EXHIBIT F – EQUIPMENT & TECHNOLOGY SPECIFICATIONS

RFP PURPOSE:

The purpose of this Request for Proposal (RFP) is to solicit proposals to establish a contract through competitive negotiations with a qualified vendor to develop a turnkey simulation center for Concord University. The sim center is intended to be an experiential learning classroom for nursing and other health professional students, among other uses. It is Concord's intent to award to a single offeror for this project so the qualified vendor must be capable of delivering, installing, and training faculty on all specialized simulation equipment and software outlined in this RFP.

The selected vendor must be the manufacturer of a product portfolio that includes all of the following simulation equipment in order to support Concord University with current and future training needs.

- High fidelity patient simulators
    - Adult Prehospital
    - Birthing
    - Pediatric
    - Infant
- Mid fidelity patient manikins
    - Adult Nursing
    - Adult EMS
- Simulated medical equipment
    - Defibrillator
    - Ventilator
    - Anesthesia machine
    - Transport ventilator
- Task trainers to include
    - Venipuncture training aids
    - Suture training aids
    - Ultrasound trainers
    - Infusion trainers
- Simulation Management System
    - Web-based audiovisual software and hardware

In addition to this simulation equipment, the selected vendor must have the capabilities to support Concord University with the following services, as necessary:

- Training needs analysis
- Simulation center design
- Staffing services
- Operations management

- Installation
- Product training conducted by clinical educators
- Warranty, support, and maintenance
- Free training courses hosted at vendor's facility
- Accreditation support

High Patient Simulators

Concord University requires a family of patient tetherless, high fidelity patient simulators to include adult prehospital, birthing, pediatric, and infant simulators. The features outlined below are mandatory:

Adult Prehospital

Includes
• Tablet
• Operating Software
• 4 simulated clinical experiences
    Anaphylaxis
    Heart failure with pulmonary edema
    Severe young asthmatic
    Subdural hematoma
• 1 standalone software license to support scenario development/classroom instruction
• Year 1 Warranty
• Free training at vendor's headquarters
Airway
• Bag-valve-mask ventilation
• Head tilt/chin lift
• Jaw thrust
• Tongue swelling
• Bronchial occluder
• Surgical cricothyrotomy
• Needle cricothyrotomy
• LMA and other supraglottic adjuncts
• Upper airway designed from CT scan data of a real human patient
• Intubation: orotracheal, nasotracheal,retrograde, fiber optic
• Right mainstem intubaton detection
• Gastric distention with esophageal intubation
• Laryngospasm
• Airway occluder
• Posterior oropharynx occlusion
Articulation
• Articulating neck, shoulders, elbows, arm and hips

Breathing
• Bilateral and unilateral chest rise and fall
• Spontaneous breathing
• Bronchial Occlusion
• Integrated SpO2 finger probe with simulated patient monitor
• Breath sounds over entire lungs
• Bilateral chest tube insertion, sensored, with fluid output
• Carbon dioxide exhalation
• Bilateral needle decompression

Circulation
• Defibrillation and cardioversion using live defibrillators
• Pacing (use of hands-free pads)
• 12-lead dynamic ECG display
• ECG monitoring posts and interface with real ECG monitor
• Bilateral blood pressure measurement by auscultation and palpation
• Bilateral carotid, brachial, radial, femoral, popliteal, posterior tibia, dorsalis pedis pulses

CPR
• New: CPR analysis that is compliant with AHA 2020 guidelines
• Adequate chest compressions result in simulated circulation, cardiac output, central and peripheral blood pressures, carbon dioxide return
• Hand-placement detection

Gastrointestinal
• Nasogastric tube placement
• Bowel sounds, all 4 quadrants

IV / IO / IM
• Bilateral IV placement sites in antecubital fossa and dorsum of hand
• IM injection site, right deltoid
• Humeral IO site, left

Neurological
• Blinking eyes
• Reactive pupils
• Fixed pupils (blown, pinpoint, normal)
• Convulsions

Sounds
• Pre-recorded sounds and speech, custom vocalization recorded by the user, via wireless microphone
• Heart, bowel, and breath sounds (anterior and posterior) independently controlled
• Audible breathing sounds (wheezing and gasping)

