George Mason University
Graduate Course Approval/Inventory Form

Please complete this form and attach a copy of the syllabus for new courses. Forward it as an email attachment to the Secretary of the Graduate Council. A printed copy of the form with signatures should be brought to the Graduate Council Meeting. Complete the Coordinator Form on page 2, if changes in this course will affect other units.

Please indicate:  

_X_ NEW  

MODIFY  

DELETE  

Local Unit: New Century College  

Graduate Council Approval Date:  

Course Abbreviation: NCLC 514  

Course Number: 514  

Full Course Title: Population Management II  

Abbreviated Course Title (24 characters max.): POPULATION MGMT II  

Credit hours: 3  

Program of Record: New Century College  

Repeatable for Credit?  

D=Yes, not within same term  

T=Yes, within the same term  

N=Cannot be repeated for credit  

Activity Code (please indicate):  

_X_ Lecture (LEC)  

Lab (LAB)  

Recitation (RCT)  

Studio (STU)  

Internship (INT)  

Independent Study (IND)  

Seminar (SEM)  

Catalog Credit Format 3:3:0  

Course Level: GF(500-600)  

GA(700+)  

Maximum Enrollment: 30  

For NEW courses, first term to be offered: F03  

Prerequisites or corequisites: BA or BS; or Permission of Instructor  

Catalog Description (35 words or less) Please use catalog format and attach a copy of the syllabus for new courses.:  

Trains competent managers for zoo or aquarium populations. The course teaches the integration of demography, genetics, and husbandry to set program goals and make breeding recommendations for captive zoo/aquarium populations.  

For MODIFIED or DELETED courses as appropriate:  

Last term offered:  

Previous Course Abbreviation:  

Previous number:  

Description of modification:  

APPROVAL SIGNATURES:  

Submitted by:  

email:  

Department/Program:  

(Janette Muir) Date: 1/24/04  

College Committee:  

Date:  

Graduate Council Representative:  

Date:  
GEORGE MASON UNIVERSITY  
Course Coordination Form

Approval from other units:

Please list those units outside of your own who may be affected by this new, modified, or deleted course. Each of these units must approve this change prior to its being submitted to the Graduate Council for approval.

<table>
<thead>
<tr>
<th>Unit:</th>
<th>Head of Unit’s Signature:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Graduate Council approval: _____________________________ Date: ____________

Graduate Council representative: ___________________________ Date: ____________

Provost Office representative: ___________________________ Date: ____________
Population Management II
(NCLC 514)

Robert J. Wiese, Ph.D. (lead instructor)
Fort Worth Zoo
1989 Colonial Parkway
Fort Worth, TX 76110
817-759-7150
bob@fortworthzoo.org
Office Hours: 9:00 am – 5:00 pm Monday-Friday

Course Description and Learning Objectives (Student Learning Outcomes)
Description: Population Management II is designed to train students to be competent population managers with the ability to manage the genetic health of captive populations in zoos. The course teaches students how to integrate attributes of population demography, genetics and species specific husbandry into a single coherent plan. The plan will include population analyses that describe the past history of the population and project the future course based on the data available. Students also learn how to set attainable goals for their captive population in relation to carrying capacity, growth rate, desired generation length, amount of gene diversity retained, etc. Formulation of animal-by-animal recommendations is also a critical aspect of plan development.

Course equivalencies: None.
Prerequisites: Population Management I. The prerequisite may be waived by the lead instructor with demonstrated knowledge gained from other venues that equals Population Management I.
Software Proficiency: Students must be proficient with SPARKS software.
Goals and Learning Objectives: The course is designed to produce students that can analyze studbook data, interpret resulting output, develop realistic population goals and produce a plan to achieve the population goals developed.

Textbooks and other course materials
Lecture notes as provided by instructors.

Assignments and Grading Policies
Assignments and small group composition are determined the first day of class to allow maximum time for completion. Instructors are available during class hours and during each evening to answer questions, mentor, and guide the students on assignments. All students are expected to participate.

There is no extra credit.
Late assignments will only be accepted due to medical illness that prevents completion during the normal course week.

Assignments:
1. There will be four quizzes distributed throughout the course focusing on comprehension of lecture material and related to the comprehensive courses objectives.
2. There will be three graded skill projects that will teach specific skills related to population management. They are concepts of gene-drop, interactive affects of changing population parameters, and goal setting.
3. There will be three team-based projects that develop program goals and breeding recommendations for three different species. One project is completed with a team of 12 students, one with a team of four students, and one with a team of two students. Projects are presented to the class and instructors. The presentations are evaluated on how well the students demonstrate their knowledge and application of course material, ability to operate the software, ability to analyze and interpret demographic and genetic data, set goals for their species and management program, and make appropriate breeding, holding and relocation recommendations to meet the goals set. Following their presentations, teams receive verbal evaluation of their plans from the instructors and other students.

