

2024

# STEPS COMPETENCY FRAMEWORK

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# Competency Framework

This framework is designed to help you understand the essential attributes that contribute to successful job performance as a simulation technician and will be utilized in the STEPS minor program at Ontario Tech University.

## What are Competencies?

Competencies encompass a defined set of behaviours, knowledge, skills, and abilities (KSAs) essential for effective performance in specific roles or jobs. They offer a standardized method for assessing and enhancing the capabilities of individuals and teams within an organization.

The STEPS competencies are categorized into two main categories, and these competencies are aligned with Miller's model for assessment and curriculum development (Cruess, Cruess, & Steinert, 2016):

**General Competencies:** These are fundamental to the organization and are essential for all employees, regardless of their specific roles. They reflect the values, mission, and strategic goals of the organization (Boyatzis, 2008).

**Technical Competencies:** These are unique to particular positions within the organization and outline the specific skills and behaviors required to perform those roles effectively (Shippmann et al., 2000).

## Purpose of This Framework

This framework is designed to provide a comprehensive overview of competencies and their application. It serves several key purposes:

**Define Competencies:** Clearly define the competencies, including their components and significance in the workplace, as well as performance indicators.

**Guide Development:** Offer insights into how competencies can be developed and improved over time. Specifically, by aligning the wording of performance indicators with Bloom's taxonomy, we aim to ensure that the learners progress from novice to experienced.

**Standardize Performance:** Establish a common language and criteria for assessing performance across different experiential learning placements



# Competency Framework

## Process:

A survey was administered using competencies identified from a focus group and semi-structured interviews with experts in the field. Participants were asked to rate these competencies based on their relevance to the day-to-day experiences of a simulation technician. The collected data were then analyzed to calculate the mean, standard deviation, and variability of the responses.

Version 1 of the framework was derived by applying more liberal criteria where competencies from the survey with an average score of 3.5 or higher were included, while those with scores below 3.4 were excluded from the framework.

The survey, conducted over one month, garnered responses from 24 participants. Each competency listed in the survey was gathered through a comprehensive process involving a review of relevant literature, focus groups, and one-on-one semi-structured interviews with experts in the field. Participants were asked to rank the relevance of each competency, ensuring that the final framework reflects the most critical skills and knowledge areas needed for the STEPs program.

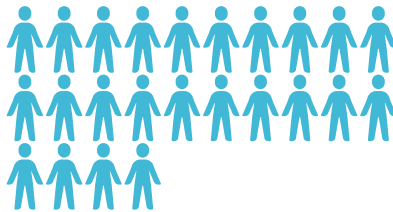
The variability in ratings was also analyzed: a variability score of  $\leq 1$  indicates relative agreement among participants, while a score of  $> 1$  indicates disagreement, necessitating further discussion. This approach helps identify which competencies require additional review and consensus-building.

The competencies were subsequently rephrased and aligned with Bloom's Taxonomy to ensure that the performance criteria accurately reflect the learning levels of the students enrolled in the minor program.

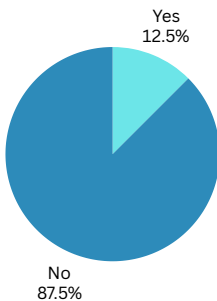
# SURVEY OVERVIEW

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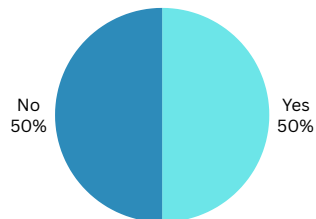
**Distributed: May 1st**  
**Closed: May 31st**  
**Total Participants: 23**



**Have you previously  
written the Certified  
Healthcare Simulation  
Operations Specialist  
(CHSOS) exam?**



**Are you currently  
employed as a  
simulation technician,  
technologist, or  
operations specialist?**





# DATA ANALYSIS

## Competencies rated in relevance to day to day simulationist role

Competency (Simulation technology: selection, use, and maintenance)	Average	SD	Variability
Distinguish among healthcare equipment	4.35	0.88	0.78
Anatomy & physiology	3.52	1.12	1.26
Understand common medical terminology	4.30	0.70	0.49
Identify common medication administration practices	3.65	0.98	0.96
Identify the presentation of general medical conditions injuries and disease	3.91	1.00	0.99
Differentiate among the roles of the healthcare professionals	4.04	0.98	0.95
Apply principles and procedures to identify technical problems/errors	4.61	0.72	0.52
Initiate corrective action	4.43	0.90	0.80
Apply principles and procedures to create policy and perform preventive/Regular maintenance	4.13	0.97	0.94
Inventory Management	4.30	0.88	0.77
Adaptability	4.70	0.56	0.31
Simulation technology/ IT skills	4.52	0.79	0.62
Configure, setup, and operate Simulation Technology: AV equipment	4.48	0.79	0.62
Configure, setup, and operate Simulation Technology: Healthcare equipment	4.48	0.67	0.44
Configure, setup, and operate Simulation Technology: Simulation-specific equipment	4.65	0.78	0.60
Utilize principles of realism as they apply to simulation activities	4.35	0.98	0.96
Feedback/ Debriefing	3.96	1.15	1.32
Realism	4.13	1.01	1.03
Audiovisual technology/videography	4.04	1.11	1.23
Differentiate and assess compatibility across operating systems (Windows, Mac, Linux, Android)	3.57	1.24	1.53
Apply functional knowledge and terminology in utilizing network hardware	3.87	1.01	1.03
Use functional knowledge and terminology for A/V equipment and software	3.83	0.98	0.97
Utilize web-based applications and information systems	3.96	0.93	0.86
Collaborate with the team to ensure security in technology systems (physical, network, data)	3.70	1.29	1.68
Differentiate simulation modalities and their capabilities	4.61	0.50	0.25
Describe the functionalities of simulation equipment, including AV, healthcare, and simulation-specific equipment	4.43	0.84	0.71
Implement data asset management strategies	3.26	1.18	1.38
Apply knowledge for functioning in diverse simulation spaces (equipment limitations, connectivity, air supply)	4.61	0.78	0.61
Demonstrate knowledge of cable connectivity and applications (ports, inputs/outputs, adapters, dongles)	4.04	1.15	1.32
Demonstrate knowledge of wireless connectivity and applications (routers, broadcasters)	3.87	1.25	1.57