Trauma
• Two simultaneous bleeding/moulage sites with 1.5 L blood tank capacity
• Limbs can be removed at the knees and elbows to support amputations
• Automatic responses to 68 intravenous and inhaled medications
• Responses are dose dependent and follow appropriate time course

Urinary
• Urinary catheterization
• Interchangeable male and female genitalia

Secretions
• Eye, nose and mouth

Birthing Simulator

Includes
• Tablet
• Operating Software
• Gender conversion kit to include male and female genitalia, chest skins and wigs
• 10 simulated clinical experiences
    1. Normal Delivery
    2. Instrumental Vaginal Delivery
    3. Fetal Tachycardia (due to maternal pyrexia)
    4. Breech Delivery
    5. Fetal Central Nervous System Depression (due to narcotics administered to mother)
    6. Shoulder Dystocia
    7. Major Postpartum Hemorrhage (due to uterine atony)
    8. Maternal Cardio-Respiratory Arrest
    9. Eclampsia
    10. Umbilical Cord Prolapse
• Patient monitor with CTG monitoring
• Standard Female Patient Module with non-gravid abdomen and 5 simulated clinical experiences
    1. Chronic Heart Failure Exacerbation
    2. Acute Respiratory Distress Syndrome
    3. Sepsis with Hypotension
    4. Brain Attack with Thrombolytic Therapy
    5. Motor Vehicle Collision with Hypovolemic Shock
• 1 standalone software license to support scenario development/classroom instruction
• Year 1 Warranty
• Free training at vendor's headquarters

Obstetrical
• Integrated maternal-fetal physiological modeling
• Realistic birth canal and vulva
• Perineum support with accurate fetal descent and rotation
• Multiple birthing positions: lithotomy, sitting and all-fours
• Rectal suppository administration

Prepartum
• Vaginal examinations for evaluation of the cervix, fetal station, and position
• Static cervices represent various stages of dilation from closed to 5 cm, and effacement from 0 to 90%
• Leopold's maneuvers
• Epidural port with infusion and aspiration

Intrapartum

• Realistic palpable uterine contractions
• Controllable rate and duration of contractions
• Trendelenburg position with detection
• Left lateral tilt with detection
• Vertex and breech delivery
• McRoberts maneuver with observable pelvic tilt
• Suprapubic pressure support and detection with palpable symphysis pubis
• Supports delivery of posterior arm during shoulder dystocia
• Zavanelli maneuver with detection
• C-section team training support
• Rotation of anterior and posterior shoulder is detected in resolving shoulder dystocia (Rubin II and Woods' Screw maneuvers)
• Forceps application
• Vacuum extraction
• Intact/fragmented placenta with realistic color, texture and flexibility

Fetus

• Fetal heart sounds (five locations based on fetal presentation)
• Articulated fetal body and neck (with lateral neck movement), shoulders, elbows, hips, and knees
• Clinically accurate fetal size with tactile realism– 50th percentile on the WHO growth chart
• Fetal neck traction sensing
• Palpable fontanel and sagittal suture
• Fetal airway suctioning
• Programmable audible cry upon delivery
• Predicted 1-minute and 5-minute APGAR scores
based on fetal blood gas values
• Umbilical cord that can be cut and clamped

Postpartum

• Postpartum hemorrhaging, including Class III hemorrhage
• Contracted and boggy uterus
• Bimanual compression and uterine massage with detection and automatic response
• Uterine blood released upon massage
• Inverted postpartum uterus
• Uterine reversion (optional uterine inversion module)
• Intrauterine balloon insertion

Airway and Breathing

• Realistic upper airway
• Positive pressure ventilation
• Bag mask ventilation
• Advanced lungs with mechanical ventilation support, including patient-triggered modes
• Airway management and ventilation
• Supports endotracheal tubes, nasal-pharyngeal and oropharyngeal airways
• Spontaneous breathing with chest excursion
• Lung auscultation: anterior and posterior
• Spontaneous chest excursion

Circulatory System
• Electrocardiogram (ECG) monitoring posts for interface with real ECG monitor
• 12-lead dynamic ECG display
• Dynamic bilateral pulses: carotid, radial, brachial, and dorsalis pedis
• Variable pulse strength

