

DENMARK TECHNICAL COLLEGE

**FACILITIES MANAGEMENT
PROCEDURES**

**ROUTINE AND PREVENTIVE
MAINTENANCE**

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PREVENTIVE MAINTENANCE
FOR BUILDINGS AND GROUNDS

The purpose of the preventive maintenance plan is to provide a planned schedule of maintenance and service programs for campus buildings, equipment, and grounds for the primary purpose of preventing unnecessary breakdowns and repairs.

One of the greatest cost reductions which can be made in a plant or building is achieved by detailed planning, which leads to proper scheduling.

Most manufacturers furnish recommended maintenance schedules with their equipment, along with maintenance manuals and parts catalogs. Their recommendations should be followed for the first few cycles, and then judgement should be made if more or less maintenance is required.

Schedules should be reviewed once each year to determine their accuracy. Changes may be required through purchase of new and better equipment.

A preventive maintenance plan should not include only the up-keeping of buildings, but also should include the up-keeping of grounds equipment, and other furniture on the campus.

GROUNDS CARE STANDARDS

In general, the care of the grounds is the responsibility of the grounds maintenance crew. However, the building custodian should police in and around their assigned building. Normally, the policing of the campus should be done during the first hour of the work day. During the spring and summer months when the work load of the ground crew is exceptionally heavy, the building custodians may be asked to assist the ground crew on a mutually agreeable schedule to do light yard work around their particular assigned building.

The grounds crew is responsible for keeping the lawns in an attractive condition by mowing and trimming the grass, trimming shrubs, raking leaves, watering grass and shrubbery, feeding and weeding plant life, starting and cultivating new plants and lawns, maintaining sidewalks, drives, parking lots, drainage inlets, athletic complex, benches, and fences.

Grounds Policy

On a college campus, the look of the grounds often gives visitors their first and last impression of the College. Therefore, the grounds should always be clean and well groomed. The grounds crew should check and report needed grounds repair, fallen lines and other hazards.

Trees, Shrubs, and Shrubbery Standard Care

Care of trees includes pruning, spraying, fertilizing, mulching, leaf disposal, and drainage.

Lawn Care Standards

Lawn care consists of cutting, watering, edging, fertilizing, weeding, and insect control. Soil samples from the lawn area should be analyzed to determine what chemicals are needed and which grass will grow best. The following are general grass cutting rules for proper lawn care:

1. Delay the first spring cutting until the grass has made new growth.
2. Always use sharp mower blades, cut 1/3 of new growth leaving a maximum height of two to three inches.
3. Remove unsightly or heavy clippings. Short clippings may be left for mulch.
4. Stop cutting lawn early enough in the fall to insure a growth of two to three inches before winter.
5. Various other duties pertinent to lawn maintenance are: soil aeration, feeding, weeding, and pest control. The planting of winter grass to keep the lawn green during the winter is a good practice in that it both beautifies the campus and retards weed growth.
6. Instruction on the correct operation and care of lawn mowers, tractors, etc., should be followed to the letter.
7. Report breakage of safety devices on all power equipment to the supervisor or plant director.

Daily Duties

1. Pick up paper and other materials on campus. (Police the campus 6:30 a.m. – 9:00 a.m.)
2. Check to see that all campus trash containers are emptied.
3. Clean around the entrances to buildings.
4. Clean sweep all sidewalks, gutters, and curb areas.
5. Check to see that there are no busted pipes or leaks in the sprinkler system.
6. Cut grass, work flower beds, and trim grass from around buildings and under plants.
7. Use weed eater to cut weeds around buildings and close places.
8. Edge all campus shrubs, walks, and driveways.
9. Wash and sanitize all trash containers quarterly.

BUILDING MAINTENANCE SCHEDULE

Preventive maintenance is very important on a college campus. A well carried out preventive maintenance program for buildings can save the College thousands of dollars.

