



TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI



**VICTORIA**  
UNIVERSITY OF WELLINGTON

**Te Kawa a Māui**

Faculty of Humanities and Social Sciences

# MAOR 124

## Te Pūtaiao Māori Māori Science

Course Reference Number (CRN): 3058

Course Value: 20 points

Trimester 2 2013



Tēnā koutou e ngā tauira e whai ake nei i te mātauranga a ō tātou tūpuna. Ko tēnei te mihi nui ki a rātou mā, ki a koutou katoa hoki. Koinei ngā kōrero whakamārama mō tēnei karaihe, te pūtaiao o te Māori, i te wāhanga tuatahi o te tau 2013.

***E tipu, e rea mō nga rā o tōu ao***

**1 NGĀ RĀ O TE MAHI ME NGĀ RĀ TUKU  
Important Dates**

|                                      |   |
|--------------------------------------|---|
| <b>Trimester dates</b>               | 15 July to 17 November  |
| <b>Teaching dates</b>                | 15 July to 18 October   |
| <b>Mid-trimester break</b>           | 26 August to 8 September  |
| <b>Study period</b>                  | 21 – 25 October   |
| <b>Examination/assessment period</b> | 25 October to 16 November   |
|                                      | Students who enrol in courses with examinations must be able to attend an examination at the University at any time during the scheduled examination period.  |
| <b>Withdrawal dates</b>              | Refer to <a href="http://www.victoria.ac.nz/home/admisenrol/payments/withdrawalsrefunds">www.victoria.ac.nz/home/admisenrol/payments/withdrawalsrefunds</a>   |
| <b>Aegrotats</b>                     | The provisions for aegrotat passes apply to assessment that falls within the last three weeks of teaching or the final examination period. During this period, if you cannot complete an assignment or sit a test or examination, and if it is not possible to make alternative arrangements for assessment with the course coordinator, refer to the link for Aegrotats under 'Other Important Information' in section 13 below. |

**2 KO NGĀ WHAKAHAERE  
Course Administration**

|   |   |
|---|---|
| <b>Ko te Pūkenga<br/>Course Coordinator</b> | Dr Ocean Mercier<br>Room 207, 50 Kelburn Parade<br>Telephone 463 7457<br>Email <a href="mailto:ocean.mercier@vuw.ac.nz">ocean.mercier@vuw.ac.nz</a>   |
| <b>Lectures</b>                             | Monday, Thursday, Friday, 3:10-4:00pm<br>in MYLT101 (Murphy Building)   |
| <b>Office Hours</b>                         | Monday, Friday, 2:00-3:00pm   |
| <b>Class Representative</b>                 | The MAOR 124 class representative is a channel through which VUWSA can liaise with the Course Coordinator on behalf of students. The class representative will be elected in Week 1. That person's name |

and contact details will be given to VUWSA, the Course Coordinator and the class, through Blackboard.

Notices and additional course information will be posted on the MAOR 124 Blackboard site.

### **3 KO NGĀ WHĀINGA ME NGĀ HUA Course Prescription and Learning Outcomes**

#### **3.1 Course Prescription**

This course examines tikanga and mātauranga Māori (Māori knowledge and science) in both traditional and contemporary contexts. It examines the differences and similarities between Western and Māori ways of knowing. Fortnightly two-hour laboratories / field trips / tutorials allow students to engage with Māori science in practical ways.

#### **3.2 Course Learning Outcomes**

Students who pass the course should be able to:

- 1 recall and discuss examples of scientific methodology used by Māori and Indigenous peoples in their traditional knowledge
- 2 differentiate between Māori and 'Western' ideologies and philosophies related to science
- 3 understand how different knowledge systems and worldviews influence the management of the natural world, and be able to critically evaluate the influence of the Western scientific worldview on policies, procedures and legislation and their impact on Māori development
- 4 recall and describe recent case studies of Māori people engaged in and with science, and from this be able to critically examine which strategies best promote Māori leadership in science
- 5 understand and describe Māori views and key Māori concepts on environmental management, and be able to apply these concepts to the identifying of Māori positions on contentious issues in science, such as xenotransplantation
- 6 learn skills in GPS, Google Earth and mapping techniques in order to understand how a 'Western' technology can interface with mātauranga Māori in the practical context of mapping middens, and
- 7 write critically to address a range of Māori issues arising from discourse at the 'interface' of science and mātauranga Māori.