Cardiovascular
• Correct hand placement detection
• Advanced CPR analysis (compression depth and rate, chest recoil, compression fraction, ventilation volume and rate)
• CPR metrics compliant with AHA guidelines
• Pacing, cardioversion and defibrillation
• NIBP by auscultation and palpation
• Heart sounds

Nervous System
• Seizure is simulated with rhythmic movement of arms and rapid blinking
• SymEyes display patient symptoms and conditions, including jaundice, hemorrhage, keyhole pupil, cataracts and bloodshot or droopy eyes
• Blinking, panning and reactive eyes with multiple settings

Fluids
• Postpartum bleeding tank (1.8 L)
• Bilateral IV arms
• Urinary catheterization
• Epidural infusion

Speech
• 2-way voice communication
• Pre-recorded speech
• User-recorded speech

Pediatric Simulator

Includes
Tablet
Operating Software
10 simulated clinical experiences
1 standalone software license to support scenario development/classroom instruction
Year 1 Warranty
Free training at vendor’s headquarters

Articulation
Stiff neck
Realistic joint articulation in neck, shoulders, elbows, hips and knees
Forearm pronation and supination

Articulation

Anatomically accurate oral cavity and realistic airway
Nasotracheal/orotracheal intubation (ET tube)
Retrograde and fiberoptic intubation
Transtracheal jet ventilation
Head tilt, chin lift, jaw thrust
Supports esophageal intubation
LMA, iGel and King insertion
Oral and nasal pharyngeal airway insertion
Bag-valve-mask ventilation support
Surgical/needle cricothyrotomy
Tracheostomy
Swollen tongue, pharyngeal swelling and laryngospasms
Intubation depth detection and software event log
Bronchial occlusion
Variable lung compliance and resistance

Articulation

Cardiac (Assess and manage cardiac status)
Chest compressions compliant with AHA CPRrequirements
Effective chest compressions generate palpable femoral pulses and electrocardiogram (ECG) activity
Supports ECG monitoring using real devices
CPR real-time quality feedback and reporting
Chest compression depth sensor
Library of cardiac rhythms
Software-based 12-lead ECG
Non-invasive blood pressure (BP) with Korotkoff sounds

Circulation

Bilateral palpable pulses with event detection and logging
- Carotid, brachial, radial, femoral
- Popliteal
- Dorsalis pedis

Pulse palpation event detection and logging
Blood pressure dependent pulses
Variable pulse strength
Circumoral cyanosis
Peripheral capillary refill
Fingerstick blood glucose

Gastric and Urinary

Interchangeable female and male genitalia
Abdominal distention with esophageal intubation
Urinary catheterization with urine output
Orogastric/Nasogastric tube (no fluids)
Gastrostomy tube (with fluids)
Suppository administration

Neurologic

SymEyes
Pain response via sternal rub
Seizures

Respiratory

Compliant with 2020 AHA BLS guidelines and 2021 ERC guidelines
Spontaneous breathing
Visible chest rise during bag-valve-mask ventilation
Automatic detection and logging of right main stem
Unilateral chest rise and lung sounds with right main stem
Variable inspiratory/expiratory ratios
Substernal retractions
Mechanical ventilation support
- Supports asynchronous volume and pressure-controlled ventilation
- Supports PEEP (up to 20 cm H2O)
Ventilation measurement
Simulated pulse oximeter
Chest tube placement
Chest tube fluids with external bleeding module
Unilateral mid-clavicular needle decompression
Automatic detection, resolution and logging of midclavicular needle decompression

Sounds

Auscultation of normal and abnormal heart, lung and bowel sounds
60+ scripted male/female vocal expressions and sounds
Wireless voice capability

Vascular Access

Unilateral anterolateral thigh intramuscular and subcutaneous injection sites
Humeral IO (no fluids) and Tibial IO (with fluids)
Antecubital venipuncture site with flashback
Pre-ported jugular catheter and dorsum of left hand

Infant Simulator

Includes

Tablet
Operating Software
1 wireless StethoSym
5 simulated clinical experiences
- Infant Code
- Neonatal Abstinence Syndrome
- Neonatal Resuscitation
- Pneumothorax
- Poor Perfusion
1 standalone software license to support scenario development/classroom instruction
Year 1 Warranty
Free training at vendor's headquarters

