

JSGS 887 – Clinical Terminologies & Classification Systems

	UNIVERSITY OF SASKATCHEWAN CAMPUS	UNIVERSITY OF REGINA CAMPUS
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OFFICE LOCATION:		Room 334.7, 2155 College Avenue (CB)
TERM:		Fall 2022
ROOM:		Online
DATE AND TIME:		Fridays at 3:30 PM (Regina) - 2 hrs

The syllabus for this course is comprised of this document plus the document titled “JSGS Common Syllabus 2021-22.”

INTELLECTUAL PROPERTY ACKNOWLEDGEMENT

This course was developed by Ramona Kyabaggu.

CALENDAR DESCRIPTION

Clinical Terminologies and Classification Systems introduces the principles of taxonomy and purposes of controlled terminologies and classification systems used in Canada and internationally. The course is designed to provide a survey of clinical vocabularies and controlled terminologies and classification systems standards commonly used in health care. It will address the importance of standards conformance, design of interoperable information and systems, and the processes, policies and procedures used in the collection, coding, mapping, and modeling of health data. Labs will require working with clinical, financial, and administrative data in an academic electronic health record system.

LEARNING OBJECTIVES

JSGS has developed a set of three competencies that all graduates will be able to demonstrate. The specific readings, assignments and activities in JSGS 887 will help you both acquire and demonstrate these competencies.

In addition, upon completion of the course students will be able to:

- Design organizational processes to manage the adoption and maintenance of standards;
- Evaluate terminologies for applicability to business problems, scope, granularity, and domain coverage;
- Define, select and validate data elements for clinical databases and information systems;
- Develop policies and processes for the maintenance of administrative, descriptive, and structural meta-data in the management of data assets;
- Maintain enterprise master patient indexes and apply appropriate record matching techniques for identity management and record linkage;
- Define heuristics and data management processes for mapping and modelling clinical vocabularies, terminologies, and classification systems in a reproducible and accurate manner;
- Describe how artificial intelligence (NLP) is used in the processing of contextually rich and clinically meaningful health data;
- Manage legacy system migration, architecture interfacing, and conversations between source and target data;
- Oversee the use of financial data standards (CIHI MIS standards) and coded data in revenue cycle management and funding formulae;
- Describe the information standards development process and the activities of industry standards development working groups (e.g., ISO, WHO);
- Run logical queries and linguistic rules for decision support and generate compliance analytics related to health record completion, delinquent reporting, and overall quality reporting for clinical documentation improvement;
- Analyze coding workflows and data in organizational business processes for improved productivity and service efficiency;
- Implement plans to continuously audit and evaluate the accuracy and validity of manual and computer automated coding;
- Improve communication and the real-time flow of information across health care settings;
- Map clinical data and develop realistic cases to describe intended uses;
- Develop organizational policies to govern the use of clinical concepts, expressions and terms, including the use of jargon and acronyms in clinical documentation.

COURSE CONTENT AND APPROACH

Training in clinical terminologies and classification systems (CTCS) is in high demand as employers are hard-pressed to recruit skilled professionals with expertise in this area. In digital health care environments, CTCS knowledge is critical to the future of health care delivery and is used to support the semantic and functional interoperability of health data and systems and support data exchange. Health informatics standards for technical interoperability including HL7 FHIR will be covered in depth in JSGS 888 Health Informatics and Health Information Technology.

Lectures (3 crs) will focus on theory and broad policy and management perspectives in health data and information standards. The **lab** component (3 crs) enables students to gain hands-on experience using an academic electronic health record system and clinical coding and informatics cases that are applied in nature.

The UR courses LMS will still be required for grading and the overall management and administration of the course.

REQUIRED READINGS

Resources:

ICD-10-CA/CCI Classification (Primer Access card) - \$179.25 CAD

Register and create a free Texidium eReader account at:

<https://identity.texidium.com/ids/Register?loginUrl=%2fids%2flogin%3fsignin%3dbb3a839dfd3317cfaca%2f4093f5815e26>

Use the access code provided to redeem the book in the eReader. Title: ICD-10-CA/CCI CLASSIFICATION PRIMER, 9th edition available at the uregina campus store (<https://www.bkstr.com/ureginastore/home>).

