Aotahi: School of Māori and Indigenous Studies

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

MAOR172/SCIM101

Science, Māori and Indigenous Knowledge

Course Outline
Ngā Whakamārama

MAOR172/SCIM101 – 23(S2)

Aotahi.

Science, Māori and Indigenous Knowledge

Course overview | Whakamahuki

This is an integrated multi-disciplinary course between Aotahi: School of Māori and Indigenous Studies and the College of Science. This course provides a basic understanding of Māori and indigenous peoples' knowledge in such fields as astronomy, physics, conservation biology, aquaculture, resource management and health sciences. The course provides unique perspectives in indigenous knowledge, western science and their overlap. The course will provide an essential background in cultural awareness and its relationship with today's New Zealand scientific community.

Course details and requirements | Ngā herenga

Classes | Akoranga

There are two lectures every week. The lecture times are as follows:

Monday	1:00 - 2:00pm	Rehua 009
Friday	1:00 - 2:00pm	E7 Lecture theatre

Weekly tutorials begin in week 2.
In these classes you will develop your knowledge around the core components of the course through discussion. The timetable may shift for this

Tuesday	1:00 - 2:00pm	Meremere 526
Tuesday	3:00 - 4:00pm	Rehua 329
Wednesday	11:00 - 12:00pm	Jack Erskine 235

Field trip | Noho marae

A three-day field trip to Kaikōura has been arranged for the course, leaving around lunchtime on 4th September and returning 6 September. Accommodation will be at Takahanga Marae. The programme will cover aspects of marine biology and kaitiakitanga of the environment. Attendance on the field trip is encouraged but is not compulsory.

Study | Ako takitahi

You may expect to spend up to 12 hours per week on this course. These hours include course contact through classes and independent study. This might include preparing for classes, reviewing lecture notes, reading and working on other assessment activities.

Lectures should be considered as the start rather than the end point of your learning. Key readings for each block of lectures will be indicated on LEARN. There is no textbook for this course.

Aotahi.

LEARN |AKO (Online content)
LEARN is the University of Canterbury online learning environment.
http://learn.canterbury.ac.nz

MAOR172/SCIM101 uses the LEARN website to distribute all course materials, such as lecture notes and weekly readings.

As they become available, LEARN will give you access to:

- Course Information
- Lecture recordings and slides
- Links to readings and supplementary material
- Details of assessment tasks, submission portals and your gradebook
- Important notices
- Course-related forums page

Teaching team | Kāhui ako

During this course, you will encounter a wide range of teaching staff from the College of Science and Aotahi - School of Māori & Indigenous Studies. Contact details for key staff will be provided on LEARN.

Course Coordinators | Kairuruku Akoranga	John Pirker Office: Room 236 School of Biological Science Phone: 36995201, ext 95201. john.pirker@canterbury.ac.nz Hamuera Kahi Office: Te Ao Marama 159 Phone: 3692239, ext 92239. email: hamuera.kahi@canterbury.ac.nz
Tutor | Kaiako	Lucas Larraman Role: Tutor lla72@uclive.ac.nz
Class Rep	Elected, nominated or drafted in the first lecture.

Learning outcomes | Hua ako

The course aims to examine Māori and indigenous knowledge from the perspective of their cultures, as well as their relationship and relevance to modern science.

We do this through a number of topics, including:

1. Understanding indigenous knowledge
    1. Relationship between science and knowledge from western, Māori and indigenous perspectives
    2. Mātauranga Māori (Māori knowledge)
    3. Creation traditions, mythologies and genealogy
    4. Traditional technologies and science
    5. Local knowledge and practices
    6. Traditional environmental (or ecological) knowledge

    Related graduate attributes: GP1, GP2 (K1-7), GP4, GP5

2. Resource management and partnership - Kaitiakitanga
    1. Mahinga Kai - resources/food gathering areas
    2. Principles of the Treaty of Waitangi, and the Resource Management Act
    3. Marine Management Tools - Taiāpure, Mātaitai and Rāhui
    4. Co-management
    5. Mana whenua partnership