Articulation

• Realistic joint articulation
• Articulating neck, shoulders, elbows, hips and knees
• Forearm pronation and supination

Airway

• Anatomically accurate oral cavity and realistic airway
• Nasotracheal/orotracheal intubation (ET tube)
• Head tilt, chin lift, jaw thrust
• Supports esophageal intubation
• LMA insertion
• Oral and nasal pharyngeal airway insertion
• Bag-valve-mask ventilation support
• Tracheostomy
• Laryngospasms (Advanced model)
• Intubation depth detection and software event log (Live/Advanced models)
• Dynamic lung compliance
• Dynamic airway resistance and lung compliance
• Variable lung resistance

Cardiac

• Effective chest compressions generate palpable femoral pulses and ECG activity
• Supports ECG monitoring using real devices
• CPR Real-time quality feedback and reporting
• Chest compression depth sensor
• External SimDefib box (Live/Advanced models)
- Defibrillate and cardiovert using real devices and energy
• Library of cardiac rhythms

Circulation

• Palpable pulses
- Brachial
- Brachial, femoral and umbilical
• Pulse palpation event detection and logging
• Blood pressure dependent pulses
• Variable pulse strength
• Circumoral cyanosis (Advanced model)

Gastric and Urinary

• Interchangeable female and male genitalia
• Abdominal distention when incorrectly intubated
• Urinary catheterization with urine output
• Feeding tube placement (no fluids)

Neurologic

• Variable tristate eyes
• Manually manipulated fontanel (depressed, normal and bulging)
• Crying, grunting (Live/Advanced models)
• Active arm movement (Advanced model)

Respiratory

• Unilateral chest rise with right mainstem
intubation
• Automatic detection and logging of right mainstem
• Visible chest rise during bag-valve-mask ventilation
• Spontaneous, continuous breathing
• Variable respiratory rates and inspiratory/expiratory ratios (Advanced model)
• Programmable unilateral chest rise and fall
• Unilateral lung sounds synchronized with respiratory rate (Advanced model)
• Substernal retractions
• Mechanical ventilation support
(Advanced model with external lung)
- A/C, SIMV, CPAP, PCV, PSV, NIPPV
- Supports PEEP (up to 20 cmH2O)
- Dynamic airway and lung controls
- Variable lung compliance
- Bilateral bronchial resistance
- Programmable respiratory efforts for weaning/liberation
- CO2 exhalation
• Chest tube placement
• Mid-clavicular needle decompression

Sounds

• Auscultation of normal and abnormal heart, lung and bowel sounds

Vascular Access

• Bilateral anterolateral thigh intramuscular and subcutaneous injection sites
• IV cannulation: bolus infusion, and sampling
• IV Sites: upper arm, scalp and foot
• Peripheral arterial catheter placement
• Subclavian catheter placement
• Umbilical catheterization: continuous infusion and sampling
• IO tibial access

Mid-Fidelity Patient Simulators

Concord University requires mid-fidelity patient simulators to include adult nursing and adult EMS manikins that are capable of representing both male and female patients. The features outlined below are mandatory:

Adult Nursing

Includes

• Tablet
• Operating Software
• Gender conversion kit to include male and female genitalia, chest skins and wigs
• 10 simulated clinical experiences
-- Chronic heart failure exacerbation
-- Gastrointestinal bleed secondary to esophageal varices
-- Skills validation
-- Asthma management of patient in home care setting
-- Postoperative care of the patient with
complications: pneumonia
-- Suctioning and tracheostomy care with hypoxia
-- Basic assessment of the hip
replacement patient
-- Postoperative care of the patient with a ruptured diverticulum
-- Seizure disorder and moderate learning disability
-- Dementia and urinary tract infection in a patient with DNR orders
• 1 standalone software license to support scenario development/classroom instruction
• Year 1 Warranty
• Free training at vendor's headquarters

Articulation

• Realistic articulation
• Range of motion in hips, knees, ankles, shoulders, elbows and wrist
• Cervical motion for practice of patient stabilization