# DATA ANALYSIS

## Competencies rated in relevance to day to day simulationist role

Competency (Educational principles: Uses in simulation)	Average	SD	Variability
Communicate & practice/ recommend the use of simulation equipment & environment	4.57	0.66	0.44
Demonstrate the use of equipment	4.61	0.72	0.52
Educational principles	4.13	1.10	1.21
Collaborate in the following instructional design elements for simulation activities: Needs assessment	4.13	1.01	1.03
Collaborate in the following instructional design elements for simulation activities: Goals and objectives	4.22	0.90	0.81
Collaborate in the following instructional design elements for simulation activities: Assessment methods and evaluation tools	4.00	1.09	1.18
Collaborate in the following instructional design elements for simulation activities: Logistics	4.17	0.94	0.88
Collaborate in the following instructional design elements for simulation activities: Modalities	4.26	0.86	0.75
Collaborate in the following instructional design elements for simulation activities: Determine equipment and supplies	4.78	0.60	0.36
Collaborate in the following instructional design elements for simulation activities: Case/scenario design	3.96	1.07	1.13
Collaborate in the following instructional design elements for simulation activities: Prebrief/brief, debrief, and participant evaluations	3.83	1.19	1.42
Collaborate in the following instructional design elements for simulation activities: Pilot test (dress rehearsal, field test, run-through)	4.22	0.85	0.72
Collaborate in the following instructional design elements for simulation activities: Implementation to participants	3.87	1.14	1.30
Collaborate in the following instructional design elements for simulation activities: Evaluation and improvement	3.87	1.25	1.57
Recognize concepts that impact simulation	4.26	0.81	0.66
Recognize principles of instructional design	3.78	1.13	1.27
Recognize principles of interprofessional education	3.91	1.08	1.17

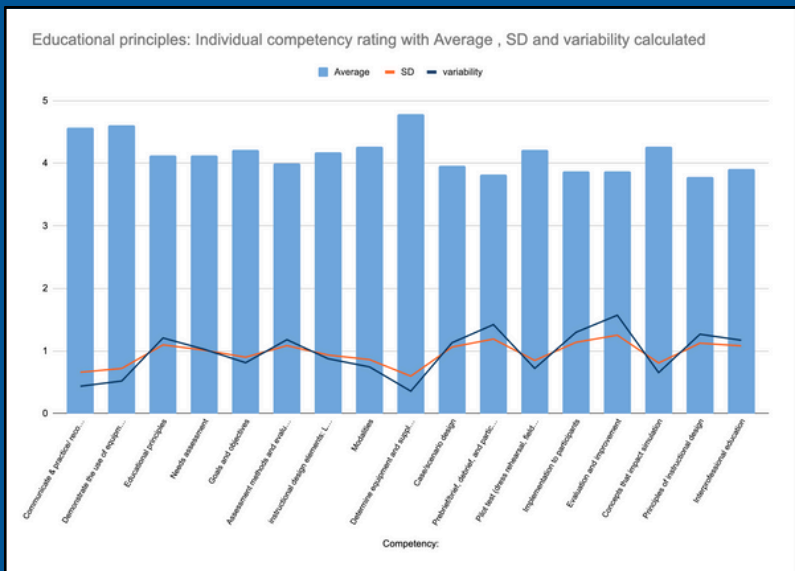
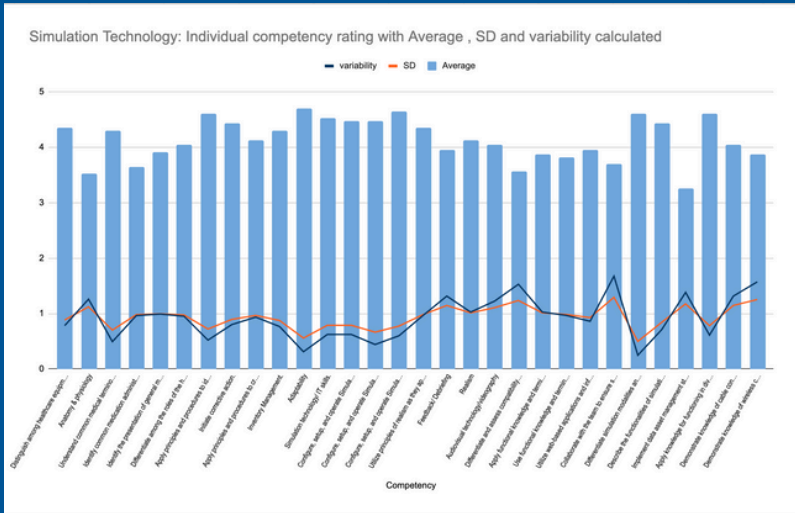
# DATA ANALYSIS

