Course Syllabus

HITT 1441 – Coding and Classification Systems

Catalog Description: Fundamentals of coding rules, conventions, and guidelines using clinical classification systems.

Prerequisites or Co-requisite: HITT1305, BIOL 2404

Semester Credit Hours: 4
Lecture Hours per Week: 3
Lab Hours per Week: 3
Contact Hours per Semester: 96

State Approval Code: 51.0713

Class section meeting time: Online students are expected to spend 6-9 hours per week reading and reviewing course materials and completing assignments.

Alternate Operations During Campus Closure: In the event of an emergency or announced campus closure due to a natural disaster or pandemic, it may be necessary for Panola College to move to altered operations. During this time, Panola College may opt to continue delivery of instruction through methods that include, but are not limited to: online learning management system (CANVAS), online conferencing, email messaging, and/or an alternate schedule. It is the responsibility of the student to monitor Panola College's website (www.panola.edu) for instructions about continuing courses remotely, CANVAS for each class for course-specific communication, and Panola College email for important general information.

Instructional Goals and Purposes: The purpose of this course is to provide students with knowledge of how to accurately report diagnosis codes through the application of official coding guidelines (ICD-10). Upon successful completion of this course, students will be able to effectively identify, understand, and utilize medical codes as applicable to hospital reimbursement in the field of healthcare.

Learning Outcomes:
1. Describe the format and conventions for ICD-10-CM/PCS.
2. Identify and apply current coding practices for ICD-10-CM/PCS.
3. Apply nomenclatures and classification systems and assign codes.

Specific Course Objectives (includes SCANS):
After studying the material presented in the text and online, the student should be able to complete all behavioral/learning objectives listed below with a minimum competency of 70% on assignments and exams.

1. Introduction to the ICD-10-CM Classification
    a. Explain the basic principles of the medical classification system ICD-10-CM.

      b. Demonstrate understanding of the three-, four-, five-, six-, and seven-character subdivisions.
      c. Explain the alphabetization rules and indention patterns.

Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

2. ICD-10-CM Convention
      a. List the different types of instructional notes.
      b. Explain the importance of additional notes to the coding process.
      c. Describe the difference between the abbreviations NEC and NOS.
      d. Use your knowledge of cross-reference notes to navigate ICD-10-CM.
      e. Define the specialized meanings of punctuation marks and relational terms in ICD-10-CM.

Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

3. Uniform Hospital Discharge Data Se
      a. Correctly identify a principle diagnosis.
      b. Understand the guidelines for assigning a principal diagnosis.
      c. Understand when other diagnoses have significance and should be reported.
      d. Explain the difference a principal diagnosis and an admitting diagnosis.
      e. Explain the importance of accurate and ethical coding.

Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

4. The Medical Record as a Source Document
      a. Explain what is present in a medical record.
      b. Understand when it is appropriate to query a physician about documentation.

Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

5. Basic ICD-10-CM Coding Steps
      a. Locate code entries in the Alphabetic Index.
      b. Determine the course of action when there are discrepancies between the Alphabetic Index.
      c. Perform basic coding techniques

Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

6. Basic ICD-10-CM Coding Guidelines
      a. Determine what level of detail to assign to a code.
      b. Understand how to use combination codes.
      c. Explain how to assign multiple codes to fully describe a condition.
      d. Identify what qualifications determine whether an unconfirmed diagnosis is coded as though it were an established diagnosis.
      e. Explain the difference between "rule out" and "ruled out."
      f. Code "borderline" diagnosis.
      g. Code acute and chronic conditions.
      h. Code a condition labeled "impending," "threatened," or "late effect."

Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

7. Introduction to the ICD-10-PCS Classification
      a. Explain the structure, format, and conventions of ICD-10-PCS.

Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv

Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

8. Basic ICD-10-PCS Coding Steps
    a. Identify main terms in the Alphabetic Index.
    b. Navigate the Tables to find the appropriate Table.
Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

9. ICD-10-PCS Root Operations in the Medical and Surgical Section
    a. Identify the objectives of each root operation.
    b. Distinguish among the different root operations in the Medical and Surgical Section.
    c. Discuss the general guidelines applicable to root operations.
Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

10. ICD-10-PCS Medical- and Surgical-Related, Ancillary, and New Technology Procedure Sections
    a. Identify the objectives of each root operation.
    b. Distinguish between the different root operations in the Medical-and Surgical-Related Section.
    c. Discuss the general guidelines applicable to root operations.
    d. Correctly assign codes for ancillary services.
    e. Understand the structure of codes for new technologies.
Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

11. Z Codes and External Cause of Morbidity Codes
    a. Locate Z codes and External cause of morbidity codes
    b. Explain how and when Z codes and External cause of morbidity codes are used.
Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

12. Symptoms, Signs, and Ill-Defined Conditions
    a. Explain the difference between a sign and a symptom.
    b. Determine when to properly use a code from the signs and symptom chapter of ICD-10-CM for a principal diagnosis.
    c. Determine when to properly use a code from the signs and symptom chapter for an additional diagnosis.
Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

13. Infectious and Parasitic Diseases
    a. Code infectious and parasitic diseases.
    b. Explain the differences between bacteremia, septicemia, SIRS, sepsis, and septic shock, and how to code these conditions.
Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

14. Endocrine, Nutritional and Metabolic Diseases
    a. Code diabetes mellitus properly.
    b. Identify the differences when coding for diabetes during pregnancy and gestational diabetes.
    c. Code fluid overload due to congestive heart failure.
    d. Code nutritional disorders such as obesity.
Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

15. Mental Disorders
    a. Code a variety of mental disorders.
    b. Determine the differences among types of affective disorders.
    c. Explain the difference between substance abuse and dependence, and code the conditions and therapies surrounding these two distinct conditions.

Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

16. Diseases of the Blood and Blood-Forming Organs
    a. Code the various types of anemia.
    b. Understand when and when not to code a coagulation defect because certain drug therapies are being used.
    c. Distinguish among the various diseases of the white blood cells and the various types of white blood cells.
    d. Understand where disorders of the immune systems are classified.

Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

17. Diseases of the Nervous System and Sense Organs
    a. Explain the difference between the central and peripheral nervous systems and locate the two areas in ICD-10-CM.
    b. Understand how to code for pain.
    c. Explain what is needed before a code of epilepsy is assigned.
    d. Code for a variety of conditions of the nervous systems.
    e. Code disorders of the eye and ear.

Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

18. Diseases of the Respiratory System
    a. Classify the variety of types of pneumonia that you will encounter as a coding professional.
    b. Determine the correct coding of COPD based on the documented diagnosis.
    c. Know when to code for respiratory failure as the principle or secondary diagnosis.
    d. Now how to classify both cardiogenic and noncardiogenic acute pulmonary edemas.
    e. Code procedures commonly used to treat respiratory system diseases.

Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

19. Diseases of the Digestive System
    a. Classify a variety of conditions that affect the GI tract.
    b. Differentiate the various terms associated with diverticula.
    c. Classify disease of the biliary system.
    d. Classify common digestive systems conditions such as diarrhea, constipation, and appendicitis.
    e. Correctly code bariatric surgeries and any possible complications related to these procedures.

Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

20. Diseases of the Genitourinary System
    a. Distinguish among the different conditions often referred to as urinary tract infections.
    b. Code for a variety of kidney diseases and their treatments.
    c. Explain coding for kidney disease in conjunction with hypertension and diabetes.
    d. Classify conditions that affect male and female genitalia.

Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

21. Disease of the Skin and Subcutaneous Tissue
    a. Know how to classify dermatitis due to contact, food, and ingestion of drug (both correct and incorrect usages).
    b. Code ulcers of the skin.
    c. Explain how to classify cellulitis based on location and the primary goal of treatment.
    d. Code procedures done on the skin, such as excisions, debridement, and grafting.

Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

22. Diseases of the Musculoskeletal System and Connective Tissue
    a. Explain the different types of arthritis and what to look for when coding arthritis.
    b. Explain the difference between pathological and traumatic fractures.
    c. Code joint replacements and revisions.
    d. Code back disorders and the variety of procedures for correcting spinal problems.

Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

23. Complications of Pregnancy, Childbirth, and the Puerperium
    a. Code complications of pregnancy using the proper fourth and fifth characters.
    b. Use the proper Z codes to assign the outcome of delivery.
    c. Code for other obstetric care besides childbirth.
    d. Know the difference between postpartum complications and late effects of pregnancy, childbirth, and the puerperium.
    e. Differentiated among the procedures assisting delivery.
    f. Code for contraceptive and procreative management.

Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

24. Abortion and Ectopic Pregnancy
    a. Classify abortive outcomes by type of abortion.
    b. Select the appropriate code to indicate whether the abortion is complete, incomplete, or unspecified.
    c. Code complications of abortion.
    d. Understand how to code different types and occurrences of abortions.
    e. Classify abnormal products of conception (such as molar and ectopic pregnancies).

Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

25. Congenital Anomalies
    a. Distinguish between congenital and acquired conditions in the Alphabetic Index.
    b. Conde for a congenital anomaly even if the classification does not provide a specific code for it.
    c. Explain the relationship of patient age to codes for congenital anomalies.
    d. Explain the difference between congenital and perinatal deformities.

Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

26. Perinatal Conditions
    a. Locate codes and follow general guidelines with regard to perinatal conditions.
    b. Use Z codes to classify the birth, and use them with other codes for perinatal conditions.
    c. Code situations involving newborn immaturity, prematurity, and postmaturity.
    d. Code for evaluation and observation of newborns and infants.
    e. Determine what chapter to use to classify a newborn or infant infection.
    f. Know how and when to assign codes for maternal condition on the newborn record.

Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv

Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

27. Diseases of the Circulatory System
    a. Classify the disorders related to the heart and the rest of the circulatory system.
    b. Distinguish between the different conditions regarded as ischemic heart disease.
    c. Classify heart failure by category and location.
    d. Code for a variety of procedures involving the circulatory system and the heart.
Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

28. Neoplasms
    a. Explain the various classifications of neoplasms.
    b. Locate codes for neoplastic diseases.
    c. Code for malignant neoplasms (both solid and hematopoietic or lymphatic).
    d. Code for the treatment of neoplastic disease.
Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

29. Injuries
    a. Use External cause codes to assist in the classification of an injury.
    b. Select the correct seventh-character value for an injury.
    c. Code for procedures related to fractures.
    d. Codes for open wounds and other varieties of injuries.
Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

30. Burns
    a. Understand the difference between first-, second-, and third-degree burns.
    b. Properly sequence the codes for multiple burns and related conditions.
    c. Understand how the extent of burn is calculated using the "rule of nines."
    d. Identify injuries and illnesses that might be coded in association with the burns.
Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

31. Poisoning, Toxic Effects, Adverse Effects, and Underdosing of Drugs
    a. Differentiate between adverse effects and poisoning.
    b. Locate codes associated with poisoning and adverse effects.
    c. Code for poisoning due to substance abuse.
    d. Code for late effects for adverse reactions and poisoning.
Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

32. Complications of Surgery and Medical Care
    a. Understand when and when not to code a condition or an occurrence as a complication
    b. Locate complication codes.
    c. Use all of the instructional notes present in ICD-10-CM to properly classify a condition caused by a complication of medical or surgical care.
Basic Skill Competencies: Ai, Aii, Aiv, Av, Bi, Bii, Biii, Biv, Ci, Cii, Ciii, Civ, Cv
Workplace Competencies: Ai, Aiii, Bi, Bvi, Ci, Cii, Ciii, Di, Dii

Course Content:
A general description of lecture/discussion topics included in this course are listed in the Learning Objectives / Specific Course Objectives sections of this syllabus.

Students in all sections of this course will be required to do the following:

1. Demonstrate knowledge of course material by completing course examinations given over lecture and textbook material.
2. Students will complete all daily assignments as instructed.
3. Students will be able to locate the correct ICD-10-CM/PCS codes for diagnoses and procedures using the ICD-10-CM/PCS Coding Manuals.
4. Students will demonstrate knowledge of ICD-10-CM/PCS coding guidelines and will be able to accurately code diagnoses and procedures using the ICD-10-CM/PCS Coding Manual.

