



UNSW Course Outline

HDAT9100 Context of Health Data Science - 2024

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General Course Information

Course Code : HDAT9100

Year : 2024

Term : Term 1

Teaching Period : T1

Is a multi-term course? : No

Faculty : Faculty of Medicine and Health

Academic Unit : School of Biomedical Sciences

Delivery Mode : Multimodal

Delivery Format : Standard

Delivery Location : Kensington

Campus : Sydney

Study Level : Undergraduate, Postgraduate

Units of Credit : 6

Useful Links

[Handbook Class Timetable](#)

Course Details & Outcomes

Course Description

Today, health data is measured in trillions of gigabytes and is collected by health systems (such as GPs, pharmacies, hospitals, and allied health care) as well as wearable devices. But this data is often collected for different purposes and has specific uses. What data exist in the

Australian health system, and how are they used currently?

This course introduces how data are generated and used in the Australian Health System. We look at how health outcomes can be measured and reported in various forms of health data, and how these health data can reveal inequalities in health. The course describes the major sources of health data, including those relating to primary care, hospital admissions and prescription medicines. We will look at how this and other information can be used by the health data scientist to create evidence for policy and research.

Course Aims

This course aims to:

- Provide an overview of how data are generated and used in a contemporary health system.
- Give an introduction to measuring health outcomes and disparities in health.
- Describe the major sources of health data, including those relating to primary care, hospital stays and prescription medicines.
- Illustrate how health data can be used by the health data scientist to create evidence for policy and research.
- Encourage critical thinking in how health data are recorded and what they reveal about underlying health delivery systems

Relationship to Other Courses

Assistance with progression checking:

If you are unsure how this course fits within your program, you can seek guidance on optimising your program structure from staff at the [Nucleus Student Hub](#) or by contacting Health Data Science team via MSCHDS@unsw.edu.au.

- Progression plans for UNSW Medicine and Health programs can be found on the [UNSW Medicine & Health website](#).
- Progression plans for UNSW Science programs can be found on the [UNSW Science website](#).

HDAT9100 is a core course for GCert, GDip, MSc HDS and MSC HDS (Ext) postgraduate programs.

In 2024 the course will run during Term 1 only.

Course Learning Outcomes

| Course Learning Outcomes |
|--|
| CLO1 : Analyse the structure and operation of Australian health delivery systems in a global and community context. |
| CLO2 : Analyse the role of social determinants of health from the perspective of the Australian health system |
| CLO3 : Describe major data sources which are generated and used in the Australian Health System |
| CLO4 : Demonstrate the use of major health data sources to conduct enquiries to inform research and policy questions |
| CLO5 : Apply the knowledge of the health delivery system and data sources to novel health problems. |
| CLO6 : Demonstrate the ability to communicate findings to a variety of stakeholders. |

| Course Learning Outcomes | Assessment Item |
|--|--|
| CLO1 : Analyse the structure and operation of Australian health delivery systems in a global and community context. | <ul style="list-style-type: none">• Progress Assessment 1• Progress Assessment 2• Project Assessment 3 |
| CLO2 : Analyse the role of social determinants of health from the perspective of the Australian health system | <ul style="list-style-type: none">• Project Assessment 3 |
| CLO3 : Describe major data sources which are generated and used in the Australian Health System | <ul style="list-style-type: none">• Progress Assessment 1• Progress Assessment 2 |
| CLO4 : Demonstrate the use of major health data sources to conduct enquiries to inform research and policy questions | <ul style="list-style-type: none">• Progress Assessment 1• Project Assessment 3 |
| CLO5 : Apply the knowledge of the health delivery system and data sources to novel health problems. | <ul style="list-style-type: none">• Progress Assessment 2• Project Assessment 3 |
| CLO6 : Demonstrate the ability to communicate findings to a variety of stakeholders. | <ul style="list-style-type: none">• Progress Assessment 1• Progress Assessment 2• Project Assessment 3 |

Learning and Teaching Technologies

Moodle - Learning Management System | Open Learning | Microsoft Teams

Learning and Teaching in this course

All course materials and course announcements are provided on the course learning management system.

By accessing and using the ICT resources provided by UNSW, you are agreeing to abide by the ['Acceptable Use of UNSW ICT Resources'](#) policy particularly on respect for intellectual property and copyright, legal and ethical use of ICT resources and security and privacy.

Additional Course Information

This course is delivered by academics from the Centre for Big Data Research in Health, located in the AGSM building. Dr Sanja Lujic is Director of Teaching and appointments to see her may be made via email (s.lujic@unsw.edu.au).

