



CAUSES AND MANAGEMENT OF TURFGRASS STRESS

Turfgrass plants need to adapt to changing weather conditions or they perish. This six-week course will cover different forms of abiotic stress, their impact on health, and it provides management strategies to over-come stress. Different topics include heat, cold, too little & too much light, drought, ice encasement, desiccation, and traffic damage. Multiple stresses, plant health, and plant health promoting products will also be discussed.

Instructor: Bill Kreuser, Ph.D.
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Course Structure

This course is organized into six units. Each week will have two video lectures and a short 10-question quiz. Students should contact Bill with questions related to the course content or with questions about Masterio, quizzes, grades etc. The preferred method of communication is the instructors email listed above. Any general questions about GreenKeeper University should be directed to help@greenkeeperapp.com.

Course Content

All video lectures will be posted on the course's Masterio site (<http://gku.greenkeeperapp.com>). A PDF copy of the lecture materials will be posted below each video link. Supplemental readings will also be post below the video lectures, when applicable. The supplemental content is not required to pass the weekly quizzes. They are designed to provide additional information about a topic. Video lectures are approximately 45-60 minutes in length.

Weekly Quizzes

Each week concludes with a 10-question quiz. They are designed to emphasize the core concepts from the past week. Quiz questions are displayed one-at-a-time with immediate feedback to help student understand why an answer is correct or incorrect. While GreenKeeper University courses are not graded, students must earn a 70% on a quiz to pass that week. Quizzes can be taken as many times as possible to earn a passing grade.

The course will be completed, and 1 credit will be earned once a student passes all three quizzes.



COURSE SCHEDULE

- SECTION 1: "NORMAL" PLANT GROWTH AND DEVELOPMENT**
Plant adaptations to climate, energy transfer, phytohormones: Efficiency discussion
- SECTION 2: CARBON PARTITIONING, TRAFFIC, AND CULTIVATION**
Sugar allocation, mowing and traffic stress: Ideal growth rate discussion
- SECTION 3: LIGHT STRESS – TOO LITTLE OR TOO MUCH**
Photo-oxidation, turf colorants, shades & PGRs: Discussion on daily light integral
- SECTION 4: HEAT AND COLD STRESS**
Acute vs. chronic heat stress, management, types of winterkill: Temp mgmt. discussion
- SECTION 5: TURFGRASS WATER USE & DESICCATION DURING SUMMER AND WATER**
Water requirements, boundary layers, syringing, management: Winterkill recover disc.
- SECTION 6: MAXIMIZING TURFGRASS HEALTH WITH PRODUCTS**
Measuring plant health, plant health models, products to improve plant health: Discussion about plant health programs and other forms of abiotic stress.