Graduate Council Curriculum Committee
September 23, 2015
3:00 p.m., 146 Colbourn Hall

Agenda

1. Welcome and call to order

2. Approval of the minutes from the last meeting

3. Addition of a Neuroscience track to the MS Biomedical Sciences program, COM/BSBS (tabled on 9/2/2015)

4. Review of Herpetology Split Class (ZOO 4932C/5463C), COS (tabled on 1/26/15)

5. Courses and special topics

6. Adjournment

Members of the Graduate Council Curriculum Committee

Deborah Breiter, Chair, RCHM
Charles Kelliher, CBA
Claire Knox, COHPA
Elsie Olan, CEHP
Wanda Raimundi-Ortiz, CAH
Jennifer Sandoval, COS
Art Weeks, CECS
Diane Andrews, CON
Steven Ebert, COM
Shuo "Sean" Pang, COP
Terrie Sypolt, LIB
Andrea Pulido, GSA
John Weishampel, CGS Liaison

UNIVERSITY OF CENTRAL FLORIDA
COLLEGE OF GRADUATE STUDIES

NEW FORM – BEGINNING FALL 2015

Program Recommendation Form - ADDITIONS ONLY

This form is to be used to **ADD** degree programs, tracks, or certificate programs. If there are tracks being added to the program, one form may be used for both the program and the track(s).

Please refer to the Graduate Council Curriculum Meeting Schedule for submission deadlines.

Checklist of items to be attached with completed form:

☑ Complete and current Graduate Catalog copy (www.graduatecatalog.ucf.edu), including description, curriculum, contact information, application requirements, and application deadlines.

☑ A list of faculty who will participate in the program, track or certificate and their credentials.

☐ If applicable, a written agreement from all involved units that they are in support of, will provide courses to, or will participate in the program, track, or certificate.

☐ Course Action Request forms, as needed.

☐ Library assessment of resources.

College/Unit(s) Submitting Proposal: COM—BSBS

Proposed Effective Term/Year: Immediately

Unit(s) Housing Program: Burnett School of Biomedical Sciences

Name of program, track and/or certificate: Neuroscience Track in MS Biomedical Sciences

Please check all that apply: This action affects a: ☐ Program ☑ Track ☐ Certificate

DELIVERY: Program will be delivered: ☑ Face to Face ☐ Completely Online ☐ Mixed Delivery

Will the program be a **market tuition rate** program? ☑ Yes ☐ No

Brief description of program and rationale for the addition: **Do not add complete catalog copy here.**

Neuroscience Track is a non-thesis option in MS Biomedical Sciences which will attract, educate and train graduate students in the area of Neuroscience. Graduates in this program may pursue doctoral training or pursue professional education focused on Medicine and Neuroscience.

Impact on Current Students

Will students be moved from an existing program, track, or certificate into this new program, track, or certificate? ☑ Yes ☐ No

If yes, state the name of the program or track where students are currently enrolled and attach a list of students if possible:

Students enrolled in MS Biomedical Sciences may choose to select the Neuroscience Track.

Will students have the option to stay in their existing program, track, or certificate? ☑ Yes ☐ No

If yes, how will current students be impacted by the addition of a program, track or certificate?

Current enrolled students in MS Biomedical Sciences will be given an opportunity to select the Neuroscience Track, if interested. The main goal of the new track is to increase local and international enrollment in the Burnett School of Biomedical Sciences Graduate Program and the College of Graduate Studies.

Future Students

Provide a statement of who is likely to enroll and why. Please state if there is licensure or certification that depends upon this education, etc. Also, complete the following table.

-Students with ambition to pursue a career in Neuroscience.
-Students with ambition to pursue doctoral/Medical/other professional education and in need of additional academic credentials.
-Others seeking professional development in Neuroscience.

	Year 1	Year 2	Year 3
Headcount	10	15	20
SCHs	10X33CR330	495	660

Indicate likely career or student outcomes upon completion: (What will students do? What will their job titles be?)

Pursue professional education (MD, PHD, DOD...)
Pursue career in Neuroscience, Clinical, Psychology, Sports Medicine...

Please complete the following table on financial support: (Specify all forms of support – assistantships, fellowships, and tuition remission.)

	Number of assistantship students	Source of funds	Number of fellowship students (specify fellowship)	Number of tuition remissions	Source of funds
Year 1	No		No	No	
Year 2	No		No	No	
Year 3	No		No	No	

Signature Page

Recommend Approval (all approval levels must be signed)

Department Chair /Director (Print) Griffith Parks (Signature) _____ Date 8/27/15

College Academic Standards (Print) Saleh Naser (Signature) _____ Date 8/27/15

College Dean (Print) Richard Peffley (Signature) _____ Date 9-1-15

Graduate Council (Print) _____ (Signature) _____ Date _____

Graduate Dean (Print) _____ (Signature) _____ Date _____

Approval

Provost and Executive Vice President: _____ Date _____

Distribution: After approval is received from the Provost, distribution will be to:

Department(s); College; Registrar; Associate Registrar; Institutional Knowledge Management; Academic Services; College of Graduate Studies

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DraftProposal

NEUROSCIENCE
Non-thesistrack in MS Biomedical Sciences

Burnett School of Biomedical Sciences College of Medicine

Dean:DeborahGerman
Director: Griffith Parks
Coordinator: Saleh Naser

407-823-0955
Saleh.naser@ucf.edu

Non-thesis NEUROSCIENCE Track

MS Biomedical Sciences

Burnett School of Biomedical Sciences
College of Medicine

With new leadership in the Burnett School of Biomedical Sciences (BSBS), there is now a clearer roadmap to advance the academic and research missions In the School, with the goal of becoming a Tier 1 academic/research Institution. The new Director's roadmap for the School includes an emphasis on developing cohesive science-based units that have a shared identity. A cornerstone of this plan involves establishing departments within BSBS, including Neuroscience, Infection, Cancer and Metabolic disorders such as cardiovascular diseases. Academic tracks at the MS and PhD level will play an essential role in this plan, since training and educating graduate students in these focused scientific areas will be drivers in the identity, growth, interactions, and sustainability of each of the departments.

MS Biomedical Sciences is a non-thesis broadly based graduate program which we identified as a starting point to execute the BSBS Director's plan. We propose a non-thesis NEUROSCIENCE track for MS Biomedical Sciences. This Neuroscience track will serve as a prototype for other BSBS tracks to facilitate restructuring within the School's training and educational activities.

While the non-thesis NEUROSCIENCE track for MS Biomedical Sciences is a natural starting point for the educational mission of the BSBS departments, there are a number of other major strengths which can impact UCF as a whole.
The Neuroscience track will:

1- provide significant visibility and marketing of COM graduate programs and ultimately recruitment of more quality national/international students.
2- retain many of the UCF students who are seeking professional education following undergraduate graduation.
3- be self-sustained and will not require development of new courses or recruitment of new instructors.
4- solidify and strengthen partnerships with other UCF units including Psychology, Computer Science, COHPA and others.
5- form the core from which potential Training Grants and Fellowship Programs can emerge.
6- become a pipeline to the interdisciplinary Biomedical PhD program which should increase the pool of applications and raise the quality of our students.

Comparison of curricular requirements for MS Biomedical Sciences and the proposed "Neurosciences" Track:

MS, Biomedical Sciences (Regular Track) Graduate Requirements	**Neurosciences track in Biomedical Sciences (MS) Graduate Requirements**
BSC6432 (BMS Core I), 5 cr	**BSC6432 (BMS Core I), 5 cr**
BSC6433 (BMS Core II), 5 cr	**BSC6433 (BMS Core II), 5 cr**
MCB6938 or IDS7690 (Grad Seminar), 1 cr (Must complete 2x1cr=2cr)	**MCB6938 or IDS7690 (Grad Seminar), 1 cr** **(Must complete 2x1cr=2cr)**
BSC6431 (Practice of Biomed Sci), 3 cr	**PCB 5837** **Molecular and Cellular Neuroscience (3 cr)**
BSC6407C Laboratory Methods in Molecular Biology, 3 cr	**BSC6407C Laboratory Methods in Molecular Biology, 3 cr**
Biomedical Specialization (only 2 courses required) MCB 5225 Molecular Biology of Disease (3 cr) MCB 6226 Molecular Diagnostics (3 cr) PCB 5238 Immunobiology (3 cr) PCB 5236 Cancer Biology (3 cr) PCB 5275 Signal Transduction Mechanisms (3 cr) PCB 5527 Genetic Engineering and Biotechnology (3 cr) PCB 5709C Laboratory Virtual Sim in Physiology (2 cr) PCB 5815 Molec Aspects of Obesity Metabolism (3 cr) PCB 5834C Advanced Human Physiology (4 cr) IDS 5127 Foundation of Bio-Imaging Science (3 cr) BSC 5418 Tissue Engineering (3 cr) GEB 5516 Technological Entrepreneurship (3 cr) Microbiology Specialization (only 2 courses required) MCB 5205 Infectious Processes (3 cr) MCB 5505 Molecular Virology (3 cr) MCB 5208 Cellular Microbiology: Host-Pathogen (3 cr) MCB 5654 Applied Microbiology (3 cr) MCB 6417C Microbial Metabolism (3 cr) MCB 5932 Current Topics in Molecular Biology (3 cr) MCB 5415 Cellular Metabolism (3 cr) MCB 5209 Microbial Stress Response (3 cr) PCB 6595 Regulation of Gene Expression (3 cr) PCB 5235 Molecular Immunology (3 cr)	**Neuroscience Elective Courses, 12 cr** **Must take at least 4 courses of the following:** **DEP 5057 Developmental Psychology (3 cr)** **SPA 6417 Cognitive/Communicative Disorders (3 cr)** **PCB 5275 Signal Transduction Mechanism (3 cr)** **IDS 5127 Foundation of Bio-Imaging Science (3 cr)** **ZOO 5748 Clinical Neuroanatomy (3 cr)** **ZOO 5749 Clinical Neuroscience (3 cr)** **CAP 6616 Neuro-Evolution and Generative Developmental (3 cr)** **PCB 5838 Cellular and Molecular Bases of Brain Functions (3 cr** **BSC 5418 Tissue Engineering (3 cr)** **PCB 5709C Laboratory Virtual Simulations in Physiology (2 cr)** **PCB 5834C Advanced Human Physiology (4 cr)** **EXP 5254 Human Factors and Aging (3 cr)** **IDS 5717C Introduction to Modeling and Simulation (3 cr)** **IDS 6916 Simulation Research Methods and Practicum (3 cr)** **Others (must be approved by Program Coordinator)**
MCB6026 Capstone Course, 3 cr Anything in Biomedical sciences	**MCB6026 Capstone Course, 3 cr** **ONLY in Neuroscience**
Pass Oral Comprehensive Exam (Capstone)	**Pass Oral Comprehensive Exam (Capstone)**
Teaching Requirements 2 semesters	**Teaching Requirement** **1 semester teaching**
Research Shadowing No	**(optional) Research Shadowing in 1 semester**
TOTAL CREDITS = 33	**TOTAL CREDITS = 33**

Required Courses—18 Credit Hours

BSC 6432 Structure-Function-Relationships of Biomedical Sciences I (5 credit hours) BSC 6433 Structure-Function-Relationships of Biomedical Sciences II (5 credit hours) BSC 6407C Laboratory Methods in Molecular Biology (3 credit hours)
MCB 6938 Seminar or IDS 7690 Seminar (1 credit hour, to be repeated by all students) PCB 5837 Molecular and Cellular Neuroscience (3 credit hours)

Elective Courses—12 Credit Hours

Nonthesis students take 12 credit hours of electives Neuroscience courses:

SPA 6417 Cognitive/Communicative Disorders (3 cr)
PCB 5275 Signal Transduction Mechanism (3 cr)
ZOO 5748 Clinical Neuroanatomy (3 cr)
ZOO 5749 Clinical Neuroscience (3 cr)
CAP 6616 Neuro-Evolution and Generative Developmental (3 cr)
PCB 5838 Cellular and Molecular Bases of Brain Functions (3 cr
BSC 5418 Tissue Engineering (3 cr)
PCB 5709C Laboratory Virtual Simulations in Physiology (2 cr)
MCB 5225 Molecular Biology of Disease
PCB 5834C Advanced Human Physiology (4 cr)
EXP 5254 Human Factors and Aging (3 cr)
IDS 5717C Introduction to Modeling and Simulation (3 cr)
IDS 6916 Simulation Research Methods and Practicum (3 cr)
EXP 5208 Sensation and Perception (3 cr)
PSB 5005 Physiological Psychology (3 cr)
EXP 6116 Visual Performance (3 cr)
EXP 6506 Human Cognition and Learning (3 cr)
PSB 6348 The Neuroanatomical Basis of Psychological Function (3 cr)
PSB 6328 Psychophysiology (3 cr)
PSB 6352 Neuroimaging Design and Analysis Methods (3 cr)
Others (must be approved by Program Coordinator)

Capstone—3 Credit Hours
• MCB 6026 Capstone Course (3 credit hours minimum)

An in-depth current literature research report in the area of Neuroscience will be required for each student. The student will select a faculty adviser to chair a faculty committee of three members for evaluation of the report.