CUSTODIAL SERVICES

Custodians are most important to the success and satisfaction of campus upkeep. Each building of significant size and/or importance of internal functions should have an assigned custodian to totally care for that facility.

The building custodian's primary function is to provide the necessary cleaning to totally satisfy the needs of a facility. In satisfying the needs, the custodian must also have knowledge of locations and desired functions of all equipment therein or attached to the facility of assignment. Immediate reporting of any malfunction or equipment and all detected building deficiencies is very important to proper maintenance and speedy repairs that become necessary.

Complete custodial services for a facility must be identified in two separate categories, routine cleaning and special cleaning.

ROUTINE – DAILY DUTIES

1. All offices, classrooms, bathrooms, restrooms, corridors, stairs, landings, lounges, porches, and elevators must be cleaned daily.
2. Carpeted areas, if used daily, must be vacuumed daily. If not used daily, often enough to properly prevent surface soil from accelerating wear and discoloration of the materials.
3. Classrooms must receive the attention necessary to provide an atmosphere conducive to learning. Daily, floors must be swept or vacuumed, trash emptied, chalkboards cleaned, desks, chairs and tables dusted or damp cleaned, burned out lamps replaced, sills and ledges dusted, student desks and chairs left as arranged by instructors.
4. Restrooms and bathrooms – Provide necessary service to assure that floors, sinks, commodes, urinals, mirrors, and trash receptacles are cleaned and sanitized. Sufficient disinfectant is essential to eliminate offensive odors. Very important to daily restroom and bathroom care is the supply of items needed for its use, i.e., soap, tissue, and towels or working electric hand dryers.

5. Custodians must be responsible for the immediate outside areas of the buildings. The attractiveness of a building starts with the entrance walkways and adjacent grounds. Litter and debris must be swept and/or picked up, weather permitting, at the start of the work day.
6. A very important practice to all custodians is the proper cleaning and storage of all equipment and tools. All too often, routine care of mops, brooms, mop buckets, vacuum cleaners, floor scrubber and buffing machines are used and put in janitor's closets without thoughts of washing, wiping, rinsing, hanging or cleaning the storage area where the equipment is kept. The following listings will provide custodians with the basic care ideas on most equipment used:
 - Wet Mops – Before using a new mop, soak the head for several minutes to remove sizing and toughen the fibers. When using a wet mop, never allow it to remain in the cleaning solution except when being used. This will prevent rotting of strands or souring. After mops are used, wash in warm water with detergent disinfectant. Rinse in hot water and final rinse in cold water. Hang to dry for future use.
 - Dust Mops – The term dust is the indicator that identifies its use. Dust mops are never used for liquid spills or on oily floors. Frequent use requires frequent cleaning. Use a vacuum to remove loose soil as often as possible. Dust mops are stored in a hanging position and exchange the head as often as necessary to keep a good working mop.
 - Brooms are the handy tools in small areas and the best for the heavily soiled large areas. Stick brooms can be easily rotated while using to get even wear of the straws. Push brooms are attached to handles with available holes or brackets on either side of the broom. Moving the handle to different positions periodically will prolong the life of the broom by giving even wear to the bristles. Brooms should be hung after use and not stored standing on the bristles.
 - Buckets and Wringers – Daily use is required of mop buckets and wringers. Care and attention will assure proper functioning of this equipment. Buckets should be washed, rinsed, and wiped dry. Some buckets are on casters and all loose mop head yarn and strings must be removed and a few drops of oil added to each caster. Wringers are to be washed, rinsed, and stored in a dry place. Wringer parts should be oiled and kept tight.
 - Brushes – Numerous types of brushes are used in routine custodial duties, i.e., toilet bowl, counter or whisk, floor machine, deck and hand scrub, window washing and corner or baseboard. Brush cleaning and storage need special attention in order to get the best performance from such a handy cleaning tool. If necessary, rinse brushes in clear cold water after use. Shake out excess water and hang to dry. Brushes on floor cleaning equipment must be removed before

the machine is stored. The brushes must be stored with bristles up to prevent bending and uneven rotation while stripping or buffing.

