

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 2021
ROOM:		Online
DATE AND TIME:		Lectured on Fridays at 7 PM (Regina)

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. The course developer would like to acknowledge the contributions of the following persons involved in developing online modules: Shafqat Mamun, Deborah Schrempel, Chris Mbah.

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 modelling 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:

Neehr Perfect[®] / EHR Go[™] - \$45 USD

Neehr Perfect[®] / EHR Go[™] is an academic EHR that houses synthetic data providing EHR-interfaced and exportable data sets at patient, organizational and population levels and across the continuum of care. It will be the primary tool used for lab activities. EHR Go includes self-directed pathophysiology and anatomy training modules that will be used as non-credit supplementary resources for students requiring a 'refresher' in biomedical terminology and concepts.

EHR go is a cloud-based online platform that does not require any special downloads or plugins. All activities completed within the EHR can be exported in various formats and then uploaded on to the UR Courses LMS for grading and reporting. Students will require a subscription to access EHR Go, which can be purchased online.

EHR Go Subscription: <https://web21.ehrgo.com/register>

Please create your EHR Go account by going to: <https://ehrgo.com>. Select Subscribe in the upper, right corner and enter the following HIIM Student Program Key (**available on UR Courses**).

Follow the on-screen instructions to create your account and apply your subscription. Refer to the student guide for more information: <https://ehrgo.com/student-guide/>. There are several subscription terms available and the students are welcome to choose which works best for them; however, quarter coverage is recommended for this course (\$45 USD). The subscription does not start until the student activates on the EHR Go site.

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 for and access the CIHI resources. Instructions on how to access educational resources are available at:

<https://cchim.ca/about-the-college/partners/educational-resources/accessing-educational-resources/>

Folio Views License for ICD-10-CA/CCI – Free via CCHIM/CIHI membership

COURSE OUTLINE

Week # (Date)	Key Topics	Online Learning Modules/Activities
INTRODUCTION TO CLINICAL TERMINOLOGY STANDARDS		
Week 1 - Lecture & Module(s) (Aug 30 – Sep 5) Zoom lecture on Sep 3	<ul style="list-style-type: none"> — Course Orientation — Overview of Clinical Terminologies and Classification Standards in Canada (See list) ; Medical thesauruses and vocabularies (e.g., DSM) — Standards Organizations (e.g., International - ISO, HL7, WHO and Canadian Standards Organizations – see list) — Purposes and Uses of Clinical Terminologies and Classification Systems 	<ul style="list-style-type: none"> — Pathophysiology and Pharmacology Review (60 minutes) – <i>EHR Go</i> — Practice Assigning Applied Diagnosis Types and Main/Other Problem (120 Minutes) – <i>Course/CIHI Learning Centre</i> — ICD 10 (30 Minutes) – <i>JSGS (Articulate Rise)</i>
Week 2 - Lab & Online Quizzes(s) (Sep 6 – Sep 10) Zoom lab on Sep 10	<ul style="list-style-type: none"> — Orientation to Folio Views ICD-10-CA/CCI & EHR Go — Demonstration – ICD Inpatient Diagnosis Coding 	Read the following CHIMA professional practice briefs: <ul style="list-style-type: none"> — 0028 Health Standards Councils — 0005 Data Standards, Quality & Interoperability — No graded quizzes
HEALTH DATABASES		
Week 3 - Lecture & Module(s) (Sep 13 – Sep 19) Zoom lecture on Sep 17	<ul style="list-style-type: none"> — Health Databases and Registries — Data Warehouse/EHR - Master Patient Index 	<ul style="list-style-type: none"> — An Introduction to CIHI’s NACRS, DAD and HMDB Databases (120 Minutes) - <i>Course/CIHI Learning Centre</i> — Practice with iCODE (learning bundle) - 982E Introduction to the iCode strategy (30 / 540 minutes) – - <i>Course/CIHI Learning Centre</i>
Week 4 - Lab & Online Quizzes(s) (Sep 20 – Sep 26) Zoom lab on Sep 24	<ul style="list-style-type: none"> — Orientation to EHR Go MPI — Practice with iCODE Case 	<ul style="list-style-type: none"> — No graded quizzes