Airway

• Oral and dental hygiene
• Nasal packing
• Bag-valve-mask (BVM) ventilation

• Nasopharyngeal and oropharyngeal airway placement
• Endotracheal tube placement
• Tracheostomy tube placement
• Endotracheal tube and tracheostomy tube suctioning with fluids

Breathing

• Manual bilateral chest rise and fall with BVM ventilation via face mask, endotracheal tube and tracheostomy tube
• Bilateral chest tube insertion for care and maintenance

Cardiac

• Defibrillation and cardioversion via software
• 4-lead ECG monitoring with real equipment
• 12-lead dynamic ECG display

Circulation

• Unilateral blood pressure measurement by auscultation and palpation
• Bilateral carotid pulses (manual)
• Unilateral radial and brachial pulses with programmable intensities
• Unilateral subclavian catheter insertion for care and maintenance

Gastric

• Nasogastric tube insertion and gastric lavage and gavage with fluids
• Ostomy care and irrigation of a variety of configurable stomas
• Enema administration with fluids

Medication Administration

• Eye and ear irrigation
• Six intramuscular sites for medication administration in bilateral deltoids, bilateral vastus lateralis, ventrogluteal and dorsogluteal sites

Urinary

• Urinary catheterization with fluids
• Interchangeable genitalia

Vascular Access

• Unilateral IV cannulation at antecubital and dorsum of hand
• Fluid and medication administration
• Blood draw with vacuum sealed blood collection system
• Ultrasound training module insertion for venous and arterial cannulation

Sounds

• Auscultation of normal and abnormal heart, lung and bowel sounds
• Prerecorded speech and vocal sounds
• Bidirectional audio communication between manikin and operator

Adult EMS Manikin

• Tablet
• Operating Software
• Gender conversion kit to include male and female genitalia, chest skins and wigs
• 6 simulated clinical experiences
    - Cardiopulmonary Arrest
    - Closed Head Injury and Pneumothorax

- Heroin Overdose
- Inferior-Posterior Myocardial Infarction
- Sepsis with Hypotension
- Stroke

• 1 standalone software license to support scenario development/classroom instruction
• Year 1 Warranty
• Free training at vendor's headquarters

Neuro

• SymEyes display patient symptoms and conditions, including jaundice, hemorrhage, keyhole pupil, cataracts and bloodshot or droopy eyes

Articulation

• Realistic articulation of hips, knees,
ankles, and shoulders
• Cervical motion for practice of patient stabilization

Airway

• Bag-valve-mask (BVM) ventilation
• Orotracheal and nasotracheal intubation
• Placement of various airway adjuncts
• Retrograde and Fiberoptic intubation
• Transtracheal jet ventilation
• Needle and surgical cricothyrotomy
• Tracheostomy
• Detection of right-mainstem intubation
• Stomach distention with esophageal intubation
• Laryngospasm (manual)

Breathing

• Spontaneous breathing
• Bilateral and unilateral chest rise and fall
• Lung auscultation sites on anterior chest
• Upper airway sounds
• Bilateral needle decompression

Cardiac

• 4-lead ECG monitoring with real equipment
• 12-lead dynamic ECG display
• Defibrillation, cardioversion and pacing using live equipment via external defib box

Urinary

• Urinary catheterization without fluids
• Interchangeable genitalia

IM Medication Administration

• Four intramuscular injection sites

Circulation

• Unilateral blood pressure measurement by auscultation and palpation
• Bilateral carotid and femoral pulses
• Unilateral radial and brachial pulses
• Variable pulse strength

CPR

• Compliant with 2015 AHA guidelines and ERC guidelines
• CPR compressions generate palpable pulse, blood pressure, waveform and ECG artifacts
• Realistic chest compression depth and resistance
• Software metrics detects hand placement, rate and depth of compressions, recoil, ventilations and ventilation: compression ratio

Vascular Access

• Unilateral IV cannulation at antecubital and dorsum of hand
• Blood draw with vacuum sealed blood collection system
• Unilateral (humeral) IO access
• Ultrasound training module insertion for venous and arterial cannulation (optional)

Sounds

• Auscultation of normal and abnormal heart, lung and bowel sounds with the StethoSym device
• Prerecorded speech and vocal sounds
• Bidirectional audio communication between manikin and operator

