

## Routing for On-Campus Approval of Graduate Degree Actions for New Degree Programs, New Certificate Programs, New Minor Programs, Change in Degree Program Title or Discontinuation of Existing Degree Programs

**Type of Action:** Enter "X" for Action Type(s) and list Title and Prefix(s) as indicated

<input type="checkbox"/> New Degree Program	Proposed Program Title _____
<input checked="" type="checkbox"/> New Certificate Program	Proposed Certificate Program Title <u>Graduate Certificate in Military Land Sustainability</u>
<input type="checkbox"/> New Minor Program	Proposed Minor Program Title _____
<input type="checkbox"/> Change in Degree Program Title	Current Degree Program Title _____
<input type="checkbox"/> Change in Certificate Program Title	Current Certificate Program Title _____
<input type="checkbox"/> Change in Minor Program Title	Current Minor Program Title _____
<input type="checkbox"/> Program Discontinuation	

**Routing of Action:** Indicate by date when the following occurs

- 4/6/17 Dept Head *endorses* (signature required on action)
- 4/6/17 College Graduate Studies Committee *recommends* (signature required on action)
- \_\_\_\_\_ College Dean *endorses* and submits to Graduate School (signature required on action)
- \_\_\_\_\_ *Recommended* by Vice Provost, DELTA (if DE degree) (signature required on action)
- \_\_\_\_\_ Administrative Board of the Graduate School *recommends*
- \_\_\_\_\_ Graduate Operations Council *informed*
- \_\_\_\_\_ University Planning and Analysis *informed* (Southern Associate of Colleges & Schools notified if necessary)
- \_\_\_\_\_ Dean of the Graduate School *approves* (signature required on action)
- \_\_\_\_\_ *Presented* to Vice Provosts
- \_\_\_\_\_ Deans' Council *recommends*
- \_\_\_\_\_ Provost *approves*
- \_\_\_\_\_ *Recommended* by Chancellor's Executive Officer's (EOM)
- \_\_\_\_\_ University Council *informed*
- \_\_\_\_\_ Presented to Board of Trustees subcommittees (Academic & Personnel and Finance & Planning)
- \_\_\_\_\_ Chancellor *approves*
- \_\_\_\_\_ *Submitted* to UNC-General Administration by Graduate School

Notes:

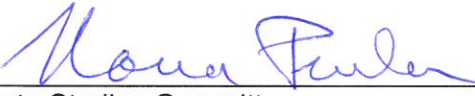
**Graduate Certificate in Military Land Sustainability**  
**North Carolina State University**

This request has been reviewed and approved by the appropriate campus committees and authorities.

**Endorsed By:**

 4/6/2017  
Head, Department Date

**Recommended By:**

 4/6/2017  
Chair, College Graduate Studies Committee Date

**Endorsed By:**

 4/6/2017  
College Dean Date

**Recommended By:**

\_\_\_\_\_  
Vice Provost, DELTA (if DE degree) Date

**Approved By:**

\_\_\_\_\_  
Dean of the Graduate School Date

**Recommended By:**

\_\_\_\_\_  
Dean's Council Date

**Approved By:**

\_\_\_\_\_  
Provost Date

**Approved By:**

\_\_\_\_\_  
Chancellor Date

**N. C. STATE UNIVERSITY  
GRADUATE CERTIFICATE PROGRAM FORM**

COLLEGE/DEPARTMENT/PROGRAM NAME:

**College of Natural Resources**

DEPARTMENT/PROGRAM NAME:

**Forestry & Environmental Resources**

CERTIFICATE TITLE:

Graduate Certificate in Military Land Sustainability

TYPE OF PROPOSAL:

Revision:

Discontinuation:

CIP DISCIPLINE#:

CERTIFICATE TYPE: On-campus  Distance  On-campus & Distance

PROPOSED OR CURRENT PROGRAM CODE: by Graduate School

PROPOSED EFFECTIVE DATE: August 2017 APPROVED EFFECTIVE DATE:

**GRADUATE CATALOG DESCRIPTION**

Students participating in the Graduate Certificate in Military Land Sustainability will identify, evaluate, and apply land management approaches in order to conserve natural resources and support military land uses. Students will complete a minimum of 14 hours of course work spanning three integrated, multidisciplinary thematic areas : land management, policy analysis and formulation, and cultural competency and conflict resolution. Students are expected to complete seven hours of online required courses, three hours of online elective courses, and the field-based capstone course. For certification in Military Land Sustainability, students must obtain a B or better in all courses.

