| | |
|---|---|
| **From:** | noreply@wsu.edu |
| **To:** | curriculum.submit |
| **Subject:** | 629843 New or Restore Course: NEP 530 |
| **Date:** | Tuesday, January 26, 2021 9:26:12 AM |
| **Attachments:** | 2021.01.26.09.23.10.56.FormData.html<br>2021.01.26.09.23.09.29.currentFileUpload_Rationale_Statement_NEP530.docx<br>2021.01.26.09.23.09.29.currentFileUpload1_NEP530_Syllabus.docx |

---

Franck Carbonero has submitted a request for a major curricular change. His/her email address is: franck.carbonero@wsu.edu.

**Course Subject:** NEP

**Course Number:** ~~530~~ 430-530

**Title:** Host-Associated Microbiome in Health and Nutrition

**Lecture Hours:** 3

**Total Credits:** 3

**Prerequisite:** Graduate standing

**Host-Associated Microbiome in Health and Nutrition** 3 Course Prerequisite: Graduate standing. Current knowledge, methodology, and application of gut microbiome analyses in the context of animal and human health and nutrition. Typically offered Even Years - Spring.

**Catalog Description:** Current knowledge, methodology and application of gut microbiome analyses in the context of animal and human health and nutrition

**Grading Type:** Letter graded A-F

**Requested Effective Date:** ~~Spring 2021~~ ~~Fall 2021~~ Spring 2022

**Dean:** Tomkowiak, John - Dean - Medicine

**Chair:** Duncan, Glen – Chair – Nutrition and Exercise Physiology

| | |
|---|---|
| UCORE Committee Approval Date | All-University Writing Com / Date |

| | | |
|---|---|---|
| Catalog Subcommittee Approval Date | AAC, PHSC, or GSC Approval Date | Faculty Senate Approval Date |

**From:** Duncan, Glen E
**To:** curriculum.submit
**Cc:** Tomkowiak, John M
**Subject:** RE: 629843 New or Restore Course: NEP 530
**Date:** Tuesday, January 26, 2021 10:05:36 AM
**Attachments:** 2021.01.26.09.23.09.29.currentFileUpload_Rationale_Statement_NEP530_Revised.docx
image001.png

---

2. I approve this proposal with revisions. Revisions are attached.

Rationale statement changed to 'every other spring' to match syllabus course schedule.

**Glen E. Duncan, PhD, RCEP**
Professor and Chair, Department of Nutrition and Exercise Physiology
Director, Washington State Twin Registry (www.wstwinregistry.org)
o: 509-358-7875 | glen.duncan@wsu.edu

Elson S. Floyd College of Medicine
WASHINGTON STATE UNIVERSITY

---

**From:** curriculum.submit@wsu.edu <curriculum.submit@wsu.edu>
**Sent:** Tuesday, January 26, 2021 9:23 AM
**To:** Duncan, Glen E <glen.duncan@wsu.edu>
**Cc:** Tomkowiak, John M <john.tomkowiak@wsu.edu>
**Subject:** 629843 New or Restore Course: NEP 530

Duncan, Glen – Chair – Nutrition and Exercise Physiology,

Tomkowiak, John - Dean - Medicine,

Franck Carbonero has submitted a request for a major curricular change.

**Course Subject:** NEP

**Course Number:** 530

**Title:** Host-Associated Microbiome in Health and Nutrition

**Lecture Hours:** 3

**Total Credits:** 3

**Prerequisite:** Graduate standing

**Catalog Description:** Current knowledge, methodology and application of gut microbiome analyses in the context of animal and human health and nutrition

**From:** Tomkowiak, John M
**To:** curriculum.submit; Duncan, Glen E
**Subject:** Re: 629843 New or Restore Course: NEP 530
**Date:** Tuesday, January 26, 2021 10:06:57 AM

---

1. I approve this proposal with revisions as attached by Dr. Duncan.

John Tomkowiak MD, MOL
Founding Dean
Elson S. Floyd College of Medicine
Washington State University

---

**From:** curriculum.submit@wsu.edu <curriculum.submit@wsu.edu>
**Sent:** Tuesday, January 26, 2021 9:23 AM
**To:** Duncan, Glen E <glen.duncan@wsu.edu>
**Cc:** Tomkowiak, John M <john.tomkowiak@wsu.edu>
**Subject:** 629843 New or Restore Course: NEP 530

Duncan, Glen – Chair – Nutrition and Exercise Physiology,
Tomkowiak, John - Dean - Medicine,
Franck Carbonero has submitted a request for a major curricular change.
**Course Subject:** NEP
**Course Number:** 530
**Title:** Host-Associated Microbiome in Health and Nutrition
**Lecture Hours:** 3
**Total Credits:** 3
**Prerequisite:** Graduate standing
**Catalog Description:** Current knowledge, methodology and application of gut microbiome analyses in the context of animal and human health and nutrition
**Grading Type:** Letter graded A-F
**Requested Effective Date:** Spring 2021

---

Both Chair and Dean approval is required to complete the submission process. Please indicate that you have reviewed the proposal by highlighting one of the statements below and **reply all** to this email. (curriculum.submit@wsu.edu.)
[Details of major change requested can be found in the attached supplemental documentation]

1. I approve this proposal in its current form.
2. I approve this proposal with revisions. Revisions are attached.
3. I do not approve this proposal. Please return to submitter.

If you do not respond within one week, you will be sent a reminder email. If no response is received within three weeks of the submission date, the proposal will be returned to the submitter.
Thank you for your assistance as we embark on this new process. If you have any questions or concerns, please let us know wsu.curriculum@wsu.edu.

Blaine Golden, Assistant Registrar
Graduations, Curriculum, and Athletic Compliance

Rationale for offering the new course NEP 530: Nutrition and the gut microbiome

With the development of the NEP graduate program, there is a need to offer more elective NEP graduate classes that can also attract students from other graduate programs. This course is designed to cover both human and animal nutrition and its impact on the eminently popular topic of the gut microbiome. This course has been offered as the NEP 580 Special Topics class in the Fall of 2019. Programs of students enrolled included CSS, SFS, ANTH, SMB (Pullman and Spokane) and ENRS (Vancouver), with additional interest from other students with scheduling issues. By expanding the content to include an Animal science perspective, we expect to see 5-10 enrolled just from CAHNRS and NEP students, plus a few others from CAS and CVM. These estimates are based on the fact that the course will be offered on even years' spring semester, allowing for an extended lead time to advertise and identify students interested in the topic.

At least one graduate course related to the microbiome is taught in the majority of the Top 25 American Research Universities. Therefore, adding this class to the graduate course offering at WSU is warranted. It is also increasingly common for graduate students to have a section of their research projects to include microbiome analyses, and this course would thus offer advanced knowledge to better prepare the students to prepare high quality products (chapters and peer-reviewed publications). Finally, we have explored the WSU catalog and found that no similar class is offered at the graduate level in any of the Colleges.

# Washington State University – Health Sciences Spokane
# Department of Nutrition and Exercise Physiology
# Fall 2021 Course Syllabus

## Instructor of Record

Franck Carbonero, PhD TBD and AMS – Office Hours: By appointment
Email: franck.carbonero@wsu.edu Phone: 509-358-7540

## Course Logistics

| | |
|---|---|
| Course Title | Host-Associated Microbiome in Health and Nutrition |
| Course Number | **NEP 430/530** |
| Catalog Description | Current knowledge, methodology and application of gut microbiome analyses in the context of animal and human health and nutrition |
| Academic Hours | 3-0-3 (lecture-lab-total) |
| Meeting Time | TuTh 9:10AM - 10:25AM |
| Pre-requisites | Junior/Senior standing and instructor consent(430) Graduate standing (530) |

## Course Communication

WSU Spokane and Pullman use the Canvas Learning Management System. If you have not used Canvas before, please take a few minutes to become familiar with the system:
https://wsu.instructure.com/

**How do I access Canvas?**

1. Go to learn.wsu.edu
2. Log in with your WSU Network ID and Password

## Course Format, Objectives, and Student Learning Outcomes

This course will largely be on a flipped classroom model, with reading materials provided one week before each class. Each class will cover a relatively wide theme with three 45 minutes sessions consisting of in-depth discussion, exercises and other activities on selected topics. Areas of emphasis include human microbiome and health, the impact of nutrition on the gut microbiome and other associated areas of human (and to a lesser extent animal) microbiome research.

