**North America Invasive Species Management Association**

Whiteville, North Carolina USA

**COURSE SYLLABUS**

| ISM 110 | Overview of Invasive Species | 3 | 0 | 0 | 3 |
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| **Course Prefix & Number** | **Course Title** | **Class Hours** | **Lab Hours** | **Clin / Intern Hours** | **Semester Credit Hrs.** |
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| **COURSE DESCRIPTION**ISM 110 is an internet based course that provides an overview of invasive species issues and problems. Upon completion, students should have a better understanding strategies that are being used to manage invasive species, as well as laws and regulations that provide authority for dealing with the problem in natural and managed ecosystems. |
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| **PREREQUISITES:** None |
| **COREQUISITES:** None |
| **REQUIRED TEXTS:** ISM 110 is totally computer and internet based. Students will need to download and print some materials from the course home page or the internet. However, the course does not require the use of any published textbooks or other printed materials as in traditional classes.**Software:** Students must have Microsoft **Word** to successfully complete assignments in this course. If you are not sure which software you have, contact **Mr. Bryan Dailey**, NAISMA Online Learning Platform Administrator, at 941-677-8082 for assistance. |
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| **COURSE LEARNING OUTCOMES**Upon completion of this course, students will be able to demonstrate the following outcomes:**Upon completion of the course, students will be able to demonstrate the following competencies:**Upon completion of this unit, participants should be able to:1. Understand and describe the nature of the IVS problem
2. List some of the major characteristics of IVS
3. Discuss a few of the world’s worst IVSS
4. Discuss the basic ecological, economic and public health impacts of IVS
5. Describe the process of biological invasions
6. Give examples of intentional and unintentional introductions
7. List major pathways and vectors of primary and secondary spread
8. Explain difficulties with predicting invasiveness of organisms
9. Discuss some of the factors that are enhancing the global spread of IVS
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| **COURSE OUTLINE****I. OVERVIEW OF THE INVASIVE SPECIES ISSUE.****Unit 1 – Nature and Scope of the Problem**- Overview and Nature of the Problem- Overview of Invasive Alien Species- Native Ecosystems in Balance - Food Chains and Food Webs- Evolution in Isolation - Recreation of a Virtual Pangaea through Homogenization of the World’s Flora and Fauna **Unit 2 – Characteristics of Invasive Species**- Characteristics of IAS- Characteristics of Invaded Habitats**Unit 3 – Overview of Invasive Plants**- Case Study: Melaleuca and Pond Apple in North America and Australia**Unit 4 – Overview of Insects and Diseases**- The Amazing World of Insects- Case Study: Desert Locust- Case Study: The European Wasp in South America- Plant and Animal Diseases**Unit 5 – Overview of Aquatic Nuisance Species**- Case Study: Invasive Cut Throat Coral in Hawaii**Unit 6 – Overview of Injurious Wildlife**- Case Study: Eastern Gray Squirrel in England and Europe- Case Study: The Australian Brushtail Possum in New Zealand**II. IMPACTS OF INVASIVE SPECIES****Unit 7 – Ecological Impacts of Invasive Species**- Ecological Impacts of IAS**Unit 8 – Economic and Public Health Impacts of Invasive Species**- Economic Impacts of IAS- Economic Impacts in Key Regions- Direct Economic Impacts - Indirect Economic Impacts- Socio-economic Impacts of Aquatic Nuisance Species- Socio-economic Impacts of Plant and Animal Diseases- Public Health Impacts - Case Study: Red Imported Fire Ant in the Southern United States.- Case Study: Africanized Honey Bees- Case Study: Invasive Snails as Intermediate Hosts of the Rat Lungworm**III. HUMAN FACILITATED SPREAD OF INVASIVE SPECIES****Unit 9 – The Process of Biological Invasions**- Primary Introduction, Establishment, and Secondary Spread to New Areas - The Lag Phase – A Ticking Biological Time Bomb- Case Study: Melaleuca in the Florida Everglades.**Unit 10 – Intentional Introductions**- Intentional Introductions that Become Invasive- Authorized Intentional Introductions- Case Study: Kudzu in the United States- Unauthorized Intentional Introductions (Smuggling)- Case Study: Chinese Water Spinach in the U.S.**Unit 11 – Unintentional Introductions -** Hitchhikers, Stowaways, Contaminants- Case Study: Serrated Tussock in the USA- Case Study: South American Cactus Moth – Around the World in 80 years**Unit 12 – Pathways and Vectors of Spread - Trade, Tourism, and Transport**- Pathways of Spread - Sea, Air, and Overland Trade and Travel- Vectors of Spread – Vehicles, Equipment, Commodities, People - Means of Conveyance- Commodities- People and Personal Effects**Unit 13 – Other Factors Enhancing Spread of Invasive Species**- Globalization- Changing Land Use Patterns- Invasive Species and Global Climate Change**IV. PREDICTING INVASIONS****Unit 14 – Methods for Predicting Invasiveness of Exotic Species**- Methods of Predicting Invasiveness |