## Competencies rated in relevance to day to day simulationist role

Competency (Simulation for safety and quality improvement.)	Average	SD	Variability
Universal Precautions	4.26	1.01	1.02
Utilize safe disposal of potentially hazardous materials	4.57	0.95	0.89
Recognize the concepts of managing risks and hazards	4.52	0.90	0.81
Confidentiality	4.61	1.03	1.07
Recognize ethical principles and professional responsibilities as they apply to simulation (e.g., integrity, respect, do no harm)	4.52	1.08	1.17
Recognize opportunities for professional development	4.35	0.83	0.69
Recognize when to include subject matter experts	4.61	0.66	0.43
Ethical awareness	4.52	1.04	1.08
Willingness to learn	4.83	0.39	0.15
Teamwork: Communication skills	4.91	0.42	0.17
Teamwork: Time management skills	4.87	0.46	0.21
Teamwork: Multitasking	4.83	0.49	0.24

# DATA ANALYSIS

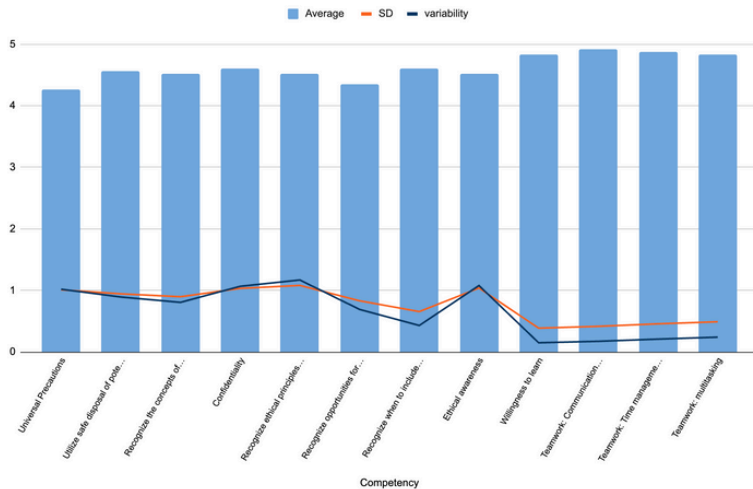
## Competencies rated in relevance to day to day simulationist role



# DATA ANALYSIS

## Competencies rated in relevance to day to day simulationist role

Simulation for safety and quality improvement: Individual competency rating with Average , SD and variability calculated



# 1. Simulation technology: selection, use, and maintenance

Competency Code	Competency Title	Competency Description	Performance Criteria
SIMTECH 1.0	Healthcare Professional Roles	Roles and responsibilities of healthcare professionals for accurate depiction of team dynamics in simulations.	<p><b>Remembering:</b> Define the roles and responsibilities of various healthcare professionals.</p> <p><b>Understanding:</b> Explain the importance of each role within a healthcare team.</p> <p><b>Applying:</b> Illustrate professional interactions accurately in simulations by assigning roles and responsibilities based on realistic scenarios.</p> <p><b>Analyzing:</b> Differentiate between the responsibilities of different healthcare professionals and how they interact during patient care.</p> <p><b>Evaluating:</b> Assess the accuracy of depicted roles in simulations and provide feedback for improvement. -</p> <p><b>Creating:</b> Design realistic team dynamics scenarios incorporating professional roles, ensuring all team members' responsibilities are clearly defined and executed.</p>
SIMTECH 2.0	Technology & Equipment Compatibility	Compatibility and use of simulation software, hardware, and audiovisual tools.	<p><b>Remembering:</b> List the software, hardware, and AV tools used in simulations.</p> <p><b>Understanding:</b> Describe the compatibility requirements for simulation technology, including operating systems, hardware specifications, and software dependencies.</p> <p><b>Applying:</b> Implement and test solutions for technology compatibility by setting up and configuring hardware and software according to manufacturer guidelines.</p> <p><b>Analyzing:</b> Evaluate the compatibility issues between different tools, identifying potential conflicts and proposing solutions.</p> <p><b>Evaluating:</b> Judge the effectiveness of implemented solutions in resolving compatibility issues and enhancing simulation performance.</p> <p><b>Creating:</b> Develop troubleshooting strategies for compatibility issues, creating a comprehensive guide for future reference.</p>
SIMTECH 3.0	Network & Connectivity Management	Skills for setting up and maintaining network and wireless connections for	<p><b>Remembering:</b> Identify the components required for network setup, including routers, switches, and wireless access points.</p>

# 1. Simulation technology: selection, use, and maintenance cont.

		simulation technology.	<p><b>Understanding:</b> Explain the principles of network and wireless connectivity, including bandwidth requirements, signal strength, and network security.</p> <p><b>Applying:</b> Configure network hardware and wireless networks for simulations, ensuring reliable and secure connections.</p> <p><b>Analyzing:</b> Diagnose connectivity issues by performing network tests and analyzing network logs.</p> <p><b>Evaluating:</b> Assess network performance and identify areas for improvement, such as upgrading hardware or optimizing configurations.</p> <p><b>Creating:</b> Develop plans to maintain optimal network performance, including regular maintenance schedules and backup procedures.</p>
SIMTECH 4.0	Web-Based Applications & Security	Web-based applications for managing simulations and implementing security measures.	<p><b>Remembering:</b> List the web-based applications used in simulation management.</p> <p><b>Understanding:</b> Explain the importance of data integrity and security, including common threats and protective measures.</p> <p><b>Applying:</b> Use web-based applications to manage simulations, including scheduling, data entry, and reporting.</p> <p><b>Analyzing:</b> Assess data security measures and identify vulnerabilities, such as weak passwords or unencrypted data.</p> <p><b>Evaluating:</b> Evaluate the effectiveness of current security protocols and recommend improvements.</p> <p><b>Creating:</b> Design and implement enhanced security protocols, including regular updates and user training.</p>
SIMTECH 5.0	Simulation Modalities & Equipment Use	Simulation modalities and use of equipment to optimize training.	<p><b>Remembering:</b> Identify various simulation modalities, such as manikins, virtual reality, and standardized patients.</p> <p><b>Understanding:</b> Describe the appropriate use of different simulation equipment, including setup and basic operation.</p> <p><b>Applying:</b> Train others on the use of simulation equipment, demonstrating proper techniques and safety measures.</p> <p><b>Analyzing:</b> Compare the effectiveness of different modalities in achieving learning objectives.</p> <p><b>Evaluating:</b> Assess equipment utilization in training scenarios, identifying areas for improvement.</p>