Methods of Instruction/Course Format/Delivery
- Students in the Internet class will have access to this course via the current LMS.
- All assignments will be submitted through the current LMS. After the assignment has been graded, the student will be able to view his or her grades by clicking the Grades link in the left banner.
- Students should use the Email within the LMS to communicate with the instructor. This email gives you access to the instructor and other classmates without having to remember or type email addresses- you must select a name from the list. If you are not able to contact me using this email, you may use my Panola College email address, contact me by telephone, or stop by my office. I attempt to respond to all email within 24 hours. Please always include a subject line and your name in your email.

Major Assignments / Assessments:

The following items will be assigned and assessed during the semester and used to calculate the student's final grade.

Assignments

1. Chapter exercises (chapters 1-32)

Assessment(s):

1. 4 Major Exams
2. Final Exam (comprehensive)

Course Grade:

The grading scale for this course is as follows:
- Chapter exercises (chapters 1-32) – 50%
- Major Exam – 30%
- Final Exam – 20%

Texts, Materials, and Supplies:
- *ICD-10-CM and ICD-10-PCS Coding Handbook 2022*, Nelly Leon-Chisen, AHA Coding Clinic, Copyright 2011-2020
- *ICD-10-CM Professional for Hospitals*, 2022 Edition, Elsevier, Copyright 2022
- *ICD-10-PCS Professional for Hospitals*, 2022 Edition, Elsevier, Copyright 2022

Required Readings:
- *ICD-10-CM and ICD-10-PCS Coding Handbook 2021*, Nelly Leon-Chisen, AHA Coding Clinic, Copyright 2011-2020
- *ICD-10-CM Professional for Hospitals*, 2022 Edition, Elsevier, Copyright 2022
- *ICD-10-PCS Professional for Hospitals*, 2022 Edition, Elsevier, Copyright 2022

Recommended Readings:
- Coding Notes W/Access

- ICD-10-CM Flash Cards
- ICD-10-PCS Flash Cards
- Medical Abbreviations
- Merck Manual of Diagnosis
- Medical Dictionary
- Pocket Anatomy + Physiology

Other:

- Courses conducted via video conferencing may be recorded and shared for instructional purposes by the instructor.
- For current texts and materials, use the following link to access bookstore listings: https://www.panolacollegestore.com
- For testing services, use the following link: https://www.panola.edu/student-services/student-support/academic-testing-center
- If any student in this class has special classroom or testing needs because of a physical learning or emotional condition, please contact the ADA Student Coordinator in Support Services located in the Charles C. Matthews Student Center or go to https://www.panola.edu/student-services/student-support/disability-support-services for more information.
- Withdrawing from a course is the student's responsibility. Students who do not attend class and who do not withdraw will receive the grade earned for the course.
- Student Handbook, *The Pathfinder: https://www.panola.edu/* (located at the bottom under students)

SCANS CRITERIA

1) **Foundation skills are defined in three areas: basic skills, thinking skills, and personal qualities.**

   a) **Basic Skills**: A worker must read, write, perform arithmetic and mathematical operations, listen, and speak effectively. These skills include:
   i) Reading: locate, understand, and interpret written information in prose and in documents such as manuals, graphs, and schedules.
   ii) Writing: communicate thoughts, ideas, information, and messages in writing, and create documents such as letters, directions, manuals, reports, graphs, and flow charts.
   iii) Arithmetic and Mathematical Operations: perform basic computations and approach practical problems by choosing appropriately from a variety of mathematical techniques.
   iv) Listening: receive, attend to, interpret, and respond to verbal messages and other cues.
   v) Speaking: Organize ideas and communicate orally.

