

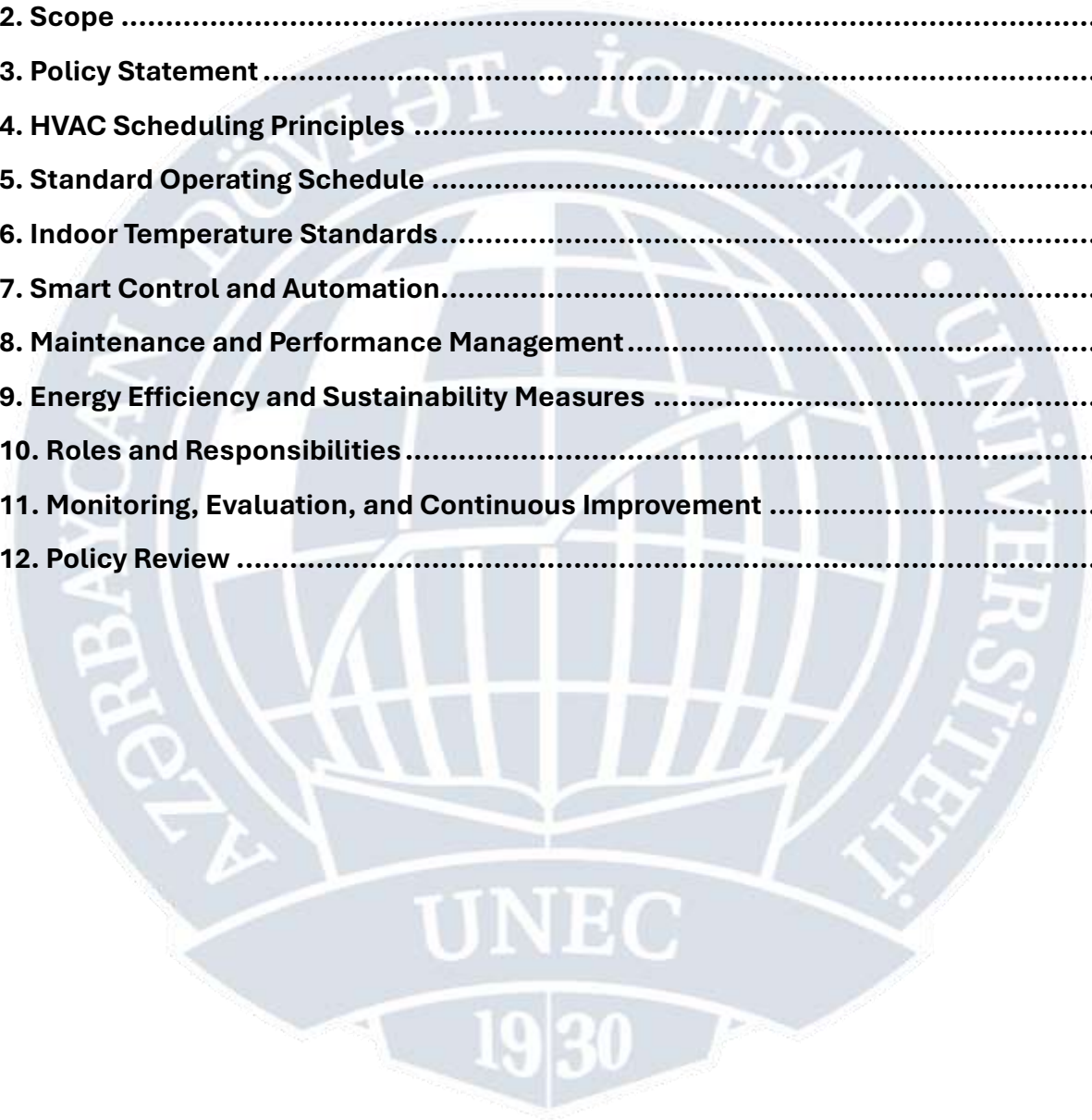
# **AZERBAIJAN STATE UNIVERSITY OF ECONOMICS (UNEC)**

**HVAC SCHEDULING AND ENERGY-  
EFFICIENT OPERATION POLICY**

## HVAC Scheduling and Energy-Efficient Operation Policy

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## 1. Purpose

Azerbaijan State University of Economics (UNEC) is committed to promoting sustainable campus operations, improving energy efficiency, reducing greenhouse gas emissions, and providing a comfortable and healthy indoor environment for students, academic staff, administrative personnel, and visitors. As one of the leading higher education institutions in the region, UNEC recognizes the importance of responsible energy management and the role of building systems in achieving institutional sustainability objectives.

The purpose of this HVAC Scheduling and Energy-Efficient Operation Policy is to establish a structured framework for the scheduling, operation, monitoring, and continuous improvement of Heating, Ventilation, and Air Conditioning (HVAC) systems across university facilities. This policy aims to ensure that HVAC systems operate efficiently according to building occupancy patterns while maintaining indoor environmental quality and minimizing unnecessary energy consumption.

## 2. Scope

This Policy applies to all university-owned and managed buildings, including but not limited to:

- Academic and teaching buildings;
- Administrative offices;
- Libraries and learning centers;
- Research laboratories;
- Conference and meeting facilities;
- Student service centers;
- Sports and recreational facilities;
- Residential and accommodation facilities, where applicable;
- Any future facilities integrated into the university infrastructure.

All employees, students, contractors, service providers, and visitors utilizing UNEC facilities are expected to support the implementation of this Policy.

### 3. Policy Statement

UNEC is dedicated to operating HVAC systems in accordance with internationally recognized principles of sustainable facilities management and energy conservation. The University seeks to balance occupant comfort with environmental responsibility by implementing efficient scheduling practices, optimizing system performance, and utilizing available technologies to reduce energy waste.