The Capstone Process:

Students are encouraged to contact faculty as early as possible in order to identify a faculty whose research focus complements the student's interest. The student and the mentor should select two additional faculty members to serve on the capstone evaluation committee.

Students must submit a signed Capstone Committee form to Dr. Naser for approval as soon as the registration for the course is complete. Form must be submitted to the Program Office.

Once you are ready to defend your Capstone project you must register for the capstone course (MCB 6026) for three credit hours. It is important that the student register for the capstone course with the intention of completing the project at the end of the semester.

The Capstone Report:

Evaluation of the capstone project requires a written report (in a format of a mini-review manuscript), and a presentation (project defense) in front of the capstone committee. No visitors are allowed during the capstone defense. Students may ask for advice and guidance from the project mentor/chair. The average capstone report ranges from 10-15 single-space page in a manuscript format with proper citations. The student's Committee Chair will be responsible for checking the report for plagiarism using either Turnitin or iThenticate before the report is shared with the committee. **The committee must receive the report one week before time of presentation.**

Note: The defense (presentation) must be held no later than one week before final exam week.

The Capstone Defense/Comprehensive Exam:

The capstone defense and comprehensive exam evaluation is designed to evaluate the student knowledge and understanding of the project and other relevant subjects in the field. Questions asked by the capstone committee to evaluate the student competent in the field will satisfy the requirement of the comprehensive exam. The oral presentation will take place in the form of a 30-40 min seminar and will be followed by questions and discussion.

The student will be evaluated on performance in all three sections (written report, oral presentation and ability to answer questions).

Should the student fail, a second opportunity will be provided within 2 weeks of the first attempt. A second failure will result in "U" in the course and dismissal from the program.

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~~An oral presentation on the written capstone report will be used as a final examination. A majority of the program faculty must be present for the final examination. Before graduation, the report should be submitted for consideration of publication as a review article in appropriate journals.~~

Comprehensive Examination

Nonthesis students must pass an oral comprehensive exam to qualify for the Master of Science

degreeDegree. Students must successfully pass an oral comprehensive examination to test the understanding of the basic concepts in the field and relevant applications. The comprehensive examination will be conducted during the capstone defense and will be administered by the capstone committee. Should the student fail this exam, a second opportunity will be provided within 2 weeks of the first attempt. A second failure will result in dismissal from the program.

Teaching Requirement

Students without significant prior teaching experience, such as, but not limited to, a minimum of a year insecondary schools or colleges, are required to serve as Graduate Teaching Assistants for a minimum of one semester (one semester in at least one lab section).

Optional: Research Shadowing
Non-thesis MS students are encouraged to discuss with their capstone mentor the possibility of joining the lab for research shadowing other graduate students. Acquired lab skills should assist students with the capstone project and future endeavor.

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Suggested Choreography

Year 1
Fall (9 er)
- BSC 6432 Structure-Function-Relationships of Biomedical Sciences I (5.0)
- MCB 6938 Lecture/Seminar (1.0)
- MCB 6407C (Laboratory Methods in Molecular Biology) (3.0)

Spring (9 er)
- BSC 6433 Structure-Function-Relationships of Biomedical Sciences II (5.0)
- MCB 6938 Lecture/Seminar (1.0)
- Elective (3.0)

Summer (6 er)
- MCB 6026 Capstone/Comprehensive Exam (3.0)
  Elective (3.0)
- Teaching One Lab Section

Year 2
Fall (9 er)
- PCB 5837 Molecular and Cellular Neuroscience (3 er)
- Elective (3.0)
- Elective (3.0)

Timeline for Completion

MS Biomedical Sciences Program
Neuroscience Track

Burnett School of Biomedical Sciences

College of Medicine

Dean: Deborah German

Director: Griffith Parks

Coordinator: Saleh Naser

MS BIOMEDICAL SCIENCES PROGRAM NEUROSCIENCE TRACK

PROGRAM DESCRIPTION

The Master of Science in Biomedical Sciences Program Neuroscience Track is a non-thesis option for students wanting to further their knowledge in the neuroscience field and who may pursue doctoral training or pursue professional education focused on medicine and neuroscience.

Students interested in research and thesis work should apply to the Master of Science in Biotechnology program.

CURRICULUM

The Biomedical Sciences Neuroscience non-thesis program requires a minimum of 33 credit hours of courses that includes a capstone experience. The Program addresses the need of applicants who want to further their knowledge in the neuroscience field and want to pursue doctoral training or professional education with a focus on medicine and neuroscience. Students will take a series of required Core courses, with the remaining courses relevant to neuroscience and will be required to complete a Neurosciences focus Capstone project.

Non-thesis students are not considered for departmental graduate assistantships or tuition assistance.

NON-THESIS OPTION - 33 Credit Hours minimum

REQUIRED COURSES - 18 Credit Hours

- BSC 6432 Structure-Function-Relationships of Biomedical Sciences I (5 credit hours)
- BSC 6433 Structure-Function-Relationships of Biomedical Sciences II (5 credit hours)
- BSC 6407C Laboratory Methods in Molecular Biology (3 credit hours)
- PCB 5837 Molecular and Cellular Neuroscience (3 credit hours)
- MCB 6938 Seminar or IDS 7690 Seminar (1 credit hour, to be repeated by all students)

ELECTIVE COURSES - 12 Credit Hours

Non-thesis students take 12 credit hours of electives Neuroscience courses:

SPA 6417 Cognitive/Communicative Disorders (3 er)
PCB 5275 Signal Transduction Mechanism (3 er)
ZOO 5748 Clinical Neuroanatomy (3 er)
ZOO 5749 Clinical Neuroscience (3 er)
CAP 6616 Neuro-Evolution and Generative Developmental (3 er)
PCB 5838 Cellular and Molecular Bases of Brain Functions (3 er
BSC 5418 Tissue Engineering (3 er)
PCB 5709C Laboratory Virtual Simulations in Physiology (2 er)
MCB 5225 Molecular Biology of Disease
PCB 5834C Advanced Human Physiology (4 er)
EXP 5254 Human Factors and Aging (3 er)
IDS 5717C Introduction to Modeling and Simulation (3 er)
IDS 6916 Simulation Research Methods and Practicum (3 er)
EXP 5208 Sensation and Perception (3 er)
PSB 5005 Physiological Psychology (3 er)
EXP 6116 Visual Performance (3 er)
EXP 6506 Human Cognition and Learning (3 er)
PSB 6348 The Neuroanatomical Basis of Psychological Function (3 er)
PSB 6328 Psychophysiology (3 er)
PSB 6352 Neuroimaging Design and Analysis Methods (3 er)
Others (must be approved by Program Coordinator)

CAPSTONE -(NEUROSCIENCE FOCUS) 3 Credit Hours

• MCB 6026 Capstone Course (3 credit hours minimum)

An in-depth current literature research report in the area of Neuroscience will be required for each student. The student will select a faculty adviser to chair a faculty committee of three members for evaluation of the report.

An oral presentation on the written capstone report will be used as a final examination. A majority of the Committee must be present for the final examination. Before graduation, the report should be submitted for consideration of publication as a review article in appropriate journals.

LABORATORY OBSERVATION (Optional)

Students are encouraged to spend one semester of research shadowing in the lab of the Capstone project chair.

COMPREHENSIVE EXAM

Non-thesis students must pass an oral comprehensive exam to qualify for the Master of Science degree.

Students must successfully pass an oral comprehensive examination to test the understanding of the basic concepts in the field and relevant applications. The comprehensive examination will be conducted during the capstone defense and will be administered by the capstone committee. Should the student fail this exam, a second opportunity will be provided within 2 weeks of the first attempt. A second failure will result in dismissal from the program.

TEACHIIDNG REQUIREMENT

Students without significant prior teaching experience, such as, but not limited to, a minimum of a year in secondary schools or colleges, are required to serve as Graduate Teaching Assistants for a minimum of one semester (one semester in at least one lab section).

INDEPENDENT LEARNING

In the final semester of study, non-thesis students will complete a capstone course that requires an in-depth current literature research report on a relevant subject, which will serve as the independent learning experience. The student will select a faculty adviser to chair a faculty committee of three members for evaluation of the report.

~~Suggested Choreography~~Suggested Choreography

Year1

Fall	Spring	Summer
• BSC 6432 Structure-Function-Relationships of Biomedical Sciences I(5.0) • MCB 6938 Lecture/Seminar (1.0) • MCB 6407C (Laboratory Methods in Molecular Biology) (3.0)	• BSC 6433 Structure-Function-Relationships of Biomedical Sciences II(5.0) • ~~PCB 5837 Molecular and Cellular Neuroscience (3.0)~~ • Elective 1 (3.0) • MCB 6938 Lecture/Seminar (1.0)	• Elective ~~1~~ 2 (3.0) • MCB 6026 Capstone/Comprehensive Exam (3.0) • ~~Teaching One Lab Section~~

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Semester Total: 9 credit hours Semester Total: 9 credit hours Semester Total: 6 credit hours

Year 2

Fall

- PCB 5837 Molecular and Cellular Neuroscience (3 er)
- ~~Elective 2 (3.0)~~
- Elective 3 (3.0)
- Elective 4 (3.0)
- Teaching One Lab Section

Semester Total: 9 credit hours

Students are required to complete a Plan of Study specifying course degree requirements

College : Medicine
Degree : MS Biomedical Sciences
Track: Neuroscience
Department : Molecular Biology and Microbiology
~~Option : Non-thesis Neuroscience Track~~
Program Websites : http://biomed.ucf.edu

University of Central Florida

Psychology Department

May 27, 2015

To the UCF Graduate Council,

I have reviewed the curriculum, goals, and mission of the proposal from the Burnett School of Biomedical Sciences (BSBS) to add a Neurosciences track to their M.S. program. The Department of Psychology and BSBS are founding departments in the Multidisciplinary Neuroscience Alliance at UCF and this proposal is consistent with the goals of the alliance. The Department of Psychology will endeavor to provide access to our graduate courses, research laboratories, and research supervisors. We support the approval of this program and our intention is to fully collaborate on this effort.

Sincerely,

Jeffrey E. Cassisi

Jeffrey E. Cassisi, Ph.D.
Professor & Chair
Jeffrey.Cassisi@ucf.edu
(919) 889-9625

Memo

To:

Dr. Deborah German, Dean, UCF College of Medicine
Dr. Saleh A. Naser, Program Director
Ms. Nadine Dexter, UCF College of Medicine, Library Director
Mrs. Ying Zhang, Interim Dept. Head, Acquisitions & Collections
Ms. Mary Page, Assoc. Director, Technical Services
Mr. Barry Baker, Director of Libraries
Dr. John Weishampel, CGS Liaison
Dr. Mubarak Shah, Interim Vice Provost and Dean, Graduate School

From: Terrie Sypolt, Reference Librarian

Subject: Library Evaluation of the Proposal to Add the Neurosciences Track in the M.S. in Biomedical Sciences

Date: September 11, 2015

Hereafter, the Library at the UCF College of Medicine should do program evaluations prior to them coming to the Graduate Council. Because of the limited time frame, I attempted this one.

When reviewing library support for the new Neurosciences Track in the M.S. program in Biomedical Sciences, Dr. Saleh Naser and I selected the following institutions for the comparison:

- University of Florida, biomedical neurosciences certificate for pre-med students
- Duke University, pre-doctoral and post-doctoral
- Emory University, Neurosciences Initiative for Undergrad and doctoral students
- Central Michigan University, has only an M.S. in Neurosciences

Databases: The UCF Libraries' database list shows that we lack several databases held by the majority of other institutions compared to ours.

- **BIOSIS Citation Index (includes BIOSIS Previews)** or BIOSIS Previews is held by all 4 of the other schools. It would be most used by doctoral students, so purchase of this one can be delayed until a doctoral program is pursued.
- **Current Protocols** is held by Florida, Duke and Emory, and again would be used largely by doctoral students. Thus, should UCF pursue a doctoral program in the Neurosciences, Current Protocols should be purchased at that time.
- **PrimateLit** indexes the scientific literature on primatology/nonhuman primates. Coverage includes all publication categories (articles, books, abstracts, technical reports, dissertations, book chapters, etc.) and many subject areas including behavior, colony management, ecology, reproduction, field studies, disease models, veterinary science, psychology, physiology, pharmacology, evolution, taxonomy, developmental and molecular biology, genetics and zoogeography. Central Michigan does not have this source. Depending upon the emphasis of our program, PrimateLit may not be necessary until a doctoral program is pursued in this area.