Patient Simulators User Interface

The user interface for operating these manikins must include the following options for control: run on the fly (manual), run on the fly (modeled), run a simulated clinical experience. The software must also include physiological modeling that enables the manikins to automatically generate clinically accurate responses that is based on the learner's interventions while also accounting for the patient's age, weight, underlying health conditions and accuracy of treatment. The software must also include the following:

- Ability to change Integrated assessment tools including checklists to capture performance of technical and non-technical skills
- Stores all patient data and facilitator notes regarding learner-patient interactions
- Media file uploads to provide patient information to learners
- Software pre-configured to manikin's tablet
- Standalone software license for faculty to use for scenario development/classroom instruction

Simulation Management System

Software Requirements

•Ability to connect up to six servers per connect server
•Provides scalability from 2 to 200+ rooms
•Centralizes all videos and data to the web-based software
•Stores 12,000 hours of HD video recordings
•Pre-configured with appropriate software
The software for the system needs to include:
o An all-in-one web-based software application that includes all center management features on one platform without requiring user licenses, site licenses or add-on software modules. Software features include:
•**Watch**:
o Live broadcasts with industry leading latency (<1sec)
o Up to 4 concurrently displayed, and synchronized, camera streams, plus 1 simulator in each room
o Live stream videos to any number of remote sites
o Simultaneously view up to 12 live streams on a center overview screen
o Widescreen HD video broadcast and recording, full screen mode
o On-screen PTZ controls: click on image to pan and tilt, drag image to zoom in and out; from multi or single room views
o DVR-type functionality to pause, rewind, and forward; even during live recording
•Recording
O Full camera control (pan/tilt/zoom) from both live (single room) and a center overview (all rooms) available in-browser from any client workstation
o Pause live or recorded view and continue where you stopped (“time shifted live view”)
o Manually start / stop recording or set recording to occur, based on a schedule or on user actions
o Save and restore custom layouts of the simulation/exam room views including size and positioning of individual video streams per room
• Review
o Immediate access to recorded data in order to review complex recordings of all camera, simulator, and peripheral device feeds assigned to the room
o Access and control all recorded videos on one page (debriefing, deleting, downloading, renaming or reassigning videos)
• Reports
o Generate and export custom reports, covering both the group and individual performance, or use one of the many predefined report options
o Give Learners access to their reports at home or on campus
o Export data to outside of system
o Review Faculty and Standardized Patient performance reports for quality assurance and consistency
o Follow Learner progress in key skill areas, throughout their career, within your program

• Case Manager
o User management tools; with the ability to define roles, access privileges, and group memberships
o Batch upload large groups of users at once
o Email notifications for Learners and SP's to choose preferred sessions, in times that are indicated / available for assessments
o Advanced scheduling capabilities, to automatically adjust station schedules and extend rotations, as SP and learner availability changes
o Pre-scheduled recording, start / stop times, and intercom announcements, to coordinate with a pre-defined exam schedule, for a fully automated recording system
• Activities
o All activity cases, event dates, times, and rooms at one glance
o Define participant groups (Learners, Faculty, SPs) with a quick link to add new group
o Link Activities to Calendar events, for a first glance overview on the daily / weekly / monthly program
o Allow Faculty to submit booking requests for specific room / resources within the simulation center, to be managed by center administration
o Assign resources, activities and participants to one time or recurring calendar events
• Assess
o Intuitive interface for creating custom checklists / rubrics for Learners, Faculty or SPs
o Faculty / Staff can complete user-customized assessment rubrics, while watching live or recorded video
o Content editor for the easiest, most streamlined, checklist-building process
o Learners can interact with a variety of the data entry (i.e. SOAP Note, Step II CS write-up, hand off note, etc.)
o Case evaluation, as well as, self and peer evaluations
o Control Learner data entry with timer
o Faculty / Staff can grade any write up or short answer question, submitted by Learners
o Standardized Patients can complete checklists, assessing the Learners, as well as each other
o Search, preview, and have the ability to reuse all questions
• APIs
o Raw data API
o Learner calendar API
o Video API (providing video related functionality to external applications
• Track
o Track the use of simulation center resources (rooms, simulators, personnel, etc.) by client
o Generate reports quarterly / by semester / yearly
o Generate and export utilization and allocation reports (tools to justify expansion, funding, etc.)
• Integrate
o Connect with any patient simulator to capture 360º live simulation data
o Connect any simulated or real patient monitor for capturing and broadcasting HD screen image
o Optical character recognition, to turn the video signal from monitor into real-time data streams, for visual trend charts and searchable physiological data

