?
We anticipate that a minimum of 10 students per year from the proposed the M.S. in nutrition and dietetics major will enroll plus others. This number is based on the number of students admitted into the dietetic internship (FCS 6230), which admits ten students a year from a competitive pool (38 applicants in 2020). This course was offered as FCS 5220, a Topics course, in Fall 2019. Students reported they found it beneficial. Some former dietetic interns who never finished their M.S. could also take this course. Additional students could be drawn from allied health, exercise science, biochemistry, etc. See Rationale (E) for benefits to students.

L. Effects on resources. Explain how your proposal would affect department and University resources, including faculty, equipment, space, technology, and library holdings. Tell how you will staff additions to the program. If more advising will be needed, how will you provide for it? How often will course(s) be offered? What will be the initial one-time costs and the ongoing base-funding costs for the proposed program? (Attach additional pages, as necessary.)
- Initial one-time costs of $3000 for course development was already paid when the course was created and offered in Fall 2019.

- Textbook. The only resource needed is the e-textbook purchase by the WMU library ($300) and our department (about $175) each year. This resource is being made available to anyone in the WMU community interested in reading the book, not just FCS 5860 students.

- No additional faculty, equipment, space, or technology will be needed.

M. With the change from General Education to WMU Essential Studies, this question is no longer used.

For courses requesting approval as a WMU Essential Studies course, a syllabus identifying the student learning outcomes and an action plan for assessing the student learning outcomes must be attached in the Banner Workflow system.
Not Applicable

N. (Undergraduate proposals only) Describe, in detail, how this curriculum change affects transfer articulation for Michigan community colleges. For course changes, include detail on necessary changes to transfer articulation from Michigan community college courses. For new majors or minors, describe transfer guidelines to be developed with Michigan community colleges. For revisions to majors or minors, describe necessary revisions to Michigan community college guidelines. Department chairs should seek assistance from college advising directors or from the admissions office in completing this section.
Transfer agreements will not be impacted.

O. Current catalog copy:
N/A – this is a new course.

P. Proposed catalog copy:
This course will provide an in-depth study of functional foods, including their sources, health benefits, and market regulation. The transdisciplinary science employed in the discovery of bioactive compounds found in functional foods and their efficacy will be discussed.

Department Curriculum Chair approver: Mary Beth Kennedy Janssen

Department Curriculum Chair comment:

Date: 10-OCT-2020

Department approver: Suzan Ayers

Chair comment:

Date: 13-OCT-2020

Michele D Behr

Fri 7/26/2019 10:27 AM

To: Ping Ouyang

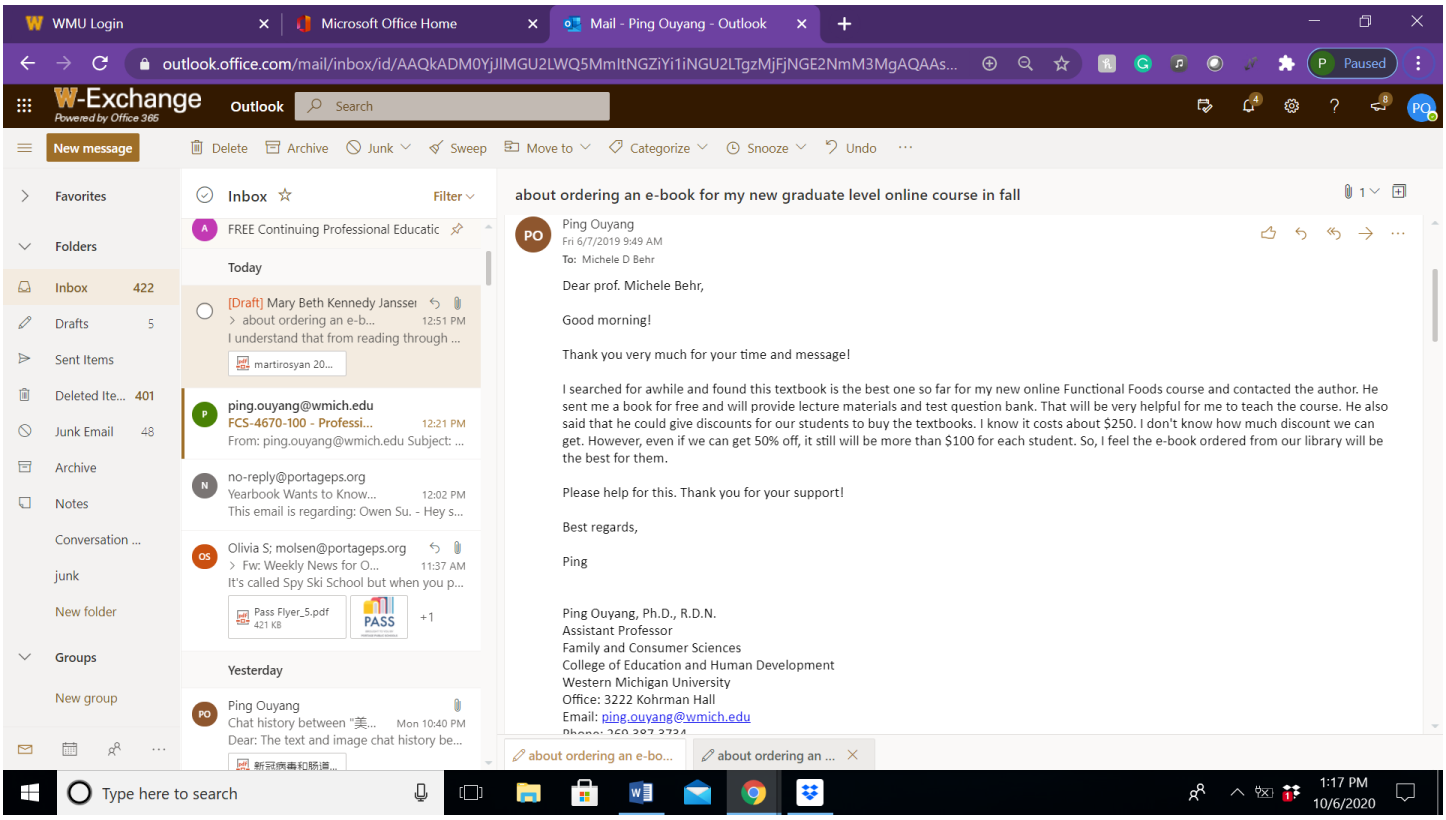
Cc: ffc_usa@sbcglobal.net

Hello Ping,

Yes, that is good news! If we can work out the details on the access, I think the Libraries would be willing to pay the $300 toward the cost of the e-book.

So would the term of the license be one year? Also, would anyone who has a Bronco Net ID and password be able to access the content? We may need to have Dr. Martirosyan contact our Technical Services department to make sure that all the technical specifications are understood.

Michele



about ordering an e-book for my new graduate level online course in fall

Ping Ouyang
Fri 6/7/2019 9:49 AM
To: Michele D Behr

Dear prof. Michele Behr,

Good morning!

Thank you very much for your time and message!

I searched for awhile and found this textbook is the best one so far for my new online Functional Foods course and contacted the author. He sent me a book for free and will provide lecture materials and test question bank. That will be very helpful for me to teach the course. He also said that he could give discounts for our students to buy the textbooks. I know it costs about $250. I don't know how much discount we can get. However, even if we can get 50% off, it still will be more than $100 for each student. So, I feel the e-book ordered from our library will be the best for them.

Please help for this. Thank you for your support!

Best regards,

Ping

Ping Ouyang, Ph.D., R.D.N.
Assistant Professor
Family and Consumer Sciences
College of Education and Human Development
Western Michigan University
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FCS 5860 Functional Foods and Disease Prevention Course Schedule

Instructor: Ping Ouyang, Ph.D., R.D.N.

Module 1: Taking care of ourselves & Introduction to the functional foods and the new definition for FF

Overview:

In this module, we will become acquainted with Functional Foods and examine the importance of eating and sleeping regularly.

Duration: 1.5 weeks

Objectives:

Students will...

