



RED RIVER COLLEGE

OF APPLIED ARTS, SCIENCE AND TECHNOLOGY

Program & Curriculum
Development

**Sterile Processing Technician
Program Redevelopment**

2008-09

Program Re-development for Continuing + Distance Education

Submitted to:

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Sterile Processing Technician Program (SPT)

Suggested new program name: Medical Device Reprocessing Technician (MDRT)

Purpose:

Program and Curriculum Development was asked to provide guidance and support in the re-development of the 6 month Sterile Processing Technician Certificate Program due to recent advancements focused on patient safety in procedures, technology, and equipment used in reprocessing medical devices. The original courses and modules for the program had been purchased from the Southern Alberta Institute of Technology (SAIT) and the C+DE Program Manager wished to re-develop the program starting with a new Occupational Analysis (DACUM) with practicing Sterile Processing Technicians working in Manitoba.

Background:

At RRC, Curriculum Mapping refers to identifying concrete linkages among essential skills and abilities in an occupational analysis, such as a DACUM, with those in a program Graduate Profile and related course level learning outcomes. The purpose of this correlation is to ensure that the occupational competencies are directly related to expected learning at both the program and course levels. As such, this type of curriculum mapping is an effective way to ensure the design of educational programs at RRC is focused on industry expectations.

Curriculum Mapping can improve teaching and learning. Because the process requires making explicit connections between competencies identified by industry and the expected learning profile of a program graduate, it can result in improvements to the range, relevance, and authenticity of assessments used, as well as focusing on essential content, a variety of learning activities, and appropriate teaching strategies.

Outcome:

From the Occupational Analysis (DACUM), the working group - consisting of current practitioners and part-time instructors, created a curriculum framework from which the program content can be developed. This includes a Graduate Profile and course requirements, such as learning outcomes, descriptions, and sequence for the Sterile Processing Technician Program. The Graduate Profile consists of set of outcome statements that describe the major skills and abilities of program graduates. It provides the focus for program and course revision to ensure that all outcomes, courses, and assessments are relevant to the learning expected of students in the program. In addition it allows the program to clearly articulate to students, faculty, administrators, employers, and community members what the graduates should be able to do upon completion of the program.

Process

Craig Edwards, Curriculum Consultant, with Program and Curriculum Development, lead the working group of practitioners and part-time instructors through 5 – 3 hour workshops to develop the Graduate Profile and course learning outcomes, titles, and sequence.

Deliverables:

1. A Graduate Profile for the program that reflects the July, 2008 DACUM Occupational Analysis
2. A set of Learning Outcomes that reflect both the DACUM Occupational Analysis and the Graduate Profile
3. Identified courses for the program
4. Course descriptions for identified program courses
5. Sequenced courses for the program

Recommendations:

1. The Graduate Profile outcomes related to the RRC College-Wide Learning Outcomes (CWLO) should be clearly articulated expectations of **all** courses rather than relegated to one course only:
 - a. A. Communicate professionally
 - b. F. Demonstrate professionalism
 - c. I. Apply technology
 - d. J. Follow laws, regulations, policies, and procedures
2. The above Graduate Profile outcomes related to the CWLOs should be explicitly articulated in **all** course outlines.
3. Existing practicum evaluations are good but should be expanded to include all learning outcomes, especially the Graduate Profile outcomes related to the CWLOs.
4. A textbook should be used for the course.
5. Course 1 Title: Introduction to Medical Device Reprocessing
Recommended inclusions:
 - a. Short job-shadowing work experience at a health facility (ie.1 day/week for 4 weeks)
 - b. Orientation – RRC student services (tutorial, study skills, library)
 - c. Basic history of Medical Device Reprocessing
 - d. Industry guest speakers
 - e. Professional Health Information Act (PHIA) workshop
 - f. WHMIS workshop
6. Course 2 Title: Anatomy and Medical Terminology
Recommended inclusions:
 - a. Modules on terminology based on the systems of the human body
 - b. Suggested that these be standardized course modules for all Health Sciences programs in C+DE