- Plastic Spray Bottles – Each bottle must be labeled or marked to indicate its contents. Each time a plastic spray bottle is used, it must be wiped with a damp cloth to clean the outside. Trigger-type bottles must be taken apart regularly and cleaned.
- Cleaning Rags – A very commonly used and often neglected item is the cleaning rag. Some custodians are of the opinion that a rag has no importance once it is dirty, so the most common practice is to drop it in a corner. Cleaning rags must be rinsed during use, laundered when dirty for reuse. When rags are soiled beyond cleaning, they must be disposed of. Dirty cleaning rags must never be left lying around. Not only are they a safety hazard, they are also a disease hazard.

SPECIAL CLEANING – PERIODIC

Some buildings have many different kinds of rooms and areas to conduct many different functions. It is the norm for such an area to pose special problems and require specific kinds of cleaning. The most needed special cleaning procedures includes:

1. Stripping, waxing, and buffing floors
2. Wash or spot clean walls
3. High dusting and ceiling vents
4. Shampoo or spin clean rugs
5. Wash windows
6. Clean light fixtures
7. Clean screens and vents
8. Wash furniture

The frequency of each procedure will depend upon the usage of a given area. However, it is recommended that carpeting in a heavily used area must be shampooed on a quarterly basis and windows washed every six months. All other procedures will be performed in accordance with need for corrective action.

MOTOR POOL

The Denmark Technical College Motor Pool is operated by the Physical Plant Department as a service to all departments, commuting students, and extra-curricular activities and is under the guidance of the Director of Buildings and Grounds. A clear procedure is established that directs Motor Pool personnel to periodically check the condition of coolants, lubricating oil, tire pressure, and other routine items.

Preventive Maintenance

Transportation equipment undergoes periodic preventive maintenance inspections and service in accordance with the manufacture's recommendations. These inspections and servicing, similar to building a preventive maintenance program, are set up on the basis of hours of operation, mileage, or elapsed time. The preventive maintenance program includes oil change and lubrication, timely check and adjustment of the cooling system's antifreeze, changing oil and air filters, checking and adjustment of brakes and transmission fluid, and similar measures. It is the Supervisor of Building and Grounds responsibility to ensure that these measures are carried out, including calling in permanently assigned vehicles when required.

Vehicle Usage

Request for vehicles are to be signed by the requestor, department head and the business manager. These requests are routed to the Physical Plant Department. The keys and the official State of South Carolina petroleum credit cards are kept at the Motor Pool (Physical Plant Office) on Monday – Thursday, 8:30 a.m. – 5:30 p.m and 8:30 a.m. – 12:00 pm on Friday. On weekends, holidays, or whenever the Physical Plant Personnel are unavailable; the Public Safety Department will be responsible for dispatching vehicles. No vehicle owned by Denmark Technical College can be used or loaned for personal business, i.e., stopping at banks, shopping centers, etc.

Garage

Vehicle services, which are provided at minimal cost to individual departments, include gasoline, oil change, washing, battery service and tire service. Major and minor repairs are performed by outside vendors.

Utility Vehicles

Utility vehicles are purchased and operated by various divisions to reduce travel time between jobs. Utility vehicles are restricted to sidewalks and designated city streets for travel. Drivers must yield to pedestrians and obey traffic laws.

PREVENTIVE MAINTENANCE FOR BOILERS, AIR CONDITIONERS, AND HEATERS

Boilers

1. Check boiler water treatment weekly. Check all drains, sprinkler valves, and pump pressures weekly.
2. Check fire tubes in boiler monthly.
3. Check motors and drains.
4. Clean, oil, and adjust pump in engine room monthly.
5. Change oil in air compressors every three months.