Performance in this course is measured through student participation in discussion and completion of assignments described above. All students are required to submit a written report on one species to the Course Administrator at the end of the course. The course report should be similar to a standardized report distributed by a typical AZA Species Survival Plan, given the limitations of the word processing software available during the course.

Grades in the course are determined with the following scale:

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes (4)</td>
<td>20%</td>
</tr>
<tr>
<td>Skill demonstration projects (3)</td>
<td>30%</td>
</tr>
<tr>
<td>Team based program goal projects (3)</td>
<td>30%</td>
</tr>
</tbody>
</table>
Tentative Weekly Course Schedule
See attached outline.

Student Support
Students have access to instructors throughout the course.
Following the course students may contact the instructors at any time to receive advice on their management programs.
The AZA Population Management Center is available to help students following completion of the course.
The AZA Small Population Management Advisory Group is available to help students following completion of the course.
Students may also consult the resources of GMU such as the NCC’s Homepage (www.ncc.gmu.edu), the Writing Center (writingcenter.gmu.edu) and On-line Writing Guide (classweb.gmu.edu/nccwg)

Honor Code
Statement on the Honor Code and Academic Integrity
The integrity of the University community is affected by the individual choices made by each
of us. This is especially true in New Century College. GMU has an Honor Code with clear guidelines regarding academic integrity.
Three fundamental and rather simple principles to follow at all times are that: (1) all work submitted be your own; (2) when using the
work or ideas of others, including fellow students, give full credit through accurate citations; and (3) if you are uncertain about
the ground rules on a particular assignment, ask for clarification. No grade is important enough to justify academic misconduct. If you
feel unusual pressure or anxiety about your grade in this or any other course, please talk with us or to a trusted friend or counselor to
get your situation in perspective. The course instructors will provide a range of service to help with test anxiety, writing skills, study
skills, and other related concerns. Some projects are designed to be undertaken individually. For these projects, you may discuss your
ideas with others or ask for feedback; however, it is not appropriate to give your paper to someone else to revise. You are responsible
for making certain that there is no question that the work you hand in is your own. If only your name appears on an assignment, your
professor has the right to expect that you have done the work yourself, fully and independently.
As in most learning communities and in many other classes, your final integrated group project in this unit is designed to be completed
by a study group. With collaborative work, names of all the participants should appear on the work. Over the course of this week you
may find that it is necessary for different group members to take the lead on various assignments leading up to the integrated final
group project. However, the faculty expect that all group members seeking credit will contribute equally and that the pieces will be
conceptually integrated in the final end product. Using someone else’s words or ideas without giving them credit is plagiarism, a very
serious offense. It is very important to understand how to prevent committing plagiarism when using material from a source. If you
wish to quote verbatim, you must use the exact words (including punctuation) just as it appears in the original and you must use
quotation marks and page number(s) in your citation. If you want to paraphrase ideas from a source, that is, convey the author’s ideas
in your own words—you must still cite the source, using MLA or APA format.
The re-use of papers, presentations, etc., from one course in another course is not appropriate. However, extension of a previous
project to include more material (e.g., use a studbook from Population Management I to create a management plan) is appropriate. In
every NCC course, faculty expect that work that is submitted has been done only for that class. An exception is made for materials to
be used for management of your species upon return to your home institution.