HVAC systems shall be operated based on actual occupancy requirements, seasonal climatic conditions, and the operational needs of university facilities. The University shall continuously assess opportunities to improve HVAC efficiency through technological upgrades, automation systems, and data-driven decision-making processes.

The implementation of this Policy supports UNEC's broader sustainability strategy, climate action commitments, and participation in international sustainability frameworks and rankings, including the UI GreenMetric World University Rankings, Times Higher Education Impact Rankings, and other relevant sustainability initiatives.

### 4. HVAC Scheduling Principles

The operation of HVAC systems shall be guided by the following principles:

#### 4.1 Occupancy-Based Scheduling

HVAC systems shall operate primarily during periods when buildings are occupied and actively used. Schedules shall be developed based on academic timetables, administrative working hours, and facility utilization data.

Systems should generally begin operation prior to occupancy to allow indoor temperatures to reach comfortable levels and should be reduced or shut down after occupants leave the building.

#### 4.2 Energy Conservation During Non-Occupancy

During evenings, weekends, public holidays, semester breaks, and other periods of reduced occupancy, HVAC systems shall operate in energy-saving mode or remain inactive unless required for specific operational purposes.

Facilities managers shall identify areas that require continuous climate control and ensure that energy use is limited to essential spaces only.

#### 4.3 Seasonal Optimization

HVAC schedules shall be adjusted according to seasonal weather conditions and local climate requirements. Heating and cooling operations shall be managed to prevent excessive energy use while maintaining acceptable indoor comfort standards.

## 5. Standard Operating Schedule

Unless otherwise required, HVAC systems shall generally operate according to the following schedule:

### Academic and Administrative Buildings

- Start-up: approximately 60 minutes before occupancy;
- Normal operation: during official building occupancy hours;
- Shutdown: approximately 60 minutes after building occupancy ends.

Typical operating hours may range between:

- Monday to Friday: 07:00 – 21:00
- Saturday: Limited operation based on scheduled activities
- Sunday and Public Holidays: Energy-saving mode or operation only in occupied spaces

Individual departments may request temporary schedule adjustments for examinations, conferences, seminars, research activities, or special events.

## 6. Indoor Temperature Standards

To support energy efficiency and occupant comfort, UNEC shall maintain temperature settings consistent with international recommendations for higher education facilities.

### Cooling Season

Indoor temperatures should generally be maintained between:

**24°C and 26°C**

### Heating Season

Indoor temperatures should generally be maintained between:

**20°C and 22°C**

## **Unoccupied Buildings**

During periods of non-occupancy, temperature settings may be adjusted to energy-saving setback levels while ensuring protection of equipment, infrastructure, and research materials where necessary.

## **7. Smart Control and Automation**

UNEC shall progressively implement modern technologies to improve HVAC efficiency, including:

- Building Management Systems (BMS);
- Smart thermostats;
- Occupancy and motion sensors;
- Automated scheduling software;
- Energy monitoring and reporting platforms;
- Internet of Things (IoT)-based building controls where feasible.

The use of intelligent control systems shall enable real-time adjustment of HVAC operations according to actual building occupancy and environmental conditions.

## **8. Maintenance and Performance Management**

Proper maintenance is essential to ensure HVAC efficiency and reliability.

The University shall:

- Conduct regular inspections of HVAC equipment;
- Perform preventive and corrective maintenance activities;
- Clean and replace air filters as required;
- Monitor system performance and energy consumption;
- Identify inefficiencies and implement corrective measures;
- Upgrade aging equipment where financially and technically feasible.

Maintenance schedules shall be documented and reviewed periodically to ensure operational effectiveness.

## 9. Energy Efficiency and Sustainability Measures

UNEC shall undertake measures to reduce the environmental impact of HVAC operations, including:

- Minimizing unnecessary heating and cooling;
- Encouraging responsible energy use among building occupants;
- Optimizing ventilation rates where appropriate;
- Integrating renewable energy solutions when feasible;
- Conducting periodic energy audits;
- Tracking energy performance indicators;
- Supporting institutional carbon reduction objectives.

The University shall strive to continuously improve energy performance and contribute to national and international sustainability goals.

## 10. Roles and Responsibilities

### **Strategic Development and Sustainability Units**

- Support policy implementation and monitoring;
- Collect and analyze sustainability-related performance data;
- Coordinate reporting for sustainability rankings and assessments.

### **Facilities Management Department**

- Develop and maintain HVAC schedules;
- Operate and maintain HVAC equipment;
- Monitor energy consumption;
- Ensure compliance with operational standards;
- Recommend efficiency improvements.

### **Academic and Administrative Units**

- Communicate operational requirements affecting HVAC schedules;
- Support energy conservation initiatives;
- Report system-related issues when identified.

### **Building Occupants**

Students, staff, and visitors are encouraged to:

- Keep doors and windows closed when HVAC systems are operating;
- Use energy responsibly;
- Report comfort or equipment concerns to relevant authorities;
- Support university sustainability initiatives.

## **11. Monitoring, Evaluation, and Continuous Improvement**

The effectiveness of this Policy shall be reviewed annually through the assessment of:

- Energy consumption trends;
- Building occupancy data;
- HVAC operating efficiency;
- User comfort and satisfaction;
- Sustainability performance indicators;
- Compliance with institutional environmental objectives.

Findings from monitoring activities shall be used to improve HVAC scheduling practices and identify opportunities for further energy savings.

## **12. Policy Review**

This Policy shall be reviewed at least once every three years, or earlier if required due to regulatory changes, technological developments, infrastructure upgrades, or revisions to the University's sustainability strategy.