**PROJECTED ENROLLMENT**

On campus	Yr 1	00	Yr 2	00	Yr 3	00	Yr 4	00
Distance Education	Yr 1	15	Yr 2	15	Yr 3	15	Yr 4	15

PROGRAM COORDINATOR: Dr. Dennis Hazel

Attachments:

- 1. Graduate Certificate Proposal
- 2. Statement on Other Departments Likely to be Affected and Summary of Consultations with those Departments

## **Proposal for Graduate Certificate in Military Land Sustainability**

### **Program Justification**

The Department of Defense (DoD) oversees more than 25 million acres of military land, air, and water resources that are used for testing, training, and operational activities; these resources are also managed for conservation of natural resources<sup>1</sup>. However, unlike other federal land management agencies, natural resource practices on DoD land must provide military forces with realistic training and testing environments. To ensure the long-term sustainability of land resources, DoD works with other federal agencies, state agencies, local governments, and non-profit organizations. Students with a natural resources background may find both military and civilian careers in military land management.

North Carolina has a significant military presence, with five military bases, a military ocean terminal, and a U.S. Coast Guard base located within the state. The military supports 578,000 jobs in North

Carolina, nearly \$34 billion in state personal income, and \$66 billion in gross state product.<sup>2</sup> In North Carolina as in other states and U.S. territories military installations face the loss of the ability to train due to incompatible land use. In 2013, the Departments of Agriculture, Defense, and Interior announced the Sentinel Landscapes Partnership as the pathway toward concurrent military use and natural resource conservation. Sentinel Landscapes is an approach to regional and local planning where multiple partners including the local military installation agree to work together to develop strategies to promote working farm and forestlands, protect natural resources, and minimize unplanned development to promote health of the local economy while sustaining the ability of the military to train and maintain readiness. By agreement of the federal agencies, when the Department of Defense designates an area near and often including the local installation a “Sentinel Landscape”, those agencies will cooperate and focus resources to develop partnerships to accomplish these goals regarding working lands, natural resources, and the installation(s). There are now 33 North Carolina counties in the Eastern North Carolina Sentinel Landscape, and more than 30 state and local agencies and NGOs in the associated partnership. Most of the land in this Landscape is privately owned; much of it is forestland. Partners will seek to address top priority incompatible land use concerns identified by the military, including restrictions related to species conservation and potential development of privately owned agriculture, forest, and open space lands<sup>3</sup>. As of April 2017, there are additional Sentinel Landscapes designated in Washington, Arizona, Minnesota, Virginia, Maryland, Delaware, and Florida, all of which require skilled managers.

The certificate in military land sustainability is proposed as a distance-education based graduate certificate program administered through NC State University, College of Natural Resources, Department of Forestry and Environmental Resources. It is designed to provide focused training on natural resource management in and

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<sup>1</sup> Department of Defense, Natural Resources Program, n.d.,  
<http://www.dodnaturalresources.net/>

<sup>2</sup> North Carolina Department of Commerce and the North Carolina Military Affairs Commission, 2015 , <https://www.nccommerce.com/Portals/47/Publications/Industry%20Reports/2015-Economic-Impact-of-the-Military-on-North-Carolina.pdf>

<sup>3</sup> USDA et al., Sentinel Landscapes Eastern North Carolina, 2016,  
[http://www.sentinellandscapes.org/media/1215/sl\\_enc\\_factsheet\\_23dec16.pdf](http://www.sentinellandscapes.org/media/1215/sl_enc_factsheet_23dec16.pdf)  
around military bases in order to preserve natural resources and to maintain military readiness. It is targeted to active military personnel, veterans committed to natural resource management , other government professionals, and natural resource professionals interested in civilian work with the military. By offering a predominately online certificate the Department of Forestry and Environmental Resources hopes to promote high-quality education for active duty personnel and working students. Students will require only one week of class attendance, in the required Field Course (NR 513), which will be conducted at the Raleigh campus with several North Carolina base field trips.

This program was originally designed in partnership with Texas A&M University, and was presented to the Graduate Administrative Board in August 2014. Texas A&M University is now offering their Military Lands Sustainability certificate independently. NC State maintains a working relationship with colleagues at TAMU, and faculty have collaborated on projects and course design and one TAMU faculty member is adjunct at NC State and assists with several NCSU courses. At this time, however, the NC State Military Lands Sustainability Certificate program is being represented to the Graduate Administrative Board as a stand-alone certificate program as it was deemed by Texas A&M to be too complex to develop appropriate university-to-university program agreements.

### **Program Objectives**

The primary objective of this program is for students to identify, evaluate, and apply land management approaches to conserve natural resources and military sustainability in both DoD-owned and other areas important to military sustainment. Specific student learning outcomes include:

- Describe historic, current, and future use of military lands (to include competing interests of scarce resources), and general military land use requirements,
- Identify natural resource and environmental policies and emerging issues that impact military land uses and areas critical to military sustainment,
- Compare natural resource planning approaches on military lands and areas important to military sustainment,
- Evaluate alternative approaches to promoting compatible land uses to include buffer programs, regional planning, incentive programs, and community

- engagement,
- Compare diverse communities at local and regional scales and apply basic principles in conflict resolution and consensus building, and propose paths forward.
- Formulate successful solutions to military natural resource challenges by taking into account military mission, laws, policies, and science.

