SYLLABUS UPDATED 2.25.2015
Washington State University
MAJOR CURRICULAR CHANGE FORM - -- COURSE
(Submit original signed form and ten copies to the Registrar's Office, zip 1035.)

Future Effective Date: 08/01/2015  New course  Temporary course  Drop service course
(effective date cannot be retroactive)  There is a course fee associated with this course (see instructions)

- Variable credit 1-4  Repeat credit (cumulative maximum 9 hours)
- Increase credit (former credit _____)  Lecture-lab ratio (former ratio _____)
- Number (former number ______)  Prefix (former prefix ________)
- Crosslisting (between WSU departments)  Cooperative listing (UI prefix and number _________)
(Must have both departmental signatures)  taught by: WSU  UI  jointly taught
- Conjoint listing (400/500)
- Request to meet Writing in the Major [M] requirement (Must have All-University Writing Committee Approval)
- Request to meet GER in _________ (Must have GenEd Committee Approval)  Fulfills GER lab (L) requirement
- Professional course (Pharmacy & Vet Med only)  Graduate credit (professional programs only)
- Other (please list request) no cumulative maximum number of hours. See email

Biology  596  Advanced Topics in Physiology

v1.4

<table>
<thead>
<tr>
<th>credit</th>
<th>lecture hrs</th>
<th>lab hrs</th>
<th>studio hrs</th>
<th>prerequisite</th>
</tr>
</thead>
</table>

Description (20 words or less) Presentation and discussion of advanced topics in physiology taken from research in progress or current literature.

Instructor: variable  Phone number:  Email:
Contact: Justine Rupp  Phone number: 335-8649  Email: ruppj@wsu.edu
Campus Zip Code: 4236

- Please attach rationale for your request, a current and complete syllabus, and explain how this impacts other units in Pullman and other branches (if applicable).
- Secure all required signatures and provide 10 copies to the Registrar's Office.

Chair/date  Dean/date  General Education Com/date

Chair (if crosslisted/interdisciplinary)*  Dean (if crosslisted/interdisciplinary)  Graduate Studies Com/date

All-University Writing Com/date  Academic Affairs Com/date  Senate/date

*If the proposed change impacts or involves collaboration with other units, use the additional signature lines provided for each impacted unit and college.
Biology 596 Advanced Topics in Physiology – Course Justification

As modern biological sciences continues to grow as a field, so too does the need for topical seminar courses. In accordance with the growth of biology, so too has the number of graduate students and faculty in SBS at WSU. This growth has resulted in higher demands among our graduate students for seminar courses in topical areas.

We anticipate offering an increased number of special topics and seminar courses is in physiology. We have hired 2 tenure track faculty in this particular area in the last 3 years and they are offering seminar courses. Currently, we only have 1 advanced topics course (in Biology, Biology 589), however our recognized departmental strengths are in ecology, evolution and physiology. Other departments at WSU, such as the Department of Chemistry, have multiple advanced topics courses, including “Advanced topics in Inorganic Chemistry”, “Advanced topics in Organic Chemistry”, “Selected topics in Analytical Chemistry.” Similarly, the Department of Mathematics has “Topics in Mathematics”, “Topics in Applied Mathematics” and “Topics in Mathematics Application.” We are seeking a similar breakdown of courses to accommodate the increasing demand for our special topics courses as well as to accommodate the breadth of training our graduate students need. With regards to the latter, our recently approved curriculum changes for graduate training in our department (in 2012) emphasize the need for breadth, which can be accommodated with a greater number of advanced topics courses.

This course offering would likely also attract students from departments and schools across campus, including from School of the Environment, Entomology, Plant Pathology, and the School of Global Animal Health. As such, this seminar offering would be of wide appeal to SBS students, as well as enhance interactions and resulting interdisciplinary discussions of graduate students from across campus. As graduate student education is shifting from having departmental walls to being more integrated and interdisciplinary programs that are campus-wide (e.g., Molecular Plant Sciences at WSU), increased offerings of seminar courses that potentially have wide appeal is a step toward aligning with national trends.