   b) **Thinking Skills**: A worker must think creatively, make decisions, solve problems, visualize, know how to learn, and reason effectively. These skills include:
   i) Creative Thinking: generate new ideas.
   ii) Decision Making: specify goals and constraints, generate alternatives, consider risks, and evaluate and choose the best alternative.
   iii) Problem Solving: recognize problems and devise and implement plan of action.
   iv) Visualize ("Seeing Things in the Mind's Eye"): organize and process symbols, pictures, graphs, objects, and other information.
   v) Knowing How to Learn: use efficient learning techniques to acquire and apply new knowledge and skills.
   vi) Reasoning: discover a rule or principle underlying the relationship between two or more objects and apply it when solving a problem.

   c) **Personal Qualities**: A worker must display responsibility, self-esteem, sociability, self-management, integrity, and honesty.
   i) Responsibility: exert a high level of effort and persevere toward goal attainment.
   ii) Self-Esteem: believe in one's own self-worth and maintain a positive view of oneself.
   iii) Sociability: demonstrate understanding, friendliness, adaptability, empathy, and politeness in group settings.
   iv) Self-Management: assess oneself accurately, set personal goals, monitor progress, and exhibit self-control.
   v) Integrity and Honesty: choose ethical courses of action.

2) **Workplace competencies are defined in five areas: resources, interpersonal skills, information, systems, and technology.**

   a) **Resources**: A worker must identify, organize, plan, and allocate resources effectively.
   i) Time: select goal-relevant activities, rank them, allocate time, and prepare and follow schedules.
   ii) Money: Use or prepare budgets, make forecasts, keep records, and make adjustments to meet objectives.
   iii) Material and Facilities: Acquire, store, allocate, and use materials or space efficiently.
   Examples: construct a decision time line chart; use computer software to plan a project; prepare a budget; conduct a cost/benefits analysis; design an RFP process; write a job description; develop a staffing plan.

   b) **Interpersonal Skills**: A worker must work with others effectively.
   i) Participate as a Member of a Team: contribute to group effort.
   ii) Teach Others New Skills.
   iii) Serve Clients/Customers: work to satisfy customer's expectations.

iv) Exercise Leadership: communicate ideas to justify position, persuade and convince others, responsibly challenge existing procedures and policies.
v) Negotiate: work toward agreements involving exchange of resources, resolve divergent interests.
vi) Work with Diversity: work well with men and women from diverse backgrounds.
Examples: collaborate with a group member to solve a problem; work through a group conflict situation, train a colleague; deal with a dissatisfied customer in person; select and use appropriate leadership styles; use effective delegation techniques; conduct an individual or team negotiation; demonstrate an understanding of how people from different cultural backgrounds might behave in various situations.

c) **Information**: A worker must be able to acquire and use information.
   i) Acquire and Evaluate Information.
   ii) Organize and Maintain Information.
   iii) Interpret and Communicate Information.
   iv) Use Computers to Process Information.
Examples: research and collect data from various sources; develop a form to collect data; develop an inventory record-keeping system; produce a report using graphics; make an oral presentation using various media; use on-line computer data bases to research a report; use a computer spreadsheet to develop a budget.

d) **Systems**: A worker must understand complex interrelationships.
   i) Understand Systems: know how social, organizational, and technological systems work and operate effectively with them.
   ii) Monitor and Correct Performance: distinguish trends, predict impacts on system operations, diagnose deviations in systems' performance and correct malfunctions.
   iii) Improve or Design Systems: suggest modifications to existing systems and develop new or alternative systems to improve performance.
Examples: draw and interpret an organizational chart; develop a monitoring process; choose a situation needing improvement, break it down, examine it, propose an improvement, and implement it.

e) **Technology**: A worker must be able to work with a variety of technologies.
   i) Select Technology: choose procedures, tools or equipment including computers and related technologies.
   ii) Apply Technologies to Task: understand overall intent and proper procedures for setup and operation of equipment.
   iii) Maintain and Troubleshoot Equipment: Prevent, identify, or solve problems with equipment, including computers and other technologies.
Examples: read equipment descriptions and technical specifications to select equipment to meet needs; set up and assemble appropriate equipment from instructions; read and follow directions for troubleshooting and repairing equipment.