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| **COURSE REQUIREMENTS**To be successful in this course, students must complete the following requirements:**\*\*Weekly Unit Written Assignments** – ISM 110 weekly written assignments are downloaded from the course server. Completed assignments are uploaded to the course server for evaluation by the instructor. The due date for each assignment is listed in the course assignment schedule on the course home page. For each day an assignment is late, five (5) points will be deducted from the final score. Assignments will not be accepted for credit more than five days after the official due date, unless there is a demonstrated hardship. *Written assignments count as 40% of the final grade.***\*\*Bi-weekly Discussion Forums** – A popular feature of the NAISMA ISM online courses is the bi-weekly Class Discussion Forums of assigned topics. In this part of the course, each student will exchange comments and post ideas to the Discussion Forum section of the course home page. The purpose is to encourage interaction between students throughout the semester. *Discussion responses count as 10% of the student's final grade.* **\*\*Research Project** - Each student who is registered in ISM 110 will develop 10 *original*invasive species fact sheets as described in the Research Project Section of the Course Home Page. Final drafts of the fact sheets are due on designated dates throughout the semester. *The research project counts as 25% of the final grade.* **\*\*Final Exam.** The final exam will be sent to students by e-mail during the last week of the semester. The exam answer sheet is due back to the instructor on the date designated. *The Final Exam counts as 25% of the final grade*. |
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| **GRADING CRITERIA****1.   Course Effectiveness.** Progress will be measured by unit assignments, participation in posted class discussion topics, written lab reports, a field survey project report, and a final exam.**2.   Methods of Evaluation:**Weekly Unit Assignments: 40% of Total GradeBi-weekly Unit Discussions: 10% of Total GradeIVS Fact Sheets: 25% of Total GradeFinal Exam: 25% of Total Grade**3. Grading Scale:**PASS: 70-100 FAIL: 0-69 |
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| **ACADEMIC DISHONESTY**Academic Dishonesty, that is, taking or acquiring possession of any academic material (test information, research papers, notes) from a staff or student body without permission; receiving or giving help during tests; submitting papers or reports that are supposed to be original work but are not entirely the student’s own; and not giving credit for others’ work (plagiarism) may result in sanctions.  |
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| **STUDENT ACCESS TO INSTRUCTOR****Course Instructor:** Randy G. Westbrooks, Ph.D., Federal Invasive Species Prevention, 1979-2012, Chadbourn, N.C. Phone: (Cell): 910-918-6374; E-Mail: RandyWestbrooks@gmail.com.  |
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| **STUDENTS WITH DISABILITIES**NAISMA does not discriminate on the basis of disabilities. Students who require reasonable accommodations for a disability should notify the instructor of the course within the first week of the semester. |
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| **ATTENDANCE REQUIREMENTS**ISM 110 is an internet based, independent study course with no set lecture times on campus. However, this course does include weekly labs will involve field activities such as plant collecting and survey. Students can conduct these activities at conveniently located parks or other land units that are conveniently located, with the approval of the instructor. During the semester, the instructor will also offer online seminars or field trips to interesting sites. However, participation in these enrichment activities is strictly voluntary.  |
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| **ADDITIONAL INFORMATION**a.   During the current semester, the last day to drop ISM 110 without a grade is the 10% Point of the Course (refer to instructor). b.   The last day to withdrawal from ISM 110 during current semester is the 80% Point of the Course (refer to instructor)**. Up to the final drop date, a student who withdraws from the course will receive a W on their transcript.** After this point, a student cannot withdraw and will be given a final grade as earned.c.   **Access to Computer and E-Mail.** Since this is an internet based course, students must own or have access to a computer and e-mail in order to retrieve assignments from the course home page and to submit completed work to the instructor. For students who do not own a computer at home, computer and e-mail services are available at the SCC library and at other community college libraries across the state.d.  **Necessary Computer Skills.** To be successful in this internet based course, students **must** be proficient in the use of **word processors** (submit all assignments in MS-Word), in the use of **e-mail** (including file attachments for submitting written assignments), and in using the **internet** (for retrieving assignments from the ISM 110 Home Page and for searching the WWW). |
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