- **PsycEXTRA** is the premier resource for gray literature, including the latest conference proceedings, patient-oriented factsheets, and other useful and hard-to-find content from authoritative resources. It is updated bi-weekly and presents new developments and research in psychology and the behavioral sciences. Florida, Duke and Emory all have this database. Central Michigan does not.
- **R2 Digital Library** is a web based database available from Rittenhouse Book Distributors. It offers fully integrated and searchable medical, nursing and allied health source book content from key health science publishers, on a web based platform. All institutions in this comparison had this e-book platform. The UCF Medical School had it, but dropped the subscription.
- **Reaxys** is a workflow solution for accessing the combined wealth of trustworthy, experimental substance and reaction data and bibliographic data housed in the Beilstein, Gmelin and Patent Chemistry Databases. All institutions compared to ours had Reaxys. $22,000.00 the first year + 7% increase each year thereafter for inflation costs.
- **Scopus** is like Web of Science. It is an abstract and citation database of peer reviewed literature across the fields of science, math, technology, engineering and medicine. This has been on our wish list for some time. While it would be beneficial to the Neurosciences program, it is not a necessary database.
- **Zoological Record** is a database of animal biology. Taxonomic reference to animal names. While all institutions with which we compared our holdings had a current subscription to Zoological Record, UCF's subscription coverage ends in 2007.

Database analysis: For the Master's degree BIOSIS Citation Index, Current Protocols, PsycEXTRA, and Scopus are not required. Should the program expand into a Ph.D, one would need to revisit these databases.

R2 Digital Library is an e-book database that the Medical School would know whether or not it would be necessary to support the Master's degree. Looking at the monograph numbers, I would not think so.

PrimateLit and Zoological Record are nonhuman primate databases. Since the classes offered in the proposed Master's are human primates, we are probably ok with the biology databases we have for animal biology.

Journals: Thanks to PubMed Central, ClinicalKey, SpringerLink, Wiley, and Science Direct, the UCF Libraries and the UCF Medical School have the needed journals to support a Master's degree in the Neurosciences. Should ***NeuroReport*** be needed by the program, it can be purchased by the department later.

Reference Works: UCF's reference works compare favorably with those of other institutions.

Books: With the huge collection of journals and textbooks in ClinicalKey, Springer e-books and Wiley, UCF's book collection will support a Master's in the Neurosciences. Should this program expand to a doctorate, the book collection would need to be upgraded.

Total Costs for Program Support: $0.00 for the Master's Program. Revisit database needs if a Ph.D. is proposed

UCF Neurosciences M.S.

Databases

Database Titles	UCF	UF	Duke	Emory	Central Mich
AccessMedicine	x	x		x	x
AccessScience Ency of Sci & Tech				x	
ALTBIB: Bibliography on Alternatives to Animal Testing			x	x	
Animal Behavior Abstracts	x	x		x	
Anthropology Plus	x	x	x	x	x
BIOSIS Citation Index (Includes BIOSIS Previews)		x	x		x
BIOSIS Previews				x	x
ClinicalKey	x	x	x	x	x
Cochrane Library	x	x	x	x	x
Current Protocols		x	x	x	
Inspec	x	x	x		
Linguistics & Language Behavior Abstracts	x	x	x	x	x
Medline	x	x	x	x	x
Mental Measurements Yrbook with Tests in Print	X	x	x	x	x
National Technical Reports Library	x	x	x	x	x
Neurosciences Abstracts	x				
Oxford Scholarship Online Neuroscience	Have new ones. Not retrospective collection	x	x	x	
PILOTS	x	x	x	x	x
PrimateLit		x	x	x	
ProQuest Dissertations & Theses	x	x	x	x	x
PsychiatryOnline	COM access only	x	x	x	x
PsycEXTRA (part of PsycNET)		x	x	x	
PsycINFO	x	x	x	x	x
PubMed	x	x	x	x	x
R2 Digital Library	Subscription dropped	x	x	x	x
Reaxys		x	x	x	x
Sage Research Methods Online	x		x	x	
SciFinder	x	x	x	x	x
Scopus			x	x	
Society for Neuroscience http://www.sfn.org/	x	x	x	x	x
SpringerProtocols	x	x	x	x	x

Database Titles	UCF	UF	Duke	Emory	Central Mich
Web of Science	x	x	x	x	x
Zoological Record	Our coverage stopped in 2007	x	x	x	x

Journals

Journal Title	UCF	UF	Duke	Emory	C Mich
ACS Chemical Neuroscience	x	x	x	x	x
Advances in Clinical Neuroscience & Rehabilitation	x	x	x	x	x
African Journal of Neurological Sciences	x	x	x	x	x
AIMS Neuroscience	x	x	x	x	
American Journal of Bioethics	x	x	x	x	x
Annals of Indian Academy of Neurology	x	x	x	x	x
Annals of Neurosciences	x	x	x	x	x
Annual Review of Neuroscience	x	x	x	x	x
Archives of Neuroscience		x	x	x	x
Autonomic Neuroscience: Basic & Clinical	x	x	x	x	x
Basic and Clinical Neuroscience (Turn on)	x	x	x	x	
Behavioral and Brain Sciences	x	x	x	x	x
Behavioral Sciences	x	x	x	x	x
BMC Neuroscience	x	x	x	x	x
Brain	x	x	x	x	x
Brain and Behavior	x	x	x	x	x
Brain & Mind	x	x	x	x	x
Brain Cell Biology	x	x	x	x	
Brain Research	x	x	x	x	x
Brain Research Bulletin	x	x	x	x	x
Brains, Minds & Media: Journal of New Media in Neural and Cognitive Science and Education (open access)		x	x		
Cell Death and Disease	x	x	x	x	x
Cerebrum	x	x	x	x	x
Clinical EEG and Neuroscience	x	x	x	x	x
Clinical Neurophysiology	x	x	x	x	x
Clinical Neuroscience Research	x	x	x	x	x
Cognitive, Affective, & Behavioral Neuroscience	x	x	x	x	x
Cognitive Neurodynamics	x	x	x	x	x
Computational Intelligence and	x	x	x	x	x

Journal Title	UCF	UF	Duke	Emory	C Mich
Neuroscience					
Current Neurology and Neuroscience Reports	x	x	x	x	x
Current Opinion in Neurobiology	x	x	x	x	x
Debates in Neuroscience		x			
Developmental Cognitive Neuroscience	x	x	x	x	x
Dialogues in Clinical Neuroscience	x	x	x	x	x
Electroneurobiología	x	x			x
European Archives of Psychiatry & Neurological Sciences	x	x	x	x	x
European Journal of Neuroscience	x	x	x	x	x
Frontiers in Behavioral Neuroscience	x	x	x	x	x
Frontiers in Cellular Neuroscience	x	x	x	x	x
Frontiers in Computational Neuroscience	x	x	x	x	x
Frontiers in Evolutionary Neuroscience	x	x	x	x	x
Frontiers in Human Neuroscience	x	x	x	x	x
Frontiers in Integrative Neuroscience	x	x	x	x	x
Frontiers in Molecular Neuroscience	x	x	x	x	x
Frontiers in Neuroenergetics	x	x	x	x	x
Frontiers in Neuroengineering	x	x	x	x	x
Frontiers in Neuroinformatics	x	x	x	x	x
Frontiers in Neuroscience	x	x	x	x	x
Frontiers in Synaptic Neuroscience	x	x	x	x	x
Impulse	x	x	x	x	x
Innovations in Clinical Neuroscience	x	x	x	x	x
International Journal of Brain Science		x	x		
Invertebrate neuroscience	x	x	x	x	x
ISRN Neuroscience	x	x	x	x	x
Journal of Clinical Neuroscience	x	x	x	x	x
Journal of Cognitive Neuroscience	x	x	x	x	x
Journal of Comparative Neurology	x	x	x	x	x
Journal of Computational Neuroscience	x	x	x	x	x
Journal of Experimental Neuroscience	x	x	x	x	x
Journal of Integrative Neuroscience	x	x	x	x	x
Journal of Mathematical Neuroscience	x	x	x	x	x
Journal of Molecular Neuroscience	x	x	x	x	x
Journal of Musculoskeletal and	x	x	x	x	x

Journal Title	UCF	UF	Duke	Emory	C Mich
Neuronal Interactions					
Journal of Neural Transmission (wiley)	x	x	x	x	x
Journal of Neurochemistry	x		x	x	x
Journal of Neuroscience	x	x	x	x	x
Journal of Neuroscience and Behavioral Health	x	x	x	x	x
Journal of Neurodevelopmental Disorders	x	x	x	x	x
Journal of Pediatric Neurosciences	x	x	x	x	x
Journal of Psychiatry & Neuroscience	x	x	x	x	x
Molecular and Cellular Neurosciences	x	x	x	x	x
Molecular Brain	x	x	x	x	x
Molecular Psychiatry	x	x	x	x	x
Monographs in Clinical Neuroscience			x		
Nature	x	x	x	x	x
Nature Neuroscience	Current yr not available	x	x	x	x
Nature Reviews: Neuroscience	x	x	x	x	x
Neurobiology of Disease	x	x	x	x	x
NeuroImage	x	x	x	x	x
Neuroinformatics	x	x	x	x	x
Neurological sciences	x	x	x	x	x
Neurology, Psychiatry and Brain Research	x	x	x	x	x
Neuron	x	x	x	x	x
Neuropathology and Applied Neurobiology	x	x	x	x	x
Neuro-psychoanalysis			x	x	
NeuroReport		x	x	x	x
Neuroscience	x	x	x	x	x
Neuroscience Journal	x	x	x	x	x
Neuroscience Research	x	x	x	x	x
Neuroscientist	x	x	x	x	x
Neurotoxicity Research (catalog?)			x	x	
Open Neuroscience Journal	x	x	x	x	x
PLoS Biology	x	x	x	x	x
Proceedings of the National Academy of Sciences, A, B, U.S.	x	x	x	x	x
Progress in Neurobiology	x	x	x	x	x
Psychiatry and Clinical Neurosciences	x	x	x	x	x

Journal Title	UCF	UF	Duke	Emory	C Mich
Restorative Neurology and Neuroscience	x	x	x	x	x
Science	x	x	x	x	x
Social, Cognitive, and Affective Neuroscience	x	x	x	x	x
Trends in Cognitive Sciences	x	x	x	x	x
Trends in Neurosciences	x	x	x	x	x
Visual Neuroscience	x	x	x	x	x

Reference Works (Many are SpringerLink or Wiley)

Reference Titles	UCF	UF	Duke	Emory	C. Michigan
Biological Psychology: An Introduction to Behavioral, Cognitive and Clinical Neuroscience			x	x	
Concise Encyclopedia of brain and language	x	x		x	x
Developmental neurobiology	x	x	x	x	x
Dictionary of cognitive science : neuroscience, psychology, artificial intelligence, linguistics, and philosophy	x	x	x	x	x
DSM- V	x paper	x	x	x	x
Encyclopedia of neuroscience	x	x	x	x	x
Essential handbook of memory disorders for clinicians (Wiley)	x	x	x		x
Handbook of clinical child neuropsychology (SpringerLink)	x	x	x	x	x
Handbook of developmental cognitive neuroscience (MIT)	x	x	x	x	x
Handbook of developmental social neuroscience	x		x	x	x
Handbook of neurodevelopmental and genetic disorders in children			x	x	x
Handbook of neuroscience for the behavioral sciences	x				x
Handbook of pediatric neuropsychology		x			x
MATLAB for neuroscientists (eBook)			x	x	

Reference Titles	UCF	UF	Duke	Emory	C. Michigan
Neurons in Action 2			x		
The neuropsychology handbook	Need 3d ed HAVE 1ST	X 3d	X 3d	X 2d	x
Oxford handbook of philosophy and neuroscience	X	x	x	x	x
Principles of Cognitive Neuroscience	X		x	x	

Books

Subject Heading	UCF	U Florida	Duke	Emory	Central Mich
Brain	3,102	3,572	3,105	2,049	2,373
Brain Physiology	1,270	1,363	974	1,290	295
Nervous system	2,260	2,990	3,171	1,025	995
Neurobiology	257	305	214	315	138
Neurochemistry	167	239	114	296	32
Neuropsychology	694	747	748	612	533
Neurosciences	526	519	631	673	289
Cognitive neuroscience	395	314	411	304	206

UNIVERSITY OF CENTRAL FLORIDA
COLLEGE OF GRADUATE STUDIES

Split-Level Class Action Request Form

The Graduate Council Curriculum Committee discourages the establishment of split-level classes. Graduate students are entitled to more challenging content, instruction, and assessment, which are difficult to provide in classes offered to undergraduates as well. Circumstances may compel a unit to propose a split-level class. In these cases, the proposal should indicate the reasons a split-level class is necessary and what long-term measures are being taken to provide undergraduates and graduates with appropriate coursework. In addition, it is important to differentiate each of the undergraduate and graduate course elements. To provide reviewers with a clear delineation of the differences between the 4000 and 5000 courses, Summary Tables 1 and 2 should be completed.