At the end of the course, students will be able to define and describe the different concepts covered in microbiome research. Students will also gain an understanding of the analytical and bioinformatic methodologies necessary for microbiome research; as well as the challenges in experimental design and data analysis. Students will be exposed to the current knowledge of the influence of the microbiome on health and its role in nutrition. Students will be able to understand, assess and critique relevant journal articles and to provide concise interpretation and discussion of associated datasets. Students will be able to design appropriate microbiome studies to complement distinct research projects. All learning objectives will be assessed through papers, presentations, and exams

## Course Expectations & Requirements

In order to achieve course objectives, each student will be ***expected*** to participate in class discussions and will be ***required*** to complete and turn-in written assignments on-time.

- Class participation – through class discussions and presentations.
- Groups (Spokane and other campuses students, distributed randomly in each group) will be assigned to read specific articles in more details and to lead the discussion of said articles. The two groups will will be in charge of designing a rotating leader to introduce the articles.
- Written assignments – A short written assignments is due during the semester and a longer, final written piece is due at the end of the semester (see below).

**Graduate students**: For each hour of lecture equivalent, students should expect to have a minimum of two hours of work outside class. Graduate students will have more short essay questions to answer as part of the mid-term and final exams. The short written assignment will be a one-page description of the white paper planned by the student. The white paper (5-8 pages; 1.5 line spacing minimum) intends to be a "pared-down" version of a research project proposal with emphasis on background information on the topic and description of the experimental design, proposed methods (than should be gleaned from relevant articles) and expected outcomes. The white paper will serve as the basis for the final presentation (15-20 minutes).
Graduate students should contact the instructor well in advance if they anticipate a need to turn assignments later than the deadline. If not agreed beforehand, late assignment submission will result in a 20% down grade for the assignment.

**Undergraduate students**: For each hour of lecture equivalent, students should expect to have a minimum of two hours of work outside class. Exams will emphasize on multiple answers and similar questions, with only a few short essay questions. The short written assignment will be a one-paragraph summary of the term paper planned by the student. The term paper (3-5 pages; 1.5 line spacing minimum) should be a succinct review of the literature on a specific subject related to the class topics. The term paper will serve as the basis for the final presentation (approx. 10 minutes).
Late assignment submission will result in a 20% down grade for the assignment.

## Reading List & Learning Materials

- The course Canvas page contains important information about this course including the syllabus, links to the lecture slides, and readings.
- Readings for this class come from selected articles. The articles will be provided each week.
- If needed, students can request to check out laptops form the WSU Spokane Library (and an equivalent mechanism for other campuses)

## Methods of Assessment & Grading Scale

Course assessment will be based on the following graded components, which differ slightly depending on the graduate program:

| | | **Undergraduate students** | **MS-thesis and PhD students** |
|---|---|---|---|
| Written | 25% | Term paper | White paper of microbiome research project relevant to your own project/interests |
| Oral | 15% | Oral Presentation on your review or white paper | |
| Exams | 20% each | Mid-terms 1, 2 and final cumulative exam | |

| **Grading Scale – Based on % of Total Points Achieved (**Grades will be rounded to one decimal place using standard rounding procedures) | |
|---|---|
| A = 93-100% | C = 73-76.9% |
| A- = 90-92.9% | C- = 70-72.9% |
| B+ = 87-89.9% | D+ = 67-70% |
| B = 83-86.9% | D = 63-66.9% |
| B- = 80-82.9% | D- = 60-62.9% |
| C+ = 77-79.9% | F = <59% |

**Course Schedule** *The outline below is a guideline. Consult Blackboard regularly for weekly topics, reading assignments, and any changes to content.*

| Week | Date | Session#/Topics | Readings/What's Due |
|---|---|---|---|
| 1 | 08/24 | 1. Introduction and overview | |
| | 08/26 | 2. Biology/microbiology refresher | |
| 2 | 08/31 | 3.a) Moving definitions of the microbiome(s) | Articles in Folder |
| | 09/02 | 3.b) Articles discussion | |
| 3 | 09/07 | 4.a) Host microbiome interactions | Articles in Folder |
| | 09/09 | 4.b) Articles discussion | |
| 4 | 09/14 | 5.a) Gut microbiome and health | Articles in Folder |
| | 09/16 | 5.b) Articles discussion | |
| 5 | 09/21 | 6.a) Gut microbiome and animal nutrition | Articles in Folder |
| | 09/23 | 6.b) Articles discussion | **Written assignment proposal** |
| 6 | 09/28 | 7.a) Gut microbiome and human nutrition | Articles in Folder |
| | 09/30 | 7.b) Articles discussion | |
| 7 | 10/05 | **Mid-term exam 1** | |
| | 10/07 | 7.Omics in nutrition and gut microbiome research | |
| 8 | 10/12 | 8.a) Metabolomics and gut microbiome | Articles in Folder |
| | 10/14 | 8.b) Articles discussion | |
| 9 | 10/19 | 9.a) Food science and gut microbiome | Articles in Folder |
| | 10/21 | 9.b) Articles discussion | |
| 10 | 10/26 | 10.a) Probiotics and prebiotics | Articles in Folder |
| | 10/28 | 10.b) Articles discussion | |
| 11 | 11/02 | 11.a) Dietary patterns and gut microbiome | Articles in Folder |
| | 11/04 | 11.b) Articles discussion | |
| 12 | 11/09 | 12.a) Geography, ethnicity and gut microbiome | Articles in Folder |
| | 11/11 | Veterans' Day-No class | |
| 13 | 11/16 | 12.b) Articles discussion | |
| | 11/18 | **Mid-term exam 2** | |
| 14 | 11/23 | Thanksgiving break-No class | |
| | 11/25 | Thanksgiving break-No class | |
| 15 | 11/30 | 13.a) Hot topics in nutrition and gut microbiome | Articles in Folder |
| | 12/02 | 13.b) Hot topics in nutrition and gut microbiome | **Written assignment** |
| 16 | 12/07 | 14.a) **Student presentations** | |
| | 12/09 | 14.b) **Student presentations** | |
| | 12/?? | **Final Exam (cumulative)** | |

## *Academic Honesty, Conduct, and Behavior*

Academic integrity is the cornerstone of higher education. As such, all members of the university community share responsibility for maintaining and promoting the principles of integrity in all activities, including academic integrity and honest scholarship. Academic integrity will be strongly enforced in this course. Students who violate WSU's Academic Integrity Policy (identified in Washington Administrative Code (WAC) 504-26-010(3) and -404) will receive a failed grade for the specific assignment (and fail the course in case of repeated violation) , will not have the option to withdraw from the course pending an appeal, and will be reported to the Office of Student Conduct.

Cheating includes, but is not limited to, plagiarism and unauthorized collaboration as defined in the Standards of Conduct for Students, WAC 504-26-010(3). You need to read and understand all of the definitions of cheating. If you have any questions about what is and is not allowed in this course, you should ask course instructors before proceeding.

If you wish to appeal a faculty member's decision relating to academic integrity, please use the form available at communitystandards.wsu.edu. Make sure you submit your appeal within 21 calendar days of the faculty member's decision.