1. Write a discussion post to introduce themselves and get to know each other
2. Examine the importance of eating and sleeping regularly to obtain a healthy and productive semester
3. Familiarize themselves with the syllabus and course schedule
4. Examine Functional Foods (FF) background and introduction and learn the new definition of FF

Activities/*Assessments

- **Review:** Course Information documents (located in START HERE Module)
  - Syllabus
  - Course Schedule
- **Complete:** Introduction Discussion (located in START HERE Module)
- **View:** Course Introduction Mini-lecture
- **Review:** Take Care of Yourself PowerPoint Presentation
- **Reference Papers:**
  - *Skipping Breakfast Adversely Affects Menstrual Disorders in Young College Students*
  - *Association of Skipping Breakfast with Cardiovascular and All-Cause Mortality*
  - *Night-time Screen-based Media Device use and Adolescents' Sleep and Health Related Quality of Life*
  - *Melatonin has Multi-organ Effects*
- **Watch Video:**
  Matt Walker (2019), Sleep is Your Superpower
  https://www.ted.com/talks/matt_walker_sleep_is_your_superpower
- **Read:** Chapters 1-2
- **Watch/Viewing:** Introduction to Functional Foods Lecture Presentations

    - Lecture Part 1
    - Lecture Part 2
    - Lecture Part 3
- **Complete:** Discussion - Module 1: Sleep/Eat Regularly

Module 2: Healthy, functional, & medical foods and FF related regulation

Overview:

In this module, we will learn the current global food habits and trend, healthy, functional, and medical foods, as well as the regulation related to FF.

Duration: 1 week

Objectives:

Students will...

1. Identify the change of global food habit and trends
2. Distinguish the similarities and differences of functional foods, dietary supplements, and medical foods
3. Examine clinical study designs
4. Examine regulations related to FF

Activities/*Assessments

- **Read:** Chapters 3 & 5
- **Reference Paper**: Systematic reviews of animal experiments demonstrate poor human clinical and toxicological utility. (2007) Knight, A. Alternatives to Laboratory Animals, 35(6), 641.
- **Review**: Lecture Presentations
    - Lecture Part 1
    - Lecture Part 2
    - Lecture Part 3
    - Lecture Part 4
- **Watch Video:**
  1.The role of preventative care, lifestyle improvements, and better nutrition in chronic disease (Dr. Nestle and Dr. Kessler interviewed by Washington Post) https://www.youtube.com/watch?v=eJlePEWN4pA
  2. Axona DCGM Animation https://www.youtube.com/watch?reload=9&v=LU4g8-wF6Lo
  3. New medical food for Alzheimer's patients https://www.youtube.com/watch?v=uh6iaJRymGI
  4. Medical Food: DEPLIN https://www.deplin.com/hcp
- **Complete:** Discussion - Module 2

1. Why clinical research data are so important for decision making in healthcare practice?
2. Do you think we need FF regulation in the US?

Module 3: Efficacy of bioactive compounds and develop a suitable food vehicle

Duration: 1 week

Objectives: ***Students should be able to...***

- know the bioactive compounds and the classification
- distinguish the analysis methods of food bioactive compound contents
- understand the bioactive compounds in health promotion and disease prevention
- know the types and challenges of bioactive ingredients
- understand the factors affecting the efficiency of food vehicle changes during food processing
- know the food vehicles design and technologies

Activities/*Assessments

- **Review**: Lecture Presentations
  - Lecture Part 1
  - Lecture Part 2
- **Read: Chapters 6 & 7**
- **Watch Video:**
  1. A Brief Guide to HPLC Instruments from Mourne Training Services https://www.youtube.com/watch?v=I-CdTU5X4HA&t=13s
  2. Enzyme-Linked Immunosorbent Assay (ELISA) - Multi-Lingual Captions https://www.youtube.com/watch?v=RRbuz3VQ100&list=PLuwj6A15nYoZguU41BESV-4GwXJ2_V-mU
  3. Functional Foods: Developing Vegetable Products with Health Solutions https://www.youtube.com/watch?v=DmPglvH1kIQ
  4. Functional Food: Smart Microgels against Lactose Intolerance - by Yoran Beldengrün https://www.youtube.com/watch?v=y6L033hFOOQ
  5. Nano food: Nanotechnology In Food https://www.youtube.com/watch?v=cDUv3hUQ2C8
- **Discuss:**
  1) Do you know anyone (you/your family member/people you know) is taking functional food (except the conventional whole foods and modified foods)? What kind of functional food he/she is taking? What are the benefits of it?
  2) Do you think we should have regulations for using nanotechnology in food?
- **Complete: Quiz for Module 2**

Module 4: Dietary fiber and prebiotics as FF components

Overview:

Duration: 1 week

Objectives:

Students should be able to...