Please submit this form along with the completed Course Action Request (CAR) form. Include both the 4000 syllabus and the 5000 syllabus. **The 5000 syllabus should bold any additions or differences.**

Provide narrative rationale for split-level class:

Interest from undergraduate students has increased over the years. Additionally, this course is one of only a few options within a required group of courses for Biology majors (the Systematic group of courses). Undergraduate students taking herpetology at the graduate level are forced to pay graduate level tuition and need to participate in objectives and assessment that do not match with typical undergraduate courses. Therefore, the undergraduate version of the course has been adapted so that undergraduates can still learn content, but at the level accustomed to upper level undergraduate courses. Hence, graduate and undergraduate students will have substantial differences throughout the Herpetology course. Both the department of biology undergraduate and graduate curriculum committees have approved herpetology being taught as a split-level course.

Table 1— List any **course objectives or content:**

1) that is common to both the undergraduate and graduate syllabi but have been differentiated for undergraduate and graduate students. For example, an objective for undergraduates may require identification of a concept where the graduate objective may require application;

or

2) in cases where entirely new objectives or content have been added to the existing undergraduate objectives and content, in the 5000 course column list any course elements that the graduate syllabus requires in addition to the elements of the undergraduate syllabus. For example, if there are 3 course readings in the undergraduate syllabus and a 4th reading was added for the graduate syllabus, list it in the 5000 course column and leave the 4000 course column blank.

Table 1 Differences Between 4000 and 5000 Course Objectives & Content

Course Element	4000 Course	5000 Course
Grading	750 pts	900 pts
Paper/Presentation	8-10 pages	Biogeography Presentation and paper 12-15 pages
Participation	Participation in discussions	Must be discussion leader

Table 2—List different or additional **assessment** elements (course assignments and tests that count toward the grade). For example, if an undergraduate course assignment that requires students to read an article and write a reflection has been expanded to require graduate students to read a book and present it to the class, the two versions of this assignment would be contrasted in this table. If a third exam was added for graduate students, list it in the 5000 column.

Table 2 Differences Between 4000 and 5000 Course Assessment			
Course Element	**4000 Course Assessment & % of grade**	**5000 Course Assessment & % of grade**	
Grading	750 pts	900 pts	
Paper/Presentation	8-10 pages	Biogeography Presentation and paper 12-15 pages	
Participation	Participation in discussions	Must be discussion leader	

For more information, contact the College of Graduate Studies (graduate@mail.ucf.edu or 407-823-2766) in Millican Hall 230.

Herpetology (ZOO 5463C)
Spring 2015

Welcome to Herpetology, the study of amphibians and reptiles. These two distantly related groups are the most poorly understood classes of vertebrates because of their creepy-crawly reputations. We will study their fascinating ecology, anatomy, physiology, evolution, systematics, natural history, and conservation. By the end of this semester you will have a good understanding of how these animals work, who they are, and their place in the evolutionary tree of life. Laboratory and field experiences will allow us to examine the herpetofauna of Florida and other regions of the world up close. This semester we will not only learn a great deal about herpetofauna, but will also gain valuable experience in herpetology research.

Course Objectives

- To understand the biology of living and extinct reptiles and amphibians.
- To be able to conduct original herpetological research, including planning, performing, analyzing, writing, and presenting.
- To act as the leader of a research team and to direct a group of undergraduates toward the completion of a valid hypothesis-driven study.
- To become proficient in the capture, handling, and identification of many species of reptiles and amphibians.
- To explore in depth the biogeography of amphibians of a portion of the world and to present those data to the class.
- To understand the relevance of reptiles and amphibians to human society and issues concerning the long-term survival of herpetofaunal species.

Class Meetings:
Tuesday 3:00- 4:20 pm BIO 212; Thursday 12:00-4:20 pm BIO 414

Instructor: Dr. Tiffany M. Doan
Office: BL 439, 407-823-5424
E-mail: Tiffany.Doan@ucf.edu
Twitter: @DoanTiffany, Class Hashtag: #UCFHerps
Office Hours: Tuesday 1:00-3:00 pm and Wednesday 2:00-4:00 pm (I will do my best to be in my office during those times, but things occasionally come up requiring me to be away from my office. Check office door for my location. You can always e-mail me for another meeting time.)

Graduate Teaching Assistant: Rhett Rautsaw
Office: BL 425
E-mail: rautsaw.3@Knights.ucf.edu
Twitter: @ReptileRhett
Office Hours: By appointment

Webcourses Site:
I have a course web site set up on Webcourses (https://webcourses.ucf.edu) that I will use to post materials for the course, including the syllabus, calendar dates, PowerPoints, assignment descriptions, readings, and grades. The course Twitter feed may also be

followed on our webcourse. If you need to contact me, please do so using the Inbox Conversations function in Webcourses.

Required Texts and Materials:

Vitt, L. J., and J. P. Caldwell. 2014. Herpetology: An Introductory Biology of Amphibians and Reptiles, fourth edition

Conant, R., and J. T. Collins. 1998. Field Guide to Reptiles and Amphibians: Eastern and Central North America (Peterson Field Guide), revised edition. Houghton Mifflin Company, Boston.

Recommended Text:

Powell, R., J. T. Collins, and E. D. Hooper. 2012. Key to the Herpetofauna of the Continental United States and Canada, second edition. University of Kansas Press, Lawrence, KS.

Class Policies:

1) All students are required to attend each class meeting. Missed classes mean missed material, which is the responsibility of the student to make up, not the professor. Absences will negatively affect your participation grade.
2) Assigned readings should be completed before attending class.
3) You are encouraged to discuss any and all portions of the class with your professor. Please feel free to come to office hours or make an appointment to discuss the class, especially if you are having difficulty.
4) Respect should be given to fellow students and the instructor. Please do not arrive late to class, walk out in the middle of class, or leave early.
5) Hateful or offensive speech or writing will not be tolerated.
6) Cell phones, iPods, and other electronic devices should be turned off and put away before class starts.
7) Due dates for assignments are firm. Extensions to due dates will not be granted without documented exceptional circumstances. A penalty of 10% per day will be deducted from your assignment grade for any late work.
8) Academic dishonesty (cheating and plagiarism) is strictly prohibited and will be taken very seriously and will result at least in an "F" for that assignment (and may, depending on the severity of the case, lead to an "F" for the entire course) and may be subject to appropriate referral to the Office of Student Conduct for further action. See the UCF Golden Rule for further information.

Course Accessibility:

It is my goal that this class be an accessible and welcoming experience for all students, including those with disabilities that may impact learning in this class. If anyone believes the design of this course poses barriers to effectively participating and/or demonstrating learning in this course, please meet with me to discuss reasonable options or adjustments. You may also contact SDS (Ferrell Commons 185; 407-823-2371; sds@ucf.edu) to talk about academic accommodations.

Herpetology (ZOO 5463C)
Spring 2015

Grading:
The grade for the graduate section of this course will be based on nine aspects. Grades will be assigned according to the following scale: 93-100 = A; 90-92 = A-; 87-89 = B+; 83-86 = B; 80-82 = B-; 77-79 = C+; 73-76 = C; 70-72 = C-; 67-69 = D+; 63-66 = D; 60-62 = D-; ≤ 59 = F.

Two **Lecture Exams** will be given on the dates indicated on the schedule. The exams will not be cumulative but some of the later material depends on a basic understanding of the earlier material. Exams will consist of essays, multiple choice, short answer, matching, and the like, and may include take-home portions. Missed tests will not be allowed to be made up without a documented medical excuse that is presented within 24 hours of missing the exam. Make-up tests will likely be a different (harder) format than the original test. (30%)

Two **Lab Exams** will be given on the dates indicated on the schedule and will be practicals where you will be expected to identify organisms, be able to discuss their natural history, identify anatomy, and the like. Lists will be provided of species that will be on the practicals. All Florida species and other species from other regions of the U. S. and the world may be included. Species will be identified from preserved specimens, photographs, range maps, and natural history. (20%)

Amphibian and **Reptile Family Presentations** will be presented during class on the dates indicated on the schedule. Each student will be assigned two amphibian and two reptile families upon which he/she will conduct a 3-4-minute presentation each to teach the other students about the family. Presentations should include visuals. (8%)

Group Projects will be designed, implemented, analyzed, written, and presented by groups of students. These field projects will examine some aspect of the biology of Florida's herpetofauna. Graduate students will be the leaders of their groups and will be expected to organize and coordinate their groups, in addition to working on the projects. (18%)

Rotation Assignments will be associated with the project field trips. (5%)

A peer **Chapter Review** will be completed of a chapter that is scheduled to appear in a new reptile sampling methodology book. (5%)

A **Biogeography Presentation** will be completed by each graduate student. Each student will select a region of the world represented in the Duellman book and conduct a 20-minute presentation about the assemblage of amphibians in that part of the globe. (6%)

Graduate students will perform **Distribution Analysis** to aid growth of The Reptile Database. Each student will submit four distribution analyses during the semester. (4%)

Effort and Participation in the course will affect your grade. You earn effort points by completing all of the required lab activities, participating fully in discussions and field trips, and having perfect attendance. Poor attendance will negatively affect your grade. If you have more than two unexcused lab absences, miss more than a week straight of class, or fail to participate in all of the required field trips you will fail the course. (4%)

Field Trips:
During the semester, we will have several field trips to capture reptiles and amphibians, to work on field projects, or to visit captive collections of herpetofauna and meet other herpetologists. Approximate dates for all field trips are indicated on the schedule but may need to be altered due to weather or other issues. Scheduled field trips will occur during class time but additional night/weekend field trips may be arranged based on student interest. You are required to attend all scheduled field trips—they will be a lot of fun! Handling of live reptiles and amphibians by the students is at the discretion of the instructor. Care must be taken to insure that the animal will not be injured or endangered. It is forbidden for any student to handle a venomous reptile and may result in a grade of F for the class. The three U. S. herpetological societies have put together guidelines for the use of live amphibians and reptiles in research and education: http://www.asih.org/sites/default/files/documents/resources/guidelinesherpsresearch2004.pdf.

Herpetological Literature:
Below is a suggested reading list of important herpetological books (all available at the UCF library). Journals dedicated to reptiles and amphibians include: **Copeia, *Herpetologica, Herpetological Conservation & Biology, *Herpetological Monographs, *Journal of Herpetology, *Herpetological Review* (a newsletter journal), **Amphibia-Reptilia, Alytes, Salamandra, Herpetological Journal*, and several others. *Indicates that our library maintains a subscription. *Herpetological Conservation & Biology* is free through open access online. All of the other journals are available through interlibrary loan. I have subscriptions to all of the U.S. journals and I am willing to loan individual issues to interested students. The journals are produced by different herpetological societies. Consider joining one of the societies and/or attending their annual meetings if you are serious about herpetology. Societies have discounted rates for students.

Suggested Reading:
Duellman, W. E. and L. Trueb. 1986. Biology of the Amphibians. Johns Hopkins, Baltimore.
Duellman, W. E., ed. 1999. Patterns of Distribution of Amphibians. Johns Hopkins, Baltimore.
Heyer, W. R., M. A. Donnelly, R. W. McDiarmid, L. C. Hayek, and M. S. Foster (eds). 1994. Measuring and Monitoring Biological Diversity: Standard Methods for Amphibians. Smithsonian Institution, Washington DC.
Stebbins, R. C., and N. W. Cohen. 1997. A Natural History of Amphibians. Princeton University Press, Princeton.

Herpetological Societies and Websites:
American Society of Ichthyologists and Herpetologists (http://www.asih.org/)
Herpetologists' League (http://www.herpetologistsleague.org/en/index.php)
Society for the Study of Amphibians and Reptiles (http://www.ssarherps.org/)
Amphibian Species of the World (http://research.amnh.org/herpetology/amphibia/index.php)
The Reptile Database (http://www.reptile-database.org/)

Checklist & Atlas of Florida's Reptiles and Amphibians
(http://www.flmnh.ufl.edu/herpetology/florida-amphibians-reptiles/checklist-atlas/)

AMPHIBIANS AND REPTILES OF FLORIDA
(from Krysko, K.L., K.M. Enge, and P.E. Moler. 2011. Atlas of Amphibians and Reptiles in Florida. Final Report, Project Agreement 08013, Florida Fish and Wildlife Conservation Commission, Tallahassee, USA.)