### **4 KO NGĀ KAUPAPA MATUA Course Content**

This course examines the involvement and engagement of Māori in scientific endeavours, historically, in the present day, and in the future. It seeks to give students an understanding of the philosophical differences between Western and Indigenous knowledge and science. From this, students will become better equipped to debate contemporary issues, particularly regarding new technologies, at this cultural interface.

The main themes of the course are:

- What is Science?
- What is Māori Science?
- Traditional Māori Knowledge / Mātauranga Māori
- Māori positions on contentious issues and new technologies
- Māori engagement with science: past, present and future.

## **5 KO NGĀ PUKAPUKA Set Texts**

### **5.1 Required Text**

Students are required to purchase the Course Reader, *MAOR 124 Te Pūtaiao Māori / Māori Science*, from vicbooks for a cost of about \$21.50. You should purchase these early in order to get a head start on your readings.

### **5.2 Recommended Dictionary**

Thompson, Della (ed), 1995. *The Concise Oxford Dictionary of Current English*. Oxford: Clarendon Press. Also available Internet: <http://dictionary.oed.com/>

### **5.3 Academic Writing Guide**

Students will be required to make their written work conform to the standards for referencing set out in *Te Ara Poutama* – the new Te Kawa a Māui writing guide. You can download a copy of this guide from the MAOR 124 Blackboard site.

### **5.4 Blackboard**

Students will be expected to keep a thorough record of all lecture notes. However, notices and class material, including lecture outlines, will be posted on Blackboard.

## **6 KO NGĀ MAHI Course Work**

### **6.1 Lectures**

MAOR 124 is a half-year, second trimester course, and lectures are three times a week for a total of 36 hours. You should attend a minimum 30 of 36 lecture hours to keep up with the ideas we cover in lectures. An attendance roll will be taken during each lecture.

**It is highly important that the students attend lectures, especially when guest lecturers are scheduled to speak.**

### **6.2 Field Trips**

In addition to lectures, students will attend one workshop and three field trips. Activities to supplement classroom learning will be planned for each workshop /

field trip (see 'Course Programme'). Students will work on assignments during each session. The 1-hour on-campus field trip (Week 2) and 1-hour Google Earth workshop (Week 6) will be offered at 4 different times during the week: Monday 4-5pm, Wednesday 3-4pm, Thursday 4-5pm and Friday 2-3pm. Students will sign up in Week 1 for their preferred time, with no more than 15 students per session. The Google Earth workshop takes place in MY 221. The meeting place for the on-campus field trip is Ngā Mokopuna (the Wharekai at Te Herenga Waka Marae, 46 Kelburn Parade).

At 7-9pm on Tuesday 6 August, the whole class will go on a field trip to the Carter Observatory, Botanical Gardens, signposted from the top of the Cable Car. The cost of this field trip is \$10. Please pay your fee to Jeremy Porima in the Māori Studies Office at 50 Kelburn Parade. You should arrive by 6:50pm to ensure a timely start of the planetarium show. Weather allowing, we will also observe the skies through the telescope.

On Saturday 14 September, the class will go on a field trip to gather data for the cultural atlas exercise. We will leave campus at 8:30am and be back by 3:00pm. There is no cost for this trip, but you will be expected to bring your own lunch. You will also need to wear warm clothing and sturdy shoes, bring water, a hat and raincoat, and sunscreen. More details will be distributed in class and posted on Blackboard.

### **6.3 Course Workload**

MAOR 124 is worth 20 points, which equates to 200 hours of work across the whole course. Assuming 20 hours dedicated to preparing for and sitting the final examination, students should allow fifteen (15) hours per week, inclusive of lecture and workshop / field trip time, during the trimester for this course.