Deliverable 1: Graduate Profile

The graduate should be able to:

- A. Communicate professionally and effectively with a variety of audiences using written, verbal, and non-verbal communication skills.
- B. Practice infection control to avoid cross contamination.
- C. Practice quality assurance in all aspects of sterile processing.
- D. Perform sterilization procedures by following established standards and evidence-based practices.
- E. Prepare instruments for safe use by demonstrating proper handling techniques.
- F. Demonstrate professionalism by interacting respectfully and ethically in a culturally and technically diverse environment.
- G. Perform effective decontamination of medical devices utilizing established cleaning processes and infection control practices.
- H. Organize inventory and supplies by practicing stock rotation and established storage procedures.
- I. Apply technology utilizing a variety of specialized equipment
- J. Follow laws, regulations, policies, and procedures by adhering to appropriate professional standards.

Deliverable 2: Learning Outcomes

Sterile Processing Technician Graduate Profile Statements with related Learning Outcomes

The graduate should be able to:

A. Communicate professionally and effectively with a variety of audiences using written, verbal, and non-verbal communication skills.

1. Interpret technical manuals and follow directions. A1, A8
2. Use relevant medical terminology to explain or clarify ideas. A2
3. Practice active listening, asking clarifying questions. A3, A6
4. Share information using a range of communication technologies. A9
5. Demonstrate professional customer service and interpersonal skills. A4, A5, A10
6. Demonstrate positive attitudes and behaviours.
7. Demonstrate conflict management skills. A11

B. Practice infection control to avoid cross contamination.

1. Adhere to routine practices and established cleaning processes. B1, B6, B7, B8, E6, I8
2. Dispose of biohazardous materials appropriately according to established standards and health facility policies and procedures. B5
3. Monitor environmental factors. B4
4. Adhere to principles of aseptic technique. B9
5. Follow appropriate dress code in restricted areas. **(not in DACUM)**

C. Practice quality assurance in all aspects of sterile processing.

1. Follow quality assurance policies and procedures. C1, C5, C10
2. Analyze quality assurance indicators. C2
3. Detect defective medical devices. C3
4. Report defective medical devices. C4
5. Follow standardized manufacturer handling, storage, & transport procedures. C9
6. Record data pertaining to quality assurance. C8
7. Make decisions based on QA policies and procedures. C11

D. Perform sterilization procedures by following established standards and evidence-based practices.

1. Determine the appropriate sterilization process. D3, D10, D11,
2. Use a variety of sterilization methods and equipment. D6, D8, D9
3. Use and interpret a variety of QA indicators. D2, D5,
4. Load sterilizer carts appropriately. D4,
5. Evaluate the sterilization process. D1, D12
6. Modify process when necessary. D7

E. Prepare instruments for safe use by demonstrating proper handling techniques.

1. Identify groups of instruments by function or service. E1
2. Differentiate between operating room and ward instruments. E2
3. Disassemble and reassemble instruments. E7
4. Perform approximate visual and functional instrument testing. E4, E5
5. Determine and apply appropriate instrument packaging to achieve optimum sterilization and aseptic presentation. E8
6. Assemble instrument sets per guidelines. E3

F. Demonstrate professionalism by interacting respectfully and ethically in a culturally and technically diverse environment.

1. Work with people, problems, and situations with honesty, integrity, & personal ethics. F9, F11
2. Plan and manage time, money, & other resources to achieve goals. F3, F6, F15
3. Assess, weigh, and manage risk. F14
4. Demonstrate accountability for your actions and the actions of your group. F7
5. Work independently or as a part of a team by sharing information & expertise. F7
6. Demonstrate resourcefulness and the ability to innovate. F14
7. Accept constructive feedback. F10
8. Demonstrate continuous learning and growth. F5
9. Respect diversity, individual differences, and perspectives. F12, F18
10. Adapt to changing requirements, information, and environments. F2, F4
11. Monitor the success of a project and identify ways to improve.
12. Demonstrate mentoring skills. F16
13. Practice stress management techniques. F17

G. Perform effective decontamination of medical devices utilizing established cleaning processes and infection control practices.