Assessments

Assessment Structure

| Assessment Item | Weight | Relevant Dates |
|--|--------|--|
| Progress Assessment 1 Assessment Format: Individual | 30% | Due Date: Week 3: 26 February - 03 March, Week 4: 04 March - 10 March |
| Progress Assessment 2 Assessment Format: Individual | 40% | Due Date: Week 6: 18 March - 24 March, Week 8: 01 April - 07 April |
| Project Assessment 3 Assessment Format: Individual | 30% | Due Date: Week 10: 15 April - 21 April, Week 12: 29 April - 05 May |

Assessment Details

Progress Assessment 1

Assessment Overview

This assessment addresses the theme of 'Measuring Health'. In this assessment, you will be required to submit short answers to a written task (~500 words) or complete a multiple-choice questionnaire comprising of ten questions. A standard marking rubric, covering key domains of knowledge and understanding of course content, critique and evaluation of content, and communication skills, is utilised to score the written assignments. Multiple-choice questionnaires are auto-scored based on the total number of correct answers. You will receive personalised feedback on your written submission within 10 working days. Class level feedback will be provided on multiple choice questions.

Course Learning Outcomes

- CL01 : Analyse the structure and operation of Australian health delivery systems in a global and community context.
- CL03 : Describe major data sources which are generated and used in the Australian Health System
- CL04 : Demonstrate the use of major health data sources to conduct enquiries to inform research and policy questions
- CL06 : Demonstrate the ability to communicate findings to a variety of stakeholders.

Detailed Assessment Description

Detailed information about this assessment will be provided on the course learning management system. In brief, there is one written task and one task involving answering multiple choice questions.

Submission notes

Short extension & Special consideration: This task does have a short extension option. A short extension of 2 days is available for this task. Submission of Assessment Tasks in the Other Useful Information tab of your course outline and refer to Open Learning for additional submission information.

Assessment information

Use of Generative Artificial Intelligence (AI) in the assessment is permitted for SIMPLE EDITING ASSISTANCE. This means, for this assessment task, you may use AI-based software to *research* and *prepare* prior to presenting your assessment. You are permitted to use a standard editing and referencing functions in word processing software in the creation of your submission. You must not use any functions that generate or paraphrase passages of text, whether based on your own work or not.

Please note that your submission will be passed through an AI-generated text detection tool. If your marker has concerns that your answer contains passages of AI-generated text you may be asked to explain your work. If you are unable to satisfactorily demonstrate your understanding of your submission you may be referred to UNSW Conduct & Integrity Office for investigation for academic misconduct and possible penalties.

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students can see Turnitin similarity reports.

Progress Assessment 2

Assessment Overview

This assessment addresses the theme of 'Australian Healthcare Datasets'. This theme includes evaluation of a diverse range of health datasets used in Australia, which are covered in the course. In this assessment you will be required to submit short answers to a series of questions, during the middle part of the course. Your answers will be graded against a standard marking rubric, covering key domains of knowledge and understanding of course content, critique and evaluation of content, and communication skills. You will receive personalised feedback within 10 working days of assessment submission.

Course Learning Outcomes

- CL01 : Analyse the structure and operation of Australian health delivery systems in a global and community context.
- CL03 : Describe major data sources which are generated and used in the Australian Health System
- CL05 : Apply the knowledge of the health delivery system and data sources to novel health problems.
- CL06 : Demonstrate the ability to communicate findings to a variety of stakeholders.

Detailed Assessment Description

Detailed information about this assessment will be provided on the course learning management system. In brief, there are two written task in this progress assessment, due in weeks 6 and 8.

Submission notes

Short extension & Special consideration: This task does have a short extension option. A short extension of 2 days is available for this task. Submission of Assessment Tasks in the Other Useful Information tab of your course outline and refer to Open Learning for additional submission information.

Assessment information

Use of Generative Artificial Intelligence (AI) in the assessment is permitted for SIMPLE EDITING ASSISTANCE. This means, for this assessment task, you may use AI-based software to *research* and *prepare* prior to presenting your assessment. You are permitted to use a standard editing and referencing functions in word processing software in the creation of your submission. You must not use any functions that generate or paraphrase passages of text, whether based on your own work or not.

Please note that your submission will be passed through an AI-generated text detection tool. If

your marker has concerns that your answer contains passages of AI-generated text you may be asked to explain your work. If you are unable to satisfactorily demonstrate your understanding of your submission you may be referred to UNSW Conduct & Integrity Office for investigation for academic misconduct and possible penalties.

