This course is available for student registration only after the approval process has been completed.

SUBJECT: BIO
(CCS 2301)
COURSE NO.: 3
CREDIT HOURS: 3
TERM TO BE ADDED TO THE FILE: SU 11
(CCS Fall 2018)
CLASS HOURS: 45
LECTURE HOURS: 20
LAB HOURS: 75
CONTACT HOURS (CEU ONLY)

DEPARTMENT: Biological Sciences
(e.g., Computer Sciences)
SCHEDULE TYPE: Lecture/Lab/Field
(e.g., Lecture, Lab or Special Topics/Project)

☐ COLLEGE OF AERONAUTICS - 23
☐ NATHAN M. BISK COLLEGE OF BUSINESS - 24
☐ COLLEGE OF ENGINEERING - 1
☐ COLLEGE OF PSYCHOLOGY AND LIBERAL ARTS - 25
☐ COLLEGE OF SCIENCE - 26
☐ EXTENDED STUDIES DIVISION / NATHAN M. BISK COLLEGE OF BUSINESS - 90

COMPUTER TITLE: Restricted to 25 characters, including spaces: Fisheries Science

CATALOG TITLE: Field Methods in Fisheries Science

CATALOG DESCRIPTION OF COURSE: Restricted to 350 characters, including spaces:
Lectures and intensive field/laboratory work focusing on the theory and practice of fisheries science techniques. Considers the application of these techniques to development of fishery and habitat management strategies for fish populations. Field studies include examination of fishes in the Indian River Lagoon and South Florida.

SEE ATTACHED FOR DESCRIPTION AND APPROVAL.

In addition, please attach a course syllabus and/or more detailed description.

REQUIREMENTS:
☒ Prerequisite: BIO 2801
☐ Corequisite: ____________
☐ and/or
☐ or

Additional Requirement:
☒ Major, Class Level, Department Head Approval
☐ Other

If this course replaces a course currently offered in BANNER, please indicate old course information and the date/term the course may be removed from the system.

SUBJECT: alpha prefix (e.g., CS)
COURSE NO.: (CCS 1301)
TERM TO INACTIVATE:

APPROVALS: Upon completion of appropriate department approvals, submit form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for approval below and forward to Catalog Director.

Chair, Graduate Council
Date

Chair, Undergraduate Curriculum Committee
Date

CATALOG DIRECTOR

These changes/additions made to the University Catalog policy management system and entered into the BANNER term named above.

Catalog Director
Date

REGISTRAR'S USE ONLY

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SCARES: Operator Init: ______ Date: ______

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ADDING A NEW COURSE TO THE CURRICULUM

This course is available for student registration only after the approval process has been completed.

SUBJECT: B 1 0
(Course: e.g., CM)

COURSE NO.: 3 6 0 1
(Course: e.g., 11610)

CREDIT HOURS: 3

TERM TO BE ADDED TO THE FILE: Summer 2011
(Re: Fall 2011)

CLASS HOURS: 45
LECTURE HOURS: 20
LAB HOURS: 75
CONTACT HOURS (CEU ONLY):

DEPARTMENT: Biological Sciences
(Schedule Type: Field Project (J)
(e.g., Computer Science)

COLLEGE OF AERONAUTICS - 23

NATHAN M. BISK COLLEGE OF BUSINESS - 24

COLLEGE OF ENGINEERING - 1

COLLEGE OF PSYCHOLOGY AND LIBERAL ARTS - 25

EXTENDED STUDIES DIVISION / NATHAN M. BISK COLLEGE OF BUSINESS - 90

COMPUTER TITLE: Restricted to 24 characters, including spaces
Fisheries Science

CATALOG TITLE: Field Methods in Fisheries Science

CATALOG DESCRIPTION OF COURSE: Restricted to 550 characters, including spaces

Includes lectures and intensive field/laboratory work covering the theory and practice of fisheries science techniques. Applies these techniques to development of fishery and habitat management strategies for fish populations. Includes field studies and examination of fisheries in the Indian River Lagoon and South Florida.

This description has been approved by the catalog office.

Catalog Director
S M J O Y

3/2/11

GRADES TO BE ISSUED

X A, B, C, D, F

□ A, B, C, D, F, CEU

□ CEU

□ S, U

□ P, F

□ Other

ADDITIONAL RESTRICTIONS

(e.g., Major, Class Level, Department Head Approval)

If this course replaces a course currently offered in Banner, please indicate old course information and the date/term the course may be removed from the system.

SUBJECT AlphaPreceding (e.g., CM: Course: e.g., 11610)

COURSE NO.: 3 6 0 1

TERM TO INACTIVATE

APPROVALS: Upon completion of appropriate department approvals, submit form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for approval below and forward to Catalog Director.

Originator

Date

Chair, Graduate Council

Date

OR

Department Head/Program Chair

Date

Chair, Undergraduate Curriculum Committee

Date

Dean or Associate Dean

Date

CATALOG DIRECTOR

These changes/additions have been made for the University Catalog/policy management system and entered into the Banner system named above.

Catalog Director

Date

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SCBASE

SCABRS

Operator Init.

Date
Proposed Course: BIO 3401

Field Methods in Fishery Science

Rationale:

Fishery science is an interdisciplinary field of study that focuses the theories and methods of marine biology, ecology, oceanography, ecosystem management and economics onto the conservation and management of fishery populations. Local and worldwide fishery resources are under tremendous stress, and the need for fishery scientists and managers is increasing. Fisheries agencies are among the most important employers of Florida Tech graduates in marine biology and oceanography. This course is intended to provide students with experience that will increase their competitiveness for careers in fisheries.