The Department of Nutrition and Exercise Physiology (NEP) expands upon the University's statement of academic integrity. When a student enrolls in WSU, the student assumes an obligation to pursue academic endeavors in a manner consistent with the standards of academic integrity adopted by the University *and* the Department of NEP. The Department of NEP recognizes the importance of and encourages collaborative work, specifically in cases in which collaborative work is the chosen form of didactic instruction, including group projects and presentations. Thus, you may collaborate with classmates on specific assignments as stipulated in the course syllabus and with the instructor's explicit permission. **However, the guiding principle of academic integrity in the Department of NEP shall be that all of your submitted work, such as assignments, examinations, reports, presentations, and projects, whether completed on your own or in collaboration with classmates where specifically deemed appropriate, must properly cite any and all outside sources used to complete such work. These sources must be cited in the standard format identified by the instructor for this course (e.g., AMA style). Assignments submitted electronically are subject to review by electronic plagiarism detection programs (e.g., SafeAssign). Illustrative, but not exhaustive, examples of outside sources used to complete assignments include: peer reviewed journal articles, non-peer reviewed review papers or commissioned articles, white papers, newspaper or magazine articles, and social media and blog posts.**

Students are reminded that they must adhere to the policies agreed to in writing when entering the Department of NEP. These are detailed in the BS NEP and MS CPD NEP Student Handbooks under Code of Professionalism. Departures from this code may have serious consequences for academic standing in the class and/or continued enrollment in the program.

For additional information on academic integrity and plagiarism, the Department of NEP recommends that students read and review the following sources of information:
https://academicintegrity.wsu.edu/resources-for-students/ and
https://libraries.wsu.edu/library-instruction/plagiarism

## *Course Evaluations*

Student evaluations of courses/course materials and faculty teaching effectiveness are a valuable and important component of the department's commitment to providing quality learning experiences and contributing to our efforts to assure that students achieve the objectives of our degree programs. Thus, all evaluations are given serious consideration as part of the annual faculty evaluation process and are read by the Department Chair and faculty instructor of record. Because the most effective way to impact positive changes is through constructive comments, we encourage you to provide feedback as you would wish to receive it. This will allow the faculty member to focus on improvements or affirm students' perspective on effective elements of the course.

## *Students with Disabilities Statement*

Reasonable accommodations are available for students with documented disabilities or chronic medical or psychological conditions. If you have such a condition and need accommodations to fully participate in this class, please visit your campus' Access Center/Services website to follow published procedures to request accommodations. Students may also contact their campus offices to schedule an appointment with a Disability Specialist. All disability related accommodations are to be approved through the Access Center/Services on your campus. It is a university expectation that students connect with instructors (via email, Zoom, or in person) to discuss logistics within two weeks after they have officially requested their accommodations.

For more information, contact a Disability Specialist on your home campus:

Pullman, WSU Global Campus, Everett, Bremerton, and Puyallup: 509-335-3417 Access Center (https://www.accesscenter.wsu.edu) or email at access.center@wsu.edu

Spokane: 509-358-7816 Access Services (https://spokane.wsu.edu/studentaffairs/access-resources/) or email j.schneider@wsu.edu

Tri-Cities: Access Services (http://www.tricity.wsu.edu/disability/) or email g.hormel@wsu.edu

Vancouver: 360-546-9238 Access Center (https://studentaffairs.vancouver.wsu.edu/student-wellness-center/access-center) or email van.access.center@wsu.edu

## *Non-Discrimination Statement*

Extension programs and policies are consistent with federal and state laws and regulations on nondiscrimination regarding race, sex, religion, age, color, creed, national or ethnic origin; physical, mental or sensory disability; marital status, sexual orientation, or status as a Vietnam era or disabled veteran. Evidence of noncompliance may be reported through your local Extension office.

## *Religious and Extended Absence Accommodations*

Students requesting reasonable accommodations for religious observations should complete the request form in the student handbook. (https://medicine.wsu.edu/md-program/studentaffairs/student-handbook/request-for-reasonable-accommodations-for-religious-observances/) Students exploring an

extended personal leave for opportunities such as research or parental/family leave should contact the Office of Admissions, Student Affairs, and Inclusion to begin the conversation of what approved absences and or other leave of absence options may be available. Collaboration with the Access Services Office may be needed for absences where reasonable accommodations apply.

## *Attendance and Make-Up Statement*

Students are responsible for ensuring that they attend all class meetings and complete all in-class and out-of-class work as assigned by the instructor. Students are also responsible for communicating with the instructor should they need to be absent.

The instructor is responsible for determining the attendance policy and for making decisions regarding the policy, including the consequence of missed classes, within guidelines established by the academic unit. The instructor is responsible for communicating the policy to the students in the course syllabus. Administrative Drops for Non-Attendance: Students who have not attended class meetings (including lectures, laboratories, and other meetings) during the first week of the semester or according to a prorated schedule for shorter sessions may be dropped from the course by the department. Students enrolled in online classes may be dropped if they have not logged into the class during the first week. Students should not assume that they have been dropped without checking their class schedules.

Students should make all reasonable efforts to attend all class meetings. However, in the event a student is unable to attend a class, it is the responsibility of the student to inform the instructor as soon as possible, explain the reason for the absence (and provide documentation, if appropriate), and make up class work missed within a reasonable amount of time, if allowed. Missing class meetings may result in reducing the overall grade in the class.
The primary approach for making up for missed class will be by the student's ability to access the Zoom recording available through Canvas. Students will be provided directions to access these recordings.

## *Campus Safety*

Classroom and campus safety are of paramount importance at Washington State University and are the shared responsibility of the entire campus population. WSU urges students to follow the "Alert, Assess, Act," protocol for all types of emergencies and the "Run, Hide, Fight" response for an active shooter incident. Remain ALERT (through direct observation or emergency notification), ASSESS your specific situation, and ACT in the most appropriate way to assure your own safety (and the safety of others if you are able).

There is an all-campus safety alert system designed to alert all employees and students should there be closure because of weather or a safety concern. You may sign up to receive Campus Alerts by following instructions here: http://spokane.wsu.edu/alert/ and learn more about the Campus Safety Plan here: https://spokane.wsu.edu/campus-security/campus-safety-plan/
**Finally, all faculty, staff, and students should go to the my.wsu portal at https://login.wsu.edu/ and register their emergency contact information for the Crisis Communication System (CCS).** Enter your network ID and password and you will be taken to the my.wsu portal page. Look for the "Emergency Notification" box on the left side of the page and click on "Review or Update Your Emergency Contact" hyperlink to be taken to the registration page where you can enter your cell, landline, and email contact details as well as arrange for emergency text messages to be sent to your phone.

## *COVID-19 Policy*

Students are expected to abide by all current COVID-19 related university policies and public health directives, which could include wearing a cloth face covering, physically distancing, self-attestations, and sanitizing common use spaces. All current COVID-19 related university policies and public health directives are located at **https://wsu.edu/covid-19/**. Students who do not comply with these directives may be required to leave the classroom; in egregious or repetitive cases, students may be referred to the Center for Community Standards for university disciplinary action.

**Washington State University – Health Sciences Spokane**
**Department of Nutrition and Exercise Physiology**
**Fall 2021 Course Syllabus**

## Instructor of Record

Franck Carbonero, PhD TBD and AMS – Office Hours: By appointment
Email: franck.carbonero@wsu.edu Phone: 509-358-7540

## Course Logistics

| | |
|---|---|
| Course Title | Host-Associated Microbiome in Health and Nutrition |
| Course Number | **NEP 430/530** |
| Catalog Description | Current knowledge, methodology and application of gut microbiome analyses in the context of animal and human health and nutrition |
| Academic Hours | 3-0-3 (lecture-lab-total) |
| Meeting Time | TuTh 9:10AM - 10:25AM |
| Pre-requisites | Junior/Senior standing and instructor consent(430) Graduate standing (530) |

## Course Communication

WSU Spokane and Pullman use the Canvas Learning Management System. If you have not used Canvas before, please take a few minutes to become familiar with the system:
https://wsu.instructure.com/

**How do I access Canvas?**

1. Go to learn.wsu.edu
2. Log in with your WSU Network ID and Password

## Course Format, Objectives, and Student Learning Outcomes

This course will largely be on a flipped classroom model, with reading materials provided one week before each class. Each class will cover a relatively wide theme with three 45 minutes sessions consisting of in-depth discussion, exercises and other activities on selected topics. Areas of emphasis include human microbiome and health, the impact of nutrition on the gut microbiome and other associated areas of human (and to a lesser extent animal) microbiome research.