- familiar with different kinds of dietary fibers and their characteristics
- understand the health benefits of dietary fibers
- know the concepts of probiotics and prebiotics
- understand prebiotics as FF components

Activities/*Assessments:

- **Review**: Lecture Presentations
  - Lecture Part 1
  - Lecture Part 2
  - Lecture Part 3
  - Lecture Part 4
- **Read:**
  - **Chapters 9 & 10**
  - **Reference Paper:** "Resistant Starch and Health" A.M. Birkett and I.L. Brown. (2008)
- **Watch videos:**
  - Resistant Starch https://www.youtube.com/watch?v=NI3KtR3LoqM
  - Does Fiber Make You Fat? - The Gut's Effect on Weight and Metabolism' https://www.youtube.com/watch?v=UJjp6fTGq6g
  - The Hungry Microbiome: why resistant starch is good for you https://www.youtube.com/watch?v=NI3KtR3LoqM
- **Discuss:**
  Considering what you have learned so far in this module, discuss these topics:
  1) Do you normally eat whole grain bread or white bread? Please explain the reasons for your choice.
  2) Can you name some diseases that your relatives or friends are known to have? Discuss whether dietary fiber plays a role in either the development or the treatment of the disease.
- **Complete: Quiz for Module 3**

Module 5: Plant Sterols

Duration: 1 week

Objectives: ***Students should be able to...***

- know plant sterols and stanols
- familiar with the food sources of them
- realize that they are added to some foods as functional ingredients
- understand the health benefits of plant sterols and stanols
- realize there is a limitation for the intake of plant sterols and stanols

Activities/*Assessments

- **Review**: Lecture Presentations
  - Lecture Part 1
  - Lecture Part 2
- **Read:** Chapters 11: Plant Sterols
- **Reference Paper**: Plant-based sterols and stanols in health & disease: " Consequences of human development in a plant-based environment?"
- **Watch videos:**
  1. Plant Sterol Mechanism of Action
  https://www.youtube.com/watch?v=p-ruFt-s_Bk
  2. TED TALK: Can we eat to starve cancer? by William Li
  https://www.youtube.com/watch?v=OjkzfeJz66o
- **Discuss:**
  1) Sometimes, we can see people take multivitamins and minerals, fiber supplements, and other kinds of supplements. Then, they believe they could eat whatever they like by getting enough nutrients for their need through those supplements. Have you met anyone like this? What suggestion you would give to them as an RD (regardless of the total calories at this point)?
  2) Plant sterols and stanols exist very low in our diet (300 -600 mg/d) and our absorption is also particularly low (0.5-1.9%). Some people think they might have disadvantages for our development and health and that may be the reason why nature keep them as low as possible. What do you think?
- **Complete: Quiz for Module 4**

Module 6: Phytochemicals in Disease Preventions & Interventions

Duration: 1 week

Objectives: ***Students should be able to...***

- familiar the concept of phytochemicals
- know the biosynthesis of phytochemicals
- familiar with the food sources of them
- know the roles of phytochemicals in plants
- understand the health benefits of phytochemicals
- understand the important role of phytochemicals as antioxidants

Activities/*Assessments

- **Review**: Lecture Presentations
  - Lecture Part 1
  - Lecture Part 2
- **Read:** Chapters 12 &14
- **Watch videos:**
  Phytochemicals as Healing Dietary Components in Combating Chronic Disease
  https://www.youtube.com/watch?v=fKE0v-RT_m0
- **Discuss:**
  1) Do you like to try different food varieties to get different nutrients?
  2) Do you think the "phytochemical index" could stimulate people to consume more plant-based foods?
- **Complete: Quiz for Module 5**