## **7 KO NGĀ TATAURANGA Course Assessment**

### **7.1 Submission and Return of Course Work**

All work for this course MUST be posted in the Assignment Box, Māori Studies Office, 50 Kelburn Parade, where they will be registered. Please DO NOT hand work to the Course Coordinator or leave assignments under the Coordinator's door. Always keep a copy of your work. As soon as work is marked a notice will be posted on Blackboard and you will be able to collect these from the Māori Studies Office at 50 Kelburn Parade. Marked assignments will also be brought to the lecture for students to pick up. It is important that you collect your work as lecturer feedback on your assignment is key to your learning.

### **7.2 Assessment**

Coursework will account for 60% of the total assessment for this course. The other 40% will be a final examination at the end of the course.

### 7.3 Internal Course Work

60%

| Assessment                        | Value | Due dates                  | Link to course learning objectives (CLOs) |
|-----------------------------------|-------|----------------------------|---|
| Field trip / workshop assignments | 20%   | 1 Aug – 14 Sep (Weeks 3-8) | CLO: 1, 2, 6                              |
| In-class test                     | 10%   | 23 Aug (Week 6)            | CLO: 1, 2, 5                              |
| Cultural atlas exercise           | 10%   | 4 Oct (Week 10)            | CLO: 6                                    |
| Essay                             | 20%   | 18 Oct (Week 12)           | CLO: 3, 4, 5                              |
| Final examination                 | 40%   | tbc                        | CLO: 1, 2, 3, 4, 5, 7                     |

### 7.4 Field Trip / Workshop Assignments

4 @ 5% each = 20%

An assignment will be given out during the field trips and workshop, and is due by 5:00pm one week later. You are required to complete 3 of the 4 total assignments, but it is in your best interests to complete all 4, as each counts up to 5% towards your final mark. Each assignment will also be posted on Blackboard so that students who are unable to attend their workshop can work on the assignment in their own time. The assignments will consolidate the practical knowledge you gain during the workshops, and help you meet the learning objectives of the course.

### 7.5 In-class Test

10%

A 50-minute test is scheduled for Week 6 of the course on Friday 23 August. This will examine all lecture and workshop material covered up to and including 22 August. The in-class test gives you the opportunity to consolidate what you have learnt about the ideological similarities and differences between mātauranga Māori and Western science, examples of scientific practice in traditional Māori knowledge and the impact on Māori development and leadership of current environmental management frameworks. It will also allow you to identify areas of weakness that may be corrected in time for the final examination.

### 7.6 Cultural Atlas Exercise

10%

In 2010, Te Kawa a Māui instigated a School wide research project that enables student contributions to an electronic 'cultural atlas' (see <http://www.atlas.maori.nz>). In this exercise, students will write a report on their midden field trip(s). Students will geographically locate the Māori knowledge in their allocated reading, and ultimately contribute their research to the Cultural Atlas database. This assessment will constitute about 1000 words. Work for this assessment is due by 5:00pm on 4 October. More detail will be given in class and posted on Blackboard. The associated workshop, lecture, field trip and assignment is designed to equip you with digital mapping skills and explore their utility in the context of developing contemporary mātauranga Māori.

### 7.7 Essay

20%

On or before 5:00pm on 18 October you will submit a 1500 word essay. The essay topics will be distributed in lectures and posted on Blackboard. Essays are expected to use the JPS (a variant of Harvard) style of formatting and

referencing. Essay topics are designed to allow you the opportunity to investigate more closely an area of interest to you, and to develop your critical writing skills to communicate your understanding and analysis of key issues that face Māori in interacting with 'Western' science.

**7.8 Final Written Examination 40%**

The Final Examination is a two-hour closed book examination held during the **Trimester 2 Examination Period**. The date, time and venue will be announced on Blackboard as soon as this information becomes available.

**8 KO NGĀ WHIUNGA  
Penalties**

Extensions will only be granted for extenuating circumstances. You should contact the pukenga as soon as you are aware of any issues that may impinge on timely submission of your work. Work submitted late will be penalised by 5% for each day. Work emailed to the course coordinator will automatically attract a 5% penalty. Where students have not informed the course coordinator, more severe penalties may be imposed.