Salamanders (Caudata)
Mole Salamanders (Ambystomatidae)
- *Ambystoma bishopi*, Reticulated Flatwoods Salamander
- *Ambystoma cingulatum,* Flatwoods Salamander
- *Ambystoma opacum*, Marbled Salamander
- *Ambystoma talpoideum*, Mole Salamander
- *Ambystoma tigrinum*, Tiger Salamander

Amphiumas, Congo Eels (Amphiumidae)
- *Amphiuma means*, Two-toed Amphiuma
- *Amphiuma pholeter*, One-toed Amphiuma

Lungless Salamanders (Plethodontidae)
- *Desmognathus apalachicolae*, Apalachicola Dusky Salamander
- *Desmognathus auriculatus*, Southern Dusky Salamander
- *Desmognathus cf. conanti*, Spotted Dusky Salamander
- *Desmognathus monticola*, Seal Salamander
- *Eurycea cirrigera*, Southern Two-lined Salamander
- *Eurycea guttolineata*, Three-lined Salamander
- *Eurycea quadridigitata* complex, Dwarf Salamander
- *Eurycea wallacei*, Georgia Blind Salamander
- *Hemidactylium scutatum*, Four-toed Salamander
- *Plethodon grobmani*, Slimy Salamander
- *Pseudotriton montanus*, Mud Salamander
- *Pseudotriton ruber*, Red Salamander
- *Stereochilus marginatus*, Many-lined Salamander

Mudpuppies, Olms (Proteidae)
- *Necturus cf. beyeri*, Gulf Coast Waterdog

True Salamanders, Newts (Salamandridae)
- *Notophthalmus perstriatus*, Striped Newt
- *Notophthalmus viridescens*, Eastern Newt

Sirens (Sirenidae)
- *Pseudobranchus axanthus*, Southern Dwarf Siren
- *Pseudobranchus striatus*, Northern Dwarf Siren

Siren intermedia, Eastern Lesser Siren
Siren lacertina complex, Greater Siren

Frogs (Anura)
True Toads (Bufonidae)
Anaxyrus fowleri, Fowler's Toad
Anaxyrus quercicus, Oak Toad
Anaxyrus terrestris, Southern Toad
Rhinella marina, Cane Toad [NON-NATIVE]

Rain Frogs (Eleutherodactylidae)
Eleutherodactylus planirostris, Greenhouse Frog [NON-NATIVE]

Treefrogs (Hylidae)
Acris crepitans, Northern Cricket Frog
Acris gryllus, Southern Cricket Frog
Hyla andersonii, Pine Barrens Treefrog
Hyla avivoca, Bird-voiced Treefrog
Hyla chrysocelis, Cope's Gray Treefrog
Hyla cinerea, Green Treefrog
Hyla femoralis, Pine Woods Treefrog
Hyla gratiosa, Barking Treefrog
Hyla squirella, Squirrel Treefrog
Osteopilus septentrionalis, Cuban Treefrog [NON-NATIVE]
Pseudacris crucifer, Spring Peeper
Pseudacris feriarum, Upland Chorus Frog
Pseudacris nigrita, Southern Chorus Frog
Pseudacris ocularis, Little Grass Frog
Pseudacris ornata, Ornate Chorus Frog

Narrow Mouth Toads (Microhylidae)
Gastrophryne carolinensis, Eastern Narrowmouth Toad

True Frogs (Ranidae)
Lithobates capito, Gopher Frog
Lithobates catesbeianus, Bullfrog
Lithobates clamitans, Green Frog, Bronze Frog
Lithobates grylio, Pig Frog
Lithobates heckscheri, River Frog
Lithobates okaloosae, Florida Bog Frog
Lithobates sphenocephalus, Southern Leopard Frog
Lithobates virgatipes, Carpenter Frog

Nearctic Spadefoot Toads (Scaphiopodidae)
Scaphiopus holbrookii, Eastern Spadefoot Toad

Herpetology (ZOO 5463C)
Spring 2015

Turtles (Chelonia)

Marine Turtles (Cheloniidae)

Caretta caretta, Loggerhead Sea Turtle
Chelonia mydas, Green Sea Turtle
Eretmochelys imbricata, Atlantic Hawksbill Sea Turtle
Lepidochelys kempii, Kemp's Ridley Sea Turtle

Snapping Turtles (Chelydridae)

Chelydra serpentina, Snapping Turtle
Macrochelys apalachicolae, Apalachicola Alligator Snapping Turtle
Macrochelys suwanniensis, Suwannee Alligator Snapping Turtle
Macrochelys temminckii, Alligator Snapping Turtle

Leatherback (Dermochelyidae)

Dermochelys coriacea, Leatherback Sea Turtle

Pond and Marsh Turtles (Emydidae)

Chrysemys dorsalis, Southern Painted Turtle [NON-NATIVE]
Clemmys guttata, Spotted Turtle
Deirochelys reticularia, Chicken Turtle
Graptemys barbouri, Barbour's Map Turtle
Graptemys ernsti, Escambia Map Turtle
Graptemys pseudogeographica, False Map Turtle
Malaclemys terrapin, Diamondback Terrapin
Pseudemys concinna, River Cooter
Pseudemys nelsoni, Florida Redbelly Cooter [NON-NATIVE in part]
Pseudemys peninsularis, Peninsula Cooter [NON-NATIVE in part]
Pseudemys suwanniensis, Suwannee Cooter
Terrapene carolina, Eastern Box Turtle
Trachemys scripta, Pond slider [NON-NATIVE in part]

Musk and Mud Turtles (Kinosternidae)

Kinosternon baurii, Striped Mud Turtle
Kinosternon subrubrum, Mud Turtle
Staurotypus salvinii, Pacific Coast Giant Musk Turtle
Sternotherus minor, Loggerhead Musk Turtle
Sternotherus odoratus, Eastern Musk Turtle

Tortoises (Testudinidae)

Gopherus polyphemus, Gopher Tortoise

Softshell Turtles (Trionychidae)

Apalone ferox, Florida Softshell [NON-NATIVE in part]
Apalone mutica, Smooth Softshell
Apalone spinifera, Spiny Softshell

Herpetology (ZOO 5463C)
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Crocodilians (Crocodylia)
Alligators and Caimans (Alligatoridae)
Alligator mississippiensis, American Alligator
Caiman crocodilus, Spectacled Caiman [NON-NATIVE]

Crocodiles (Crocodylidae)
Crocodylus acutus, American Crocodile

Worm Lizards (Amphisbaenians)
Florida Worm Lizard (Rhineuridae)
Rhineura floridana, Florida Worm Lizard

Lizards (Sauria)
Dragon Lizards (Agamidae)
Agama agama, African Rainbow Lizard [NON-NATIVE]
Calotes cf. versicolor, Variable Bloodsucker [NON-NATIVE]
Leiolepis belliana, Butterfly Lizard [NON-NATIVE]
Leiolepis rubritaeniata, Red-banded Butterfly Lizard [NON-NATIVE]

Glass Lizards and Alligator Lizards (Anguidae)
Ophisaurus attenuatus, Slender Glass Lizard
*Ophisaurus compressu*s, Island Glass Lizard
Ophisaurus mimicus, Mimic Glass Lizard
Ophisaurus ventralis, Eastern Glass Lizard

Chameleons (Chamaeleonidae)
Chamaeleo calyptratus, Veiled Chameleon [NON-NATIVE]
Furcifer oustaleti, Oustalet's Chameleon [NON-NATIVE]
Furcifer pardalis, Panther Chameleon [NON-NATIVE]

Helmeted Lizards (Corytophanidae)
Basiliscus vittatus, Brown Basilisk [NON-NATIVE]

Anoles (Dactyloidae)
Anolis carolinensis, Green Anole
Anolis chlorocyanus, Hispaniolan Green Anole [NON-NATIVE]
Anolis cristatellus, Puerto Rican Crested Anole [NON-NATIVE]
Anolis cybotes, Large-headed Anole [NON-NATIVE]
Anolis distichus, Bark Anole [NON-NATIVE]
Anolis equestris, Knight Anole [NON-NATIVE]
Anolis garmani, Jamaican Giant Anole [NON-NATIVE]
Anolis porcatus, Cuban Green Anole [NON-NATIVE]
Anolis sagrei, Cuban Brown Anole [NON-NATIVE]
Anolis trinitatis, Saint Vincent's Bush Anole [NON-NATIVE]

Typical Geckos (Gekkonidae)
- *Gekko badenii*, Golden Gecko [NON-NATIVE]
- *Gekko gecko*, Tokay Gecko [NON-NATIVE]
- *Hemidactylus frenatus*, Common House Gecko [NON-NATIVE]
- *Hemidactylus garnotii,* Indo-Pacific House Gecko [NON-NATIVE]
- *Hemidactylus mabouia*, Wood Slave [NON-NATIVE]
- *Hemidactylus platyurus*, Asian Flat-tailed House Gecko [NON-NATIVE]
- *Hemidactylus turcicus*, Mediterranean Gecko [NON-NATIVE]
- *Lepidodactylus lugubris*, Mourning Gecko [NON-NATIVE]
- *Phelsuma grandis*, Madagascar Giant Day Gecko [NON-NATIVE]
- *Phelsuma laticauda*, Gold Dust Day Gecko [NON-NATIVE]

Iguanas (Iguanidae)
- *Ctenosaura pectinata*, Mexican Spinytail Iguana [NON-NATIVE]
- *Ctenosaura similis*, Black Spinytail Iguana [NON-NATIVE]
- *Iguana iguana*, Green Iguana [NON-NATIVE]

Curly-Tailed Lizards (Leiocephalidae)
- *Leiocephalus carinatus*, Northern Curlytail Lizard [NON-NATIVE]
- *Leiocephalus schreibersii*, Red-sided Curlytail Lizard [NON-NATIVE]

North American Spiny Lizards (Phrynosomatidae)
- *Phrynosoma cornutum*, Texas Horned Lizard [NON-NATIVE]
- *Sceloporus undulatus*, Eastern Fence Lizard
- *Sceloporus woodi*, Florida Scrub Lizard

Leaf-Toed Geckos (Phyllodactylidae)
- *Tarentola annularis*, Ringed Wall Gecko [NON-NATIVE]
- *Tarentola mauritanica*, Moorish Gecko [NON-NATIVE]

Skinks (Scincidae)
- *Chalcides ocellatus*, Ocellated Skink [NON-NATIVE]
- *Eutropis multifasciata*, Brown Mabuya [NON-NATIVE]
- *Plestiodon anthracinus*, Coal Skink
- *Plestiodon egregius*, Mole Skink
- *Plestiodon fasciatus*, Common Five-lined Skink
- *Plestiodon inexpectatus*, Southeastern Five-lined Skink
- *Plestiodon laticeps*, Broadhead Skink
- *Plestiodon reynoldsi*, Florida Sand Skink
- *Scincella lateralis*, Ground Skink
- *Trachylepis quinquetaeniata*, African Five-lined Skink [NON-NATIVE]

Dwarf Geckos (Sphaerodactylidae)
- *Gonatodes albogularis*, Yellowhead Gecko [NON-NATIVE]
- *Sphaerodactylus argus*, Ocellated Gecko [NON-NATIVE]
- *Sphaerodactylus elegans*, Ashy Gecko [NON-NATIVE]

Sphaerodactylus notatus, Reef Gecko

Whiptail Lizards (Teiidae)
Ameiva ameiva, Giant Ameiva [NON-NATIVE]
Ameiva praesignis, Borriguerro Ameiva [NON-NATIVE]
Aspidoscelis motaguae, Giant Whiptail; [NON-NATIVE]
Aspidoscelis sexlineata, Six-lined Racerunner
Cnemidophorus lemniscatus, Rainbow Whiptail [NON-NATIVE]
Salvator merianae, Argentine Black & White Tegu [NON-NATIVE]

Monitors (Varanidae)
Varanus niloticus, Nile Monitor [NON-NATIVE]

Snakes (Serpentes)
File Snakes and Wart Snakes (Acrochordidae)
Acrochordus javanicus, Javan File Snake [NON-NATIVE]

Boas (Boidae)
Boa constrictor, Boa Constrictor [NON-NATIVE]

Typical Snakes (Colubridae)
Cemophora coccinea, Scarlet Snake
Coluber constrictor, Eastern Racer
Coluber flagellum, Eastern Coachwhip
Drymarchon couperi, Eastern Indigo Snake
Lampropeltis calligaster, Mole Kingsnake
Lampropeltis extenuata, Short-tailed Kingsnake
Lampropeltis getula, Common Kingsnake
Lampropeltis elapsoides, Scarlet Kingsnake
Opheodrys aestivus, Rough Green Snake
Pantherophis alleghaniensis, Eastern Ratsnake
Pantherophis guttatus, Eastern Corn Snake
Pantherophis spiloides, Gray Rat Snake
Pituophis melanoleucus, Pine Snake
Tantilla coronata, Southeastern Crowned Snake
Tantilla oolitica, Rim Rock Crowned Snake
Tantilla relicta, Florida Crowned Snake