Module 7: Role of Bioactive Peptides

Duration: 1 week

Objectives: *Students should be able to...*

- Know the definition of bioactive peptides
- Understand how the bioactive peptides are released
- Familiar with food sources of bioactive peptides
- Know the biofunctional properties of bioactive peptides

Activities/*Assessments

- **Review**: Lecture Presentations
  - Lecture Part 1
  - Lecture Part 2
- **Read:** Chapters 13 Role of bioactive peptides and its biofunctional attributes
  Reference Paper: Milk-derived bioactive peptides and their health-promoting effects: a potential role in atherosclerosis
- **Watch videos:**
  1.Dermcidin: antimicrobial peptide
  https://www.youtube.com/watch?v=_86U_cZi0zQ
  2. Life-changing Discoveries
  https://www.youtube.com/watch?v=MoMEZKVY4s8
- **Discuss:**
  Please do a literature search and find a bioactive peptide that we did not talk about in the lecture. Tell us how the bioactive peptide is released, it released from what kind of food, how long the peptide is, what amino acids in it (if you can find), the bioactive function it has, and whether the research conducted in an animal model or human beings.
- **Complete: Quiz for Module 6**

Module 8: Functional Foods and Cardiovascular Disease

Duration: 1 week

Objectives: ***Students should be able to...***

- Understand different types of heart diseases
- Know the development of different types of heart diseases
- Familiar with the association between diet and heart disease
- Know the bioactive components in the foods that showed benefits for heart health
- Understand several foods that showed treatment effects on inflammation

Activities/*Assessments

- **Review**: Lecture Presentations
  - Lecture Part 1
  - Lecture Part 2
  - Lecture Part 3
- **Read:** Chapters 16 Functional Foods and Cardiovascular Disease
- **Watch videos:**
  1. Mayo clinic: What is "Heart Healthy Nutrition" and Why is it So Hard to Define? https://www.youtube.com/watch?v=jdOlni_f7JY
  2. Physical Activity and Cardiovascular Disease in Young People: Can CVD be Prevented. https://www.youtube.com/watch?v=e7TIa6DDImg
- **Discuss:**
  1. What are the new concepts have you learned from this chapter?
  2. Why do you think it is so hard for most of the public to understand about eating healthy? What will you do to change that if you have the power and resources?
- **Complete: Quiz for Module 7**

Module 9: Functional Foods and Metabolic Syndrome

Duration: 1 week

Objectives: ***Students should be able to...***

- Understand the definition of Metabolic Syndrome
- Know the diagnosis of Metabolic Syndrome
- Understand the difference between glycemic index and glycemic load
- Familiar with the association between diet and Metabolic Syndrome
- Understand the prevention and treatment of Metabolic Syndrome

Activities/*Assessments

- **Review**: Lecture Presentations
  - Lecture Part 1
  - Lecture Part 2

    - Lecture Part 3
- **Read:** Chapters 17 & 18 Prevention and management of the metabolic syndrome
  Reference: International table of glycemic index and glycemic load values
- **Watch videos:**
  1. What is Metabolic Syndrome?
     https://www.youtube.com/watch?v=WjyQTmJBXFg
  2. Treating Metabolic Syndrome by Dr. Paul Mason
     https://www.youtube.com/watch?v=KlHPmJTihBc
- **Discuss:**
  1. From this module, have you learned anything new about carbohydrate intake and insulin resistance?
  2. How we can educate the public about the prevention of metabolic syndrome?
- **Complete: Quiz for Module 8**

Module 10: The impact of vitamin D on obesity

Duration: 1 week

Objectives: ***Students should be able to...***

- Know the linkage between obesity and vitamin D
- Understand the genomic role of vitamin D in obesity
- Understand the non-genomic role of vitamin D in obesity

Activities/*Assessments

- **Review**: Lecture Presentations
    - Lecture Part 1
    - Lecture Part 2
- **Read:** Chapters 20 The impact of vitamin D on obesity
- **Watch videos:**
  1. "The D-Lightful Vitamin D for Good Health" by Dr. Michael Holick
     https://www.youtube.com/watch?v=hiGBVDcbFVk
  2. "Sunlight and Health- from Vitamin D to Fish Oil" by Dr. Paul Mason
     https://www.youtube.com/watch?v=Kvh4D_osFXs
- **Discuss:**
  1. Please tell us where do you live currently, what is the latitude of your area, much sunshine or fewer sunshine people can get in different seasons, and what are the typical foods in your area that provide a high amount of vitamin D?
  2. Based on the above information, what suggestions you will give to your clients who might be vitamin D deficiency (normal body weight or obesity)?
- **Complete: Quiz for Module 9**