Canadian College of Health Information Management (public library) /Canadian Institute for Health Information (CIHI) Resources (eStore, Learning Centre, and eQuery) - \$39.18 CAD

Additional to several modules created for this course, we will be using College-approved resources accessible to students through CHIMA's member dashboard. To access CCHIM and CIHI resources students will need to purchase a one-year Canadian College of Health Information Management student membership costing \$39.18 CAD.

The form on the dashboard is now available for students to complete to register and access the CIHI resources. Instructions on how to access educational resources are available at:

[Available on course website]

Please Download Folio Views (5x License) for ICD-10-CA/CCI infobase – Free via College Educational Resources Program (CERP) – Windows required

Please create a SNOMED CT e-learning account – Free at <https://elearning.ihtsdotools.org/>

COURSE OUTLINE

Classes	Topics	Required Readings	Evaluation
MODULE 1: INTRODUCTION TO DATA STANDARDS – A SYSTEMS PERSPECTIVE (Aug 31 – Sep 11)			
Scheduled Zoom Session(s) on Sep 2	<ul style="list-style-type: none"> — What are the purposes and uses of clinical terminologies and classification standards in Canada (See list) — How do standards organizations develop, evaluate & maintain standards (e.g., SDOs - ISO, HL7, IHE, WHO, SNOMED, GDHP, SDOs – see list) — What administrative and clinical databases and registries store health services data, what do they contain? <p>Lab</p> <ul style="list-style-type: none"> — Introduction to Course Tools: Folio Views ICD-10-CA/CCI & EHR Go — Overview of evaluation methods and tools used in quizzes and labs (diagnostic statements, iCODE methodology) — Navigating and using Canadian Coding Standards for ICD-10-CA and CCI 	<ul style="list-style-type: none"> — Classification Systems, Clinical Vocabularies, and Terminology (Chap 7) In Health Information: Management of a Strategic Resource, Fifth Ed. (available on UR Courses per fair) — 755E An Introduction to CIHI's NACRS, DAD and HMDB Databases (120 Minutes) - <i>Course/CIHI Learning Centre (required: submit certificate of completion)</i> <p>Read the following CHIMA professional practice briefs:</p> <ul style="list-style-type: none"> — 0028 Health Standards Councils — 0005 Data Standards, Quality & Interoperability <p>Download the following:</p> <ul style="list-style-type: none"> — Download the Canadian Coding Standards (2022) for ICD-10-CA and CCI: https://bit.ly/3T3IVoN (also available on UR Courses) — Download the CHIMA primer: CCCS NCE Primer 	There are no graded quizzes for this module.
MODULE 2: ICD-10 – INTRODUCTION TO DIGANOSTIC CODING (Sept 12 – 25)			
Scheduled Zoom Session(s) on Sep 16 & 23	<p>ICD-10-CA</p> <ul style="list-style-type: none"> — What is the ICD-10-CA coding process? — How does the ICD-10-CA multiaxial diagnostic system work? <p>ICD-10 versus ICD-11</p> <ul style="list-style-type: none"> — What are some of the criteria that we can use to evaluate a good classification schema? 	<ul style="list-style-type: none"> — ICD 10 (30 Minutes) - Link to ebook on UR Courses — Chute et al. Overview of ICD-11 architecture and structure. BMC Med Inform Decis Mak 21 (Suppl 6), 378 (2021). https://doi.org/10.1186/s12911-021-01539-1 	

