# BSC 560-01W ADVANCED LANDSCAPE ECOLOGY

COURSE SYLLABUS: SUMMER I 2026

## INSTRUCTOR INFORMATION

Instructor: Walter Paulin Tapondjou Nkonmeneck
Office Location: Science Building (STC) 208
Office Hours: MF 9:30-12:30 AM (By appointment, meeting either via Zoom link or in person)
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Preferred Form of Communication**: email**
Communication Response Time: less than 48hr

## COURSE INFORMATION

**Textbooks:**

**Required:** Turner, M.G. and Gardner, R.H. 2015. Landscape Ecology in Theory and Practice: Patterns and Process. 2nd edition. Springer Business and Media LLC, New York, USA. ISBN 978-1-4939-2793-7 ISBN 978-1-4939-2794-4 (eBook), DOI 10.1007/978-1-4939-2794-4

**Additional Texts and/or Materials:** A selection of readings from the primary scientific literature will accompany readings from the textbook. Discussion Reading List (Alpha-order):

- Béliveau, M., D. Germain, A.-N. Ianăş. 2017. Fifty-year spatio-temporal analysis of landscape changes in the Mont Saint-Hilaire UNESCO Biosphere Reserve. Environmental Monitoring and Assessment 189, 215.
- Bowker, M.A., F.T. Maestre, D. Eldridge, J. Belnap, A. Castillo-Monroy, C. Escolar and S. Soliveres. 2014. Biological soil crusts (biocrusts) as a model system in community, landscape and ecosystem ecology. Biodiversity and Conservation 23:1619-1637
- Egberth, M., G. Nyberg, E. Næsset, T. Gobakken, E. Mauya, R. Malimbwi, J. Katani, N. Chamuya, G. Bulenga, H. Olsson. 2017. Combining airborne laser

scanning and Landsat data for statistical modeling of soil carbon and tree biomass in Tanzanian Miombo woodlands. Carbon Balance and Management 12:8 DOI 10.1186/s13021-017-0076-y

- Hanan, E.J., M.S. Ross, P.L. Ruiz, J.P. Sah. 2010. Multi-scaled grassland-woody plant dynamics in the heterogeneous marl prairies of the Southern Everglades. Ecosystems 13: 1256-1274.
- Hitt, S., S.J. Pittman, R.S. Nemeth. 2011. Diel movements of fishes linked to benthic seascape structure in a Carribbean coral reef ecosystem. Marine Ecology Progress Series 427: 275-291.
- Le Roux, M., M. Redon, F. Archaux, J. Long, S. Vincent and S. Luque. 2017. Conservation planning with spatially explicit models: a case for horseshoe bats in complex mountain landscapes. Landscape Ecology 35: 1005-1021.
- Li, H. and Wu, J. 2004. Use and misuse of landscape indices. Landscape Ecology 19(4): 389-399.
- Pickard, B.R., D. Van Berkel, A. Petrasova and R.K. Meentemeyer. 2017. Forecasts of urbanization scenarios reveal trade-offs between landscape change and ecosystem services. Landscape Ecology 32: 617-634.
- Pijanowski, B.C., A. Farina, S.H. Gage, S.L. Dumyahn and B.L. Krause. 2011. What is soundscape ecology? An introduction and overview of an emerging new science. Landscape Ecology 26: 1213-1232.
- Romme, W.H., M.S. Boyce, R. Gresswell, E.H. Merrill, G.W. Minshall, C. Whitlock and M.G. Turner. 2011. Twenty years after the 1988 Yellowstone fires: lessons about disturbance and ecosystems. Ecosystems 14: 1196-1215.
- San-Miguel, I., D.W. Andison and N.C. Coops. 2017. Characterizing historical fire patterns as a guide for harvesting planning using landscape metrics derived from long term satellite imagery. Forest Ecology and Management 399: 155-165.
- Turner M.G. 2005. Landscape ecology in North America: past, present and future. Ecology 86:1967-1974.
- Wiens, J.A. 1989. Spatial scaling in ecology. Functional Ecology 3: 385-397.
- Wiens, J.A. and B.T. Milne. 1989. Scaling of 'landscapes' in landscape ecology, or, landscape ecology from a beetle's perspective. Landscape Ecology 3:87-96
- Wiens, J.A. 2009. Landscape ecology as a foundation for sustainable conservation. Landscape Ecology 24: 1053-1065.
- Wu, J. and R. Hobbs. 2002. Key issues and research priorities in landscape ecology: an idiosyncratic synthesis. Landscape Ecology 17: 355-365.
- Yuan, F., Wu, J., Li, A., Rowe, H., Bai, Y., Huang, J., and Han X. 2015. Spatial patterns of soil nutrients, plant diversity, and above ground biomass in the Inner Mongolia grassland: before and after a biodiversity removal experiment. Landscape Ecology 30: 1737-1750.