Module 11: Omega-3 Fatty Acids and Nanoencapsulations of Dietary Polyphenols and Cancer

Duration: 1 week

Objectives: ***Students should be able to...***

- Know the concepts about omega-3 and omega-6 fatty acids
- Recognize the food sources of omega-3 and omega-6 fatty acids
- Understand the role of omega-3 and omega-6 fatty acids in inflammation and cancer development
- Recognize the importance of omega-6 and omega-3 ratio in our diet
- Know the characteristics of polyphenols
- Understand the benefits of nano-pharmaceuticals
- Recognize the various nanoscale structures of nanopharmaceuticals
- Know the physiochemical characteristics of resveratrol

Activities/*Assessments

- **Review**: Lecture Presentations
  - Lecture Part 1
  - Lecture Part 2
- **Read:** Chapter 21 How can Omega-3 Fatty Acids Prevent and Treat Cancer?
  Chapter 22 Nanoencapsulations of Dietary Polyphenols for Oncology and Gerontology: Resveratrol as a Good Example
- **Watch videos:**
  1. The Omega Balance: Getting Smart about Inflammation
     https://www.youtube.com/watch?v=opBInZNXS3M
  2. Omega-6 Fats - Pro-inflammatory in High Doses?
     https://www.youtube.com/watch?v=dv3HuDG-SFs
- **Discuss:**
  1. Have you paid attention to your omega-6 and omega-3 fatty acids ratio in your diet?
  2. What do you think we can change to improve the ratio and lower the risks of inflammation and cancer?
- **Complete: Quiz for Module 10**

Module 12: Functional Foods in Emotional Health

Duration: 1 week

Objectives: ***Students should be able to...***

- Know the types and warning signs of mental illness
- Understand that foods have been used for improving mental health for a long time
- Realize that more research needs to be done in this area because the functions and benefits of many bioactive components in mental health remain unclear
- Familiar with the antioxidants in mental health
- Know the amino acids and how they benefit the mental health

- Know the natural functional foods that benefit the mental health

Activities/*Assessments

- **Review**: Lecture Presentations
    - Lecture Part 1
    - Lecture Part 2
    - Lecture Part 3
- **Read:** Chapter 23 Functional Foods in Emotional Health
- **Watch videos:**
  1. The Surprisingly Dramatic Role of Nutrition in Mental Health
     https://www.youtube.com/watch?v=3dqXHHCc5lA
  2. Power Foods for the Brain
     https://www.youtube.com/watch?v=v_ONFix_e4k
- **Discuss:**
  1. If you want, please share with us how you handle your anxiety and stress.
  2. What you want to share with us that you hear/learned/read that can help mental health besides eating and sleeping regularly that we learned in the first lecture?
- **Complete: Quiz for Module 11**

Module 13: Food-Drug Interactions

Duration: 1 week

Objectives: ***Students should be able to...***

- Understand the concepts of pharmacokinetics and pharmacodynamic interactions
- Know the factors that influence the effects of bioactive molecules
- Familiar with the examples of food-drug interactions
- Know how to avoid food-drug interactions

Activities/*Assessments

- **Review**: Lecture Presentations
    - Lecture Part 1
    - Lecture Part 2
- **Read:** Chapter 28 Food-Drug Interactions
- **Watch videos:**
  1. Drug interactions: Foods as dangerous as grapefruits?
     https://www.youtube.com/watch?v=3nEiggf50m4
  2. Drug-Nutrient Interactions, What you Don't Know CAN Hurt You
     https://www.youtube.com/watch?v=Io2c4abHVWI

  Discuss:

  Please share one or two stories about food-drug interaction you learned/heard during the RD internship or in your work.
- **Complete: Quizzes for Modules 12 &13**