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students can see Turnitin similarity reports.

Project Assessment 3

Assessment Overview

In this assessment, due at the end of the term, you will be provided with a health research question relating to the theme of 'Using Health Data to Inform Health Policy and Research'. You will be required to examine multiple health data sources to address the research question and present your findings in a short report format. You will be provided with written feedback on your written submission, marked against a rubric.

Course Learning Outcomes

- CL01 : Analyse the structure and operation of Australian health delivery systems in a global and community context.
- CL02 : Analyse the role of social determinants of health from the perspective of the Australian health system
- CL04 : Demonstrate the use of major health data sources to conduct enquiries to inform research and policy questions
- CL05 : Apply the knowledge of the health delivery system and data sources to novel health problems.
- CL06 : Demonstrate the ability to communicate findings to a variety of stakeholders.

Detailed Assessment Description

Detailed information about this assessment will be provided on the course learning management system. In brief, there is one written task and one task involving answering multiple choice questions.

Submission notes

Short extension & Special consideration: This task does have a short extension option. A short extension of 2 days is available for this task. Submission of Assessment Tasks in the Other Useful Information tab of your course outline and refer to Open Learning for additional submission information.

Assessment information

Use of Generative Artificial Intelligence (AI) in the assessment is permitted for SIMPLE EDITING ASSISTANCE. This means, for this assessment task, you may use AI-based software to *research* and *prepare* prior to presenting your assessment. You are permitted to use a standard editing and referencing functions in word processing software in the creation of your submission. You must not use any functions that generate or paraphrase passages of text, whether based on your own work or not.

Please note that your submission will be passed through an AI-generated text detection tool. If your marker has concerns that your answer contains passages of AI-generated text you may be asked to explain your work. If you are unable to satisfactorily demonstrate your understanding of your submission you may be referred to UNSW Conduct & Integrity Office for investigation for academic misconduct and possible penalties.

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students can see Turnitin similarity reports.

General Assessment Information

Detailed instructions regarding assessments for this course are provided on the course learning management system.

For student information on results, grades, and guides to assessment see: <https://student.unsw.edu.au/assessment>

Grading Basis

Standard

Requirements to pass course

In order to pass this course students must:

- Achieve a composite grade of at least 50 out of 100
- Meet any additional requirements specified in the assessment details section and on the course learning management system

Course Schedule

| Teaching Week/Module | Activity Type | Content |
|------------------------------------|---------------|--|
| Week 1 : 12 February - 18 February | Workshop | Australian health care system |
| Week 2 : 19 February - 25 February | Workshop | Health outcomes, measurement, value |
| Week 3 : 26 February - 3 March | Workshop | Statutory data, registries, surveys |
| Week 4 : 4 March - 10 March | Workshop | Primary health system and MBS data |
| Week 5 : 11 March - 17 March | Workshop | Medicines data |
| Week 6 : 18 March - 24 March | Other | Study week - no workshop |
| Week 7 : 25 March - 31 March | Workshop | Hospital Data and Admitted Patient Data Collection |
| Week 8 : 1 April - 7 April | Workshop | Evidence-based medicine and hierarchy of evidence |
| Week 9 : 8 April - 14 April | Workshop | Practical examples of health data wrangling |
| Week 10 : 15 April - 21 April | Workshop | Data and health inequalities |

Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

General Schedule Information

The times and locations of classes can be found on [myUNSW](#) under Class Timetable.

The expected engagement for all UNSW 6UOC courses is 150 hours per term. This includes lectures, tutorials, readings, and completion of assessments.

Course Resources

Prescribed Resources

There are no textbooks for this course. All the lecture and reading materials are included on the course learning management system.

Recommended Resources

Recommended resources for this course are provided on the course learning management system.

Additional Costs

There are no additional costs associated with this course.

Course Evaluation and Development

Student feedback is taken seriously, and continual improvements are made to the course based,

in part, on such feedback.

We use student feedback from myExperience surveys to develop and make improvements to the course each year. We do this by identifying areas of the course that require development from both the rating responses and written comments. Please spare a few minutes to complete the myExperience surveys for this course posted at the top of the Moodle page at the end of term.

Staff Details

| Position | Name | Email | Location | Phone | Availability | Equitable Learning Services Contact | Primary Contact |
|----------------------|-------------|-------|--------------|-------|----------------------------------|-------------------------------------|-----------------|
| Director of teaching | Sanja Lujic | | AGSM Level 2 | | By appointment, email to arrange | Yes | Yes |

Other Useful Information

Academic Information

As a student of UNSW Medicine & Health you are expected to familiarise yourself with the contents of this course outline and the UNSW Student Code and policies and procedures related to your studies.