A sample syllabus is attached.
NOTE THAT THIS IS A SYLLABUS FOR A 1 CREDIT SPECIAL TOPICS COURSE; A 2 CREDIT COURSE WOULD HAVE ADDITIONAL ASSIGNMENTS (LIKE AN ORAL PRESENTATION) AND INVOLVE 2 ONE HOUR MEETINGS PER WEEK (E.G., 1 HR LECTURE AND 1 HR DISCUSSION); A 3 CREDIT COURSE WOULD HAVE 3 HOUR MEETINGS PER WEEK AND A 4 CREDIT COURSE WOULD HAVE A 3 HOUR COMPUTER LAB OR WET LAB COMPONENT

Professors: Drs. Shelley McGuire, Erica Crespi, and Charlie Robbins
E-mail Addresses: smcguire@wsu.edu, Erica.crespi@wsu.edu, and ctrobbins@wsu.edu, respectively
Phone: 335-3896, xx, and xx, respectively
Course time/location: Wednesdays 9:10-10:00, CUE 218 (to be discussed at first class.
Offices: 375 Eastlick, 381 Eastlick, and 373 Eastlick, respectively
Office Hours: by appointment
Credits Earned: 1
Pre-requisites: Graduate standing and at least 1 undergraduate physiology course

Course Description
This graduate-level facilitated seminar course will cover interdisciplinary topics that focus on human and animal nutrition. We will critically review papers from the primary literature that span sub-disciplines within nutrition including molecular, cellular, clinical, physiological, ecological, and evolutionary topics. Different perspectives of nutritional science will be integrated within the course.

Course Materials
Reference books There are no required reference books for this class. However, you are expected to have a solid understanding of the nutritional concepts related to the papers that you present and those presented by your classmates. As such, myriad introductory college-level nutrition textbooks are available for your use in Eastlick 371. Please return these books to the reading room once you are done with them.

Manuscripts The majority of this course will focus on critical evaluation, presentation, and discussion of nutrition-related, primary research papers published in peer-reviewed journals. These papers will be made available on the course Angel site.

We expect that students will:
1. Demonstrate an interdisciplinary understanding of nutrition
2. Communicate the importance of different levels of nutritional physiology study
3. Critically evaluate the primary literature verbally
4. Synthesize a body of literature in written form

Student learning outcomes

<table>
<thead>
<tr>
<th>Student Learning Outcomes for this course: At the end of this course, students should be able to:</th>
<th>Course Topics/Dates The following topic(s)/dates(s) will address this outcome:</th>
<th>Evaluation of Outcome: This outcome will be evaluated primarily by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate an interdisciplinary understanding of nutrition</td>
<td>Each week, especially during presentation and Week 16</td>
<td>Weekly discussions, oral presentation at end of semester, take home final</td>
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</table>
Communicate the importance of different levels of nutritional physiology study | Weekly discussions, Week 15 | Participation in weekly discussions, generation of weekly discussion questions, discussion leader, presentation in Week 15

Critically evaluate the primary literature verbally | Weekly discussions, Week 16 | Weekly participation, oral presentation, take home final

Synthesize a body of literature in written form | Week 16 | Take home final

**Weekly Meetings and Papers**
We will meet once a week to discuss a “hot topics” paper in nutrition. Students will volunteer to lead a single discussion early in the semester, and papers should have a broad and general impact. Students must choose their paper one week in advance of class discussion with questions to consider and to spark discussion.

**Assignments and Grading**

| Attendance and general participation | 25% |
| Discussion leader | 25% |
| Weekly discussion questions | 10% |
| Take home final | 40% |

**Grading criteria:**

**Attendance and participation**
We understand that graduate students occasionally have to miss class for field work or intensive lab work in addition to traditional excuses like illness. Please let us know in advance to the extent possible and accommodations will be made. If there are any questions about how participation will be graded, please discuss this with the instructors as early as possible in the semester so it will be as clear as possible.

**A: Full participation and effort:** participating in every discussion, full effort in presentation assignments (completing all aspects of the assignment), selecting a paper to present (that you’ve read beforehand) well in advance of your presentation, if you have to miss a session, you alert seminar leaders in advance to the best of your ability. (20-25%)

**B: Moderate participation and effort:** moderate-low participation in discussions, moderate-full effort in presentation assignments, selecting a paper for presentation that you had not read first/late submission of paper, if you have to miss a session, you alert seminar leaders in advance to the best of your ability (15-20%)

**C: Little participation and effort:** sporadic-low participation in discussions, moderate to low effort in presentation assignments, missing class without notice (<20%)

**Discussion leader**
Each student is expected to lead a discussion based on the primary literature at least once (depending on the number of students) during the semester. This student will be responsible for synthesizing discussion questions from students and presenting the paper for the weekly discussion.