Goal:

To provide an intensive 3-week summer course that will train students in field, laboratory and analytical techniques used in fishery science.

Prerequisites:

BIO 2801 (Biometry) or permission of instructor for non-biology majors.

Instructors:

Dr. J.M. Shenker, Biological Sciences

Class format:

For first 2 weeks: 8 hours of lecture/week and 4 hour field/laboratory session per week, + day-long workshop at the Florida Marine Fisheries Research Institute in St. Petersburg (sessions on methods and analysis of DNA, otoliths, gonads, feeding biology), and a 1 intensive week of field research in either Port Charlotte/10,000 Islands region in southwest Florida or in the Florida Keys.

Lecture Syllabus:

Week 1: Introduction to Fishery Science; biological/ecological processes and human activities that affect population structure and distribution; types of data needed to address fishery issues. Field studies in Indian River Lagoon for data collection (taxonomy, morphometrics/meristics, GSI, otolith, scale and feeding data). Trip to FMRI laboratory for workshop described above.

Week 2: Fishery techniques and fishery statistics; Laboratory processing of field samples collected in Week 1. At end of week, begin 7 days of field studies in South Florida. The focus of this effort will be a class-designed study to address a selected fishery problem that will focus on either individual species or groups of species or on a selected habitat.

Week 3: Finish field studies in South Florida, 2 days in Melbourne for analyses and reports.


The course will also assign numerous readings from the primary research literature.

Evaluation: Course will be graded on an A-F letter grade basis with 1 exams and a research paper based on data collection/analysis.
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ADDING A NEW COURSE TO THE CURRICULUM

This course is available for student registration only after the approval process has been completed.

SUBJECT BIO
(e.g., CSCE)

COURSE NO. 4412
(e.g., 1201)

CREDIT HOURS 4

TERM TO BE ADDED TO THE FILE Spring 2012
(e.g., Fall 2010)

CLASS HOURS 75/semester

LECTURE HOURS 45/semester

LAB HOURS 30/semester

CONTACT HOURS (CEU ONLY) 

DEPARTMENT Biological Sciences
(e.g., Computer Sciences)

SCHEDULE TYPE Lecture/Lab
(e.g., Lecture, Lab or Special Topics/Project)

☐ COLLEGE OF AERONAUTICS - 23
☐ COLLEGE OF PSYCHOLOGY AND LIBERAL ARTS - 25

☐ NATHAN M. BISK COLLEGE OF BUSINESS - 24
X COLLEGE OF SCIENCE - 26

☐ COLLEGE OF ENGINEERING - 1
☐ EXTENDED STUDIES DIVISION / NATHAN M. BISK COLLEGE OF BUSINESS - 90

COMPUTER TITLE Restricted to 25 characters, including spaces Ornithology

CATALOG TITLE Restricted to 350 characters, including spaces

CATALOG DESCRIPTION OF COURSE Restricted to 350 characters, including spaces

Studies the evolution, classification, biogrophy, physiology and life history of birds. Emphasizes conservation and management of populations. Laboratory focuses on field identification, population dynamics and habitat interactions.

This description has been approved by the catalog office.\[Signature\] 3/17/11

Catalog Director

In addition, please attach a course syllabus and/or more detailed description.

RESTRICTIONS ☒ Prerequisite BIO 1020

Course Number

☐ Corequisite

Course Number

☐ and

☐ or

☑ A, B, C, D, F

☐ A, B, C, D, F, CEU/Audit

☐ CEU

☐ S, U

☐ P, F

☐ Other

ADDITIONAL RESTRICTION

(e.g., Major, Class Level, Department Head Approval)

If this course replaces a course currently offered in BANNER, please indicate old course information and the date/term the course may be removed from the system.

SUBJECT Alpha Prefix (e.g., CSCE) 

COURSE NO. (e.g., 1201)

TERM TO INACTIVATE

APPROVALS: Upon completion of appropriate department approvals, submit form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for approval below and forward to Catalog Director.

\[Signature\] 3/17/11

Chair, Graduate Council

\[Signature\] 3/17/11

Chair, Undergraduate Curriculum Committee

\[Signature\] 3/17/11

Dean or Associate Dean

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RGR010-III
Ornithology
The primary aim of this course is provide an introduction to ornithology focusing on the evolution, ecology, anatomy, and physiology of birds. The laboratory will be primarily field-based with trips to local wildlife management and conservation areas.

SUMMARY: Studies the evolution, classification, biogeography, physiology, and life history of birds. Emphasizes conservation and management of populations focusing on field identification, population dynamics, and habitat interactions.

Prerequisite is BIO-1020 (Biological Discovery 2)

Course details (lecture):
Week 1. Introduction to ornithology
Week 2. Origin and evolution of birds
Week 3. Classification, survey of birds
Week 4. Species differentiation and conservation
Week 5. Feathers, molts, and plumages
Week 6. Flight, physiology
Week 7. Feeding, brains and senses
Week 8. Populations
Week 9. Communication and social behavior
Week 10. Reproduction
Week 11. Courtship, mating, care and development of young
Week 12. Demography and communities
Week 13. Annual cycles, migration
Week 14. Navigation
Required reading:

Other readings as assigned.

Laboratory:
Students will learn basic bird identification and anatomy using museum specimens and dissection. Students will learn field identification on field trips to local wildlife management and conservation areas.

Requirements:
Attend all lectures and laboratories.

Grading:
70% Lecture
- Midterm and Final Exam
- Discussion of primary literature
- Review paper
30% Laboratory
- Lab practical
- Bird identification quizzes
- Field notebook

I will adopt the University grading system.