At the end of the course, students will be able to define and describe the different concepts covered in nutrition and gut microbiome research. Students will also gain an understanding of the analytical and bioinformatic methodologies necessary for microbiome research; as well as the challenges in experimental design and data analysis. Students will be exposed to the current knowledge of the influence of the microbiome on health and its role in nutrition. Students will be able to understand, assess and critique relevant journal articles and to provide concise interpretation and discussion of associated datasets. Students will be able to design appropriate microbiome studies to complement distinct research projects. All learning objectives will be assessed through papers, presentations, and exams

| As part of this course students will… | Week | Evaluation of outcome |
|---|---|---|
| Gain knowledge of current nutrition and gut microbiome research concepts | 3-13 and 15 | Exams 1, 2 and 3<br>White/Term paper |
| Learn about analytical tools used for microbiome research | 2-4 | Exam 1 |
| Critically assess data and figures from scientific articles and other resources | 3-13 and 15 | Exams 1, 2 and 3<br>White/Term paper |
| Learn strategies for scientific writing, reading and communication | 1-3 and 16 | In class discussion<br>Presentations |

## Course Expectations & Requirements

In order to achieve course objectives, each student will be ***expected*** to participate in class discussions and will be ***required*** to complete and turn-in written assignments on-time.

- Class participation – through class discussions and presentations.
- Groups (Spokane and other campuses students, distributed randomly in each group) will be assigned to read specific articles in more details and to lead the discussion of said articles. The two groups will will be in charge of designing a rotating leader to introduce the articles.
- Written assignments – A short written assignments is due during the semester and a longer, final written piece is due at the end of the semester (see below).

**Graduate students**: For each hour of lecture equivalent, students should expect to have a minimum of two hours of work outside class. Graduate students will have more short essay questions to answer as part of the mid-term and final exams. The short written assignment will be a one-page description of the white paper planned by the student. The white paper (5-8 pages; 1.5 line spacing minimum) intends to be a "pared-down" version of a research project proposal with emphasis on background information on the topic and description of the experimental design, proposed methods (than should be gleaned from relevant articles) and expected outcomes. The white paper will serve as the basis for the final presentation (15-20 minutes). Grading will be based on: 1.) Adequacy of content in each of the paper's section, 2.) Flow and logical connectors along the paper, 3.) Sufficient use of relevant and carefully selected references, and 4.) General writing quality.

Graduate students should contact the instructor well in advance if they anticipate a need to turn assignments later than the deadline. If not agreed beforehand, late assignment submission will result in a 20% down grade for the assignment.

Deleted:

**Commented [YA1]:** Would be helpful to know what constitutes "well in advance" = at least 2 (???) days prior to due day?

**Undergraduate students**: For each hour of lecture equivalent, students should expect to have a minimum of two hours of work outside class. Exams will emphasize on multiple answers and similar questions, with only a few short essay questions. The short written assignment will be a one-paragraph summary of the term paper planned by the student. The term paper (3-5 pages; 1.5 line spacing minimum) should be a succinct review of the literature on a specific subject related to the class topics. The term paper will serve as the basis for the final presentation (approx. 10 minutes). ). Grading will be based on: 1.) Adequacy of content in each of the paper's section, 2.) Flow and logical connectors along the paper, and 3.) General writing quality.

Late assignment submission will result in a 20% down grade for the assignment.

## Reading List & Learning Materials

- The course Canvas page contains important information about this course including the syllabus, links to the lecture slides, and readings.
- Readings for this class come from selected articles. The articles will be provided each week.
- If needed, students can request to check out laptops form the WSU Spokane Library (and an equivalent mechanism for other campuses)

## Methods of Assessment & Grading Scale

Course assessment will be based on the following graded components, which differ slightly depending on the graduate program:

| | | Undergraduate students | MS-thesis and PhD students |
|---|---|---|---|
| Written | 25% | Term paper | White paper of microbiome research project relevant to your own project/interests |
| Oral | 15% | Oral Presentation on your review or white paper | |
| Exams | 20% each | Mid-terms 1, 2 and final cumulative exam | |

| **Grading Scale – Based on % of Total Points Achieved (**Grades will be rounded to one decimal place using standard rounding procedures) | |
|---|---|
| A = 93-100% | C = 73-76.9% |
| A- = 90-92.9% | C- = 70-72.9% |
| B+ = 87-89.9% | D+ = 67-70% |
| B = 83-86.9% | D = 60-66.9% |
| D = 60-66.9% | F = <59.9% |
| F = <59.9% | |

**Course Schedule** *The outline below is a guideline. Consult Blackboard regularly for weekly topics, reading assignments, and any changes to content. Examples of relevant articles for selected sessions can be found in Footnotes*

| Week | Date | Session#/Topics | Readings/What's Due |
|---|---|---|---|
| 1 | 08/24 | 1. Introduction and overview | |
| | 08/26 | 2. Biology/microbiology refresher | |
| 2 | 08/31 | 3.a) Moving definitions of the microbiome(s) | Articles in Folder**[1]** |
| | 09/02 | 3.b) Articles discussion | |
| 3 | 09/07 | 4.a) Host microbiome interactions | Articles in Folder**[2]** |
| | 09/09 | 4.b) Articles discussion | |
| 4 | 09/14 | 5.a) Gut microbiome and health | Articles in Folder**[3, 4]** |
| | 09/16 | 5.b) Articles discussion | |
| 5 | 09/21 | 6.a) Gut microbiome and animal nutrition | Articles in Folder**[5]** |
| | 09/23 | 6.b) Articles discussion | **Written assignment proposal** |
| 6 | 09/28 | 7.a) Gut microbiome and human nutrition | Articles in Folder**[6]** |
| | 09/30 | 7.b) Articles discussion | |
| 7 | 10/05 | **Mid-term exam 1** | |
| | 10/07 | 7.Omics in nutrition and gut microbiome research | |
| 8 | 10/12 | 8.a) Metabolomics and gut microbiome | Articles in Folder**[7]** |
| | 10/14 | 8.b) Articles discussion | |
| 9 | 10/19 | 9.a) Food science and gut microbiome | Articles in Folder**[8]** |
| | 10/21 | 9.b) Articles discussion | |
| 10 | 10/26 | 10.a) Probiotics and prebiotics | Articles in Folder**[9, 10]** |
| | 10/28 | 10.b) Articles discussion | |
| 11 | 11/02 | 11.a) Dietary patterns and gut microbiome | Articles in Folder**[11]** |
| | 11/04 | 11.b) Articles discussion | |
| 12 | 11/09 | 12.a) Geography, ethnicity and gut microbiome | Articles in Folder**[12]** |
| | 11/11 | Veterans' Day-No class | |
| 13 | 11/16 | 12.b) Articles discussion | |
| | 11/18 | **Mid-term exam 2** | |
| 14 | 11/23 | Thanksgiving break-No class | |
| | 11/25 | Thanksgiving break-No class | |
| 15 | 11/30 | 13.a) Hot topics in nutrition and gut microbiome | Articles in Folder**[13]** |
| | 12/02 | 13.b) Hot topics in nutrition and gut microbiome | **Written assignment** |
| 16 | 12/07 | 14.a) **Student presentations** | |
| | 12/09 | 14.b) **Student presentations** | |
| | 12/?? | **Final Exam (cumulative)** | |