**Discussion questions**
Students should each prepare 1-2 questions that are meant to be discussed by the class so that we may better understand the week’s idea. Broadly speaking, ideal questions should be general and thought-provoking.
**Take-home final**

Students will be given a take home essay final which will be assigned the week before dead week and due the Wednesday of finals week. The final will consist of 5 questions, and students are expected to provide a 1-2 page answer for each question. Students may use any materials they wish to answer questions, but they may not consult with other students in the class when writing their final exam.

**The grading scale will be:**

<table>
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<tr>
<th>Grade</th>
<th>90%+ = A</th>
<th>87-89 = A-</th>
<th>84-86 = B+</th>
<th>80-83 = B</th>
<th>77-79 = B-</th>
<th>64-66 = D+</th>
<th>60-63 = D</th>
<th>&lt;60 = F</th>
</tr>
</thead>
</table>

**Attendance Policy.** Students are expected to attend every class session. If you are unable to come to class for any reason, please let me know ahead of time if at all possible. Students with more than 3 absences will not receive credit for the course.

**Students with Disabilities.** Reasonable accommodations are available for students with a documented disability. If you have a disability and need accommodations to fully participate in this class, please either visit or call the Access Center (Washington Building 217; 509-335-3417) to schedule an appointment with an Access Advisor. All accommodations MUST be approved through the Access Center. For more information contact a Disability Specialist: Pullman or WSU Online: 509-335-3417. http://accesscenter.wsu.edu, Access.Center@wsu.edu

**Campus Safety and Emergencies.** Washington State University is committed to enhancing the safety of the students, faculty, staff, and visitors. It is highly recommended that you review the Campus Safety Plan (http://safetyplan.wsu.edu/) and visit the Office of Emergency Management web site (http://oem.wsu.edu/) for a comprehensive listing of university policies, procedures, statistics, and information related to campus safety, emergency management, and the health and welfare of the campus community.

**Academic Integrity.** WSU is an institution that upholds the highest standards of academic integrity. Students can work together on assignments, but are expected to hand in original work. Plagiarism or copying is considering cheating (for definitions of plagiarism, see the SBS webpage: http://sbs.wsu.edu/index2.html). It is strongly suggested that you read and understand these definitions. Any student caught cheating on any assignment will be given an F grade for the course and will be reported to the Office Student Standards and Accountability. Cheating is defined in the Standards for Student Conduct WAC 504-26-010 (3). It is strongly suggested that you read and understand these definitions. **Cheating on an exam or other assignment (including plagiarism) will result in a final grade of F for the entire course, will be reported to the Office of Student Affairs, and will result in additional disciplinary action by the University.**

**Schedule**

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Topic/ Activities</th>
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<tbody>
<tr>
<td>Wk 1</td>
<td>Introduction to course/choosing best time and location</td>
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<tr>
<td>Wk 2</td>
<td>“Hot topics” in nutritional sciences</td>
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<tr>
<td>Wk 3</td>
<td>Use of stable isotopes to track feeding preferences</td>
</tr>
<tr>
<td>Wk 4</td>
<td>Metabolic responses to glucagon challenges</td>
</tr>
<tr>
<td>Wk 5</td>
<td>Effects of maternal nutrition on reproductive output</td>
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<tr>
<td>Wk 6</td>
<td>Relationship of gut microbiome to immune function</td>
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<tr>
<td>Wk 7</td>
<td>Use of nutritional indicators in ecology</td>
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<tr>
<td>Wk 8</td>
<td>Relationship of malnutrition to attention deficit disorder</td>
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<tr>
<td>Wk 9</td>
<td>Dietary shifts of humans in Neolithic and Industrial revolutions</td>
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<tr>
<td>Wk 10</td>
<td>Effects of nutrition on sexual development and life-history trajectories</td>
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<tr>
<td>Wk 11</td>
<td>Relationship of dietary protein to growth, immunity and disease resistance</td>
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<tr>
<td>Wk 12</td>
<td>Comparisons of diet and gut microbiomes in European versus rural African children</td>
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<td>Wk 13</td>
<td>Energy balance relationships and nutritional state</td>
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<tr>
<td>Wk 14</td>
<td>Thanksgiving Holiday – No Classes</td>
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<tr>
<td>Wk 15</td>
<td>Presentations and discussion</td>
</tr>
<tr>
<td>Wk 16</td>
<td>Summary – what did we learn?</td>
</tr>
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