# 1. Simulation technology: selection, use, and maintenance cont.

			<b>Creating:</b> Optimize the use of simulation modalities and equipment for training purposes, developing innovative training methods and materials.
SIMTECH 6.0	Healthcare Equipment Identification	Types and use of healthcare equipment in simulations.	<b>Remembering:</b> Identify and categorize various healthcare equipment, such as diagnostic tools, treatment devices, and patient monitoring systems. <b>Understanding:</b> Explain the correct usage of different healthcare equipment, including indications and contraindications. <b>Applying:</b> Demonstrate the use of healthcare equipment in simulations, ensuring proper technique and safety. <b>Analyzing:</b> Assess the setup and calibration of equipment to ensure accuracy and functionality. - <b>Evaluating:</b> Evaluate the effectiveness of equipment usage in simulations, providing feedback and recommendations for improvement. <b>Creating:</b> Develop procedures for proper setup and calibration of equipment, including regular maintenance schedules and troubleshooting guides.
SIMTECH 7.0	Medical Terminology	Medical terminology for accurate communication and replication of medical scenarios.	<b>Remembering:</b> Memorize medical terms relevant to simulations, including anatomy, physiology, and common medical conditions. <b>Understanding:</b> Interpret and explain medical terminology, ensuring accurate communication with healthcare professionals. <b>Applying:</b> Use medical terms in communication with healthcare professionals and in documenting simulation scenarios. <b>Analyzing:</b> Incorporate medical terminology accurately into scenarios, ensuring realistic and relevant content. <b>Evaluating:</b> Assess the use of medical terminology in simulations, identifying areas for improvement. - <b>Creating:</b> Develop scenarios that effectively incorporate medical terminology, enhancing realism and educational value.
SIMTECH 8.0	Technical Problem Solving	Resolving technical issues with simulation equipment.	<b>Remembering:</b> Identify common technical issues with simulation equipment, such as power failures, software errors, and connectivity problems.



# 1. Simulation technology: selection, use, and maintenance cont.

			<p><b>Understanding:</b> Explain troubleshooting procedures for common issues, including diagnostic steps and corrective actions.</p> <p><b>Applying:</b> Apply troubleshooting procedures to resolve issues, documenting each step and the outcome.</p> <p><b>Analyzing:</b> Document and analyze the causes of technical issues, identifying patterns and potential root causes.</p> <p><b>Evaluating:</b> Assess the effectiveness of troubleshooting methods, recommending improvements as needed. -</p> <p><b>Creating:</b> Develop comprehensive troubleshooting guides, including step-by-step instructions and visual aids.</p>
SIMTECH 9.0	Maintenance & Inventory Management	Regular maintenance and management of simulation equipment and supplies.	<p><b>Remembering:</b> Identify maintenance tasks and schedules for simulation equipment, including cleaning, calibration, and software updates.</p> <p><b>Understanding:</b> Explain the importance of regular maintenance and inventory management, highlighting the impact on equipment longevity and performance.</p> <p><b>Applying:</b> Perform regular checks and maintenance tasks, documenting each activity and any issues encountered.</p> <p><b>Analyzing:</b> Assess inventory records for accuracy, identifying discrepancies and implementing corrective actions.</p> <p><b>Evaluating:</b> Evaluate the effectiveness of maintenance procedures, recommending improvements as needed.</p> <p><b>Creating:</b> Develop efficient maintenance schedules and inventory management systems, including automated reminders and tracking tools.</p>

# 1. Simulation technology: selection, use, and maintenance cont.

SIMTECH 10.0	Simulation Technology Skills	Skills for using and troubleshooting simulation technology and related IT systems.	<p><b>Remembering:</b> Identify simulation technologies and related IT systems, including hardware, software, and network components.</p> <p><b>Understanding:</b> Explain the functions of different simulation technologies, including their roles in creating realistic training environments.</p> <p><b>Applying:</b> Operate and troubleshoot simulation technologies, following manufacturer guidelines and best practices.</p> <p><b>Analyzing:</b> Evaluate the integration of new tools and technologies, assessing their impact on training effectiveness.</p> <p><b>Evaluating:</b> Assess the effectiveness of troubleshooting procedures, recommending improvements as needed. -</p> <p><b>Creating:</b> Develop strategies for integrating new technologies into simulations, including training materials and user guides.</p>
SIMTECH 11.0	Simulation Configuration & Operation	Configuring, setting up, and operating simulation technology to create realistic training environments.	<p><b>Remembering:</b> List the steps required for simulation setup, including hardware configuration, software installation, and environment preparation. -</p> <p><b>Understanding:</b> Explain the importance of proper simulation configuration, highlighting the impact on training outcomes.</p> <p><b>Applying:</b> Configure and set up simulation technology, following manufacturer guidelines and best practices.</p> <p><b>Analyzing:</b> Assess the efficiency of simulation operations, identifying bottlenecks and areas for improvement.</p> <p><b>Evaluating:</b> Evaluate the realism of training environments created, providing feedback and recommendations for enhancement.</p> <p><b>Creating:</b> Develop improved methods for simulation setup and operation, including standardized procedures and checklists.</p>