Grease Traps/Lift Station

Monthly: Clean scum. Use Chemical treatment provided.

Semi-annually: Clean sedimentation on bottom.

Annually: Have receptors pumped out; make sure lids are secure.

Emergency Lighting

Weekly: Test generator. Clean dirt accumulation from cell tops. Check engine oil level and radiator water level. Test batteries with hydrometer and refill with distilled water only. All terminals should be checked, wire brushed and coated with No-OX-ID or pure Vaseline.

Monthly: Check and clean air filters. Change oil as directed by the manufacturer.

Yearly: If water cooled, prepare for winter operation. Check system lighting with simulated failure.

Every three months, clean battery tops off with a rag dampened with saturated solution of baking soda to prevent trickle shorts.

Stage Lighting Control Board

Clean dimmer board with use of compressed air. Check connections for tightness. Visually examine equipment for signs of overheating. Test using voltmeter and amprobe.

Light Fixtures

Clean fixtures and lamps. Wipe with light detergent including lens. Check latches. Check for signs of overheating ballasts. Check voltage delivered to fixtures. Check fastening to insure against hazards of falling.

Lighting & Power Panels

Check connections. Clean rust and dirt. Check for overheating.

Electric Motors

Oil as recommended with SAE-10. Do not oil while running. This may allow oil to get into windings.

BUILDING SECURITY

KEY CONTROL PROCEDURES

PURPOSE: To establish guidelines to prevent unauthorized entry within institutional buildings, and establish key control procedures.

Key Control Procedures: Key control is a procedural form of security having the overall goal of prevention crime or other occurrences detrimental to the institutional mission by limiting key access to College facilities only to those individuals having a need for such access. (Keys to cabinets, desks, lockers, and closets within buildings are not within the scope of these procedures).

Definition: There are six levels of key access within the College system:

- 1) Grand Master: Will open all doors assigned to a specific group of buildings on campus.
- 2) Building Master: Will open all doors to a specific building.
- 3) Individual Key: Will open doors to a specific office, classroom, or closet in a specific building.
- 4) Janitorial Master Cleaning Keys: A set of master keys, separated by building number, that are signed for and issued to authorized janitorial personnel.
- 5) Maintenance Supervisor Master Keys: A group of building master keys on a key ring issued to maintenance personnel, and dormitory supervisors.
- 6) Individual Office Keys: Will open only one specific office room.

Procedures:

Permanent Keys Repining Request/Removal of locks

- 1) Only Faculty/Staff and residential students are eligible for receipt of permanent keys.
- 2) All applications for keys are made on the Denmark Technical College Key Application form utilizing a separate form for each key requested. Key request forms may be obtained from the Physical Plant Office.
- 3) Keys can be obtained from the Physical Plant Office by presenting an approved key application to the Physical Plant during regular working hours.
- 4) The key application form must be completed with authorized signatures before the Physical Plant will take any action.

Issuance of “Temporary” Keys to Faculty/Staff

The following personnel are eligible to be issued a “temporary” key from the Public Safety Office once legitimate need for access is proven:

- 1) Employees who require a temporary key to obtain access to rooms they are authorized to enter.
- 2) Part-time Faculty who prove their identity and need for access.
- 3) Persons working temporarily at the College (i.e., conducting a seminar, etc.) who prove their identity and need for access.
- 4) Students requiring regular access to specific rooms (i.e., lab assistants, work study students) will be issued a temporary key if a letter is on file at the Physical Plant is signed by a faculty/staff member approving the issuance of a temporary key. The letter must identify the student and room requiring access. The faculty/staff member authorizing the student access must, themselves, have permanent key access to applicable area, and also have responsible over the area to be accessed. When student access is no longer authorized, the Physical Plant must be notified.
- 5) Keys will be signed in/out using the Temporary Key Log only after legitimate need for access is proven.
- 6) Keys will be returned daily or sooner if practicable.
- 7) The only persons authorized to issue temporary keys will be the Physical Plant Director.