Student Code of Conduct

Throughout your time studying at UNSW Medicine & Health, you share a responsibility with us for maintaining a safe, harmonious and tolerant University environment. This includes within the courses you undertake during your degree and your interactions with the UNSW community, both on campus and online.

The [UNSW Student Code of Conduct](#) website provides a framework for the standard of conduct expected of UNSW students with respect to both academic integrity and your responsibility as a UNSW citizen.

Where the University believes a student may have breached the code, the University may take disciplinary action in accordance with the [Student Misconduct Procedure](#).

The [Student Conduct and Integrity Office](#) provides further resources to assist you to understand your conduct obligations as a student at UNSW.

Academic Honesty and Plagiarism

Academic integrity

UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW staff and students have a responsibility to adhere to the principle of academic integrity, and ethical scholarship of learning is fundamental to your success at UNSW Medicine & Health.

Plagiarism, contract cheating, and inappropriate use of generative AI undermine academic integrity and are not tolerated at UNSW. For more information see the [Academic Integrity and Plagiarism toolkit](#).

In addition to the information you are required to review in your [ELISE training](#), UNSW Medicine & Health strongly recommends that you complete the [Working with Academic Integrity](#) module before submitting your first assessment task.

Referencing

Referencing is a way of acknowledging the sources of information that you use to research your assignments. Preferred referencing styles vary among UNSW Medicine & Health disciplines, so check your course Learning Management System (e.g. Moodle or Open Learning) page for information on preferred referencing styles.

For further information on referencing support and styles, see the Current Student [Referencing page](#).

Academic misconduct and plagiarism

At UNSW, academic misconduct is managed in accordance with the [Student Misconduct Procedure](#). Allegations of plagiarism are generally handled according to the [UNSW Plagiarism Management Procedure](#). Plagiarism is defined in the [UNSW Plagiarism Policy](#) and is not tolerated at UNSW.

Use of Generative AI and other tools in your assessment

UNSW has provided guiding statements for the [use of Generative AI in assessments](#). This will differ, depending on the individual assessment task, your course requirements, and the course

stage within your program.

Your course convenor will outline if and how you can use Generative AI in each your assessment tasks. Options for the use of generative AI include: (1) no assistance; (2) simple editing assistance; (3) planning assistance; and (4) full assistance with attribution.

You may be required to submit the original generative AI responses, or drafts of your original work. Inappropriate use of generative AI is considered academic misconduct.

See your course Moodle (or Open Learning) page for the full instructions for individual assessment tasks for your course.

Submission of Assessment Tasks

Short extensions and special consideration

Short extension

Commencing in Term 1, 2024, UNSW has introduced a short extension procedure for submission of assessment tasks. Not all tasks are eligible, and eligible tasks have a predetermined extension length. UNSW Medicine and Health have set School-level extension lengths for eligible assessment tasks. See your course assessment descriptions for more information.

Students must check the availability of a short extension in the individual assessment task information for their courses.

Short extensions do not require supporting documentation. They must be submitted before the assessment task deadline. No late applications will be accepted.

Late penalties apply to submission of assessment tasks without approved extension.

Special consideration

In cases where short term events beyond your control affect your performance in a specific assessment task you may formally apply for [Special Consideration](#) through myUNSW.

UNSW has a **Fit to Sit rule**, which means that by sitting an examination on the scheduled date, you are declaring that you are fit to do so and cannot later apply for Special Consideration. Examinations include centrally timetabled examinations and scheduled, timed examinations and tests managed by your School.

Important information relating to Short Extension and Special Consideration is available [here](#), including eligibility for Special Consideration, circumstances where students with Equitable Learning Plans can apply for Short Extensions and Special Consideration, and the appeals process.

Examinations

Information about the conduct of examinations in your course is provided on your course Moodle page.

Timed online assessment tasks

If you experience a technical or connection problem during a timed online assessment, such as a timed quiz, you can apply for Special Consideration. To be eligible to apply you need to contact the Course Convenor and advise them of the issue immediately. You will need to submit an application for Special Consideration immediately, and upload screenshots, error messages or other evidence of the technical issue as supporting documentation. Additional information can be found on: <https://student.unsw.edu.au/special-consideration>

Other assessment tasks

Late submission of assessment tasks

UNSW has standard late submission penalties as outlined in the [UNSW Assessment Implementation Procedure](#), with no permitted variation. All late assignments (unless extension or exemption previously agreed) will be penalised by 5% of the maximum mark per calendar day (including Saturday, Sunday and public holidays).