# 1. Simulation technology: selection, use, and maintenance cont.

SIMTECH 12.0	Healthcare & Simulation-Specific Equipment	Use and maintenance of healthcare and simulation-specific equipment.	<p><b>Remembering:</b> Identify healthcare and simulation-specific equipment, including diagnostic tools, treatment devices, and patient simulators.</p> <p><b>Understanding:</b> Explain the use and maintenance of this equipment, highlighting common issues and preventive measures.</p> <p><b>Applying:</b> Utilize and maintain healthcare and simulation-specific equipment, following manufacturer guidelines and best practices.</p> <p><b>Analyzing:</b> Troubleshoot equipment issues, identifying root causes and implementing corrective actions.</p> <p><b>Evaluating:</b> Assess the effectiveness of maintenance procedures, recommending improvements as needed.</p> <p><b>Creating:</b> Develop maintenance protocols for simulation-specific equipment, including regular checks, cleaning schedules, and troubleshooting guides.</p>
SIMTECH 13.0	Audiovisual Technology & Videography	Audiovisual technology for recording, editing, and displaying simulation scenarios.	<p><b>Remembering:</b> Identify audiovisual tools used in simulations, including cameras, microphones, and editing software.</p> <p><b>Understanding:</b> Explain the principles of recording and editing simulation scenarios, highlighting key techniques and best practices.</p> <p><b>Applying:</b> Record and edit simulation scenarios, ensuring high-quality audio and video.</p> <p><b>Analyzing:</b> Evaluate the quality of recorded scenarios, identifying areas for improvement.</p> <p><b>Evaluating:</b> Assess the educational value of edited videos, providing feedback and recommendations for enhancement.</p> <p><b>Creating:</b> Develop effective methods for using audiovisual technology in simulations, including guidelines for recording, editing, and displaying content.</p>

# 1. Simulation technology: selection, use, and maintenance cont.

SIMTECH 14.0	Simulation Equipment Operation	Operation of simulation equipment in various environments.	<p><b>Remembering:</b> Identify space and connectivity requirements for simulation equipment, including power supply, network access, and environmental conditions.</p> <p><b>Understanding:</b> Explain the challenges of operating equipment in different environments, highlighting potential issues and solutions.</p> <p><b>Applying:</b> Assess and adapt to space limitations, ensuring optimal setup and operation of equipment.</p> <p><b>Analyzing:</b> Troubleshoot space-related issues, identifying root causes and implementing corrective actions.</p> <p><b>Evaluating:</b> Evaluate the efficiency of equipment operation in various environments, providing feedback and recommendations for improvement.</p> <p><b>Creating:</b> Develop solutions to optimize equipment operation in limited spaces, including portable setups and adaptable configurations.</p>
SIMTECH 15.0	Wired & Wireless Connectivity	Wired and wireless connectivity for simulation equipment.	<p><b>Remembering:</b> Identify the components required for wired and wireless connectivity, including routers, switches, and access points.</p> <p><b>Understanding:</b> Explain the principles of wired and wireless connectivity, highlighting key concepts and best practices.</p> <p><b>Applying:</b> Set up and troubleshoot wired and wireless connections, following manufacturer guidelines and best practices.</p> <p><b>Analyzing:</b> Assess the performance of network connections, identifying bottlenecks and areas for improvement.</p> <p><b>Evaluating:</b> Evaluate the effectiveness of connectivity solutions, recommending enhancements as needed.</p> <p><b>Creating:</b> Develop strategies to optimize network performance, including regular maintenance schedules and upgrade plans.</p>

# 1. Simulation technology: selection, use, and maintenance cont.

SIMTECH 16.0	Prebrief, Brief, and Debrief with Feedback	Comprehensive prebriefing and briefing sessions, enhancing learning, and evaluating performance.	<p><b>Remembering:</b> List the components of effective prebriefing and briefing sessions, including objectives, guidelines, and participant roles.</p> <p><b>Understanding:</b> Explain the importance of each phase in simulation training, highlighting how they contribute to learning outcomes.</p> <p><b>Applying:</b> Conduct comprehensive prebriefing and briefing sessions, ensuring clear communication of objectives and guidelines.</p> <p><b>Analyzing:</b> Facilitate effective debriefing to enhance learning, using structured techniques to guide reflection and discussion.</p> <p><b>Evaluating:</b> Assess the impact of debriefing techniques on learner outcomes, providing feedback and recommendations for improvement.</p> <p><b>Creating:</b> Develop methods for providing actionable feedback during debriefing, including structured feedback forms and follow-up discussions.</p>
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## 2. Educational principles: Uses in simulation