**9 KO NGĀ MAHI  
Mandatory Course Requirements**

In addition to achieving an overall pass mark of 50%, students must:

- attend at least 30 of 36 lecture hours in total
- complete internal course work as laid out in 7.4 – 7.7, and
- attempt the final examination.



**10 KO TE MAHERE MAHI**  
**Course Programme**

This programme provides a guide to lecture content. The programme is flexible and may be changed at the discretion of the Course Coordinator, and depending on the needs of the class. Readings can be found in the Course Reader unless otherwise stated.

| Week  | Date   | Lecture Topic and Reading  | Assessment          |
|---|--------|--|---------------------|
| 1   | 15 Jul | Course Overview<br>Reading:<br><ul style="list-style-type: none"> <li>• Course outline</li> <li>• Harris and Mercier 2006</li> </ul>                                 |                     |
|   | 18 Jul | What is Science?   |                     |
|   | 19 Jul | Science / Pūtaiao  |                     |
| 2   | 22 Jul | Western Science<br>Reading:<br><ul style="list-style-type: none"> <li>• Ladyman 2002</li> </ul>  |                     |
|   | 25 Jul | Mātauranga Māori and Māori Science<br>Reading:<br><ul style="list-style-type: none"> <li>• Roberts and Wills 1998</li> <li>• Royal 2003</li> </ul>                   |                     |
|   | 26 Jul | Mātauranga Māori and Māori Science   |                     |
| <b>WORKSHOP 1: Aotearoa Flora and Fauna around Kelburn Parade/Glasgow Terrace</b> |        |  |                     |
| 3   | 29 Jul | Tangaroa / Ocean and Marine<br>Reading:<br><ul style="list-style-type: none"> <li>• Sarfati 1999</li> <li>• Long 2005</li> </ul>                                     |                     |
|   | 1 Aug  | Te Wao Nui a Tāne / Forest and Ecology<br>Reading:<br><ul style="list-style-type: none"> <li>• Dickison 1994</li> <li>• Walker 1994</li> <li>• Lomax 1996</li> </ul> |                     |
|   | 2 Aug  | Haumietiketike / Horticulture<br>Reading:<br><ul style="list-style-type: none"> <li>• Kapua 1997</li> </ul>  | <b>Assignment 1</b> |
| 4   | 5 Aug  | Rongoā Māori / Māori Medicine<br>Reading:<br><ul style="list-style-type: none"> <li>• Moon 2003</li> </ul>   |                     |
| <b>WORKSHOP 2: Carter Observatory Field Trip (Tuesday 6 Aug)</b>                  |        |  |                     |
|   | 8 Aug  | Rongoā Māori   |                     |
|   | 9 Aug  | Tātai Arorangi / Māori Astronomy<br>Reading:<br><ul style="list-style-type: none"> <li>• Williams 2001</li> </ul>  |                     |
| 5   | 12 Aug | Tātai Arorangi / Māori Astronomy<br>Reading:<br><ul style="list-style-type: none"> <li>• Brockie 2006</li> </ul>   |                     |
|   | 15 Aug | Pacific Navigation<br>Reading:<br><ul style="list-style-type: none"> <li>• Mercier 2007</li> <li>• IRL Innovate 2000 (Blackboard)</li> <li>• Best 1922</li> </ul>    |                     |
|   | 16 Aug | Made in Taiwan (video)<br>Reading:<br><ul style="list-style-type: none"> <li>• Turnbull 1991 (Blackboard)</li> </ul>   | <b>Assignment 2</b> |