1. Use Personal Protection Equipment (PPE) appropriately and consistently. G1
2. Sort and disassemble medical devices. G2, G3,
3. Identify appropriate cleaning solution and equipment. G4, G6
4. Follow cleaning procedures for each medical device as determined by the manufacturer. G5, G7,
5. Operate the cleaning equipment according to manufacturers' instructions. G9

H. Organize inventory and supplies by practicing stock rotation and established storage procedures.

1. Prioritize inventory and supplies in relation to the Operating Room slate. H2
2. Use Operating Room "pick lists" to assemble case carts. H3, H4
3. Organize delivery of medical devices to end user. H6
4. Verify the return of medical devices after use. H7
5. Practice FIFO rotation for all stock items. H1
6. Check stock items routinely for any potential outdates. H8
7. Communicate stock and supply needs clearly and effectively. H5

I. Apply technology utilizing a variety of specialized equipment

1. Use communication technologies appropriately. I1, I4,
2. Perform basic machine troubleshooting. I6, I9
3. Read and interpret a variety of machine printouts. **(not in DACUM)**
4. Apply computerized technology skills. I2, I3, I5, I7, I10

J. Follow laws, regulations, policies, and procedures by adhering to appropriate professional standards.

1. Comply with all healthcare facility's policies and procedures. J1, J4, J6
2. Work safely, following all WHMIS protocols. J2, J3
3. Adhere to Professional Health Information Act (PHIA). J5, J
4. Follow Occupational Health and Safety (OH&S) regulations. J7
5. Perform all physical tasks using appropriate body mechanics. G10, G11
6. Comply with mandatory record-keeping standards. (not in DACUM)

Deliverables 3, 4, & 5: Course Titles, Descriptions, and Sequence

Course titles and sequence:

1. Introduction to Medical Device Reprocessing
2. Anatomy and Medical Terminology
3. Infection Control
4. Decontamination
5. Instrumentation and Packaging
6. Sterilization
7. Transportation and Storage
8. Quality Assurance
9. Practicum

NOTE:

Capital letters and numbers at end of Learning Outcomes correspond with the competency skills and abilities identified in the Sterile Processing Technician Program **DACUM** completed on July 10 & 11, 2008.

GP = GP & capital letters at the end of Course Goal statements correspond with statements from the Graduate Profile for the Sterile Processing Technician Program.

Course 1 Title: Introduction to Medical Device Reprocessing

Course Goal: Prepare for and comply with health and safety policies, practices, and procedures. (GP-J)

Course Description:

Are you ready for a career in healthcare facilities? This course will prepare you with knowledge and skills necessary for successful work in a healthcare facility including health and safety regulations, policies, practices, and procedures. It will also provide you with information about the supports available for Red River College students.

Learning Outcomes

1. Comply with all healthcare facility's policies and procedures. J1, J4, J6
2. Work safely, following all WHMIS protocols. J2, J3
3. Adhere to Professional Health Information Act (PHIA). J5, J
4. Follow Occupational Health and Safety (OH&S) regulations. J7
5. Perform all physical tasks using appropriate body mechanics. G10, G11

Recommended inclusions:

Short job-shadowing work experience at a health facility (ie.1 day/week for 4 weeks)
Orientation – RRC student services (tutorial, study skills, library)
Basic history of Medical Device Reprocessing
Industry guest speakers
Professional Health Information Act (PHIA) workshop
WHMIS workshop

Course 2 Title: Anatomy and Medical Terminology

Course Goal: Use medical terminology accurately and appropriately.

Course Description:

Increase your confidence by using correct medical terminology! This course provides you with the knowledge and skills to use the technical language of medical science through study of basic anatomy and physiology of organs and systems in the human body. It includes the fundamentals of medical language including definitions, spelling, and pronunciation. .