Competency Code	Competency Title	Competency Description	Performance Criteria
EDUPRI 1.0	Communication & Advocacy	Communicating and advocating for the use of simulation equipment and environments to enhance training and education.	<p><b>Remembering:</b> List the benefits of simulation equipment and environments.</p> <p><b>Understanding:</b> Explain the advantages of using simulation in training programs.</p> <p><b>Applying:</b> Demonstrate effective communication skills when discussing simulation usage with stakeholders.</p> <p><b>Analyzing:</b> Advocate for the integration of simulation in training programs, identifying potential challenges and proposing solutions.</p> <p><b>Evaluating:</b> Assess the effectiveness of communication strategies in promoting simulation usage.</p> <p><b>Creating:</b> Develop advocacy materials and presentations to promote the benefits of simulation in training and education.</p>
EDUPRI 2.0	Needs Assessment	Training needs and learning objectives to design relevant and effective simulation activities.	<p><b>Remembering:</b> Identify the steps involved in conducting needs assessments for training programs.</p> <p><b>Understanding:</b> Explain the importance of aligning training needs with simulation activities. - <b>Applying:</b> Conduct needs assessments to identify training requirements, using surveys, interviews, and other assessment tools.</p> <p><b>Analyzing:</b> Define clear learning objectives based on identified needs, ensuring they are specific, measurable, achievable, relevant, and time-bound.</p> <p><b>Evaluating:</b> Assess the alignment between training needs and simulation activities, making adjustments as necessary. <b>Creating:</b> Develop comprehensive needs assessment reports, including recommendations for simulation-based training activities.</p>
EDUPRI 3.0	Goals and Objectives	Clear goals and objectives for simulation activities to guide the development and assessment of training.	<p><b>Remembering:</b> List the criteria for developing specific and measurable goals for simulations. <b>Understanding:</b> Explain the importance of aligning simulation activities with established objectives.</p> <p><b>Applying:</b> Develop specific and measurable goals for simulations, ensuring they align with overall training objectives.</p> <p><b>Analyzing:</b> Continuously review and adjust goals and objectives as needed, based on feedback and evaluation results.</p> <p><b>Evaluating:</b> Assess the effectiveness of simulation activities in achieving established goals and objectives.</p> <p><b>Creating:</b> Design simulation scenarios that align with established goals and objectives, ensuring they are realistic and achievable.</p>



## 2. Educational principles: Uses in simulation cont.

EDUPRI 4.0	Pilot Testing	Pilot tests of simulation scenarios to identify and address any issues before full implementation.	<p><b>Remembering:</b> Identify the key components of a pilot test for simulation scenarios. <b>Understanding:</b> Explain the importance of pilot testing in the development of simulation scenarios.</p> <p><b>Applying:</b> Conduct pilot tests to assess the feasibility of simulation scenarios, identifying any issues that may arise.</p> <p><b>Analyzing:</b> Identify and resolve issues during pilot testing, documenting findings and making necessary adjustments. <b>Evaluating:</b> Assess the effectiveness of pilot tests in identifying and addressing potential issues.</p> <p><b>Creating:</b> Develop detailed pilot test plans, including criteria for assessment and procedures for resolving identified issues.</p>
EDUPRI 5.0	Implementation	Simulation activities with participants, ensuring scenarios run smoothly and achieve desired learning outcomes.	<p><b>Remembering:</b> List the steps involved in executing simulation activities.</p> <p><b>Understanding:</b> Explain the importance of proper execution in achieving desired learning outcomes.</p> <p><b>Applying:</b> Execute simulation activities with participants, ensuring all components are set up correctly and scenarios run smoothly.</p> <p><b>Analyzing:</b> Monitor the progress of simulation activities, identifying any issues that may arise and addressing them promptly. <b>Evaluating:</b> Assess the effectiveness of simulation activities in achieving desired learning outcomes, gathering feedback from participants.</p> <p><b>Creating:</b> Develop detailed implementation plans, including procedures for setup, execution, and monitoring of simulation activities.</p>
EDUPRI 6.0	Evaluation and Improvement	Effectiveness of simulation activities and continuous improvements based on feedback and evaluation results.	<p><b>Remembering:</b> Identify the methods used to gather feedback from participants.</p> <p><b>Understanding:</b> Explain the importance of continuous improvement in simulation training.</p> <p><b>Applying:</b> Gather and analyze feedback from participants, using surveys, interviews, and observation.</p> <p><b>Analyzing:</b> Evaluate the overall effectiveness of simulations, identifying areas for improvement.</p> <p><b>Evaluating:</b> Implement changes based on evaluation results, ensuring continuous improvement of simulation activities.</p> <p><b>Creating:</b> Develop comprehensive evaluation reports, including recommendations for future improvements based on gathered feedback and evaluation results.</p>

## 2. Educational principles: Uses in simulation cont.

EDUPRI 7.0	Concepts Impacting Simulation	Concepts that can influence the effectiveness and realism of simulation training.	<p><b>Remembering:</b> Identify key concepts impacting the realism of simulation training. <b>Understanding:</b> Explain how these concepts influence the effectiveness of simulation training. <b>Applying:</b> Apply key concepts to enhance the quality of simulation training, ensuring realistic and effective scenarios.</p> <p><b>Analyzing:</b> Continuously update knowledge on relevant simulation concepts, incorporating new information into training practices. <b>Evaluating:</b> Assess the impact of applied concepts on the realism and effectiveness of simulation training, gathering feedback from participants. <b>Creating:</b> Develop training materials and guidelines that incorporate key concepts, ensuring high-quality and effective simulation training.</p>
EDUPRI 8.0	Instructional Design Principles	Instructional design principles to create effective and engaging simulation-based learning experiences.	<p><b>Remembering:</b> Identify the instructional design principles relevant to simulation-based learning. <b>Understanding:</b> Explain the importance of these principles in creating effective and engaging simulations. <b>Applying:</b> Utilize instructional design principles in simulation planning, ensuring simulations are engaging and educationally sound. <b>Analyzing:</b> Continuously refine design principles based on learner feedback, making adjustments to enhance the learning experience. - <b>Evaluating:</b> Assess the effectiveness of instructional design principles in creating engaging and effective simulations, gathering feedback from participants. <b>Creating:</b> Develop simulation-based learning experiences that incorporate instructional design principles, ensuring high-quality and engaging training.</p>
EDUPRI 9.0	Interprofessional Education Principles	Principles of interprofessional education to promote teamwork and collaboration among different healthcare professionals in simulation training.	<p><b>Remembering:</b> Identify the principles of interprofessional education relevant to simulation training. <b>Understanding:</b> Explain the importance of promoting teamwork and collaboration in simulation activities. <b>Applying:</b> Integrate interprofessional education principles in simulations, ensuring scenarios promote teamwork and collaboration among healthcare professionals. <b>Analyzing:</b> Evaluate the impact of interprofessional education on learning outcomes, gathering feedback from participants. <b>Evaluating:</b> Assess the effectiveness of interprofessional education principles in promoting teamwork and collaboration, providing recommendations for improvement. <b>Creating:</b> Develop simulation scenarios that promote interprofessional collaboration, ensuring realistic and effective training experiences.</p>