    Related graduate attributes: GP1, GP2 (K1-7), GP4, GP5

3. Multidisciplinary - Interactions between Māori and Indigenous communities and science
    1. Earth Science
    2. Indigenous peoples, land and heritage sites
    3. Freshwater issues
    4. The Moa: what was the cause of its demise?
    5. Tātai Ārorangi: Astronomy
    6. Bioethics and cultural issues
    7. Issues concerning Māori health

    Related graduate attributes: GP1, GP2, GP3(K1-7), GP4, GP5

Graduate Profile | Āhuatanga Taura

This course will provide students with an opportunity to develop these UC Graduate Attributes (GP) and Kaupapa (K):

- GP1 Critically competent in a core academic discipline.
- GP2 Employable, innovative and enterprising.
- GP3 Bi-culturally competent and confident:
    - K1 A process of self-reflection on the nature of ‘knowledge’ and ‘norms’

- K2 The nature of contemporary Māori organisational structures e.g. rūnanga, hapū, iwi, iwi corporations
- K3 Traditional and contemporary realities of Māori society e.g. tikanga and kawa, te reo Māori
- K4 The Treaty of Waitangi and Aotearoa New Zealand's Bicultural history
- K5 The process of colonisation and globalisation
- K6 Other Indigenous models of development, knowledge and behaviours
- K7 Application of bicultural competence and confidence in a chosen discipline and career.

- GP4 Engagement with community.
- GP5 Globally aware.

Transferable skills | Pūkenga ngaio

- Gain a basic understanding in Māori and indigenous people's knowledge in astronomy, physics, conservation biology, resource management and health sciences.
  Related graduate attributes: GP1, GP2, GP3 (K1-7), GP5
- Gain an understanding of protocols that exist between today's scientific communities, Māori and other indigenous peoples.
  Related graduate attributes: GP1, GP2, GP3 (K1-7), GP4, GP5
- Provide you with a unique perspective both in indigenous knowledge, western science and their overlap.
  Related graduate attributes: GP1, GP2, GP3 (K1-7), GP4, GP5
- Provide graduates with an essential background in cultural awareness, increased cultural confidence and its relationship with today's New Zealand scientific community.
  Related graduate attributes: GP1, GP2, GP3 (K1-7), GP4, GP5

Lecture schedule | Hotaka

Theme	Week 1
INTRODUCTION	L1: Introduction to the course
	L2: What is Indigenous Knowledge? What is Science?
No tutorials this week	

Theme	Week 2
MĀTAURANGA MĀORI	L3: Epistemology and Māori knowledge
	L4: The dynamics of Māori knowledge: Maramataka and Matariki
Tutorials begin this week Readings • Battiste, Marie. "Indigenous knowledge: Foundations for first nations." *WINHEC: International*	

Journal of Indigenous Education Scholarship 1 (2005): 1-17.

- Hikuroa, Daniel. "Mātauranga Māori—the ūkaipō of knowledge in New Zealand." *Journal of the Royal Society of New Zealand* 47.1 (2017): 5-10.

Theme	Week 3
MĀTAURANGA MĀORI	L5: The dynamics of Māori knowledge: Maramataka and Matariki
	L6: Tangata Whenua and relationships through land

Readings

- Roberts, Roma Mere, and Peter R. Wills. *Understanding Maori epistemology: A scientific perspective*. Routledge, 2019.
- 'Te Tuakiri, Te Whenua: Identity and Land', in Mead, Hirini Moko.*Tikanga Maori (revised edition): Living by Maori values*. Huia publishers, 2016.

Theme	Week 4
KAITIAKITANGA	L7: Establishing Kaitiakitanga through the Treaty of Waitangi
	L8: Establishing Kaitiakitanga through the RMA and Iwi led solutions

Readings

Kawharu, Merata. "Kaitiakitanga: a Maori anthropological perspective of the Maori socio-environmental ethic of resource management." *The Journal of the Polynesian Society* 109.4 (2000): 349-370.