Rear-Fanged Snakes (Dipsadidae)
Diadophis punctatus, Ringneck Snake
Farancia abacura, Mud Snake
Farancia erytrogramma, Rainbow Snake
Heterodon platirhinos, Eastern Hognose Snake
Heterodon simus, Southern Hognose Snake
Rhadinaea flavilata, Pine Woods Snake

Elapids (Elapidae)
Micrurus fulvius, Eastern Coral Snake

Water Snakes, Grass Snakes, and Garter Snakes (Natricidae)
Nerodia clarkii, Salt Marsh Snake
Nerodia cyclopion, Mississippi Green Water Snake
Nerodia erythrogaster, Plainbelly Water Snake
Nerodia fasciata, Southern Water Snake
Nerodia floridana, Florida Green Water Snake
Nerodia sipedon, Midland Water Snake
Nerodia taxispilota, Brown Water Snake
Regina alleni, Striped Crayfish Snake
Regina rigida, Glossy Crayfish Snake
Regina septemvittata, Queen Snake
Seminatrix pygaea, Swamp Snake
Storeria dekayi, Brown Snake
Storeria occipitomaculata, Redbelly Snake
Storeria victa, Florida Brown Snake
Thamnophis sauritus, Eastern Ribbon Snake
Thamnophis sirtalis, Garter Snake
Virginia striatula, Rough Earth Snake
Virginia valeriae, Eastern Smooth Earth Snake

Pythons (Pythonidae)
Python bivittatus, Burmese Python [NON-NATIVE]
Python sebae, African Rock Python [NON-NATIVE]

Blind Snakes (Typhlopidae)
Ramphotyphlops braminus, Brahminy Blind Snake [NON-NATIVE]

Vipers (Viperidae)
Agkistrodon contortrix, Copperhead
Agkistrodon piscivorus, Cottonmouth
Crotalus adamanteus, Eastern Diamondback Rattlesnake
Crotalus horridus, Timber Rattlesnake
Sistrurus miliarius, Dusky Pigmy Rattlesnake

Herpetology (ZOO 5463C)
Spring 2015

Schedule:
The schedule is approximate as we may take more time to cover some topics and less time to cover others than indicated on the schedule. I may need to switch topics or lab periods around and will announce such changes in class. You are expected to read the assigned chapters and articles before coming to class for lecture/discussion on that topic. We will move quickly through the material. PowerPoints will be placed on Webcourses to facilitate reviewing the lectures. I will try to have them posted well before class but sometimes they may not be posted until minutes before class. There will be handouts for lab each week.

Readings:
VC refers to the Vitt and Caldwell Text
He refers to Heyer et al. (found in the library and on Webcourses)

Herpetology (ZOO 5463C)
Spring 2015

			Spring 2015 Herpetology Schedule		
Week	**Day**	**Date**	**Lecture Topics**	**Lab/Field**	**Readings**
1	Tu	13-Jan	What is Herpetology?; Tetrapod Relationships and Evolutionary Systematics		**VC Ch 1**
	Th	15-Jan	Tetrapod Relationships and Evolutionary Systematics	Introduction to Herpetology Lab, Keys and Field Guides, Amphibian Diversity	**VC Ch 1, 15-17**
2	Tu	20-Jan	Anatomy of Amphibians and Reptiles		**VC Ch 2**
	Th	22-Jan	Anatomy of Amphibians and Reptiles	Amphibian Anatomy	**VC Ch 2**
3	Tu	27-Jan	**Amphibian Family Presentations: Near**		**VC 15-17**
	Th	29-Jan		**Sampling Methods field trip (Econlockhatchee)**	**He Ch 3-6**
4	Tu	3-Feb	**Amphibian Family Presentations: Far**		**VC 15-17**
	Th	5-Feb	Evolution of Ancient and Modern Amphibians and Reptiles	**Amphibian Lab Exam**	**VC Ch 3**
5	Tu	10-Feb	Reproduction and Life Histories		**VC Ch 4**
	Th	12-Feb		**Group Rotation Field Trip 1 (Econlockhatchee/ Econ River)**	
6	Tu	17-Feb	Reproductive Modes		**VC Ch 5**
	Th	19-Feb	Water Balance and Gas Exchange	Reptile Anatomy	**VC Ch 6**
7	Tu	24-Feb	Thermoregulation, Performance, and Energetics		**VC Ch 7**
	Th	26-Feb	**Lecture Exam 1**	Reptile Diversity	**VC Ch 1-7, 18-22**
8	Tu	3-Mar	**Reptile Family Presentations: Near**		**VC 18-22**
	Th	5-Mar		**Group Rotation Field Trip 2 (Econlockhatchee/ Econ River)**	
		10-12 Mar	**Spring Break NO CLASSES**		
9	Tu	17-Mar	**Reptile Family Presentations: Far**		**VC 18-22**
	Th	19-Mar	Spacing, Movements, and Orientation; Communication and Social Behavior	**Reptile Lab Exam**	**VC Ch 8, 9**
10	Tu	24-Mar	Foraging Ecology and Diets		**VC Ch 10**
	Th	26-Mar		**Group Rotation Field Trip 3 (Econlockhatchee/ Econ River)**	
11	Tu	31-Mar	Defense and Escape; Venom Evolution (Andrew Mason)		**VC Ch 11**
	Th	2-Apr		**Reptile Discovery Center Field Trip**	
12	Tu	7-Apr	Defense and Escape; Ecology		**VC Ch 11-12**
	Th	9-Apr		**Group Rotation Field Trip 4 (Econlockhatchee/ Econ River)**	
13	Tu	14-Apr	Ecology; Biogeography and Phylogeography		**VC Ch 12-13**
	Th	16-Apr	Biogeography and Phylogeography; Graduate Biogeography Presentations	Project Data Analysis	**VC Ch 13**
14	Tu	21-Apr	Conservation Biology		**VC Ch 14**
	Th	23-Apr		**Herping Field Trip (Chuluota and Black Hammock)**	
Finals	Th	30-Apr	**Lecture Exam 2 (1:00-3:50 pm)**		**VC Ch 8-14**

Herpetology (ZOO 4932C)
Spring 2015

Welcome to Herpetology, the study of amphibians and reptiles. These two distantly related groups are the most poorly understood classes of vertebrates because of their creepy-crawly reputations. We will study their fascinating ecology, anatomy, physiology, evolution, systematics, natural history, and conservation. By the end of this semester you will have a good understanding of how these animals work, who they are, and their place in the evolutionary tree of life. Laboratory and field experiences will allow us to examine the herpetofauna of Florida and other regions of the world up close. This semester we will not only learn a great deal about herpetofauna, but will also gain valuable experience in herpetology research.

Course Objectives

- To understand the biology of living and extinct reptiles and amphibians.
- To be able to conduct original herpetological research, including planning, performing, analyzing, writing, and presenting.
- To become proficient in the capture, handling, and identification of many species of reptiles and amphibians.
- To understand the relevance of reptiles and amphibians to human society and issues concerning the long-term survival of herpetofaunal species.

Class Meetings:
Tuesday 3:00- 4:20 pm BIO 212; Thursday 12:00-4:20 pm BIO 414

Instructor: Dr. Tiffany M. Doan
Office: BL 439, 407-823-5424
E-mail: Tiffany.Doan@ucf.edu
Twitter: @DoanTiffany, Class Hashtag: #UCFHerps
Office Hours: Tuesday 1:00-3:00 pm and Wednesday 2:00-4:00 pm (I will do my best to be in my office during those times, but things occasionally come up requiring me to be away from my office. Check office door for my location. You can always e-mail me for another meeting time.)

Graduate Teaching Assistant: Rhett Rautsaw
Office: BL 425
E-mail: rautsaw.3@Knights.ucf.edu
Twitter: @ReptileRhett
Office Hours: By appointment

Webcourses Site:
I have a course web site set up on Webcourses (https://webcourses.ucf.edu) that I will use to post materials for the course, including the syllabus, calendar dates, PowerPoints, assignment descriptions, readings, and grades. The course Twitter feed may also be followed on our webcourse. If you need to contact me, please do so using the Inbox Conversations function in Webcourses.

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Required Texts and Materials:

1) Vitt, L. J., and J. P. Caldwell. 2014. Herpetology: An Introductory Biology of Amphibians and Reptiles, fourth edition

2) Conant, R., and J. T. Collins. 1998. Field Guide to Reptiles and Amphibians: Eastern and Central North America (Peterson Field Guide), revised edition. Houghton Mifflin Company, Boston.

Recommended Text:

Powell, R., J. T. Collins, and E. D. Hooper. 2012. Key to the Herpetofauna of the Continental United States and Canada, second edition. University of Kansas Press, Lawrence, KS.

Class Policies:

1. All students are required to attend each class meeting. Missed classes mean missed material, which is the responsibility of the student to make up, not the professor. Absences will negatively affect your participation grade.
2. Assigned readings should be completed before attending class.
3. You are encouraged to discuss any and all portions of the class with your professor. Please feel free to come to office hours or make an appointment to discuss the class, especially if you are having difficulty.
4. Respect should be given to fellow students and the instructor. Please do not arrive late to class, walk out in the middle of class, or leave early.
5. Hateful or offensive speech or writing will not be tolerated.
6. Cell phones, iPods, and other electronic devices should be turned off and put away before class starts.
7. Due dates for assignments are firm. Extensions to due dates will not be granted without documented exceptional circumstances. A penalty of 10% per day will be deducted from your assignment grade for any late work.
8. Academic dishonesty (cheating and plagiarism) is strictly prohibited and will be taken very seriously and will result at least in an "F" for that assignment (and may, depending on the severity of the case, lead to an "F" for the entire course) and may be subject to appropriate referral to the Office of Student Conduct for further action. See the UCF Golden Rule for further information.

Course Accessibility:

It is my goal that this class be an accessible and welcoming experience for all students, including those with disabilities that may impact learning in this class. If anyone believes the design of this course poses barriers to effectively participating and/or demonstrating learning in this course, please meet with me to discuss reasonable options or adjustments. You may also contact SDS (Ferrell Commons 185; 407-823-2371; sds@ucf.edu) to talk about academic accommodations.

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Grading:
The grade for this course will be based on seven aspects. Grades will be assigned according to the following scale: 93-100 = A; 90-92 = A-; 87-89 = B+; 83-86 = B; 80-82 = B-; 77-79 = C+; 73-76 = C; 70-72 = C-; 67-69 = D+; 63-66 = D; 60-62 = D-; ≤ 59 = F.

Two **Lecture Exams** will be given on the dates indicated on the schedule. The exams will not be cumulative but some of the later material depends on a basic understanding of the earlier material. Exams will consist of essays, multiple choice, short answer, matching, and the like, and may include take-home portions. Missed tests will not be allowed to be made up without a documented medical excuse that is presented within 24 hours of missing the exam. Make-up tests will likely be a different (harder) format than the original test. (32%)

Two **Lab Exams** will be given on the dates indicated on the schedule and will be practicals where you will be expected to identify organisms, be able to discuss their natural history, identify anatomy, and the like. Lists will be provided of species that will be on the practicals. All Florida species and other species from other regions of the U. S. and the world may be included. Species will be identified from preserved specimens, photographs, range maps, and natural history. (20%)

Amphibian and **Reptile Family Presentations** will be presented during class on the dates indicated on the schedule. Each student will be assigned two amphibian and two reptile families upon which he/she will conduct a 3-4-minute presentation each to teach the other students about the family. Presentations should include visuals. (12%)

Group Projects will be designed, implemented, analyzed, written, and presented by groups of students. These field projects will examine some aspect of the biology of Florida's herpetofauna. (18%)

Rotation Assignments will be associated with the project field trips. (7%)

A peer **Chapter Review** will be completed of a chapter that is scheduled to appear in a new reptile sampling methodology book. (7%)

Effort and Participation in the course will affect your grade. You earn effort points by completing all of the required lab activities, participating fully in discussions and field trips, and having perfect attendance. Poor attendance will negatively affect your grade. If you have more than two unexcused lab absences, miss more than a week straight of class, or fail to participate in all of the required field trips you will fail the course. (4%)

Field Trips:
During the semester, we will have several field trips to capture reptiles and amphibians, to work on field projects, or to visit captive collections of herpetofauna and meet other herpetologists. Approximate dates for all field trips are indicated on the schedule but may need to be altered due to weather or other issues. Scheduled field trips will occur during class time but additional night/weekend field trips may be arranged based on student interest. You are required to attend all scheduled field trips—they will be a lot of fun!