o Use predefined layouts or define your own, for identifying key captured values on the connected screen
o Remote site configurations
• Access and Security
o LDAP is a standard feature without requiring a module site license
o LDAP authentication through your active directory, automated way of importing or updating user accounts from an LDAP directory service LDAP for SSO (Single Sign-On) remove the requirement to maintain multiple passwords for users.
o Authenticate users against an LDAP directory
o SSO (Single Sign-On): authenticate users against a Shibboleth service, to provide single sign-on capabilities, without the requirement for multiple passwords
o View any configured rooms with signed SSL certificates for secured connection

Simulated Medical Equipment

Concord University requires simulated medical devices that realistically and accurately real, clinical medical devices so learners get realistic and reliable hands-on training for resuscitation, ventilation and anesthesia equipment. Trains learners how to configure and operate equipment, deliver effective healthcare of a patient on medical equipment, monitor a patient, interpret data, and troubleshoot issues

Simulated Anesthesia Machine

Key Features

• Full range of typically monitored values common to anesthesia machines
• Simulates delivery of multiple anesthetic agents, with realistic responses
• Simulates interaction of all anesthesia machine controls, including: APL valve, manual switch, rebreather bag (inspiration), N2O (expiration), Iso (inspiration/expiration), Sev (inspiration/ expiration), gas flow dials (O2, N2O, AIR)
• Adjustable screen layout, alarms and other settings
• 36 Alarms, 4 Gauges, 3 Loops, 51 Numerics, 3 Views, 5 Waveforms
• Full range of operator-adjustable parameters for each ventilation mode

Ventilation Modes

• Volume-controlled ventilation (VCV): PEEP, Flow Trigger, VT, RR, Tpause, Ti rise, I:E
• Pressure-controlled ventilation (PCV): PEEP, Pi, ΔPsupp, Flow Trigger, RR, Ti rise, I:E
• Continuous positive airway pressure (CPAP+PSV): PEEP, ΔPsupp, Flow Trigger, Ti rise, Tapnea, Pi backup, RR backup, I:E backup
• Synchronized intermittent-mandatory ventilation (SIMV): PEEP, ΔPsupp, Flow Trigger, VT, RR, Tpause, Ti rise, I:E

Simulated Ventilator

Key Features

• Full range of typically monitored values

• Full range of operator-adjustable parameters for each mode of ventilation common to conventional hospital ventilators
• Adjustable screen layout, alarms, and other settings
• Provides experiential learning skills required to manage and monitor ventilation of a patient, and troubleshoot ventilator issues
• 17 Alarms, 3 Loops (pressure volume, pressure flow, volume flow), 39 Numerics, 4 Views, 6 Waveforms (pressure, flow, volume, Edi, SpO2, CO2)
• Maneuvers: Inspiratory hold, expiratory hold

Ventilation Modes

• Volume-controlled ventilation (VCV): VT, PEEP, Flow Trigger, RR, Tpause, Ti rise, I:E, FiO2
• Pressure-controlled ventilation (PCV): Pi, PEEP, ΔPsupp, Flow Trigger, RR, Ti rise, I:E, FiO2
• Continuous positive airway pressure (CPAP+PSV):
PEEP, ΔPsupp, Flow Trigger, Ti rise, End Inspiration %, FiO2, Tapnea, Pi backup, RR backup, I:E backup
• Volume support ventilation (VSV): PEEP, Flow Trigger, VT, Ti rise, End Inspiration %, FiO2, Tapnea, VT backup, RR backup, I:E backup
• Neurally adjusted ventilatory assist (NAVA): PEEP, Edi Trigger, Flow Trigger, NAVA Level, FiO2, Tapnea, Pi backup, RR backup, I:E backup
• Synchronized intermittent-mandatory ventilation (SIMV): PEEP, ΔPsupp, Flow Trigger, VT, RR, Tpause, Ti rise, I:E, End Inspiration %, FiO2