Theme	Week 5
KAITIAKITANGA	L9: Co-management case studies
	L10: Co-management case studies

Readings

- Garnett, Stephen T., et al. "A spatial overview of the global importance of Indigenous lands for conservation." *Nature Sustainability* 1.7 (2018): 369-374.
- Wehi, Priscilla M., Hēmi Whaanga, and Tom Roa. "Missing in translation: Maori language and oral tradition in scientific analyses of traditional ecological knowledge (TEK)." (2009): 201-204.

Theme	Week 6
TEST and NOHO MARAE	L11: Online test
	L12: Field trip prep lecture

No tutorials this week

Readings

- Material provided by Takahanga Marae.

MID-SEMESTER BREAK - 28 August to 10 September
FIELD TRIP Takahanga marae, Kaikōura – 4 to 6 September

Theme	Week 7
MULTIDISCPLINARY: Ngāi Tahu	L13: Marine resource management and CPAs
	L14: Geonomic research and taonga species

Assessment: Forum

Readings

- Collier-Robinson, Levi, et al. "Embedding indigenous principles in genomic research of culturally significant species: a conservation genomics case study." (2019).

Theme	Week 8
MULTIDISCPLINARY: Geography	L15: Human Settlement of Oceania: Animal Navigation
	L16: Busting historical and scientific myths about Māori and Pasifika cultures and environments using palaeoecology, the science of past ecosystems

Tutorials will review lecture materials

Theme	Week 9
MULTIDISCPLINARY: Geology	L17: Pounamu - Cultural significance for Ngāti Waewae
	L18: Pounamu - The Geology of Pounamu

Tutorials will review lecture materials

Theme	Week 10
MULTIDISCPLINARY: Biology	L19: Māori science, mahinga kai and freshwater
	L20: Māori and megafauna

Tutorials will review lecture materials

Theme	Week 11
MULTIDISCPLINARY: Health	L21: Māori and Indigenous health: Otitis Media
	L22: Māori health and nutrition

Assessment: Essay

Tutorials will review lecture materials

- McKerchar, Christina, et al. "Enhancing Māori food security using traditional kai." *Global health promotion* 22.3 (2015): 15-24.

Theme	Week 12
MULTIDISCPLINARY:	L23: Tātai arorangi – astronomy
Physics	L24: Conclusions and exam information
Tutorials will review lecture materials	

Assessments | Aromatawai

This course will be assessed through the following assessments:

Assessment	Due Date	Percentage
Online test	Monday 21 August	25%
Forum	Due: Friday 15 September	10%
Essay	Due: 5pm Friday 13 October	25%
Exam	TBC, during exam period	40%

1. Online Test (25% of final grade)
Date: Monday 21 August

How to complete: A 90 minute online test is scheduled for Week 6 of the course. The test questions are drawn from lecture content and reading material covered up to the test date. The in-class test gives you the opportunity to consolidate what you have learnt. More instructions will be given during week 4 and 5 of the course, through the lecture and tutorials

Format: The In-class test will cover material from Term Three. The test will consist of multi-choice, short answer and long answer sections. Formal referencing is not required for the essay questions but you must still acknowledge your sources (e.g. "Cajete states that..." or, "The Tūwharetoa Māori Trust Board showed that…".

You will be assessed on:

- Your understanding of course materials from Term 3;
- The extent to which your answers demonstrates understanding of the relevant readings, lectures and tutorials.

2. Forum (10% of final grade)
Due: Friday 15 September.
Word Count: 600-800 words

The forum assignment asks students to reflect on some of the themes, concepts and guest speakers from the field trip. For those students that cannot attend the field trip, a separate forum question will also be posted.

How to complete: The forum questions and submissions will be made available on Learn. The assignment needs to be completed by the end of Friday 17 September. More instructions will be given in the Thursday 26 August lecture (week 6).

3. Essay (25% of final grade)
Due: Friday 15 Oct, 11.59pm.
Word Count: 1500 words

How to complete: There are two essay topics that will be distributed in lectures and made available on Learn during week 4 of the course. A submission portal will be on Learn.