### 3. Simulation for safety and quality improvement

Competency Code	Competency Title	Competency Description	Performance Criteria
SAFE 1.0	System-Based Safety Protocols	Implementing universal safety measures within translational simulation to prevent infection and ensure the overall safety of the healthcare system during simulation activities.	<p><b>Remember</b> and <b>recall</b> established safety protocols and guidelines relevant to simulation activities.</p> <p><b>Understand</b> the role and importance of PPE in preventing infection during simulations.</p> <p><b>Apply</b> PPE correctly and consistently in all simulation scenarios.</p> <p><b>Analyze</b> the simulation environment for potential safety hazards and cleanliness.</p> <p><b>Evaluate</b> the effectiveness and compliance of safety measures within the simulation environment.</p> <p><b>Create</b> and propose new strategies or improvements to enhance safety in simulation practices.</p>
SAFE 2.0	Systematic Hazardous Materials Management	Efficiently handling and disposing of hazardous materials in a way that ensures safety throughout the entire healthcare system, preventing contamination or injury during simulation activities.	<p><b>Identify</b> and <b>list</b> the types of hazardous materials used in simulation activities.</p> <p><b>Understand</b> and <b>explain</b> the procedures for safe disposal of hazardous materials.</p> <p><b>Execute</b> and <b>demonstrate</b> proper disposal procedures for hazardous materials during simulations.</p> <p><b>Inspect</b> and <b>analyze</b> the simulation environment for hazardous material risks.</p> <p><b>Assess</b> the effectiveness of current hazardous materials disposal procedures and suggest improvements.</p> <p><b>Develop</b> and <b>implement</b> enhanced methods for managing hazardous materials in simulations. (Synthesis)</p>
SAFE 3.0	System-Focused Risk Management	Recognizing, assessing, and mitigating potential risks and hazards within the healthcare system to ensure a safe and effective environment for simulation training.	<p><b>Recall</b> and <b>list</b> risk management protocols pertinent to simulation activities.</p> <p><b>Interpret</b> and <b>explain</b> the importance of identifying and mitigating potential risks in simulations.</p> <p><b>Perform</b> and <b>document</b> regular risk assessments within the simulation environment.</p> <p><b>Examine</b> and <b>analyze</b> risk assessment data to identify patterns and potential hazards.</p> <p><b>Judge</b> and <b>evaluate</b> the adequacy of existing risk management strategies and recommend changes.</p> <p><b>Design</b> and <b>propose</b> new risk mitigation strategies to enhance simulation safety.</p>

### 3. Simulation for safety and quality improvement cont.

Safety 4.0	Human Factors Principles	Understanding and applying basic human factors concepts to enhance the interaction between people, systems, and environments in healthcare simulations.	<p><b>Remember:</b> Define key terms and concepts related to human factors (e.g., cognitive load, human error, user-centered design).</p> <p><b>Understand:</b> Explain how human factors principles apply to healthcare and simulation environments.</p> <p><b>Apply:</b> Use human factors principles to analyze simulation scenarios and identify potential areas for improvement.</p> <p><b>Analyze:</b> Break down complex tasks and workflows to understand human-system interactions and potential failure points.</p> <p><b>Evaluate:</b> Critique the effectiveness of simulation designs and operations in terms of human factors and ergonomics.</p> <p><b>Create:</b> Design and implement simulation scenarios that optimize human performance and minimize error through the application of human factors principles.</p>
Safety 5.0	Ergonomics in Healthcare	Applying ergonomic principles to create safer, more efficient, and comfortable environments for healthcare providers and patients during simulations.	<p><b>Remember:</b> List common ergonomics risk factors and principles (e.g., repetitive motion, awkward postures, workstation design).</p> <p><b>Understand:</b> Describe the impact of ergonomics risk factors on healthcare providers' performance and patient safety.</p> <p><b>Apply:</b> Implement ergonomics assessments in simulation environments to identify and address risk factors.</p> <p><b>Analyze:</b> Examine the physical setup of simulation environments to ensure they meet ergonomic standards.</p> <p><b>Evaluate:</b> Judge the effectiveness of ergonomics interventions in improving safety and efficiency in simulations.</p> <p><b>Create:</b> Develop comprehensive ergonomics solutions and best practices tailored to specific simulation scenarios and healthcare tasks.</p>

### 3. Simulation for safety and quality improvement cont.

Safety 6.0	Usability Testing and Evaluation	Conducting usability testing to evaluate and improve the interaction between users and medical devices, systems, and environments in simulations.	<p><b>Remember:</b> Recall methods and tools used for usability testing (e.g., think-aloud protocols, task analysis, user feedback).</p> <p><b>Understand:</b> Explain the importance of usability in the design and implementation of healthcare systems and devices.</p> <p><b>Apply:</b> Conduct usability tests on simulation equipment and software to gather user feedback and performance data.</p> <p><b>Analyze:</b> Interpret usability test results to identify design flaws and areas for improvement.</p> <p><b>Evaluate:</b> Assess the overall usability of simulation tools and environments based on user performance and satisfaction.</p> <p><b>Create:</b> Design and iterate on simulation tools and environments to enhance usability and user experience.</p>
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## 4. General Competencies