| Week  | Date   | Lecture Topic and Reading   | Assessment                     |
|---|--------|---|--------------------------------|
| 6   | 19 Aug | Māori Mathematics / Geometry / Measurement<br>Reading:<br><ul style="list-style-type: none"> <li>• Menzies 2006</li> <li>• Misc articles</li> </ul> |                                |
|   | 22 Aug | Māori Mathematics / Geometry / Measurement  |                                |
|   | 23 Aug | <b>In-class Test</b>  |                                |
| <b>WORKSHOP 3: GPS and Google Earth (in MY 221)</b>                 |        |   |                                |
| <b>Mid-Trimester Break: 26 August-8 September</b>                   |        |   |                                |
| 7   | 9 Sep  | Māori Time<br>Reading:<br><ul style="list-style-type: none"> <li>• Best 1922</li> </ul>   |                                |
|   | 12 Sep | Maramataka / Māori Calendar<br>Reading:<br><ul style="list-style-type: none"> <li>• Best 1922</li> </ul>  |                                |
|   | 13 Sep | Hostile Shores (Bruce McFadgen)   | <b>Assignment 3</b>            |
| <b>WORKSHOP 4: Field trip (Saturday 14 Sep – details to follow)</b> |        |   |                                |
| 8   | 16 Sep | Māori AND Science<br>Reading:<br><ul style="list-style-type: none"> <li>• Walker 1998</li> </ul>  |                                |
|   | 19 Sep | The Interface<br>Reading:<br><ul style="list-style-type: none"> <li>• Roberts 1996</li> <li>• Durie 2005</li> </ul>                                 |                                |
|   | 20 Sep | Te Reo Māori in Science<br>Reading:<br><ul style="list-style-type: none"> <li>• Mercier 2007</li> </ul>   | <b>Assignment 4</b>            |
| 9   | 23 Sep | Environmental Kaitiakitanga<br>Reading:<br><ul style="list-style-type: none"> <li>• Royal 2003</li> <li>• Smith 2006</li> </ul>                     |                                |
|   | 26 Sep | Kaitiakitanga and Government  |                                |
|   | 27 Sep | Intellectual and Cultural Property<br>Reading:<br><ul style="list-style-type: none"> <li>• Victorious 2001</li> </ul>                               |                                |
| 10  | 30 Sep | WAI 262<br>Reading:<br><ul style="list-style-type: none"> <li>• Williams 2001</li> </ul>  |                                |
|   | 3 Oct  | Genetic Modification<br>Reading:<br><ul style="list-style-type: none"> <li>• Hutchings 2001a, b</li> </ul>  |                                |
|   | 4 Oct  | Māori Analysis Frameworks<br>Reading:<br><ul style="list-style-type: none"> <li>• Mead 2003</li> </ul>  | <b>Cultural Atlas Exercise</b> |
| 11  | 7 Oct  | Māori Analysis Frameworks<br>Reading:<br><ul style="list-style-type: none"> <li>• Hutchings 2004</li> </ul>   |                                |
|   | 10 Oct | Mātauranga Māori in NZ Science  |                                |
|   | 11 Oct | Mātauranga Māori in Education<br>Reading:<br><ul style="list-style-type: none"> <li>• Barker 1999</li> </ul>  |                                |
| 12  | 14 Oct | Mātauranga Māori in Education<br>Reading:<br>Walker 1998  |                                |
|   | 17 Oct | Māori IN / AND Science  |                                |
|   | 18 Oct | Course Revision   | <b>Essay</b>                   |

**11 KO NGĀ HAUĀ**  
**Students with a Disability**

The University has a policy of reasonable accommodation for the needs of students with disabilities in examinations and other assessment procedures. Please contact the Course Coordinator if you have any queries or issues.

**12 KO NGĀ PUKAPUKA**  
**Reference Texts**

A variety of texts have been placed on Closed Reserve and 3-day Loan at Te Pātaka Kōrero/The University Library (Levels 2 and 3 respectively) to assist you with your study and essay writing. Students should return Library books by the due date to avoid Library fines.

The following list gives references that may be useful for the essay topics in the course. Note that the full text of the Elsdon Best monographs is available via MyGateway.info. More details on how to access these are available on Blackboard.

Best, Elsdon, 1955. *The Astronomical Knowledge of the Maori*. Dominion Museum Monograph no. 3 Wellington: Government Printer.

Best, Elsdon, 1959. *The Maori Division of Time*. Dominion Museum Monograph no. 4 Wellington: Government Printer.

Best, Elsdon, 1923. *Polynesian Voyagers. The Maori as a Deep-sea Navigator, Explorer, and Colonizer*. Dominion Museum Monograph no. 5 Wellington: Government Printer.

Chalmers, Alan, 1999. *What is this thing called science? (3<sup>rd</sup> edition)*. Indianapolis: Hackett Publishers

Goldie, W. H, 1904. *Maori Medical Lore*. Papakura: Southern Reprints (1998).