**Graduate Catalog Description**

Students participating in the Graduate Certificate in Military Land Sustainability will identify, evaluate, and apply land management approaches in order to conserve natural resources and support military land uses. Students will complete a minimum of 14 hours of course work spanning three integrated, multidisciplinary thematic areas : land management, policy analysis and formulation, and cultural competency and conflict resolution. Students are expected to complete seven hours of online required courses, three hours of online elective courses, and the field-based capstone course. For certification in Military Land Sustainability, students must obtain a B or better in all courses.

**Projected Enrollment**

On campus	Yr 1	___	Yr 2	___	Yr 3	___	Yr 4	___
Distance Education	Yr 1	15	Yr 2	15	Yr 3	15	Yr 4	15

**Admission Requirements**

The NC State Graduate Certificate in Military Land Sustainability is administered by the certificate coordinator for the proposed certificate. The coordinator is also an instructor in several courses. Acceptance into the Graduate Certificate in Military Land Sustainability program is competitive. Applicants must hold a B.S. or B.A. degree from a regionally accredited institution, preferably in a natural resource related field with a minimum of 3.0 GPA.

**Provisional Admission**

Applicants who do not meet the GPA requirements may be admitted provisionally based on professional training and achievements. Students who are admitted provisionally must maintain a 3.0 for the first six hours of credit in order to obtain full admission into the certificate program.

**Program of Study**

The graduate certificate requires a minimum of 14 hours, and includes the

following courses: Required Courses (11 credit hours required):

NR 510 Sustainable Military Land Management - 3 credit hours

NR 511 Managing Natural Resources in an Arena of Conflict -

3 credit hours NR 512 Land Use Policy and Management - 3  
credit hours

NR 513 Field Course and Practicum for Military Land Sustainability - 2

credit hours Elective Courses {Must choose one 3 credit-hour elective from

list below):

FOR 620 Woodlands Stewardship

GIS 510 Introduction to Geographic

Information Science FOR 531 Wildland

Fire Science

MEA 517 Fundamentals of Climate

Change Science MEA 519 Barriers

to Climate Change Literacy MBA

554 Project Management

PS 536 Global Environmental Law and Policy

### **Academic Performance**

1. Award of a Graduate Certificate requires a minimum overall GPA of 3.0.
2. A student must make at least a "C-" in all courses.
3. None of the required 14 hours may be taken for S/U or "credit only".
4. No transfer credits from other institutions are allowed for the certificate.
5. All students must be registered through NC State University.
6. All Graduate Certificate requirements must be completed within the four (4) calendar years beginning with the date the students begins the course work for the certificate.
7. Graduate Certificate students are expected to maintain continuous enrollment every semester (excluding summer sessions) until all course work is completed. Under unusual circumstances, a one-semester leave of absence will be granted if the student is unable to enroll in a course. Written approval from the certificate coordinator must be obtained before the beginning of the semester

### **Application and Completion Processes**

1. An application for acceptance into a certificate program is required for all new certificate applicants, including currently enrolled students. The applicant must apply via the Graduate School application, found at <http://www.ncsu.edu/grad/applygrad.htm>.
2. Those applicants who are currently enrolled in an NC State graduate program

need only provide the Graduate student Certificate Plan Data Entry form, found at

<https://grad.ncsu.edu/wp-content/uploads/2015/12/grad-cert-plan-data-entry.pdf>

3. All applications will be reviewed at the department/program level and new applicants will pay a certificate application fee.

Each semester, students should contact the Certificate Coordinator to determine registration procedures, course availability and registration dates.

When all certificate coursework is satisfactorily completed, the Certificate Coordinator forwards appropriated information to the Director of Graduate programs for the College of Natural Resources who then notifies the Graduate School.

### **Admission to other Graduate Programs**

Academic success might have a strong bearing on admission to a degree program BUT completion of a certificate program in no way guarantees entry into a graduate degree program which is done through a separate application process.

### **Responsibility for Administration and Resources**

The certificate program will be administered by the Director of Graduate Programs for Forestry and Environmental Resources in conjunction with the Certificate Coordinator. The certificate program coordinator will:

- Make all admission decisions to the certificate program
- Notify the Department DGP of the student's completion of certificate requirements.
- Update program website and program listing as needed on University websites
- Coordinate Scheduling of courses
- Oversee development of courses
- Assess learning outcomes
- Function as liaison with academic departments/colleges

Startup funding has been provided through DELTA. Student enrollment is expected to provide continued funding in the future that will be used to support the instruction in this program.

