STEPS

COMPETENCY FRAMEWORK

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STEPS Competency Framework

In the context of the STEPS minor program blueprint, which aims to train Simulation Operations Specialists (SOS) through a competency-based curriculum, competencies can be grouped into two broad categories:

1. Technical Competencies: These refer to the hands-on, procedural, and systems-level skills required to operate, maintain, and innovate within simulation-based environments. They are often task-specific and role-dependent.

2. General (Transferable) Competencies: These are non-technical, cross-cutting skills applicable across multiple settings and essential for collaborative, reflective, and professional practice.

This structure of competency framework will help us map both types of competencies to Entrustable Professional Activities (EPAs) and Observational Practice Activities (OPAs). This ensures that:

- Technical skills are evaluated in realistic, performance-based contexts, and
- General competencies are scaffolded through mentorship, reflection, and interprofessional experiences."

Technical Competencies: Simulation Technologies

Code	Competency	Competency Description
SIMTECH 1.0	Simulation Modalities and Equipment Compatibility	Differentiate, select, and integrate compatible simulation modalities and equipment.

Code	Competency	Competency Description
SIMTECH 2.0	Simulation Technologies and Equipment Operation	Configure and operate various simulation technologies and equipment.
SIMTECH 3.0	Artificial Intelligence (AI)	Apply ethical and responsible AI practices to support simulation training across technical, pedagogical, and operational domains.
SIMTECH 4.0	Identification and Use of Healthcare Equipment	Identify and know how to appropriately use healthcare equipment used in simulation training.
SIMTECH 5.0	Simulation Software Navigation	Differentiate, select, and monitor integrated simulation software for realistic scenarios.
SIMTECH 6.0	Simulation System Configuration and Operation	Configure and operate simulation software used in scenario authoring, scheduling, and playback.

Code	Competency	Competency Description
SIMTECH 7.0	Audiovisual Technology and Videography	Identify, select and appropriately use audiovisual tools for scenario capture, playback, and remote streaming.
SIMTECH 8.0	Network and Connectivity Management	Apply knowledge of wired and wireless networks to ensure secure and reliable system connectivity.
SIMTECH 9.0	Web-Based Applications and Security	Apply digital best practices to navigate browser-based applications and maintain data security.
SIMTECH 10.0	Maintenance and Inventory Management	Apply principles and procedures to manage inventory and perform regular, preventative maintenance.
SIMTECH 11.0	Troubleshooting and Technical Problem Solving	Apply systematic approaches to troubleshooting technical issues under time constraints.

Code	Competency	Competency Description
SIMTECH 12.0	Technical Contributions to Prebrief, Brief, and Debrief	Understand and integrate simulation technologies and equipment, software, and audiovisual systems across all phases of simulation training.
SIMTECH 13.0	Technology Design and Fabrication	Apply design and fabrication principles to develop and utilize simulation task trainers and auxiliary equipment aligned with learning objectives and resource constraints.

Technical Competencies: Educational Principles

Code	Competency	Competency Description
EDUPRI 1.0	Needs Assessment	Support facilitators in identifying learning gaps, simulation training needs, and centre needs
EDUPRI 2.0	Goals and Learning Objectives	Define measurable learning and assessment objectives in collaboration with facilitators.
EDUPRI 3.0	Simulation Realism and Fidelity	Understand and apply concepts of realism and fidelity to enhance simulation training effectiveness.
EDUPRI 4.0	Pedagogical Design	Align simulation scenarios, staging, modalities, technologies, and equipment with learning objectives and assessment criteria.
EDUPRI 5.0	Instructional Frameworks	Collaborate with facilitators to apply instructional frameworks to enhance the educational quality of simulation training.

Code	Competency	Competency Description
EDUPRI 6.0	Pilot Testing	Participate in scenario dress rehearsals and test runs to identify and resolve technical, pedagogical, and operational limitations.
EDUPRI 7.0	Simulation Facilitation and Implementation	Provide reliable technical and operational support during simulation facilitation.
EDUPRI 8.0	Evaluation and Quality Improvement	Determine mechanisms for data collection and synthesis, management, reporting, and quality improvement in simulation-based education.
EDUPRI 9.0	Documentation and Information Management	Apply best practices to manage data, documentation, records, finances, and educational resources.
EDUPRI 10.0	Interprofessional Education Principles	Provide coordination and technical support for interprofessional simulation activities, ensuring alignment of participant needs and technical integration to enable smooth execution.

Technical Competencies: Safety

Code	Competency	Competency Description
SAFE 1.0	System-Based Safety Protocols	Follow and support adherence to institutional safety procedures in simulation settings.
SAFE 2.0	Hazardous Materials Management	Identify, manage, and safely dispose of potentially hazardous simulation materials.
SAFE 3.0	Risk Management	Recognize, mitigate, and report potential risks related to simulation environments.
SAFE 4.0	Human Factors in Simulation	Apply human factors and ergonomics principles to create simulation environments that are safe, usable, and support effective performance.
SAFE 5.0	Usability Testing and Evaluation	Conduct technical testing to assess equipment and software usability during simulation design and scenario development.
SAFE 6.0	Psychological Safety	Recognize the importance of psychological safety and contribute to its maintenance by fostering trust, confidentiality, and emotional awareness in simulation environments.

General Competencies

Code	Competency	Competency Description
GEN 1.0	Medical Terminology	Understand and apply medical terminology relevant to simulation scenarios and interprofessional communication.
GEN 2.0	Anatomical Literacy	Understand and apply anatomical literacy relevant to simulation-based health professions education and interprofessional communication.
GEN 3.0	Lifting Heavy Loads	Ability to heavy loads up to 50lbs.
GEN 4.0	Understanding Healthcare Professional Roles	Recognize the function and scope of various healthcare professional roles within the clinical environment.
GEN 5.0	Communication and Advocacy	Demonstrate effective verbal, written, and digital communication with learners, facilitators, simulation personnel, and others within the simulation centre and clinical environment.

Code	Competency	Competency Description
GEN 6.0	Professionalism and Ethical Behavior	Demonstrate accountability, reliability, integrity, humility, and ethical conduct in all aspects of simulation operations practice.
GEN 7.0	Attention to Detail	Maintain precision and accuracy in equipment setup, documentation, and simulation design and facilitation.
GEN 8.0	Creativity	Design and develop innovative solutions in response to technical failures, training needs, and other constraints.
GEN 9.0	Adaptability and Flexibility	Adjust to evolving simulation requirements, timelines, and unexpected challenges with resilience.
GEN 10.0	Time Management and Task Management	Prioritize and organize responsibilities and manage time effectively before, after, and during simulation activities.
GEN 11.0	Coordination and Adminsitration	Coordinate with facilitators, simulation personnel, and others within the simulation centre to ensure seamless simulation delivery and centre operations.

Code	Competency	Competency Description
GEN 12.0	Collaboration and Teamwork	Engage constructively with faculty, learners, and other technicians to support simulation delivery.
GEN 13.0	Agency and Self-Directed Learning	Demonstrate curiosity, seek feedback, and pursue independent learning opportunities.
GEN 14.0	Respect for Diversity and Inclusion	Promote inclusive simulation environments that reflect diverse perspectives and learner needs.