Handling of live reptiles and amphibians by the students is at the discretion of the instructor. Care must be taken to insure that the animal will not be injured or endangered. It is forbidden for any student to handle a venomous reptile and may result in a grade of F for the class. The three U. S. herpetological societies have put together guidelines for the use of live amphibians and reptiles in research and education: http://www.asih.org/sites/default/files/documents/resources/guidelinesherpsresearch2004.pdf.

Herpetological Literature:

Below is a suggested reading list of important herpetological books (all available at the UCF library). Journals dedicated to reptiles and amphibians include: **Copeia, *Herpetologica, Herpetological Conservation & Biology, *Herpetological Monographs, *Journal of Herpetology, *Herpetological Review* (a newsletter journal), **Amphibia-Reptilia, Alytes, Salamandra, Herpetological Journal*, and several others. *Indicates that our library maintains a subscription. *Herpetological Conservation & Biology* is free through open access online. All of the other journals are available through interlibrary loan. I have subscriptions to all of the U.S. journals and I am willing to loan individual issues to interested students. The journals are produced by different herpetological societies. Consider joining one of the societies and/or attending their annual meetings if you are serious about herpetology. Societies have discounted rates for students.

Suggested Reading:

Duellman, W. E. and L. Trueb. 1986. Biology of the Amphibians. Johns Hopkins, Baltimore.

Duellman, W. E., ed. 1999. Patterns of Distribution of Amphibians. Johns Hopkins, Baltimore.

Heyer, W. R., M. A. Donnelly, R. W. McDiarmid, L. C. Hayek, and M. S. Foster (eds). 1994. Measuring and Monitoring Biological Diversity: Standard Methods for Amphibians. Smithsonian Institution, Washington DC.

Stebbins, R. C., and N. W. Cohen. 1997. A Natural History of Amphibians. Princeton University Press, Princeton.

Herpetological Societies and Websites:

American Society of Ichthyologists and Herpetologists (http://www.asih.org/)
Herpetologists' League (http://www.herpetologistsleague.org/en/index.php)
Society for the Study of Amphibians and Reptiles (http://www.ssarherps.org/)
Amphibian Species of the World (http://research.amnh.org/herpetology/amphibia/index.php)
The Reptile Database (http://www.reptile-database.org/)
Checklist & Atlas of Florida's Reptiles and Amphibians (http://www.flmnh.ufl.edu/herpetology/florida-amphibians-reptiles/checklist-atlas/)

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AMPHIBIANS AND REPTILES OF FLORIDA

(from Krysko, K.L., K.M. Enge, and P.E. Moler. 2011. Atlas of Amphibians and Reptiles in Florida. Final Report, Project Agreement 08013, Florida Fish and Wildlife Conservation Commission, Tallahassee, USA.)

Salamanders (Caudata)

Mole Salamanders (Ambystomatidae)

Ambystoma bishopi, Reticulated Flatwoods Salamander
Ambystoma cingulatum, Flatwoods Salamander
Ambystoma opacum, Marbled Salamander
Ambystoma talpoideum, Mole Salamander
Ambystoma tigrinum, Tiger Salamander

Amphiumas, Congo Eels (Amphiumidae)

Amphiuma means, Two-toed Amphiuma
Amphiuma pholeter, One-toed Amphiuma

Lungless Salamanders (Plethodontidae)

Desmognathus apalachicolae, Apalachicola Dusky Salamander
Desmognathus auriculatus, Southern Dusky Salamander
Desmognathus cf. conanti, Spotted Dusky Salamander
Desmognathus monticola, Seal Salamander
Eurycea cirrigera, Southern Two-lined Salamander
Eurycea guttolineata, Three-lined Salamander
Eurycea quadridigitata complex, Dwarf Salamander
Eurycea wallacei, Georgia Blind Salamander
Hemidactylium scutatum, Four-toed Salamander
Plethodon grobmani, Slimy Salamander
Pseudotriton montanus, Mud Salamander
Pseudotriton ruber, Red Salamander
Stereochilus marginatus, Many-lined Salamander

Mudpuppies, Olms (Proteidae)

Necturus cf. beyeri, Gulf Coast Waterdog

True Salamanders, Newts (Salamandridae)

Notophthalmus perstriatus, Striped Newt
Notophthalmus viridescens, Eastern Newt

Sirens (Sirenidae)

Pseudobranchus axanthus, Southern Dwarf Siren
Pseudobranchus striatus, Northern Dwarf Siren
Siren intermedia, Eastern Lesser Siren
Siren lacertina complex, Greater Siren

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Frogs (Anura)

True Toads (Bufonidae)

Anaxyrus fowleri, Fowler's Toad
Anaxyrus quercicus, Oak Toad
Anaxyrus terrestris, Southern Toad
Rhinella marina, Cane Toad [NON-NATIVE]

Rain Frogs (Eleutherodactylidae)

Eleutherodactylus planirostris, Greenhouse Frog [NON-NATIVE]

Treefrogs (Hylidae)

Acris crepitans, Northern Cricket Frog
Acris gryllus, Southern Cricket Frog
Hyla andersonii, Pine Barrens Treefrog
Hyla avivoca, Bird-voiced Treefrog
Hyla chrysocelis, Cope's Gray Treefrog
Hyla cinerea, Green Treefrog
Hyla femoralis, Pine Woods Treefrog
Hyla gratiosa, Barking Treefrog
Hyla squirella, Squirrel Treefrog
Osteopilus septentrionalis, Cuban Treefrog [NON-NATIVE]
Pseudacris crucifer, Spring Peeper
Pseudacris feriarum, Upland Chorus Frog
Pseudacris nigrita, Southern Chorus Frog
Pseudacris ocularis, Little Grass Frog
Pseudacris ornata, Ornate Chorus Frog

Narrow Mouth Toads (Microhylidae)

Gastrophryne carolinensis, Eastern Narrowmouth Toad

True Frogs (Ranidae)

Lithobates capito, Gopher Frog
Lithobates catesbeianus, Bullfrog
Lithobates clamitans, Green Frog, Bronze Frog
Lithobates grylio, Pig Frog
Lithobates heckscheri, River Frog
Lithobates okaloosae, Florida Bog Frog
Lithobates sphenocephalus, Southern Leopard Frog
Lithobates virgatipes, Carpenter Frog

Nearctic Spadefoot Toads (Scaphiopodidae)

Scaphiopus holbrookii, Eastern Spadefoot Toad

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Turtles (Chelonia)

Marine Turtles (Cheloniidae)

Caretta caretta, Loggerhead Sea Turtle
Chelonia mydas, Green Sea Turtle
Eretmochelys imbricata, Atlantic Hawksbill Sea Turtle
Lepidochelys kempii, Kemp's Ridley Sea Turtle

Snapping Turtles (Chelydridae)

Chelydra serpentina, Snapping Turtle
Macrochelys apalachicolae, Apalachicola Alligator Snapping Turtle
Macrochelys suwanniensis, Suwannee Alligator Snapping Turtle
Macrochelys temminckii, Alligator Snapping Turtle

Leatherback (Dermochelyidae)

Dermochelys coriacea, Leatherback Sea Turtle

Pond and Marsh Turtles (Emydidae)

Chrysemys dorsalis, Southern Painted Turtle [NON-NATIVE]
Clemmys guttata, Spotted Turtle
Deirochelys reticularia, Chicken Turtle
Graptemys barbouri, Barbour's Map Turtle
Graptemys ernsti, Escambia Map Turtle
Graptemys pseudogeographica, False Map Turtle
Malaclemys terrapin, Diamondback Terrapin
Pseudemys concinna, River Cooter
Pseudemys nelsoni, Florida Redbelly Cooter [NON-NATIVE in part]
Pseudemys peninsularis, Peninsula Cooter [NON-NATIVE in part]
Pseudemys suwanniensis, Suwannee Cooter
Terrapene carolina, Eastern Box Turtle
Trachemys scripta, Pond slider [NON-NATIVE in part]

Musk and Mud Turtles (Kinosternidae)

Kinosternon baurii, Striped Mud Turtle
Kinosternon subrubrum, Mud Turtle
Staurotypus salvinii, Pacific Coast Giant Musk Turtle
Sternotherus minor, Loggerhead Musk Turtle
Sternotherus odoratus, Eastern Musk Turtle

Tortoises (Testudinidae)

Gopherus polyphemus, Gopher Tortoise

Softshell Turtles (Trionychidae)

Apalone ferox, Florida Softshell [NON-NATIVE in part]
Apalone mutica, Smooth Softshell
Apalone spinifera, Spiny Softshell

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Crocodilians (Crocodylia)
Alligators and Caimans (Alligatoridae)
Alligator mississippiensis, American Alligator
Caiman crocodilus, Spectacled Caiman [NON-NATIVE]

Crocodiles (Crocodylidae)
Crocodylus acutus, American Crocodile

Worm Lizards (Amphisbaenians)
Florida Worm Lizard (Rhineuridae)
Rhineura floridana, Florida Worm Lizard

Lizards (Sauria)
Dragon Lizards (Agamidae)
Agama agama, African Rainbow Lizard [NON-NATIVE]
Calotes cf. versicolor, Variable Bloodsucker [NON-NATIVE]
Leiolepis belliana, Butterfly Lizard [NON-NATIVE]
Leiolepis rubritaeniata, Red-banded Butterfly Lizard [NON-NATIVE]

Glass Lizards and Alligator Lizards (Anguidae)
Ophisaurus attenuatus, Slender Glass Lizard
*Ophisaurus compressu*s, Island Glass Lizard
Ophisaurus mimicus, Mimic Glass Lizard
Ophisaurus ventralis, Eastern Glass Lizard

Chameleons (Chamaeleonidae)
Chamaeleo calyptratus, Veiled Chameleon [NON-NATIVE]
Furcifer oustaleti, Oustalet's Chameleon [NON-NATIVE]
Furcifer pardalis, Panther Chameleon [NON-NATIVE]

Helmeted Lizards (Corytophanidae)
Basiliscus vittatus, Brown Basilisk [NON-NATIVE]

Anoles (Dactyloidae)
Anolis carolinensis, Green Anole
Anolis chlorocyanus, Hispaniolan Green Anole [NON-NATIVE]
Anolis cristatellus, Puerto Rican Crested Anole [NON-NATIVE]
Anolis cybotes, Large-headed Anole [NON-NATIVE]
Anolis distichus, Bark Anole [NON-NATIVE]
Anolis equestris, Knight Anole [NON-NATIVE]
Anolis garmani, Jamaican Giant Anole [NON-NATIVE]
Anolis porcatus, Cuban Green Anole [NON-NATIVE]
Anolis sagrei, Cuban Brown Anole [NON-NATIVE]
Anolis trinitatis, Saint Vincent's Bush Anole [NON-NATIVE]

Typical Geckos (Gekkonidae)
- *Gekko badenii*, Golden Gecko [NON-NATIVE]
- *Gekko gecko*, Tokay Gecko [NON-NATIVE]
- *Hemidactylus frenatus*, Common House Gecko [NON-NATIVE]
- *Hemidactylus garnotii,* Indo-Pacific House Gecko [NON-NATIVE]
- *Hemidactylus mabouia*, Wood Slave [NON-NATIVE]
- *Hemidactylus platyurus*, Asian Flat-tailed House Gecko [NON-NATIVE]
- *Hemidactylus turcicus*, Mediterranean Gecko [NON-NATIVE]
- *Lepidodactylus lugubris*, Mourning Gecko [NON-NATIVE]
- *Phelsuma grandis*, Madagascar Giant Day Gecko [NON-NATIVE]
- *Phelsuma laticauda*, Gold Dust Day Gecko [NON-NATIVE]

Iguanas (Iguanidae)
- *Ctenosaura pectinata*, Mexican Spinytail Iguana [NON-NATIVE]
- *Ctenosaura similis*, Black Spinytail Iguana [NON-NATIVE]
- *Iguana iguana*, Green Iguana [NON-NATIVE]

Curly-Tailed Lizards (Leiocephalidae)
- *Leiocephalus carinatus*, Northern Curlytail Lizard [NON-NATIVE]
- *Leiocephalus schreibersii*, Red-sided Curlytail Lizard [NON-NATIVE]

North American Spiny Lizards (Phrynosomatidae)
- *Phrynosoma cornutum*, Texas Horned Lizard [NON-NATIVE]
- *Sceloporus undulatus*, Eastern Fence Lizard
- *Sceloporus woodi*, Florida Scrub Lizard