Ladyman, James, 2002. *Understanding Philosophy of Science*. London: Routledge.

Lewis, David, 1972, 1994 (2nd ed.). *We, the Navigators*. Honolulu: University of Hawaii Press.

McLean, Robert and Smith, Tricia, 2001. *The Crown and Flora and Fauna: Legislation, Policies and Practices 1983-98*. Waitangi Tribunal Research Series Wai 262 (1997). Wellington: Waitangi Tribunal.

Riley, Murdoch, 1994. *Māori Healing and Herbal*. New Zealand Ethnobotanical Sourcebook. Paraparaumu: Viking Sevenses N.Z. Ltd.

Te Kawa a Māui, 2010-2013. *Te Kawa a Māui Atlas*. Available: <http://www.atlas.maori.nz> or <http://www.victoria.ac.nz/maori/atlas> Wellington: Victoria University of Wellington.

Williams, David, 2001. *Matauranga Maori and Taonga*. Waitangi Tribunal Research Series Wai 262 (1997). Wellington: Waitangi Tribunal.

Williams, P. M. E. 1996. *Te Rongoa Maori. Maori Medicine*. Auckland: Reed

You should also tune in to Māori Television to watch the 13-episode series Project Mātauranga from 4 August (transmission time to be advised).

## 13 OTHER IMPORTANT INFORMATION

The information above is specific to this course. There is other important information that students must familiarise themselves with, including:

- **Academic integrity and plagiarism:**  
[www.victoria.ac.nz/home/study/plagiarism](http://www.victoria.ac.nz/home/study/plagiarism)
- **Aegrotats:**  
[www.victoria.ac.nz/home/study/exams-and-assessments/aegrotat](http://www.victoria.ac.nz/home/study/exams-and-assessments/aegrotat)
- **Academic progress:**  
[www.victoria.ac.nz/home/study/academic-progress](http://www.victoria.ac.nz/home/study/academic-progress)  
(including restrictions and non-engagement)
- **Dates and deadlines:**  
[www.victoria.ac.nz/home/study/dates](http://www.victoria.ac.nz/home/study/dates)
- **FHSS Student and Academic Services Office:**  
[www.victoria.ac.nz/fhss/student-admin](http://www.victoria.ac.nz/fhss/student-admin)
- **Grades:**  
[www.victoria.ac.nz/home/study/exams-and-assessments/grades](http://www.victoria.ac.nz/home/study/exams-and-assessments/grades)
- **Resolving academic issues:**  
[www.victoria.ac.nz/home/about/avcacademic/publications2#grievances](http://www.victoria.ac.nz/home/about/avcacademic/publications2#grievances)
- **Special passes:**  
[www.victoria.ac.nz/home/about/avcacademic/publications2#specialpass](http://www.victoria.ac.nz/home/about/avcacademic/publications2#specialpass)
- **Statutes and policies:**  
[www.victoria.ac.nz/home/about/policy](http://www.victoria.ac.nz/home/about/policy)  
(including the Student Conduct Statute)
- **Student support:**  
[www.victoria.ac.nz/home/viclife/student-service](http://www.victoria.ac.nz/home/viclife/student-service)
- **Students with disabilities:**  
[www.victoria.ac.nz/st\\_services/disability](http://www.victoria.ac.nz/st_services/disability)
- **Student charter:**  
[www.victoria.ac.nz/home/viclife/student-charter](http://www.victoria.ac.nz/home/viclife/student-charter)
- **Student contract:**  
[www.victoria.ac.nz/home/admisenrol/enrol/studentcontract](http://www.victoria.ac.nz/home/admisenrol/enrol/studentcontract)
- **Turnitin:**  
[www.cad.vuw.ac.nz/wiki/index.php/Turnitin](http://www.cad.vuw.ac.nz/wiki/index.php/Turnitin)
- **University structure:**  
[www.victoria.ac.nz/home/about](http://www.victoria.ac.nz/home/about)
- **VUWSA:**  
[www.vuwsa.org.nz](http://www.vuwsa.org.nz)