Special Situations:

Faculty/Staff member should no longer have authorized possession of keys (i.e., retired, terminating employment, extended leave of absence, etc.).

- Department Head or Dean will instruct individual to return key to Department of Physical Plant.
- Physical Plant will accept returned key, retrieve original Key Application Form from files, and verify key number and complete a Key Return Receipt Form.

Lost, Stolen, or Recovered Keys:

- Department Head or Dean will notify Public Safety/Physical Plant immediately by telephone (803-793-5171 and 793-5158) when a key is reported lost or stolen. (Public Safety will initiate an Incident Report).
- Public Safety will: Insure that an Incident Report has been written, review the report and personnel, and inform the Chief of Public Safety if circumstances are deemed crucial to the security posture of Denmark Technical College.

Special Guidelines for Key/Lock Control System:

- 1) To insure that the Key/Lock control system retains the most professional level of security practicable, exterior building keys will not be issued to employees except as approved by the Vice President for Fiscal Affairs. When key holders sign for their key, they must be informed that if they require entrance to their building during hours that the campus is closed, they need to telephone Public Safety upon their arrival or prior to departing, and a Public Safety Officer will meet them at the desired building.
- 2) One key that will open more than one room has proven to be a high-risk policy; consequently, the request for such master keys will normally result in the issuance of a separate key for each desired room. A request for a sub-master requires approval from the Vice President for Fiscal Affairs.
- 3) Cross-keying between buildings (i.e., possessing a key that maybe used by an employee that will open offices in separate buildings) is not authorized. Separate keys, if approved, will be issued.
- 4) It is the policy of the College that other than during normal working hours, all academic and administrative buildings shall be locked in order to maintain the security of buildings and contents.
- 5) It is the responsibility of each dean or Department Head to provide key issuance approval to those employees requiring access to offices, and to also insure that such keys are returned to Public Safety when the key holder loses key access authority/rights.

ROUTINE CLEANING OF BUILDINGS FOR CUSTODIANS DAILY

- 1) Dry clean chalkboards and damp wipe chalk trays. Clean and replace erasers.
- 2) Empty waste and trash receptacles, ash trays, and pencil sharpeners. Spot clean receptacles.
- 3) Resupply paper products and soap dispensers.
- 4) Clean and disinfect water fountains, sinks, and commodes and restrooms.
- 5) Dust mop smooth and dry uncarpeted floors.
- 6) Sweep rough or mop uncarpeted floors.
- 7) Spot mop spills and lightly soiled uncarpeted floors.
- 8) Vacuum carpeted floors.
- 9) Arrange furniture to its original position. Turn out lights if room is unoccupied.
- 10) Replace any burned out lights, and report any damages or vandalism to your supervisor.
- 11) Clean all assigned tools, equipment and custodian closets at end of each work day.
- 12) Clean all interior glass surfaces including entrance doors and mirrors.

TWICE A WEEK

- 1) Dust exposed horizontal surfaces of buildings, fixtures, and furnishings.
- 2) Spot clean horizontal and vertical surfaces of buildings fixtures, and furnishings.
- 3) Remove graffiti.
- 4) Damp wipe telephone base and receiver.
- 5) Clean and polish bright metal surfaces.
- 6) Damp clean those laboratory countertops and sinks that are bare.
- 7) Completely damp mop or use an automatic scrubber on uncarpeted floors.
- 8) For wood floors, only spot mop using a well-wrung mop head. Do not use an automatic scrubber or excessive amounts of water when cleaning wood floors.
- 9) Spray buff floors coated with floor finish.

MONTHLY

- 1) Vacuum HVAC duct grills and register surfaces.
- 2) Vacuum upholstered furniture, drapes, and blinds.

AS REQUIRED

Clean and polish desk tops, table tops, and other working surfaces in offices if occupants have completely cleared the surface.