Leaf-Toed Geckos (Phyllodactylidae)
- *Tarentola annularis*, Ringed Wall Gecko [NON-NATIVE]
- *Tarentola mauritanica*, Moorish Gecko [NON-NATIVE]

Skinks (Scincidae)
- *Chalcides ocellatus*, Ocellated Skink [NON-NATIVE]
- *Eutropis multifasciata*, Brown Mabuya [NON-NATIVE]
- *Plestiodon anthracinus*, Coal Skink
- *Plestiodon egregius*, Mole Skink
- *Plestiodon fasciatus*, Common Five-lined Skink
- *Plestiodon inexpectatus*, Southeastern Five-lined Skink
- *Plestiodon laticeps*, Broadhead Skink
- *Plestiodon reynoldsi*, Florida Sand Skink
- *Scincella lateralis*, Ground Skink
- *Trachylepis quinquetaeniata*, African Five-lined Skink [NON-NATIVE]

Dwarf Geckos (Sphaerodactylidae)
- *Gonatodes albogularis*, Yellowhead Gecko [NON-NATIVE]
- *Sphaerodactylus argus*, Ocellated Gecko [NON-NATIVE]
- *Sphaerodactylus elegans*, Ashy Gecko [NON-NATIVE]

Sphaerodactylus notatus, Reef Gecko

Whiptail Lizards (Teiidae)
Ameiva ameiva, Giant Ameiva [NON-NATIVE]
Ameiva praesignis, Borriguerro Ameiva [NON-NATIVE]
Aspidoscelis motaguae, Giant Whiptail; [NON-NATIVE]
Aspidoscelis sexlineata, Six-lined Racerunner
Cnemidophorus lemniscatus, Rainbow Whiptail [NON-NATIVE]
Salvator merianae, Argentine Black & White Tegu [NON-NATIVE]

Monitors (Varanidae)
Varanus niloticus, Nile Monitor [NON-NATIVE]

Snakes (Serpentes)
File Snakes and Wart Snakes (Acrochordidae)
Acrochordus javanicus, Javan File Snake [NON-NATIVE]

Boas (Boidae)
Boa constrictor, Boa Constrictor [NON-NATIVE]

Typical Snakes (Colubridae)
Cemophora coccinea, Scarlet Snake
Coluber constrictor, Eastern Racer
Coluber flagellum, Eastern Coachwhip
Drymarchon couperi, Eastern Indigo Snake
Lampropeltis calligaster, Mole Kingsnake
Lampropeltis extenuata, Short-tailed Kingsnake
Lampropeltis getula, Common Kingsnake
Lampropeltis elapsoides, Scarlet Kingsnake
Opheodrys aestivus, Rough Green Snake
Pantherophis alleghaniensis, Eastern Ratsnake
Pantherophis guttatus, Eastern Corn Snake
Pantherophis spiloides, Gray Rat Snake
Pituophis melanoleucus, Pine Snake
Tantilla coronata, Southeastern Crowned Snake
Tantilla oolitica, Rim Rock Crowned Snake
Tantilla relicta, Florida Crowned Snake

Rear-Fanged Snakes (Dipsadidae)
Diadophis punctatus, Ringneck Snake
Farancia abacura, Mud Snake
Farancia erytrogramma, Rainbow Snake
Heterodon platirhinos, Eastern Hognose Snake
Heterodon simus, Southern Hognose Snake
Rhadinaea flavilata, Pine Woods Snake

Elapids (Elapidae)
Micrurus fulvius, Eastern Coral Snake

Water Snakes, Grass Snakes, and Garter Snakes (Natricidae)
Nerodia clarkii, Salt Marsh Snake
Nerodia cyclopion, Mississippi Green Water Snake
Nerodia erythrogaster, Plainbelly Water Snake
Nerodia fasciata, Southern Water Snake
Nerodia floridana, Florida Green Water Snake
Nerodia sipedon, Midland Water Snake
Nerodia taxispilota, Brown Water Snake
Regina alleni, Striped Crayfish Snake
Regina rigida, Glossy Crayfish Snake
Regina septemvittata, Queen Snake
Seminatrix pygaea, Swamp Snake
Storeria dekayi, Brown Snake
Storeria occipitomaculata, Redbelly Snake
Storeria victa, Florida Brown Snake
Thamnophis sauritus, Eastern Ribbon Snake
Thamnophis sirtalis, Garter Snake
Virginia striatula, Rough Earth Snake
Virginia valeriae, Eastern Smooth Earth Snake

Pythons (Pythonidae)
Python bivittatus, Burmese Python [NON-NATIVE]
Python sebae, African Rock Python [NON-NATIVE]

Blind Snakes (Typhlopidae)
Ramphotyphlops braminus, Brahminy Blind Snake [NON-NATIVE]

Vipers (Viperidae)
Agkistrodon contortrix, Copperhead
Agkistrodon piscivorus, Cottonmouth
Crotalus adamanteus, Eastern Diamondback Rattlesnake
Crotalus horridus, Timber Rattlesnake
Sistrurus miliarius, Dusky Pigmy Rattlesnake

Herpetology (ZOO 4932C)
Spring 2015

Schedule:
The schedule is approximate as we may take more time to cover some topics and less time to cover others than indicated on the schedule. I may need to switch topics or lab periods around and will announce such changes in class. You are expected to read the assigned chapters and articles before coming to class for lecture/discussion on that topic. We will move quickly through the material. PowerPoints will be placed on Webcourses to facilitate reviewing the lectures. I will try to have them posted well before class but sometimes they may not be posted until minutes before class. There will be handouts for lab each week.

Readings:
VC refers to the Vitt and Caldwell Text
He refers to Heyer et al. (found in the library and on Webcourses)

Herpetology (ZOO 4932C)

			Spring 2015 Herpetology Schedule		
Week	**Day**	**Date**	**Lecture Topics**	**Lab/Field**	**Readings**
1	Tu	13-Jan	What is Herpetology?; Tetrapod Relationships and Evolutionary Systematics		**VC Ch 1**
	Th	15-Jan	Tetrapod Relationships and Evolutionary Systematics	Introduction to Herpetology Lab, Keys and Field Guides, Amphibian Diversity	**VC Ch 1, 15-17**
2	Tu	20-Jan	Anatomy of Amphibians and Reptiles		**VC Ch 2**
	Th	22-Jan	Anatomy of Amphibians and Reptiles	Amphibian Anatomy	**VC Ch 2**
3	Tu	27-Jan	**Amphibian Family Presentations: Near**		**VC 15-17**
	Th	29-Jan		**Sampling Methods field trip (Econlockhatchee)**	**He Ch 3-6**
4	Tu	3-Feb	**Amphibian Family Presentations: Far**		**VC 15-17**
	Th	5-Feb	Evolution of Ancient and Modern Amphibians and Reptiles	**Amphibian Lab Exam**	**VC Ch 3**
5	Tu	10-Feb	Reproduction and Life Histories		**VC Ch 4**
	Th	12-Feb		**Group Rotation Field Trip 1 (Econlockhatchee/ Econ River)**	
6	Tu	17-Feb	Reproductive Modes		**VC Ch 5**
	Th	19-Feb	Water Balance and Gas Exchange	Reptile Anatomy	**VC Ch 6**
7	Tu	24-Feb	Thermoregulation, Performance, and Energetics		**VC Ch 7**
	Th	26-Feb	**Lecture Exam 1**	Reptile Diversity	**VC Ch 1-7, 18-22**
8	Tu	3-Mar	**Reptile Family Presentations: Near**		**VC 18-22**
	Th	5-Mar		**Group Rotation Field Trip 2 (Econlockhatchee/ Econ River)**	
		10-12 Mar	**Spring Break NO CLASSES**		
9	Tu	17-Mar	**Reptile Family Presentations: Far**		**VC 18-22**
	Th	19-Mar	Spacing, Movements, and Orientation; Communication and Social Behavior	**Reptile Lab Exam**	**VC Ch 8, 9**
10	Tu	24-Mar	Foraging Ecology and Diets		**VC Ch 10**
	Th	26-Mar		**Group Rotation Field Trip 3 (Econlockhatchee/ Econ River)**	
11	Tu	31-Mar	Defense and Escape; Venom Evolution (Andrew Mason)		**VC Ch 11**
	Th	2-Apr		**Reptile Discovery Center Field Trip**	
12	Tu	7-Apr	Defense and Escape; Ecology		**VC Ch 11-12**
	Th	9-Apr		**Group Rotation Field Trip 4 (Econlockhatchee/ Econ River)**	
13	Tu	14-Apr	Ecology; Biogeography and Phylogeography		**VC Ch 12-13**
	Th	16-Apr	Biogeography and Phylogeography; Graduate Biogeography Presentations	Project Data Analysis	**VC Ch 13**
14	Tu	21-Apr	Conservation Biology		**VC Ch 14**
	Th	23-Apr		**Herping Field Trip (Chuluota and Black Hammock)**	
Finals	Th	30-Apr	**Lecture Exam 2 (1:00-3:50 pm)**		**VC Ch 8-14**

Course Agenda
September 23, 2015

Special Topics Additions

College of Engineering and Computer Science Special Topics Additions

Tabled at April 20, 2015 meeting. Further discussion needed with Statistics Department.

ESI 6938 **ECS-IEMS** **3(3,0)**

Optimization and Data Mining: PR: ESI 5306 or ESI 6418. Optimization modeling is widely used in operations research for a variety of applications such as scheduling, resource allocation, planning of facilities etc. In this course we will demonstrate another use of optimization, that of analyzing data. Basic optimization theory and popular data analysis algorithms from an optimization point of view. *Occasional.*

Abbrev: (23 of 30 chars) DM Apps of Optimization

Discussion with others: Comments were requested from Computer Science ("CS has no objections to this course" email from Dr. Gary Leavens, 3/30/2015 8:47 am) and Statistics.

College of Nursing Course Revisions

NGR 6202L **Adult II Primary Care Clinical** **2(0,2)**

PR: NGR 6201, NGR 6201L; CR: NGR 6202.

Development of theoretical and clinical skills for evaluation, diagnosis, and management of the complex and long-term needs of adults. ~~Graded S/U.~~ May be used in the degree program a maximum of 2 times.

Discussion with others: N/A

Rationale: Students are not currently motivated to submit the highest quality work possible. Letter grade will improve the quality of work students submit.

There are no programs that list NGR 6202L.

NGR 6240L **Adult I Clinical for APNs** **3(0,3)**

PR: Admission to M.S. in Nursing program, Nursing certificate, Adult Nurse Practitioner or Family Nurse Practitioner track. CR: NGR 6240.

Application of skills for evaluation, diagnosis, and management of health needs of adults and communities. ~~Graded S/U.~~

Discussion with others: N/A

Rationale: Students are not currently motivated to submit the highest quality work possible. Letter grade will improve the quality of work students submit.

There are no programs that list NGR 6240L.

NGR 6248L
Family Nurse Practitioner/Adult-Gero Nurse
Practitioner Practice Practicum ~~**VAR**~~ **3(0,3)**

PR: Admission to M.S. in Nursing, Doctor of Nursing Practice, Clinical Nurse Specialist or Nurse Practitioner certificate. Can be started concurrently with final clinical course in program of study. (Varies with plan of study.).
Supervised advanced clinical practice in the roles of the nurse practitioner in an individualized preceptorship. ~~Graded S/U.~~ May be used in the degree program a maximum of 2 times. Graded SU: ~~Yes~~ No
Repeat For Credit: ~~Yes~~ No Max Times: 2
Discussion with others: N/A
Rationale: Students are not motivated to submit the highest quality work possible. Letter grade will improve the quality of work students submit.
There are no programs that list NGR 6248L.

NGR 6305L **Pediatric Primary Care Clinical** **2(0,2)**

CR: NGR 6305.
Development of clinical skills for evaluation, diagnosis, and management of the primary care needs of children and their families, including common normal and abnormal variations in physical, cognitive, and psychological development. ~~Graded S/U.~~ May be used in the degree program a maximum of 2 times.
Discussion with others: N/A
Rationale: Students are not currently motivated to submit the highest quality work possible. Letter grade will improve the quality of work students submit
There are no programs that list NGR 6305L.

NGR 6342L **Women's Health for APNs Clinical** **1(0,1)**

PR: Admission to M.S. in Nursing program, Nursing certificate, Adult Nurse Practitioner or Family
Nurse Practitioner track. CR: NGR 6334.
Application of skills for evaluation, diagnosis, and management of the health needs of women. ~~Graded S/U.~~ May be used in the degree program a maximum of 2 times.
Abbrev (30 of 30): ~~Women\'s Health for APNs Clinic~~ Women's Hlth for APNs Clinical
Discussion with others: N/A
Rationale: Students are not currently motivated to submit the highest quality work possible. Letter grade will improve the quality of work students submit.
There are no programs that list NGR 6342L.