Week # (Date)	Key Topics	Online Learning Modules/Activities
HEALTH DATA AND INFORMATION GOVERNANCE		
Week 5 - Lecture & Module(s) (Sep 27 – Oct 3) Zoom lecture on Oct 1	<ul style="list-style-type: none"> — Health Data and Information Governance — Coding Quality Audit and Evaluation (including computer automated coding) — Common Health Record; Minimum Datasets — Health Record Data Flow and Processing — Clinical Documentation Improvement — Meta-data and Documentation Management; 	<ul style="list-style-type: none"> — Charting the Path to Better Patient Care Video (5 minutes) - <i>Course/CIHI Learning Centre</i> — Closing the Gap on Mental Health and Care Transitions Data in the DAD and NACRS (60 minutes) - <i>Course/CIHI Learning Centre</i> — Clinical Documentation Improvement (60 Minutes) – JSGS (Articulate Rise)
Week 6 - Lab & Online Quizzes(s) (Oct 4 – Oct 10) Zoom lab on Oct 8	<ul style="list-style-type: none"> — Data Quality Auditing (DQA) – Tools and Measures — Practice ICD/CCI Coding 	Read the following CHIMA professional practice briefs: <ul style="list-style-type: none"> — 0048 Impact of registration errors in Acute care — 0046 Clinical documentation improvement (CDI) — 0018 Assessing and improving EHR Data Quality — 0037 Naming Clinical Forms
Week 7 - Lab & Online Quizzes(s) (Oct 11 – Oct 17) Zoom lab on Oct 15	<ul style="list-style-type: none"> — MPI Duplication and Resolution — Practice – ICD/CCI Coding 	<ul style="list-style-type: none"> — Quiz #1 - (Opens Oct 8 / closes Oct 17 at 11:59 pm): Acute care inpatient coding (ICD-10); chart deficiencies; EHR documentation standards) One of the following - <i>Course/CIHI Learning Centre</i> <ul style="list-style-type: none"> — Exploring the Lower GI Tract With CCI (120 minutes) — Different Strokes Need Different Codes (180 minutes) <ul style="list-style-type: none"> — Quiz #2 - (Opens Oct 15 / closes Oct 24 at 11:59 pm): ICD-10/CCI; MPI duplication; DQA)
CLINICAL TERMINOLOGY MANAGEMENT		
Week 8 - Lecture & Module(s) (Oct 18 – Oct 24) Zoom lecture on Oct 22	<ul style="list-style-type: none"> — Semantic Interoperability — Mappings and Crosswalks; Versioning; — Demonstration I-MAGIC (Interactive Map-Assisted Generation of ICD Codes) 	<ul style="list-style-type: none"> — SNOWMED CT (30 Minutes) – <i>JSGS (Articulate Rise)</i> — Quiz #3- (Opens Oct 22 / closes Oct 31 at 11:59 pm): Classification and Terminology Systems Mapping

Week # (Date)	Key Topics	Online Learning Modules/Activities
CLINICAL DECISION SUPPORT		
Week 9 - 10 Lecture & Module(s) (Oct 25 – Nov 7) Zoom lecture on Oct 29	<ul style="list-style-type: none"> — Standards for Analysis of Coded Clinical Data — Clinical Decision Support Systems — NLP and Unstructured Data 	<ul style="list-style-type: none"> — Using ICD-10-CA/CCI: What Every Analyst Needs to Know (120 minutes) - <i>Course/CIHI Learning Centre</i> — Decision Support for Acute Care (90 minutes) - <i>Course/CIHI Learning Centre</i> — Introduction to Case Mix for the DAD and NACRS - <i>Course/CIHI Learning Centre</i> (60 minutes) - <i>Course/CIHI Learning Centre</i> Quiz #4 - (Opens Oct 29 / closes Nov. 7 at 11:59 pm): Clinical decision support evaluation — No accompanied lab
Reading Week (Nov 8 – Nov 14)		
Week 11 - Lecture & Module(s) (Nov 15 – Nov 21) Zoom lecture on Nov 19	<ul style="list-style-type: none"> — Casemix Methodologies — Management Information System (MIS) Standards (financial) – high-level overview of MIS standard (Analysis with MIS standards is explored more in-depth in JSGS 858) 	<ul style="list-style-type: none"> — Introduction to CMG+ (180 minutes) - <i>Course/CIHI Learning Centre</i> — Introduction to Resource Indicators (RIW and ELOS) for the DAD and NACRS (60 minutes) - <i>Course/CIHI Learning Centre</i>
Week 12 - Lab (Nov 22 – Nov 28) Zoom Lab on Nov. 26	<ul style="list-style-type: none"> — Casemix – Worked Examples 	<ul style="list-style-type: none"> — Quiz #5- (Opens Nov.19 / closes Nov 28 at 11:59 pm): CMG+; MIS; UM
IMPLEMENTATION OF CTCS		
Week 13 - Lecture & Module(s) (Nov 29 –Dec 6) Zoom lecture on Dec. 3	Group Presentations (In-Class)	