Competency Code	Competency Title	Competency Description	Performance Criteria
GEN 1.0	Adaptability	Flexibility in adjusting to changing situations and requirements in simulation training environments.	<p><b>Remembering:</b> Identify various scenarios and equipment setups used in simulation training.</p> <p><b>Understanding:</b> Explain the importance of adapting to changing simulation environments</p> <p><b>Applying:</b> Adapt scenarios and equipment setups based on new requirements or changes in the environment.</p> <p><b>Analyzing:</b> Assess the effectiveness of adaptations in meeting training objectives.</p> <p><b>Evaluating:</b> Evaluate the success of adaptations and make recommendations for future improvements.</p> <p><b>Creating:</b> Develop innovative solutions to adapt scenarios and equipment setups to changing requirements.</p>
GEN 2.0	Professional Development and Willingness to Learn	Continuous learning and professional growth in simulation technology.	<p><b>Remembering:</b> List professional development activities and training sessions available for simulation technology.</p> <p><b>Understanding:</b> Explain the importance of continuous learning and professional growth.</p> <p><b>Applying:</b> Seek out and participate in professional development activities and training sessions.</p> <p><b>Analyzing:</b> Stay updated with industry advancements and apply new knowledge to improve practices.</p> <p><b>Evaluating:</b> Assess the impact of professional development on personal and team growth.</p> <p><b>Creating:</b> Encourage team members to pursue growth opportunities and develop a proactive attitude towards acquiring new skills and knowledge.</p>
GEN 3.0	Communication Skills	Strong communication skills to convey information, instructions, and feedback during simulation activities.	<p><b>Remembering:</b> Identify key communication skills necessary for effective simulation training.</p> <p><b>Understanding:</b> Explain the importance of clear and concise communication in simulation activities.</p> <p><b>Applying:</b> Deliver clear and concise instructions during simulation activities.</p> <p><b>Analyzing:</b> Provide constructive feedback to participants, identifying areas for improvement.</p> <p><b>Evaluating:</b> Facilitate effective discussions during simulation activities, ensuring all participants are engaged.</p> <p><b>Creating:</b> Develop communication strategies to enhance the effectiveness of simulation training, including feedback and discussion techniques.</p>

## 4. General Competencies

Gen 4.0	Time Management and Multitasking	Effective time management and handling multiple responsibilities to ensure simulations run smoothly and efficiently.	<p><b>Remembering:</b> List tasks involved in managing simulation activities.</p> <p><b>Understanding:</b> Explain the importance of effective time management and multitasking in simulation training.</p> <p><b>Applying:</b> Prioritize tasks effectively, creating and adhering to schedules.</p> <p><b>Analyzing:</b> Adjust plans as necessary to meet deadlines, ensuring all tasks are completed efficiently.</p> <p><b>Evaluating:</b> Manage multiple tasks without compromising quality, maintaining focus on various aspects of simulations.</p> <p><b>Creating:</b> Develop strategies to adapt to changing priorities effectively, ensuring simulations run smoothly and efficiently.</p>
GEN 5.0	Confidentiality	Privacy and confidentiality of all participants and sensitive information within simulation activities.	<p><b>Remembering:</b> Identify participant data and sensitive information that must be protected.</p> <p><b>Understanding:</b> Explain the importance of maintaining privacy and confidentiality in simulation activities.</p> <p><b>Applying:</b> Protect participant data and privacy, following confidentiality agreements.</p> <p><b>Analyzing:</b> Educate others on the importance of confidentiality, ensuring all team members understand their responsibilities.</p> <p><b>Evaluating:</b> Assess the effectiveness of confidentiality measures in place, making recommendations for improvements as needed.</p> <p><b>Creating:</b> Develop comprehensive confidentiality policies and procedures, ensuring the privacy of all participants and sensitive information.</p>



## 4. General Competencies

GEN 6.0	Ethical Principles & Professional Responsibilities	Ethical standards and professional responsibilities, including honesty, respect, and ensuring no harm comes to participants during simulations.	<p><b>Remembering:</b> List the ethical principles and professional responsibilities relevant to simulation training.</p> <p><b>Understanding:</b> Explain the importance of upholding ethical standards and professional responsibilities in simulation activities.</p> <p><b>Applying:</b> Uphold ethical standards in all simulation activities, demonstrating respect and integrity. -</p> <p><b>Analyzing:</b> Ensure participant safety and well-being, identifying and addressing potential risks.</p> <p><b>Evaluating:</b> Assess the adherence to ethical principles and professional responsibilities, making recommendations for improvements as needed.</p> <p><b>Creating:</b> Develop comprehensive ethical guidelines and training programs, ensuring all team members understand and adhere to professional responsibilities.</p>
GEN 7.0	Utilization of Subject Matter Experts	Involvement of subject matter experts to enhance the accuracy and effectiveness of simulation scenarios.	<p><b>Remembering:</b> Identify situations requiring input from subject matter experts.</p> <p><b>Understanding:</b> Explain the importance of involving subject matter experts in simulation training. -</p> <p><b>Applying:</b> Collaborate with subject matter experts effectively, integrating their feedback into simulation scenarios.</p> <p><b>Analyzing:</b> Assess the impact of expert input on the accuracy and effectiveness of simulation scenarios.</p> <p><b>Evaluating:</b> Evaluate the effectiveness of collaboration with subject matter experts, making recommendations for improvements as needed.</p> <p><b>Creating:</b> Develop strategies for effective utilization of subject matter experts, ensuring their input enhances the quality and accuracy of simulation training.</p>