Late submissions penalties are capped at five calendar days (120 hours). This means that a student is not permitted to submit an assessment more than 5 calendar days (120 hours) after the due date for that assessment (unless extension or exemption previously agreed).

Failure to complete an assessment task

You are expected to complete all assessment tasks for your courses. In some courses, there will be a minimum pass mark required on a specific assessment task (a “hurdle task”) due to the need to assure clinical competency.

Where a hurdle task is applicable, additional information is provided in the assessment

information on your course Moodle page.

Feedback on assessments

Feedback on your performance in assessment tasks will be provided to you in a timely manner. For assessment tasks completed within the teaching period of a course, other than a final assessment, feedback will be provided within 10 working days of submission, under normal circumstances.

Feedback on continuous assessment tasks (e.g. laboratory and studio-based, workplace-based, weekly quizzes) will be provided prior to the midpoint of the course.

Any variation from the above information that is specific to an assessment task will be clearly indicated in the course and assessment information provided to you on your course Moodle (or Open Learning) page.

Faculty-specific Information

Additional support for students

The university offers a wide range of support services that are available for students. Here are some links for you to explore.

- The Current Students Gateway: <https://student.unsw.edu.au>
- Academic Skills and Support: <https://student.unsw.edu.au/academic-skills>
- Student support: <https://www.student.unsw.edu.au/support>
- Student Wellbeing, Health and Safety: <https://student.unsw.edu.au/wellbeing>

Mind Smart Guides are a series of mental health self-help resources designed to give you the psychological flexibility, resilience and self-management skills you need to thrive at university and at work.

- Mind Smart Guides: <https://student.unsw.edu.au/mindsmart>
- Equitable Learning Services: <https://student.unsw.edu.au/els>

- Guide to studying online: <https://www.student.unsw.edu.au/online-study>

Most courses in UNSW Medicine & Health use Moodle as your Learning Management System. Guidance for using UNSW Moodle can be found on the Current Student page. Difficulties with Moodle should be logged with the IT Service Centre.

- Moodle Support: <https://student.unsw.edu.au/moodle-support>

The IT Service Desk is your central point of contact for assistance and support with remote and on-campus study.

- UNSW IT Service Centre: <https://www.myit.unsw.edu.au/services/students>

Course evaluation and development

At UNSW Medicine & Health, students take an active role in designing their courses and their overall student experience. We regularly seek feedback from students, and continuous improvements are made based on your input. Towards the end of the term, you will be asked to participate in the [myExperience survey](#), which serves as a source of evaluative feedback from students. Your input to this quality enhancement process is valuable in helping us meet your learning needs and deliver an effective and enriching learning experience. Student responses are carefully considered, and the action taken to enhance educational quality is documented in the myFeedback Matters section of your Moodle (or Open Learning) course page.

School-specific Information

Laboratory or practical class safety.

For courses where there is a laboratory or practical-based component, students are required to wear the specified personal protective equipment (e.g., laboratory coat, covered shoes, safety glasses) indicated in the associated student risk assessments. The student risk assessments will be provided on the course Moodle page and must be read and acknowledged prior to the class.

Master of Science in Health Data Science courses

Courses in the Master of Science in Health Data Science are hosted through [Open Learning](#).

Additional resources are available on the [Health Data Science Student Hub](#).

School Contact Information

School guidelines on contacting staff:

Course questions

All questions related to course content should be posted on Moodle (or Open Learning) or as directed by your Course Convenor.

In cases where email communication with course convenors is necessary, we kindly request the following:

- Use your official email address for any correspondence with teaching staff.
- We expect a high standard of communication. All communication should avoid using short-hand or texting language.
- Include your full name, student ID, and your course code and name in all communication.

Our course convenors are expected to respond to emails during standard working hours of Monday to Friday, 9am-5pm.

Administrative questions

If you have an administrative question about your program of study at the School please submit your enquiry online at [UNSW Ask Us](#).

Complaints and appeals

Student complaints and appeals: <https://student.unsw.edu.au/complaints>

If you have any grievances about your studies, we invite you to address these initially to the Course Convenor. If the response does not meet your expectations, you may then contact the School Grievance Officer, Prof Nick Di Girolamo (n.digirolamo@unsw.edu.au).

For MSc. HDS students: School Grievance Officer, Dr Sanja Lujic (s.lujic@unsw.edu.au), Centre for Big Data Research in Health