

# Developing Online Education and Training for Installation and Management of Roadside Turfgrasses

UNIVERSITY OF MINNESOTA

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## Introduction

Roadside turfgrass establishments often fail due to poor establishment (Figure 1), leading to losses of money and time for departments of transportation in the northern U.S. One of the reasons for this failure is a lack of training given to installers. A 2018 survey of roadside turf installers in Minnesota (LRRB, unpublished) found that their specific issues and questions included:

- Need more success in reestablishment
- Need alternatives to constant sod replacement
- Preventing salt damage
- Species that are drought tolerant
- Conducting soil testing
- Best seed mixes for shade
- Proper watering techniques for boulevards
- Minimum amount of maintenance required for success
- Amount of organic content that roadside soil should have
- Best practices for sod survival over winter
- Options for when it's not the optimum time to seed
- How to amend topsoil

## Project Objective

To address some of the concerns turf installers have regarding roadside turfgrass establishment, we worked with the Minnesota Department of Transportation to create an online training course for contractors and other stakeholders called *Installation and Management of Roadside Turfgrasses*.

The goal of this course is to teach students the importance of species selection for roadsides, what the proper establishment procedures are for seed and sod, and how to implement fundamental cultural practices for maintaining turfgrasses on roadsides in the northern U.S.

## Course Curriculum

We collaborated with The College of Continuing and Professional Studies (CCAPS) to use Canvas, a learning management system at the University of Minnesota, as the platform for the course. The online course consists of eleven modules (Table 1). Each module has a recorded lecture and a quiz, as well as other supplemental learning materials such as readings, videos, and activities.

**Table 1.** Modules in *Installation and Management of Roadside Turfgrasses* course

Module	Title
1	Roadside Vegetation Management in Minnesota
2	Turfgrass Selection for Roadsides in the Northern U.S.
3	Soil Preparation for Roadsides
4	Seeding Roadsides
5	Sodding Roadsides
6	Mowing Principles and Practices
7	Irrigation
8	Fertilization of Roadsides
9	Weed Control for Roadsides
10	Diagnosing and Managing Problems
11	Case Study

## Outcomes

The course has been live and open to students since November 2018. Because students have up to a year to complete the course, we only have preliminary results to discuss. Some highlights:

- 68 students have registered for the course
- 7 students have finished the course; average final score of these students was 88%
- Of the 14 students who have taken the pre- and post-course tests, the average score on the pre-test was 67% and the average post-test score was 81%, indicating a gain in knowledge

Students who earn at least 75% are eligible to apply for a certificate of completion as well as three Continuing Education Units (CEUs). Our program will continue to offer this course with the goal of increasing roadside turfgrass establishment success in Minnesota and other northern regions (Figure 2).



**Figure 1.** Roadside installation failure due to use of unadapted turfgrass species. Photo: Matthew Cavanaugh



**Figure 2.** Fine fescues on an urban roadside. Photo: Sam Bauer

## Reference

Minnesota Local Road Research Board (LRRB). 2018. Best practices for boulevard turf design and maintenance survey. Unpublished.

TO LEARN MORE ABOUT THIS COURSE, PLEASE VISIT THE FOLLOWING SITE:

<https://ccaps.umn.edu/roadside-turfgrass>

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