Classes	Topics	Required Readings	Evaluation
	<ul style="list-style-type: none"> — In what ways does the ICD-11 compositional model differ from ICD-10 in architecture, structure and content? <p>Lab</p> <ul style="list-style-type: none"> — Practice coding inpatient diagnostic statements using the Folio Views alphabetical index search feature and tabular list verification — Exercise using ICD-11 online tools 	Read the following Classification Primer <ul style="list-style-type: none"> — Chapter 1: The Coding Process — Chapter 2: ICD-10-CA 	
MODULE 3: CCI – INTRODUCTION TO INTERVENTION CODING (Sep 26 – Oct 9)			
Scheduled Zoom Session(s) on Sep 30 & Oct 7	<ul style="list-style-type: none"> — How do we classify what intervention is being done and how it is being done? — What is the CCI coding process? <p>Lab</p> <ul style="list-style-type: none"> — Practice searching and coding inpatient clinical cases (diagnostic and intervention) using the Folio Views advanced query tool 	Read the following Classification Primer <ul style="list-style-type: none"> — Chapter 3: Chapter 3: CCI 	Quiz #1 due Oct 11, 11:59 pm (Regina Time) - ICD-10-CA diagnostic statements and CCI intervention statements
MODULE 4: ADVANCED CODING & ANALYTICS: CODING HEALTH RECORDS AND CLINICAL CASES (Oct 10 – Nov 6)			
Scheduled Zoom Session(s) on Oct 14 & 21	<ul style="list-style-type: none"> — How can we code ethically and systematically using available documentation, clinical interpretation and the iCODE process? — How can we code efficiently through the use of advanced queries and CACs? — Using casemix methodology to evaluate health service activities <p>Lab</p> <ul style="list-style-type: none"> — Classifying and coding clinical data from source records; — The advanced query — iCODE strategy 	Read the following Classification Primer Chapter 4: Applying the Coding Process Watch the following videos: <ul style="list-style-type: none"> — Advance query instructional video — 3M computer automated coding presentation (optional) — Practice with iCODE (learning bundle) - 982E Introduction to the iCode strategy (30 minutes) – - <i>Course/CIHI Learning Centre (required: submit certificate of completion)</i> — 1212E-Understanding How CMG+ Works (required: submit certificate of completion) — 940E Introduction to Resource Indicators (RIW and ELOS) for the DAD and NACRS (60 minutes) - <i>CIHI Learning Centre (required: submit certificate of completion)</i> 	Quiz #2 due Nov 13, 11:59 pm (Regina Time) - Advanced Coding & Classification

Classes	Topics	Required Readings	Evaluation
READING WEEK (Nov 7 – Nov 12)			
MODULE 5: CLINICAL TERMINOLOGIES (Nov 14 – 20)			
Scheduled Zoom Session(s) on Nov 18	<ul style="list-style-type: none"> — Mapping and modelling clinical data using SNOMED CT <p>Lab</p> <ul style="list-style-type: none"> — Activity using open SNOMED tools 	<ul style="list-style-type: none"> — SNOWMED CT (30 Minutes) – JSGS (<i>Articulate Rise</i>) 	
MODULE 5: CLINICAL DOCUMENTATION IMPROVEMENT (Nov 21 – Nov 27)			
Scheduled Zoom Session(s) on Nov 25	<ul style="list-style-type: none"> — General Data Quality Auditing (DQA) – tools and measures — Coding quality audit and performance evaluation — Clinical coding and standardized workflows (mapping data workflows and using IHE profiles) <p>Lab</p> <ul style="list-style-type: none"> — Breakout Group 1 – HIIMs (use case): MPI Duplication and Resolution — Breakout Group 2 - frontline providers (use case): CDS interventions for digital health - alerts, order sets, protocols, patient monitoring systems, infobuttons, etc 	<ul style="list-style-type: none"> — Clinical Documentation Improvement (60 Minutes) – JSGS (<i>Articulate Rise</i>) — International patient summary 	Quiz #3 due Nov 27, 11:59 pm (Regina Time): Clinical terminologies, CDI
Health Information Exchange (Nov 28 – Dec 4)			
Scheduled Zoom Session(s) on Dec 2	<p>Guest Lecture:</p> <ul style="list-style-type: none"> — Timothy A. Pletcher, DHA, Executive Director, Michigan Health Information Network Shared Services (MiHIN) <p>Lab</p> <p>Activity using open HL7 tools</p>	<ul style="list-style-type: none"> — Read resources provided in HL7 Clinical Document Architecture folder and review CDA tools available at http://www.hl7.org/participate/toolsandresources.cfm?ref=nav 	
STANDARDS IMPLEMENTATION (Dec 5 – 9)			
Scheduled Zoom Session(s) on Dec 5	Office Hours – Final Assignment Help	<ul style="list-style-type: none"> — Whitepaper - IFHIMA Fosters Planning for ICD-11 Adoption with Global Case Studies 	<ul style="list-style-type: none"> — Final assignment on standards implementation due Dec 16.