Learning Outcomes

1. Use relevant medical terminology to explain or clarify ideas.

Recommended inclusions:

Modules on terminology based on the systems of the human body
Suggested that these be standardized course modules for all Health Sciences programs in C+DE

Course 3 Title: Infection Control

Course Goal: Practice infection control to avoid cross contamination. (GP-B)

Course Description:

This course provides you with knowledge and skills to practice effective infection control by exploring the principles of microbiology, aseptic technique, and workplace environmental hazards. In addition, the course will focus on appropriate dress codes and disposal of bio-hazardous materials.

Learning Outcomes

1. Adhere to routine practices and established cleaning processes. B1, B6, B7, B8, E6, I8
2. Dispose of bio-hazardous materials appropriately according to established standards and health facility policies and procedures. B5
3. Monitor environmental factors. B4
4. Adhere to principles of aseptic technique. B9
5. Follow appropriate dress code in restricted areas. (not in DACUM)

Course 4 Title: Decontamination

Course Goal: Perform effective decontamination of medical devices utilizing established cleaning processes and infection control practices. (GP-G)

Course Description:

Acquire the knowledge and skills to perform decontamination of medical devices such as use of Personal Protection Equipment, operating cleaning/disinfecting equipment, and safe work practices recommended during the decontamination process.

Learning Outcomes

1. Use Personal Protection Equipment (PPE) appropriately and consistently. G1
2. Sort and disassemble medical devices. G2, G3,
3. Identify appropriate cleaning solution and equipment. G4, G6
4. Follow cleaning procedures for each medical device as determined by the manufacturer. G5, G7,
5. Operate the cleaning equipment according to manufacturers' instructions. G9

Course 5 Title: Instrumentation and Packaging

Course Goal: Prepare instruments for safe use by demonstrating proper handling techniques. (GP-E)

Course Description:

This course will equip you with the knowledge and skills to properly prepare medical devices for safe use by others. Topics included are disassembly and reassembly and appropriate instrument packaging to achieve optimum sterilization and aseptic presentation.

Learning Outcomes

1. Identify groups of instruments by function or service. E1
2. Differentiate between operating room and ward instruments. E2
3. Disassemble and reassemble instruments. E7
4. Perform approximate visual and functional instrument testing. E4, E5
5. Determine and apply appropriate instrument packaging to achieve optimum sterilization and aseptic presentation. E8
6. Assemble instrument sets per guidelines. E3

Course 6 Title: Sterilization

Course Goal: Perform sterilization procedures by following established standards and evidence-based practices. (GP-D)

Course Description:

By learning the key principles and factors affecting sterilization, students will develop the ability to use, monitor, modify, and evaluate sterilization methods and equipment. Common types of sterilization and alternative sterilization processes will be explored.

Learning Outcomes

1. Determine the appropriate sterilization process. D3, D10, D11,
2. Use a variety of sterilization methods and equipment. D6, D8, D9
3. Use and interpret a variety of QA indicators. D2, D5,
4. Load sterilizer carts appropriately. D4,
5. Evaluate the sterilization process. D1, D12
6. Modify process when necessary. D7

Course 7 Title: Transportation and Storage

Course Goal: Organize inventory and supplies by practicing stock rotation and established storage procedures. (GP-H)

Course Description:

Students will develop knowledge and skills necessary to control inventory distribution systems including the use of “pick lists”, case cart system, transportation, stock rotation, and the importance of communicating clearly and effectively.

Learning Outcomes

1. Prioritize inventory and supplies in relation to the Operating Room slate. H2
2. Use Operating Room “pick lists” to assemble case carts. H3, H4
3. Organize delivery of medical devices to end user. H6
4. Verify the return of medical devices after use. H7
5. Practice FIFO rotation for all stock items. H1
6. Check stock items routinely for any potential outdates. H8
7. Communicate stock and supply needs clearly and effectively. H5

Course 8 Title: Quality Assurance

Course Goal: Practice quality assurance in all aspects of medical device processing. (GP-C)

Course Description:

This course emphasizes the importance of Quality Assurance in all aspects of processing medical instruments and equipment. Important topics such as compliance to policies and procedures, analysis, reporting, record keeping, and decision making are included.