Learning Community
This is an active learning environment that combines lecture, short skill assignments, computer work, group discussion and project
work and one-on-one mentoring with the instructors to teach the theory and application of small population management. The course
is step-wise in that each successive section builds on the previous section(s) to lead the students through the process of building and
integrating a realistic management plan. This sequence is repeated three complete times with the class projects to teach, through
repetition, integrating more complex features each time. The repetition also helps teach and in grain the operation of the computer
software.
<table>
<thead>
<tr>
<th>Day &amp; Time</th>
<th>Topic</th>
<th>Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noon</td>
<td>Arrival &amp; Room registration at Wilson Lodge, Oglebay Park</td>
<td></td>
</tr>
<tr>
<td>4:00-6:00</td>
<td>School Registration at Wilson Lodge, Oglebay Park</td>
<td></td>
</tr>
<tr>
<td>7:15-7:45</td>
<td>KICKOFF CEREMONIES, WELCOME AND ORIENTATION</td>
<td></td>
</tr>
<tr>
<td>8:00-8:30</td>
<td>Welcome and Syllabus Overview</td>
<td>R. Wiese</td>
</tr>
<tr>
<td>8:30-8:45</td>
<td>Course Goals</td>
<td>R. Wiese</td>
</tr>
<tr>
<td>9:00-9:45</td>
<td>Why Manage Our Populations?</td>
<td>R. Wiese</td>
</tr>
<tr>
<td>8:30-9:00</td>
<td>What is an SSP/PMP/DERP?</td>
<td>B. Smith</td>
</tr>
<tr>
<td>9:00-9:45</td>
<td>SSP/PMP/DERP Examples</td>
<td>A. Odum</td>
</tr>
<tr>
<td>Break 10:00-12:00</td>
<td>Creation of an Analytical Database</td>
<td>S. Long</td>
</tr>
<tr>
<td>Lunch 1:00-3:00</td>
<td>Creation of an Analytical Database</td>
<td>S. Long</td>
</tr>
<tr>
<td>Break 3:30-5:00</td>
<td>Husbandry &amp; Survey Techniques</td>
<td>C. Plasse/S. Joseph</td>
</tr>
<tr>
<td>7:00-9:00</td>
<td>Project Hours (Creation of Analytical Database)</td>
<td>Mentor Team</td>
</tr>
<tr>
<td>Break 8:00-10:00</td>
<td>Demography Theory</td>
<td>S. Thompson</td>
</tr>
<tr>
<td>Lunch 10:15-12:00</td>
<td>Demography Applications</td>
<td>S. Thompson</td>
</tr>
<tr>
<td>Break 1:00-1:30</td>
<td>Husbandry Effects on Demography</td>
<td>C. Plasse/S. Joseph</td>
</tr>
<tr>
<td>1:30-3:00</td>
<td>Use of Demography Applications for Modeling</td>
<td>S. Thompson</td>
</tr>
<tr>
<td>Break 3:30-5:00</td>
<td>Genetics Theory</td>
<td>B. Smith</td>
</tr>
<tr>
<td>7:00-9:00</td>
<td>Project Hours (Demography)</td>
<td>Mentor Team</td>
</tr>
<tr>
<td>Break 8:00-10:00</td>
<td>Genetics Applications</td>
<td>B. Smith</td>
</tr>
<tr>
<td>Lunch 10:15-12:00</td>
<td>Projecting Losses and Setting Population Goals</td>
<td>R. Wiese</td>
</tr>
<tr>
<td>Break 1:00-2:00</td>
<td>Setting Population Goals Exercise</td>
<td>R. Wiese</td>
</tr>
<tr>
<td>Lunch 2:00-3:00</td>
<td>Husbandry Effects on Genetics</td>
<td>C. Plasse/S. Joseph</td>
</tr>
<tr>
<td>Break 3:15-4:00</td>
<td>Building and Distributing a Management Plan</td>
<td>S. Long</td>
</tr>
<tr>
<td>Lunch 4:00-5:00</td>
<td>Project Hours (Genetics &amp; Setting Population Goals)</td>
<td>Mentor Team</td>
</tr>
<tr>
<td>Break 7:00-9:00</td>
<td>Project Hours (Genetics &amp; Setting Population Goals)</td>
<td>Mentor Team</td>
</tr>
<tr>
<td>Break 8:00-9:00</td>
<td>Integrating Data Analyses for Breeding Recommendations</td>
<td>R. Wiese</td>
</tr>
<tr>
<td>Lunch 9:00-10:45</td>
<td>Savage Tamarin Management Plan (Easy)</td>
<td>Students</td>
</tr>
<tr>
<td>Break 11:00-12:00</td>
<td>Use of MateRx for Breeding Recommendations</td>
<td>S. Thompson</td>
</tr>
<tr>
<td>Lunch 1:00-1:30</td>
<td>Husbandry Effects on Breeding Recommendations</td>
<td>C. Plasse/S. Joseph</td>
</tr>
<tr>
<td>Break 1:30-3:00</td>
<td>Savage Tamarin Management Plan (Hard)</td>
<td>Students</td>
</tr>
<tr>
<td>Lunch 3:15-4:00</td>
<td>Management Plan Wrap-up</td>
<td>R. Wiese</td>
</tr>
<tr>
<td>Break 4:00-5:00</td>
<td>Project Hours (Complete Management Plans)</td>
<td>Mentor Team</td>
</tr>
<tr>
<td>Lunch 7:00-9:00</td>
<td>Project Hours (Complete Management Plans)</td>
<td>Mentor Team</td>
</tr>
<tr>
<td>Break 8:00-10:00</td>
<td>Project Hours (Finish Management Plans for Presentation)</td>
<td>Students</td>
</tr>
<tr>
<td>Lunch 10:15-12:00</td>
<td>Oral Presentation of Management Plans (Groups of 4)</td>
<td>Students</td>
</tr>
<tr>
<td>Lunch 1:00-3:00</td>
<td>Oral Presentation of Management Plans (Groups of 2)</td>
<td>Students</td>
</tr>
<tr>
<td>Break 3:15-3:45</td>
<td>Final Quiz</td>
<td>S. Thompson</td>
</tr>
<tr>
<td>Break 3:45-4:00</td>
<td>Course Overview</td>
<td>C. Plasse/S. Joseph</td>
</tr>
</tbody>
</table>