ASSIGNMENTS

5x Timed Quizzes – 25% (5% each)

These timed quizzes are used primarily to evaluate the applied technical and evaluative skills covered in the self-directed 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 are intended to be brief (approximately 20 questions each) and 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.

Group Presentation – 25%

Presentation slides due no later than 6:59 p.m. Saskatchewan (SK) time on Dec 3. In this assignment, you will work in assigned groups. Your presentation will outline key considerations for health organizations transitioning from ICD-10 to ICD-11. The presentation should not exceed 15 minutes.

Final Assignment – 50%

Due: No later than **Thursday, Dec 9 at 11:59 p.m. Saskatchewan (SK) time.**

Submission/Format: Submit your completed assignment (in Word or pdf format) via Turnitin, the UR Courses assignment submission tool, through the "Assignment Submission Portal" in the **Assignment** section. For Turnitin assistance, see the tip sheet and manual in that section.

Evaluation: Worth 50% of final grade. See rubric on UR Courses.

Details: This final assignment requires the completion of specific content. The written paper should be roughly 1,500 words (250 words/page, 6 pages 12 pt. font, double spaced), not including references. Please reference the Chicago Manual of Style's author-date system (see the JSGS Referencing Quick Guide posted to the URCourses site or access the online version available through the University of Regina library catalogue).

Provincial Enterprise Data Governance Strategy (Option A)

For this assignment, you will be given a case scenario that describes a range of data and information management challenges experienced by the provincial health authority. In the scenario, you will be tasked with leading an enterprise information governance committee and developing a comprehensive data governance program at the provincial level. You will need to identify and prioritize the best option, more immediately and longer-term, to address jurisdictional gaps in data quality and availability, among other identified issues. The data governance strategy should have a vision toward the future of health care and consider restructuring and transforming existing services and systems to leverage the benefits of interoperable, standardized data (within the province and beyond). The governance strategy should also consider the key stakeholders and ensure improvements are targeted to impact them. A detailed assignment outline is provided on UR Courses.

Rapid Review (Option B)

This assignment provides the opportunity to present a rapid review and in-depth analysis of a substantive issue relevant to clinical terminologies and classification systems that is of interest to you. Your paper should include a review of relevant academic and grey literature and an analysis of policy implications rather than simply a descriptive summary on the topic. A core reading list has been started by the instructor and is posted on UR Courses.

A rapid review is a type of knowledge synthesis in which components of the systematic review process are simplified or omitted to produce information in a short period of time (Tricco et al, 2015). The rapid review should aim to derive policy implications within the Canadian context whereby ‘policies’ may be “Big P” policies in the form of laws, rules, and regulations, and/or “small p” policies such as organizational policies and management decisions for local stakeholders, depending on the level at which students would like to focus. Students may refer to best practices for conducting and reporting rapid reviews within *Rapid Reviews to Strengthen Health Policy and Systems: A Practical Guide* available at <https://www.who.int/alliance-hpsr/resources/publications/rapid-review-guide/en/>, or review online webinar resources on how health policy researchers routinely conduct rapid reviews on the Cochrane Collaboration website at <https://training.cochrane.org/resource/rapid-reviews-strengthen-health-policy-and-systems>

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. 5x Timed Quizzes	Oct 17, 24, 31; Nov 7, 28	25%
Applied Clinical Coding Cases + Critical Thinking Questions, etc.		(5% each)
2. Group Presentation – Case Study	Dec 3	25%
a) ICD-10 to ICD-11 Transition – Key Considerations & Implications for Canadian Implementation		
3. 1,500-word Written Final Assignment (Choose 1 - A or B)	Dec 9	50%
a) Develop an Enterprise-Data Governance Strategy with an IM Focus		
b) Rapid review of Evidence on Course-related Topic		

ENROLLMENT LIMIT

Class enrollment will be limited to 35 students.