Learning Outcomes

1. Follow quality assurance policies and procedures. C1, C5, C10
2. Analyze quality assurance indicators. C2
3. Detect defective medical devices. C3
4. Report defective medical devices. C4
5. Follow standardized manufacturer handling, storage, & transport procedures. C9
6. Record data pertaining to quality assurance. C8
7. Make decisions based on QA policies and procedures. C11

Course 9 Title: Practicum

Course Goal: Apply knowledge, skills, attitudes, and values of reprocessing medical devices in a variety of hospital settings.

Course Description:

This is the capstone course consisting of a supervised clinical placement in a healthcare facility that provides the opportunity for students to apply knowledge, skills, attitudes, and values of reprocessing medical devices in a variety of hospital settings. Students will be monitored and evaluated by hospital staff.

Learning Outcomes (Graduate Profile)

1. Communicate professionally and effectively with a variety of audiences using written, verbal, and non-verbal communication skills.
2. Practice infection control to avoid cross contamination.
3. Practice quality assurance in all aspects of sterile processing.
4. Perform sterilization procedures by following established standards and evidence-based practices.
5. Prepare instruments for safe use by demonstrating proper handling techniques.
6. Demonstrate professionalism by interacting respectfully and ethically in a culturally and technically diverse environment.
7. Perform effective decontamination of medical devices utilizing established cleaning processes and infection control practices.
8. Organize inventory and supplies by practicing stock rotation and established storage procedures.
9. Apply technology utilizing a variety of specialized equipment
10. Follow laws, regulations, policies, and procedures by adhering to appropriate professional standards.

IN ADDITION, all courses need to include and assess the following general learning outcomes:

Communicate professionally and effectively with a variety of audiences using written, verbal, and non-verbal communication skills. (GP-A)

1. Interpret technical manuals and follow directions. A1, A8
2. Use relevant medical terminology to explain or clarify ideas. A2
3. Practice active listening, asking clarifying questions. A3, A6
4. Share information using a range of communication technologies. A9
5. Demonstrate professional customer service and interpersonal skills. A4, A5, A10
6. Demonstrate positive attitudes and behaviours. F8
7. Demonstrate conflict management skills. A11

Demonstrate professionalism by interacting respectfully and ethically in a culturally and technically diverse environment. (GP-F)

1. Work with people, problems, and situations with honesty, integrity, & personal ethics. F9, F11
2. Plan and manage time, money, & other resources to achieve goals. F3, F6, F15
3. Assess, weigh, and manage risk. F14
4. Demonstrate accountability for your actions and the actions of your group. F7
5. Work independently or as a part of a team by sharing information & expertise. F7
6. Demonstrate resourcefulness and the ability to innovate. F14
7. Accept constructive feedback. F10
8. Demonstrate continuous learning and growth. F5
9. Respect diversity, individual differences, and perspectives. F12, F18
10. Adapt to changing requirements, information, and environments. F2, F4
11. Monitor the success of a project and identify ways to improve.
12. Demonstrate mentoring skills. F16
13. Practice stress management techniques. F17

Apply technology utilizing a variety of specialized equipment (GP-I)

1. Use communication technologies appropriately. I1, I4,
2. Perform basic machine troubleshooting. I6, I9
3. Read and interpret a variety of machine printouts. **(not in DACUM)**
4. Apply computerized technology skills. I2, I3, I5, I7, I10

Follow laws, regulations, policies, and procedures by adhering to appropriate professional standards. (GP-J)

1. Comply with all healthcare facility's policies and procedures. J1, J4, J6
2. Work safely, following all WHMIS protocols. J2, J3
3. Adhere to Professional Health Information Act (PHIA). J5, J
4. Follow Occupational Health and Safety (OH&S) regulations. J7
5. Perform all physical tasks using appropriate body mechanics. G10, G11
6. Comply with mandatory record-keeping standards. **(not in DACUM)**