1. Allaband C, McDonald D, Vázquez-Baeza Y, et al (2019) Microbiome 101: Studying, Analyzing, and Interpreting Gut Microbiome Data for Clinicians. Clin Gastroenterol Hepatol 17:218–230. https://doi.org/10.1016/j.cgh.2018.09.017

2. Rawls JF, Mahowald MA, Ley RE, Gordon JI (2006) Reciprocal gut microbiota transplants from zebrafish and mice to germ-free recipients reveal host habitat selection. Cell 127:423–433. https://doi.org/10.1016/j.cell.2006.08.043

3. Kim S, Kim H, Yim YS, et al (2017) Maternal gut bacteria promote neurodevelopmental abnormalities in mouse offspring. Nature 549:528–532. https://doi.org/10.1038/nature23910

4. Sokol H, Pigneur B, Watterlot L, et al (2008) Faecalibacterium prausnitzii is an anti-inflammatory commensal bacterium identified by gut microbiota analysis of Crohn disease patients. Proc Natl Acad Sci U S A 105:16731–16736. https://doi.org/10.1073/pnas.0804812105

5. Just S, Mondot S, Ecker J, et al (2018) The gut microbiota drives the impact of bile acids and fat source in diet on mouse metabolism. Microbiome 6:134. https://doi.org/10.1186/s40168-018-0510-8

6. De Angelis M, Ferrocino I, Calabrese FM, et al (2020) Diet influences the functions of the human intestinal microbiome. Sci Rep 10:4247. https://doi.org/10.1038/s41598-020-61192-y

7. Noronha A, Modamio J, Jarosz Y, et al (2019) The Virtual Metabolic Human database: integrating human and gut microbiome metabolism with nutrition and disease. Nucleic Acids Res 47:D614–D624. https://doi.org/10.1093/nar/gky992

8. Aljahdali N, Gadonna-Widehem P, Anton PM, Carbonero F (2020) Gut Microbiota Modulation by Dietary Barley Malt Melanoidins. Nutrients 12:. https://doi.org/10.3390/nu12010241

9. Spinler JK, Sontakke A, Hollister EB, et al (2014) From Prediction to Function Using Evolutionary Genomics: Human-Specific Ecotypes of Lactobacillus reuteri Have Diverse Probiotic Functions. Genome Biology and Evolution 6:1772–1789. https://doi.org/10.1093/gbe/evu137

10. Thompson RS, Vargas F, Dorrestein PC, et al (2020) Dietary prebiotics alter novel microbial dependent fecal metabolites that improve sleep. Sci Rep 10:3848. https://doi.org/10.1038/s41598-020-60679-y

11. Sheflin AM, Melby CL, Carbonero F, Weir TL (2017) Linking dietary patterns with gut microbial composition and function. Gut Microbes 8:113–129. https://doi.org/10.1080/19490976.2016.1270809

12. Martínez I, Stegen JC, Maldonado-Gómez MX, et al (2015) The gut microbiota of rural papua new guineans: composition, diversity patterns, and ecological processes. Cell Rep 11:527–538. https://doi.org/10.1016/j.celrep.2015.03.049

13. Tiffany CR, Bäumler AJ (2019) Dysbiosis: from fiction to function. Am J Physiol Gastrointest Liver Physiol 317:G602–G608. https://doi.org/10.1152/ajpgi.00230.2019

## *Academic Honesty, Conduct, and Behavior*

Academic integrity is the cornerstone of higher education. As such, all members of the university community share responsibility for maintaining and promoting the principles of integrity in all activities, including academic integrity and honest scholarship. Academic integrity will be strongly enforced in this course. Students who violate WSU's Academic Integrity Policy (identified in Washington Administrative Code (WAC) 504-26-010(3) and -404) will receive a failed grade for the specific assignment (and fail the

course in case of repeated violation) , will not have the option to withdraw from the course pending an appeal, and will be reported to the Office of Student Conduct.
Cheating includes, but is not limited to, plagiarism and unauthorized collaboration as defined in the Standards of Conduct for Students, WAC 504-26-010(3). You need to read and understand all of the definitions of cheating. If you have any questions about what is and is not allowed in this course, you should ask course instructors before proceeding.
If you wish to appeal a faculty member's decision relating to academic integrity, please use the form available at communitystandards.wsu.edu. Make sure you submit your appeal within 21 calendar days of the faculty member's decision.
The Department of Nutrition and Exercise Physiology (NEP) expands upon the University's statement of academic integrity. When a student enrolls in WSU, the student assumes an obligation to pursue academic endeavors in a manner consistent with the standards of academic integrity adopted by the University *and* the Department of NEP. The Department of NEP recognizes the importance of and encourages collaborative work, specifically in cases in which collaborative work is the chosen form of didactic instruction, including group projects and presentations. Thus, you may collaborate with classmates on specific assignments as stipulated in the course syllabus and with the instructor's explicit permission. **However, the guiding principle of academic integrity in the Department of NEP shall be that all of your submitted work, such as assignments, examinations, reports, presentations, and projects, whether completed on your own or in collaboration with classmates where specifically deemed appropriate, must properly cite any and all outside sources used to complete such work. These sources must be cited in the standard format identified by the instructor for this course (e.g., AMA style). Assignments submitted electronically are subject to review by electronic plagiarism detection programs (e.g., SafeAssign). Illustrative, but not exhaustive, examples of outside sources used to complete assignments include: peer reviewed journal articles, non-peer reviewed review papers or commissioned articles, white papers, newspaper or magazine articles, and social media and blog posts.**
Students are reminded that they must adhere to the policies agreed to in writing when entering the Department of NEP. These are detailed in the BS NEP and MS CPD NEP Student Handbooks under Code of Professionalism. Departures from this code may have serious consequences for academic standing in the class and/or continued enrollment in the program.

For additional information on academic integrity and plagiarism, the Department of NEP recommends that students read and review the following sources of information:
https://academicintegrity.wsu.edu/resources-for-students/ and
https://libraries.wsu.edu/library-instruction/plagiarism

## *Course Evaluations*

Student evaluations of courses/course materials and faculty teaching effectiveness are a valuable and important component of the department's commitment to providing quality learning experiences and contributing to our efforts to assure that students achieve the objectives of our degree programs. Thus, all evaluations are given serious consideration as part of the annual faculty evaluation process and are read by the Department Chair and faculty instructor of record. Because the most effective way to impact positive changes is through constructive comments, we encourage you to provide feedback as you would wish to receive it. This will allow the faculty member to focus on improvements or affirm students' perspective on effective elements of the course.

## *Students with Disabilities Statement*

Reasonable accommodations are available for students with documented disabilities or chronic medical or psychological conditions. If you have such a condition and need accommodations to fully participate in this class, please visit your campus' Access Center/Services website to follow published procedures to request accommodations. Students may also contact their campus offices to schedule an appointment with a Disability Specialist. All disability related accommodations are to be approved through the Access Center/Services on your campus. It is a university expectation that students connect with instructors (via email, Zoom, or in person) to discuss logistics within two weeks after they have officially requested their accommodations.

For more information, contact a Disability Specialist on your home campus:

Pullman, WSU Global Campus, Everett, Bremerton, and Puyallup: 509-335-3417 Access Center (https://www.accesscenter.wsu.edu) or email at access.center@wsu.edu

Spokane: 509-358-7816 Access Services (https://spokane.wsu.edu/studentaffairs/access-resources/) or email j.schneider@wsu.edu

Tri-Cities: Access Services (http://www.tricity.wsu.edu/disability/) or email g.hormel@wsu.edu

Vancouver: 360-546-9238 Access Center (https://studentaffairs.vancouver.wsu.edu/student-wellness-center/access-center) or email van.access.center@wsu.edu

## *Non-Discrimination Statement*

Extension programs and policies are consistent with federal and state laws and regulations on nondiscrimination regarding race, sex, religion, age, color, creed, national or ethnic origin; physical, mental or sensory disability; marital status, sexual orientation, or status as a Vietnam era or disabled veteran. Evidence of noncompliance may be reported through your local Extension office.