To complete the essay you will need to:

- Read and review articles on Learn have been supplied;
- Research to find further appropriate available materials such as the library or online databases;
- Select **ONE** question to respond to;
- Draft your **1,500 word** essay. Your essay should follow formal writing conventions and have a structure:
    - An introduction;
    - An engagement with the question
    - A review, and possibly a critique, of the literature;
    - A conclusion;
    - A bibliography.
- Correct referencing in the APA style is preferable**. 4-5 references should be considered the minimum.**

Format: Your essay is to be word-processed, 1.5 or double spaced, in a clear and readable font. Each page must be numbered and named with your name and student ID on each page.
Essays may go through Turnitin.

Marking criteria: You will be assessed on:

- Your understanding of the kaupapa;
- The clarity of your argument and writing.
- The depth of your analysis;
- Evidence of research

4. Exam (40% of final grade)
Date: TBC.

How to complete: The Final Examination is a three-hour, closed book examination held during the Semester 2 examination period. The date, time and venue should be announced to you on your student Timetable.

Format: the exam will involve a multi-choice section and answering 2 essay questions on a range of topics engaged with during the course.
You will be assessed on:

- Your understanding of course materials from Terms 3 and 4;
- The extent to which your answers demonstrates understanding of the relevant readings, lectures and tutorials;
- The depth of analysis and insight informing your views; and
- The clarity of your argument and analysis.

Assignment information | Mana wānanga

Extensions and Late Penalties | Tōmuringa
Extensions for assignments and tests are by negotiation with the lecturers or tutor.

Unexplained late work will be penalised by a 2.5% deduction per weekday. Late assignments will not be accepted after assignments have been graded and returned. The purpose of this policy is to ensure that those students who hand their work in on time are not disadvantaged.

Special Consideration | Ngā pairuri motuhake
Special consideration is a university system for dealing with circumstances that prevent you from completing assessed work, or that impede you from performing at your best. Schools do not administer this system. Forms are available online. Applications must be made no later than seven days after the due date of the assessment.

Reconsiderations | Te pīra taumata
Students seeking reconsideration of a grade should first discuss this with their tutor or lecturer. If the outcome is unsatisfactory, you may then take the matter up with the lecturer. If this does not help, you may go to the Head of School. You may have a support person at each meeting.

Plagiarism | Ngā tinihanga
Plagiarism is the dishonest passing off of another person's work as your own. This is a serious scholarly breach. The University's policy is explicitly outlined and is available through the University Website at: https://www.canterbury.ac.nz/media/documents/academic-skills-centre/Plagiarism.pdf

UC assessment rules apply to each of the tests. Cheating in tests is considered an extremely serious offence which may lead to expulsion from the University. You must not look at others' answers, and must not talk or communicate in any way with other students since this may lead to suspicion of copying.

Please, keep an e-copy/duplicate of your essay!

Support services| Tautoko tangata

Subject librarians | Kaitiaki Kaupapa - Kaitakawaenga
Need help with assignments? Subject Librarians are here to help, especially with finding quality sources of information and referencing them. Ask for your Subject Librarian at the info desk or book an appointment online. There are three libraries at UC available to you. The Library also runs helpful workshops throughout the year, has a handy online chat service called AskLive and a range of other useful services. https://www.canterbury.ac.nz/library/

Academic Skills Centre | Pokapū Pūkenga Ako
The UC Academic Skills Centre is free to all UC students, including their online resources, short courses and individual (50-minute) or drop-in (5-minute) appointments:
http://www.lps.canterbury.ac.nz/lsc/

Students with Disabilities | Te Whaikaha
Students with disabilities should speak with someone at Disability Resource Service. Their office is room 214, Level 2, Puaka-James Hight Building, phone: +64 3 369 3334 or ext. 93334; email: disabilities@canterbury.ac.nz

Student Care | Ratonga Atawhai Ākonga
Falling behind in your studies? Having problems with your landlord? Feeling like it's all a bit of a struggle? Student Care Advisors are your support team. Their service is free to access and available to all students at UC, including off campus (distance) students.
They can talk with you about your situation, help you to figure out your options, and work out the best way forward. Visit http://www.canterbury.ac.nz/support/needtotalk/ for further information and contact details.