ASSIGNMENTS

3x Timed Quizzes – 30% (10% each)

These timed quizzes are used primarily to evaluate the applied technical and evaluative skills covered in the modules and lab sessions. For example, in these quizzes you may be asked to review a clinical case or health record and assign the appropriate ICD-10/CCI-CA codes, or map a SNOWMED term to the appropriate ICD-10 code. The quizzes allow for a single attempt. Links to each quiz can be found on the UR Courses website. Please refer to the syllabus and course calendar for each quiz's opening and closing dates.

Data Governance – Standards Implementation Evaluation – 20%

Video due no later than **11:59 p.m. on Friday, Dec 2** Saskatchewan (SK) time. In this assignment, you will work in assigned groups. Your video presentation will outline key considerations for a health organization transitioning from ICD-10 to ICD-11 (option 1) or multiple organizations implementing the International Patient Summary (option 2). A case with data is provided (actors and scenario). The video should not exceed 10 minutes.

Final Applied Assignment – 50%

Due: No later than **Friday, Dec 16 at 11:59 p.m. Saskatchewan (SK) time.**

Submission/Format: Submit your completed final assignment online via the UR Courses assignment section.

Evaluation: Worth 50% of final grade.

Details: This final assignment is a team assignment that requires the entire class to work on one comprehensive project with multiple, intersecting parts led by smaller groups. Under the supervision of the course instructor, the class will consult a public health organization department on the development and implementation of a 'data harmonization strategy' with a focus on engaging stakeholders to understand pain points and developing appropriate methods and tools to support key stakeholders to implement data harmonization fit for the organization's governance level of maturity. The course instructor will assign students to different parts of the project based on their assessment of students' functional area work experience and/or educational background with consideration of students' self-identified learning goals in the course. Each part of the project will be equivalent in the scope of work, distributed among group members and documented accordingly. The assignment builds capacity in cross-functional teamwork – an interdisciplinary team model common to informatics and information management projects that require groups and individuals to work on different but related work towards a common goal. An effective cross-functional team communicates and shares information, coordinates tasks and plans, collaborates and executes tasks as an organized whole. As such, the final assignment evaluation will be awarded to students as a composite score made up of an overall project score and a score for the parts of the assignment in which groups and individuals are most responsible.

EVALUATION

All assessed elements are to be submitted by stated deadlines. Online lectures follow the schedule detailed below. Each student is evaluated on the following assessed elements worth a total of 100%:

Assignment	Due	Percent
1. 4x Timed Quizzes		30%
Timed online quizzes	Oct 11, Nov 13, Nov 27	(10% each)
2. Group Presentation – Case Study (Video Upload & Q&A)		20%
Option 1: ICD-10 to ICD-11 Transition – Key considerations & implications for future implementation in Canada Option 2: International Patient Summary – Key considerations & implications for future implementation in Canada	Dec 20	
3. Applied Group Project – Final Assignment		50%
A real-world team-based assignment that will involve developing methods and tools to help a real health organization better manage their health data – data harmonization at a public health unit	Dec 16	

ENROLLMENT LIMIT

Class enrollment will be limited to 35 students.