## *Religious and Extended Absence Accommodations*

Students requesting reasonable accommodations for religious observations should complete the request form in the student handbook. (https://medicine.wsu.edu/md-program/studentaffairs/student-handbook/request-for-reasonable-accommodations-for-religious-observances/) Students exploring an

extended personal leave for opportunities such as research or parental/family leave should contact the Office of Admissions, Student Affairs, and Inclusion to begin the conversation of what approved absences and or other leave of absence options may be available. Collaboration with the Access Services Office may be needed for absences where reasonable accommodations apply.

## *Attendance and Make-Up Statement*

Students are responsible for ensuring that they attend all class meetings and complete all in-class and out-of-class work as assigned by the instructor. Students are also responsible for communicating with the instructor should they need to be absent.

The instructor is responsible for determining the attendance policy and for making decisions regarding the policy, including the consequence of missed classes, within guidelines established by the academic unit. The instructor is responsible for communicating the policy to the students in the course syllabus. Administrative Drops for Non-Attendance: Students who have not attended class meetings (including lectures, laboratories, and other meetings) during the first week of the semester or according to a prorated schedule for shorter sessions may be dropped from the course by the department. Students enrolled in online classes may be dropped if they have not logged into the class during the first week. Students should not assume that they have been dropped without checking their class schedules.

Students should make all reasonable efforts to attend all class meetings. However, in the event a student is unable to attend a class, it is the responsibility of the student to inform the instructor as soon as possible, explain the reason for the absence (and provide documentation, if appropriate), and make up class work missed within a reasonable amount of time, if allowed. Missing class meetings may result in reducing the overall grade in the class.
The primary approach for making up for missed class will be by the student's ability to access the Zoom recording available through Canvas. Students will be provided directions to access these recordings.

## *Campus Safety*

Classroom and campus safety are of paramount importance at Washington State University and are the shared responsibility of the entire campus population. WSU urges students to follow the "Alert, Assess, Act," protocol for all types of emergencies and the "Run, Hide, Fight" response for an active shooter incident. Remain ALERT (through direct observation or emergency notification), ASSESS your specific situation, and ACT in the most appropriate way to assure your own safety (and the safety of others if you are able).

There is an all-campus safety alert system designed to alert all employees and students should there be closure because of weather or a safety concern. You may sign up to receive Campus Alerts by following instructions here: http://spokane.wsu.edu/alert/ and learn more about the Campus Safety Plan here: https://spokane.wsu.edu/campus-security/campus-safety-plan/
**Finally, all faculty, staff, and students should go to the my.wsu portal at https://login.wsu.edu/ and register their emergency contact information for the Crisis Communication System (CCS).** Enter your network ID and password and you will be taken to the my.wsu portal page. Look for the "Emergency Notification" box on the left side of the page and click on "Review or Update Your Emergency Contact" hyperlink to be taken to the registration page where you can enter your cell, landline, and email contact details as well as arrange for emergency text messages to be sent to your phone.

## *COVID-19 Policy*

Students are expected to abide by all current COVID-19 related university policies and public health directives, which could include wearing a cloth face covering, physically distancing, self-attestations, and sanitizing common use spaces. All current COVID-19 related university policies and public health directives are located at **https://wsu.edu/covid-19/**. Students who do not comply with these directives may be required to leave the classroom; in egregious or repetitive cases, students may be referred to the Center for Community Standards for university disciplinary action.

**Washington State University – Health Sciences Spokane**
**Department of Nutrition and Exercise Physiology**
**Fall 2021 Course Syllabus**

## Instructor of Record

Franck Carbonero, PhD TBD and AMS – Office Hours: By appointment
Email: franck.carbonero@wsu.edu Phone: 509-358-7540

## Course Logistics

| | |
|---|---|
| Course Title | Host-Associated Microbiome in Health and Nutrition |
| Course Number | **NEP 430/530** |
| Catalog Description | Current knowledge, methodology and application of gut microbiome analyses in the context of animal and human health and nutrition |
| Academic Hours | 3-0-3 (lecture-lab-total) |
| Meeting Time | TuTh 9:10AM - 10:25AM |
| Pre-requisites | Junior/Senior standing and instructor consent(430) Graduate standing (530) |

## Course Communication

WSU Spokane and Pullman use the Canvas Learning Management System. If you have not used Canvas before, please take a few minutes to become familiar with the system:
https://wsu.instructure.com/

**How do I access Canvas?**

1. Go to learn.wsu.edu
2. Log in with your WSU Network ID and Password

## Course Format, Objectives, and Student Learning Outcomes

This course will largely be on a flipped classroom model, with reading materials provided one week before each class. Each class will cover a relatively wide theme with three 45 minutes sessions consisting of in-depth discussion, exercises and other activities on selected topics. Areas of emphasis include human microbiome and health, the impact of nutrition on the gut microbiome and other associated areas of human (and to a lesser extent animal) microbiome research.

At the end of the course, students will be able to define and describe the different concepts covered in nutrition and gut microbiome research. Students will also gain an understanding of the analytical and bioinformatic methodologies necessary for microbiome research; as well as the challenges in experimental design and data analysis. Students will be exposed to the current knowledge of the influence of the microbiome on health and its role in nutrition. Students will be able to understand, assess and critique relevant journal articles and to provide concise interpretation and discussion of associated datasets. Students will be able to design appropriate microbiome studies to complement distinct research projects. All learning objectives will be assessed through papers, presentations, and exams

| As part of this course students will… | Week | Evaluation of outcome |
|---|---|---|
| Gain knowledge of current nutrition and gut microbiome research concepts | 3-13 and 15 | Exams 1, 2 and 3<br>White/Term paper |
| Learn about analytical tools used for microbiome research | 2-4 | Exam 1 |
| Critically assess data and figures from scientific articles and other resources | 3-13 and 15 | Exams 1, 2 and 3<br>White/Term paper |
| Learn strategies for scientific writing, reading and communication | 1-3 and 16 | In class discussion<br>Presentations |

## Course Expectations & Requirements

In order to achieve course objectives, each student will be ***expected*** to participate in class discussions and will be ***required*** to complete and turn-in written assignments on-time.

- Class participation – through class discussions and presentations.
- Groups (Spokane and other campuses students, distributed randomly in each group) will be assigned to read specific articles in more details and to lead the discussion of said articles. The two groups will will be in charge of designing a rotating leader to introduce the articles.
- Written assignments – A short written assignments is due during the semester and a longer, final written piece is due at the end of the semester (see below).

**Graduate students**: For each hour of lecture equivalent, students should expect to have a minimum of two hours of work outside class. Graduate students will have more short essay questions to answer as part of the mid-term and final exams. The short written assignment will be a one-page description of the white paper planned by the student. The white paper (5-8 pages; 1.5 line spacing minimum) intends to be a "pared-down" version of a research project proposal with emphasis on background information on the topic and description of the experimental design, proposed methods (than should be gleaned from relevant articles) and expected outcomes. The white paper will serve as the basis for the final presentation (15-20 minutes). Grading will be based on: 1.) Adequacy of content in each of the paper's section, 2.) Flow and logical connectors along the paper, 3.) Sufficient use of relevant and carefully selected references, and 4.) General writing quality.

Late assignment submission will result in a 20% down grade for the assignment.

**Undergraduate students**: For each hour of lecture equivalent, students should expect to have a minimum of two hours of work outside class. Exams will emphasize on multiple answers and similar questions, with only a few short essay questions. The short written assignment will be a one-paragraph summary of the term paper planned by the student. The term paper (3-5 pages; 1.5 line spacing minimum) should be a succinct review of the literature on a specific subject related to the class topics. The term paper will serve as the basis for the final presentation (approx. 10 minutes). ). Grading will be based on: 1.) Adequacy of content in each of the paper's section, 2.) Flow and logical connectors along the paper, and 3.) General writing quality.