### **Program or Policy Changes for this Certificate**

Changes in the graduate certificate and related policies will be determined by the faculty and channeled through the appropriate department and college committees and the university. Changes will be reported to the Graduate School.



## **Outcomes Assessment Plan**

### **I. Objectives**

The primary objective of this program is for students to identify, evaluate, and apply land management approaches to conserve natural resources and military sustainability in both DoD-owned and other areas important to military sustainment.

#### Objectives and Outcomes

By the time they complete this certificate program, graduates should be able to:

- Describe historic, current, and future use of military lands (to include competing interests of scarce resources), and general military land use requirements,
- Identify natural resource and environmental policies and emerging issues that impact military land uses and areas critical to military sustainment,
- Compare natural resource planning approaches on military lands and areas important to military sustainment,
- Evaluate alternative approaches to promoting compatible land uses to include buffer programs, regional planning, incentive programs, and community engagement
- Describe how renewable energy sources can affect military training routes
- Compare diverse communities at local and regional scales and apply basic principles in conflict resolution and consensus building, and
- Formulate successful solutions to military natural resource challenges by taking into account military mission, laws, policies, and science.

<b>Outcome</b>	<b>Evidence</b>	<b>Source</b>	<b>When?</b>
Describe historic, current, and future use of military lands (to include competing interests of scarce resources), and general military land use requirements	Exams from NR 510	Student	At end of semester
Identify natural resource and environmental policies and emerging issues that impact military land uses and areas critical to military sustainment	Exams and Case Study Review from NR 512	Student	At end of semester
Compare natural resource planning approaches on military lands and areas important to military sustainment	Exams and Case Study Review from NR512	Student	At end of semester
Evaluate alternative approaches to promoting compatible land uses to include buffer programs, regional planning, incentive programs, and community engagement	Exams and Project Paper from NR 513	Student	At end of semester
Describe how renewable energy sources can affect military training routes	Class presentation and team report from NR 513	Student	At end of course
Compare diverse communities at local and regional scales and apply basic principles in conflict resolution and consensus building	Exams and Project Paper from NR 511	Student	At end of semester
Formulate successful solutions to military	Written Report from NR513	Student	At end of course

<b>Outcome</b>	<b>Evidence</b>	<b>Source</b>	<b>When?</b>
natural resource challenges by taking into account military mission, laws, policies, and science			

2. At the time they complete this certificate program, graduates are expected to:

- be satisfied with the usefulness of the certificate program in enabling them to achieve their natural resource professional goals
- be sufficiently satisfied with the certificate program to recommend it to other natural resource professionals working with the military
- be satisfied with the appropriateness of the courses in providing the knowledge or training they anticipate needing for their natural resource professional goals
- be satisfied with the frequency and timeliness of courses offered for the certificate
- be satisfied with the quality of teaching in certificate courses
- be satisfied with the overall educational experience of the certificate program

<b>Outcome</b>	<b>Evidence to be Collected</b>	<b>Source of Evidence</b>	<b>Frequency of Collection</b>
To be satisfied with the usefulness of the certificate program in enabling them to achieve their natural resource professional goals	Exit survey administered by Graduate School	Students	Upon certificate completion
To be sufficiently satisfied with the certificate program to recommend it to other natural resource professionals working with the military	Exit survey administered by Graduate School	Students	Upon certificate completion
To be satisfied with the appropriateness of the courses in providing the knowledge or training they anticipate needing for their natural resource professional goals	Exit survey administered by Graduate School	Students	Upon certificate completion
To be satisfied with the frequency and timeliness of courses offered for the certificate	Exit survey administered by Graduate School	Students	Upon certificate completion

<b>Outcome</b>	<b>Evidence to be Collected</b>	<b>Source of Evidence</b>	<b>Frequency of Collection</b>
To be satisfied with the quality of teaching in certificate courses	Exit survey administered by Graduate School	Students	Upon certificate completion
To be satisfied with the overall educational experience of the certificate program	Exit survey administered by Graduate School	Students	Upon certificate completion

### **Consultations**

<b>Department</b>	<b>Contact Name</b>	<b>Statement</b>
NR	Bob Abt (Qob <a href="mailto:abt@ncsu.edu">abt@ncsu.edu</a> )	The committee favored pursuing this certificate. 9/25/13
EA	Linda Taylor (LR <a href="mailto:Taylor@ncsu.edu">Taylor@ncsu.edu</a> )	I think the program in Military Land Sustainability would be a great asset to the current course offerings. 10/7/13
PA	Jerrell Coggbum (jc <a href="mailto:ogg_bum@ncsu.edu">ogg_bum@ncsu.edu</a> )	PA is supportive of the effort to establish the Military Land Sustainability Certificate program. 10/2/13