The *syllabus/schedule are subject to change.*

**Course Description**

The main objective of this course is to develop students' in-depth understanding of landscape ecology. Landscape ecology is a young, integrative field, and is still developing, and thus students will explore an overview of the field with hands-on, applicable experience with its concepts and tools. Students will gain a comprehensive understanding of landscape ecology, encompassing its main theories and significant developments. They will acquire skills in quantifying landscape patterns and analyzing the relationships between spatial patterns and processes. Moreover, they will become familiar with the practical applications of landscape ecology theory in research.

**Student Learning Outcomes**

1. Students will understand the history and context of the field of landscape ecology.
2. Students will know the importance of scale and heterogeneity patterns on ecological processes influenced by landscape features.
3. Students will understand how to measure patterns and interpret models of landscape analysis, and how features of the landscape promote connectivity between discrete populations.
4. Students will know how landscape features influence movement, population patterns and dynamics, population spread, colonization, invasion, and community patterns and dynamics.
5. Students will be familiar with recent research in topics related to landscape ecology.

## COURSE REQUIREMENTS

### Minimal Technical Skills Needed

- Proficiency in using the D2L Brightspace Learning Management System through myLeo Online.
- Proficiency in the use of Microsoft Word, and PowerPoint.
- Other relevant skills in using GPS, QGIS and Google Maps.

### Instructional Methods

The course will meet in person on Mondays, Wednesdays, and Fridays. On Mondays and Tuesdays, you will be required to read the book chapters, supplemental reading material, and instructional PowerPoint slides. On Fridays, there will be a paper discussion. Exams will cover the material presented to you via myLEO Online and information in the text. I will post announcements on the course homepage to remind students of important due dates, in addition to announcing them in class. Students can monitor their progress in the course on the course webpage in D2L Brightspace.

### Student Responsibilities or Tips for Success in the Course

- Access the online material

The *syllabus/schedule are subject to change.*

- Dedicated study time each week to go over the materials covered in the class and the information in the relevant book chapter(s).
- Regularly checking both myLEO Online (D2L Brightspace) and emails for course-related announcements.
- Actively participate by asking questions in class/office hours
- Completing assignments on time. Late assignments will be penalized.

## GRADING

Final grades in this course will be based on the following scale:

A = 90%-100%  B = 80%-89%  C = 70%-79%  D = 60%-69%  F = 59% or Below

## Assessments

### *Lecture quizzes*

There will be eight quizzes, consisting of multiple choice, T/F, or short answer questions.

### *Discussion Board*

You will be required to post a paragraph of your assessment of the chapter to the Discussion Board on D2L. The Discussion Board posts will tentatively be due every Monday and Wednesday evening throughout the entire semester. Furthermore, you are expected to post a comment under the post of two of your classmates. The comments are due by Friday at 11:59 PM.

### *Paper Summaries*

There will be three paper summaries on peer-reviewed research articles related to topics covered in class. Due dates for these paper summaries are in the schedule and instructions and rubric for the summaries will be posted in D2L.

### *Research paper*

The instructions will be posted on D2L later in the semester. This paper and associated assignments will be worth 40% of your final grade. The paper will be due as indicated in your D2L calendar and will be submitted through D2L. Drafts of the entire paper or individual sections may be due earlier and count towards the overall research paper grade. Papers or assigned drafts that are not submitted through Canvas will not be counted and will receive zeros that cannot be changed. Instructions will be provided later.

The final draft of the research paper is due by Wednesday, July 1st at 11:59pm.

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## Assessments

You will be assessed based on the grades from the lecture quiz (20%), discussion logs (20%), weekly paper summary (20%), and final research paper (40%). Below is a breakdown of potential grades that can be earned in the class:

| *Assignment* | Max point | Times | Points | % of final grade |
|---|---|---|---|---|
| *Lecture Quizzes* | 10 | 8 | 80 | 20% |
| *Discussion board participation* | 10 | 8 | 80 | 20% |
| *Weekly paper summary* | 20 | 4 | 80 | 20% |
| *Final research paper* | 100 | 1 | 100 | 40% |
| *Total* | | | **340** | |

***Make-up policy***

Make-up will only be given if arrangements are made with the instructor before missing the scheduled quiz. A documented excuse will be required. Otherwise, missing assignments will be counted as zeroes in the overall grade computation.