Late assignment submission will result in a 20% down grade for the assignment.

## Reading List & Learning Materials

- The course Canvas page contains important information about this course including the syllabus, links to the lecture slides, and readings.
- Readings for this class come from selected articles. The articles will be provided each week.
- If needed, students can request to check out laptops form the WSU Spokane Library (and an equivalent mechanism for other campuses)

## Methods of Assessment & Grading Scale

Course assessment will be based on the following graded components, which differ slightly depending on the graduate program:

| | | Undergraduate students | MS-thesis and PhD students |
|---|---|---|---|
| Written | 25% | Term paper | White paper of microbiome research project relevant to your own project/interests |
| Oral | 15% | Oral Presentation on your review or white paper | |
| Exams | 20% each | Mid-terms 1, 2 and final cumulative exam | |

Deleted:

Deleted: Graduate students should contact the instructor well in advance if they anticipate a need to turn assignments later than the deadline

Deleted: If not agreed beforehand, l

| **Grading Scale – Based on % of Total Points Achieved (**Grades will be rounded to one decimal place using standard rounding procedures) | |
|---|---|
| A = 93-100% | C = 73-76.9% |
| A- = 90-92.9% | C- = 70-72.9% |
| B+ = 87-89.9% | D+ = 67-70% |
| B = 83-86.9% | D = 60-66.9% |
| D = 60-66.9% | F = <59.9% |
| F = <59.9% | |

**Course Schedule** *The outline below is a guideline. Consult Blackboard regularly for weekly topics, reading assignments, and any changes to content. Examples of relevant articles for selected sessions can be found in Footnotes*

| Week | Date | Session#/Topics | Readings/What's Due |
|---|---|---|---|
| 1 | 08/24 | 1. Introduction and overview | |
| | 08/26 | 2. Biology/microbiology refresher | |
| 2 | 08/31 | 3.a) Moving definitions of the microbiome(s) | Articles in Folder**[1]** |
| | 09/02 | 3.b) Articles discussion | |
| 3 | 09/07 | 4.a) Host microbiome interactions | Articles in Folder**[2]** |
| | 09/09 | 4.b) Articles discussion | |
| 4 | 09/14 | 5.a) Gut microbiome and health | Articles in Folder**[3, 4]** |
| | 09/16 | 5.b) Articles discussion | |
| 5 | 09/21 | 6.a) Gut microbiome and animal nutrition | Articles in Folder**[5]** |
| | 09/23 | 6.b) Articles discussion | **Written assignment proposal** |
| 6 | 09/28 | 7.a) Gut microbiome and human nutrition | Articles in Folder**[6]** |
| | 09/30 | 7.b) Articles discussion | |
| 7 | 10/05 | **Mid-term exam 1** | |
| | 10/07 | 7.Omics in nutrition and gut microbiome research | |
| 8 | 10/12 | 8.a) Metabolomics and gut microbiome | Articles in Folder**[7]** |
| | 10/14 | 8.b) Articles discussion | |
| 9 | 10/19 | 9.a) Food science and gut microbiome | Articles in Folder**[8]** |
| | 10/21 | 9.b) Articles discussion | |
| 10 | 10/26 | 10.a) Probiotics and prebiotics | Articles in Folder**[9, 10]** |
| | 10/28 | 10.b) Articles discussion | |
| 11 | 11/02 | 11.a) Dietary patterns and gut microbiome | Articles in Folder**[11]** |
| | 11/04 | 11.b) Articles discussion | |
| 12 | 11/09 | 12.a) Geography, ethnicity and gut microbiome | Articles in Folder**[12]** |
| | 11/11 | Veterans' Day-No class | |
| 13 | 11/16 | 12.b) Articles discussion | |
| | 11/18 | **Mid-term exam 2** | |
| 14 | 11/23 | Thanksgiving break-No class | |
| | 11/25 | Thanksgiving break-No class | |
| 15 | 11/30 | 13.a) Hot topics in nutrition and gut microbiome | Articles in Folder**[13]** |
| | 12/02 | 13.b) Hot topics in nutrition and gut microbiome | **Written assignment** |
| 16 | 12/07 | 14.a) **Student presentations** | |
| | 12/09 | 14.b) **Student presentations** | |
| | 12/?? | **Final Exam (cumulative)** | |

1. Allaband C, McDonald D, Vázquez-Baeza Y, et al (2019) Microbiome 101: Studying, Analyzing, and Interpreting Gut Microbiome Data for Clinicians. Clin Gastroenterol Hepatol 17:218–230. https://doi.org/10.1016/j.cgh.2018.09.017

2. Rawls JF, Mahowald MA, Ley RE, Gordon JI (2006) Reciprocal gut microbiota transplants from zebrafish and mice to germ-free recipients reveal host habitat selection. Cell 127:423–433. https://doi.org/10.1016/j.cell.2006.08.043

3. Kim S, Kim H, Yim YS, et al (2017) Maternal gut bacteria promote neurodevelopmental abnormalities in mouse offspring. Nature 549:528–532. https://doi.org/10.1038/nature23910

4. Sokol H, Pigneur B, Watterlot L, et al (2008) Faecalibacterium prausnitzii is an anti-inflammatory commensal bacterium identified by gut microbiota analysis of Crohn disease patients. Proc Natl Acad Sci U S A 105:16731–16736. https://doi.org/10.1073/pnas.0804812105

5. Just S, Mondot S, Ecker J, et al (2018) The gut microbiota drives the impact of bile acids and fat source in diet on mouse metabolism. Microbiome 6:134. https://doi.org/10.1186/s40168-018-0510-8

6. De Angelis M, Ferrocino I, Calabrese FM, et al (2020) Diet influences the functions of the human intestinal microbiome. Sci Rep 10:4247. https://doi.org/10.1038/s41598-020-61192-y

7. Noronha A, Modamio J, Jarosz Y, et al (2019) The Virtual Metabolic Human database: integrating human and gut microbiome metabolism with nutrition and disease. Nucleic Acids Res 47:D614–D624. https://doi.org/10.1093/nar/gky992

8. Aljahdali N, Gadonna-Widehem P, Anton PM, Carbonero F (2020) Gut Microbiota Modulation by Dietary Barley Malt Melanoidins. Nutrients 12:. https://doi.org/10.3390/nu12010241

9. Spinler JK, Sontakke A, Hollister EB, et al (2014) From Prediction to Function Using Evolutionary Genomics: Human-Specific Ecotypes of Lactobacillus reuteri Have Diverse Probiotic Functions. Genome Biology and Evolution 6:1772–1789. https://doi.org/10.1093/gbe/evu137

10. Thompson RS, Vargas F, Dorrestein PC, et al (2020) Dietary prebiotics alter novel microbial dependent fecal metabolites that improve sleep. Sci Rep 10:3848. https://doi.org/10.1038/s41598-020-60679-y

11. Sheflin AM, Melby CL, Carbonero F, Weir TL (2017) Linking dietary patterns with gut microbial composition and function. Gut Microbes 8:113–129. https://doi.org/10.1080/19490976.2016.1270809

12. Martínez I, Stegen JC, Maldonado-Gómez MX, et al (2015) The gut microbiota of rural papua new guineans: composition, diversity patterns, and ecological processes. Cell Rep 11:527–538. https://doi.org/10.1016/j.celrep.2015.03.049

13. Tiffany CR, Bäumler AJ (2019) Dysbiosis: from fiction to function. Am J Physiol Gastrointest Liver Physiol 317:G602–G608. https://doi.org/10.1152/ajpgi.00230.2019