**Course Outline/Calendar**

**Tentative Course schedule**: *(adjustments may be made later at instructor's discretion)

| Week | Date | Textbook | Weekly paper summary topic | Suggested papers |
|---|---|---|---|---|
| **1** | June 1st - June 5th | Chapter 1 & 2 | What is a landscape? What is landscape ecology? | Wu and Hobbs (2002), Hanan et al. (2010) & Romme et al. (2011) |
| **2** | June 8th - June 12th | Chapter 3 & 4 | Tools in Landscape Ecology | Egberth et al. (2017), Béliveau et al. (2017), Li and Wu (2004) & Yuan et al. (2015) |
| **3** | June 15th - June 19th | Chapter 5 & 6 | Applications in Landscape Ecology | Wiens (2009), San-Miguel et al. (2017), Le Roux et al. (2017), & Pickard et al. (2017) |
| **4** | June 22nd - June 26th | Chapter 7, 8 & 9 | Novel Landscapes | Hitt et al. (2011), Pijanowski et al. (2011), &Bowker et al. (2014) |
| **5** | June 29th- July 1st | | **Final review paper** | |

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## TECHNOLOGY REQUIREMENTS

### LMS

All course sections offered by East Texas A&M University have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:
https://community.brightspace.com/s/article/Brightspace-Platform-Requirements

LMS Browser Support:
https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

Zoom Video Conferencing Tool
https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom_Account.aspx?source=universalmenu

## ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@etamu.edu.

**Note:** Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

## COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your instructor.

### Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

https://community.brightspace.com/support/s/contactsupport

## STUDENT RESPONSIBILITIES FOR COURSE

The *syllabus/schedule are subject to change.*

**CWID and Password**

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@etamu.edu.

**Technology-Related Issues**

Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a ETAMU campus open computer lab, etc.

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## TECHNOLOGY REQUIREMENTS AND SUPPORT

**Minimal Technical Skills Needed**

Students will need reliable computer and internet access for this course. Students must be able to effectively use myLeo email, myLeo Online D2L, and Microsoft Office.

**Learning Management System (LMS) – D2L**

All course sections offered by East Texas A&M University have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are the technical requirements:

- View the Learning Management System Requirements Webpage.
- Learn more on the LMS Browser Support Webpage.

**Technical Support**

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found on the Brightspace Support Webpage.

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## COMMUNICATION AND SUPPORT

**Interaction with Instructor Statement**

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If you have any questions or are having difficulties with the course material, please contact your instructor. Correspondence will always be through university email (your "myLeo" mail) and announcements in myLeo online (D2L). You will not RECEIVE email through D2L, so be sure to check your ETAMU email for communication. Students are encouraged to check university email daily.

**Include the Following in Emails with Instructor:**

- Course name and subject in the subject line
- Salutation (Good afternoon, Dr. Jackson)
- Proper email etiquette (no "text" emails – use proper grammar and punctuation)
- Student name and CWID after the body of the email (possibly add to student signature on email)

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## COURSE AND UNIVERSITY PROCEDURES/POLICIES

### Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

### Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail online in the Student Guidebook.

Students should also consult the Rules of Netiquette Webpage for more information regarding how to interact with students in an online forum.

### ETAMU Attendance

For more information about the attendance policy, please view the Attendance Webpage and the Class Attendance Policy

### Academic Integrity

Students at East Texas A&M University are expected to maintain high standards of integrity and honesty in all their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty University Procedure 13.99.99.R0.03

Undergraduate Student Academic Dishonesty Form

Graduate Student Academic Dishonesty University Procedure 13.99.99.R0.10

Graduate Student Academic Dishonesty Form

**Use of Artificial Intelligence**

East Texas A&M University acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources

**Students with Disabilities-- ADA Statement**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

**Office of Student Disability Resources and Services**

East Texas A&M University

Velma K. Waters Library Rm 162

Phone (903) 886-5150 or (903) 886-5835

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Fax (903) 468-8148

Email: studentdisabilityservices@etamu.edu

Website: Office of Student Disability Services

**Nondiscrimination Notice**

East Texas A&M University will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information, or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

**Campus Concealed Carry Statement**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in East Texas A&M University buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and ETAMU Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all East Texas A&M University campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

**East Texas A&M Supports Students' Mental Health – Counseling Services**

The Counseling Center at East Texas A&M University, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counsel

**Mental Health and Well-Being**

The university aims to provide students with essential knowledge and tools to understand and support mental health. As part of our commitment to your well-being, we offer access to Telus Health, a service available 24/7/365 via chat, phone, or webinar. Scan the QR code to download the app and explore the resources available to you for guidance and support whenever you need it.

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As an Institutional Member of the National Association of Schools of Music, East Texas State A&M University supports the Association's commitment to student health and wellness. The following web address provides links to information for resources related to physical and mental well-being, as well as assists in offering preventative measures that students can take to avoid serious and/or chronic conditions: Musician Health and Safety - East Texas A&M University

**Department and Accrediting Agency Statements:**

School of Music Mission Statement:

The School of Music at East Texas A&M University promotes excellence in music through the rigorous study of music history, literature, theory, composition, pedagogy, and the preparation of music performance in applied study and ensembles to meet the highest standards of aesthetic expression.

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