## *Academic Honesty, Conduct, and Behavior*

Academic integrity is the cornerstone of higher education. As such, all members of the university community share responsibility for maintaining and promoting the principles of integrity in all activities, including academic integrity and honest scholarship. Academic integrity will be strongly enforced in this course. Students who violate WSU's Academic Integrity Policy (identified in Washington Administrative Code (WAC) 504-26-010(3) and -404) will receive a failed grade for the specific assignment (and fail the

course in case of repeated violation) , will not have the option to withdraw from the course pending an appeal, and will be reported to the Office of Student Conduct.
Cheating includes, but is not limited to, plagiarism and unauthorized collaboration as defined in the Standards of Conduct for Students, WAC 504-26-010(3). You need to read and understand all of the definitions of cheating. If you have any questions about what is and is not allowed in this course, you should ask course instructors before proceeding.
If you wish to appeal a faculty member's decision relating to academic integrity, please use the form available at communitystandards.wsu.edu. Make sure you submit your appeal within 21 calendar days of the faculty member's decision.
The Department of Nutrition and Exercise Physiology (NEP) expands upon the University's statement of academic integrity. When a student enrolls in WSU, the student assumes an obligation to pursue academic endeavors in a manner consistent with the standards of academic integrity adopted by the University *and* the Department of NEP. The Department of NEP recognizes the importance of and encourages collaborative work, specifically in cases in which collaborative work is the chosen form of didactic instruction, including group projects and presentations. Thus, you may collaborate with classmates on specific assignments as stipulated in the course syllabus and with the instructor's explicit permission. **However, the guiding principle of academic integrity in the Department of NEP shall be that all of your submitted work, such as assignments, examinations, reports, presentations, and projects, whether completed on your own or in collaboration with classmates where specifically deemed appropriate, must properly cite any and all outside sources used to complete such work. These sources must be cited in the standard format identified by the instructor for this course (e.g., AMA style). Assignments submitted electronically are subject to review by electronic plagiarism detection programs (e.g., SafeAssign). Illustrative, but not exhaustive, examples of outside sources used to complete assignments include: peer reviewed journal articles, non-peer reviewed review papers or commissioned articles, white papers, newspaper or magazine articles, and social media and blog posts.**
Students are reminded that they must adhere to the policies agreed to in writing when entering the Department of NEP. These are detailed in the BS NEP and MS CPD NEP Student Handbooks under Code of Professionalism. Departures from this code may have serious consequences for academic standing in the class and/or continued enrollment in the program.

For additional information on academic integrity and plagiarism, the Department of NEP recommends that students read and review the following sources of information:
https://academicintegrity.wsu.edu/resources-for-students/ and
https://libraries.wsu.edu/library-instruction/plagiarism

## *Course Evaluations*

Student evaluations of courses/course materials and faculty teaching effectiveness are a valuable and important component of the department's commitment to providing quality learning experiences and contributing to our efforts to assure that students achieve the objectives of our degree programs. Thus, all evaluations are given serious consideration as part of the annual faculty evaluation process and are read by the Department Chair and faculty instructor of record. Because the most effective way to impact positive changes is through constructive comments, we encourage you to provide feedback as you would wish to receive it. This will allow the faculty member to focus on improvements or affirm students' perspective on effective elements of the course.

## *Students with Disabilities Statement*

Reasonable accommodations are available for students with documented disabilities or chronic medical or psychological conditions. If you have such a condition and need accommodations to fully participate in this class, please visit your campus' Access Center/Services website to follow published procedures to request accommodations. Students may also contact their campus offices to schedule an appointment with a Disability Specialist. All disability related accommodations are to be approved through the Access Center/Services on your campus. It is a university expectation that students connect with instructors (via email, Zoom, or in person) to discuss logistics within two weeks after they have officially requested their accommodations.

For more information, contact a Disability Specialist on your home campus:

Pullman, WSU Global Campus, Everett, Bremerton, and Puyallup: 509-335-3417 Access Center (https://www.accesscenter.wsu.edu) or email at access.center@wsu.edu

Spokane: 509-358-7816 Access Services (https://spokane.wsu.edu/studentaffairs/access-resources/) or email j.schneider@wsu.edu

Tri-Cities: Access Services (http://www.tricity.wsu.edu/disability/) or email g.hormel@wsu.edu

Vancouver: 360-546-9238 Access Center (https://studentaffairs.vancouver.wsu.edu/student-wellness-center/access-center) or email van.access.center@wsu.edu

## *Non-Discrimination Statement*

Extension programs and policies are consistent with federal and state laws and regulations on nondiscrimination regarding race, sex, religion, age, color, creed, national or ethnic origin; physical, mental or sensory disability; marital status, sexual orientation, or status as a Vietnam era or disabled veteran. Evidence of noncompliance may be reported through your local Extension office.

## *Religious and Extended Absence Accommodations*

Students requesting reasonable accommodations for religious observations should complete the request form in the student handbook. (https://medicine.wsu.edu/md-program/studentaffairs/student-handbook/request-for-reasonable-accommodations-for-religious-observances/) Students exploring an

extended personal leave for opportunities such as research or parental/family leave should contact the Office of Admissions, Student Affairs, and Inclusion to begin the conversation of what approved absences and or other leave of absence options may be available. Collaboration with the Access Services Office may be needed for absences where reasonable accommodations apply.

## *Attendance and Make-Up Statement*

Students are responsible for ensuring that they attend all class meetings and complete all in-class and out-of-class work as assigned by the instructor. Students are also responsible for communicating with the instructor should they need to be absent.

The instructor is responsible for determining the attendance policy and for making decisions regarding the policy, including the consequence of missed classes, within guidelines established by the academic unit. The instructor is responsible for communicating the policy to the students in the course syllabus. Administrative Drops for Non-Attendance: Students who have not attended class meetings (including lectures, laboratories, and other meetings) during the first week of the semester or according to a prorated schedule for shorter sessions may be dropped from the course by the department. Students enrolled in online classes may be dropped if they have not logged into the class during the first week. Students should not assume that they have been dropped without checking their class schedules.

Students should make all reasonable efforts to attend all class meetings. However, in the event a student is unable to attend a class, it is the responsibility of the student to inform the instructor as soon as possible, explain the reason for the absence (and provide documentation, if appropriate), and make up class work missed within a reasonable amount of time, if allowed. Missing class meetings may result in reducing the overall grade in the class.
The primary approach for making up for missed class will be by the student's ability to access the Zoom recording available through Canvas. Students will be provided directions to access these recordings.

## *Campus Safety*

Classroom and campus safety are of paramount importance at Washington State University and are the shared responsibility of the entire campus population. WSU urges students to follow the "Alert, Assess, Act," protocol for all types of emergencies and the "Run, Hide, Fight" response for an active shooter incident. Remain ALERT (through direct observation or emergency notification), ASSESS your specific situation, and ACT in the most appropriate way to assure your own safety (and the safety of others if you are able).

There is an all-campus safety alert system designed to alert all employees and students should there be closure because of weather or a safety concern. You may sign up to receive Campus Alerts by following instructions here: http://spokane.wsu.edu/alert/ and learn more about the Campus Safety Plan here: https://spokane.wsu.edu/campus-security/campus-safety-plan/
**Finally, all faculty, staff, and students should go to the my.wsu portal at https://login.wsu.edu/ and register their emergency contact information for the Crisis Communication System (CCS).** Enter your network ID and password and you will be taken to the my.wsu portal page. Look for the "Emergency Notification" box on the left side of the page and click on "Review or Update Your Emergency Contact" hyperlink to be taken to the registration page where you can enter your cell, landline, and email contact details as well as arrange for emergency text messages to be sent to your phone.

## *COVID-19 Policy*

Students are expected to abide by all current COVID-19 related university policies and public health directives, which could include wearing a cloth face covering, physically distancing, self-attestations, and sanitizing common use spaces. All current COVID-19 related university policies and public health directives are located at **https://wsu.edu/covid-19/**. Students who do not comply with these directives may be required to leave the classroom; in egregious or repetitive cases, students may be referred to the Center for Community Standards for university disciplinary action.