

**Increasing Statistical Literacy Through Cooperation
Between National Statistics Offices and Universities; a
New Zealand Experience**

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Outline

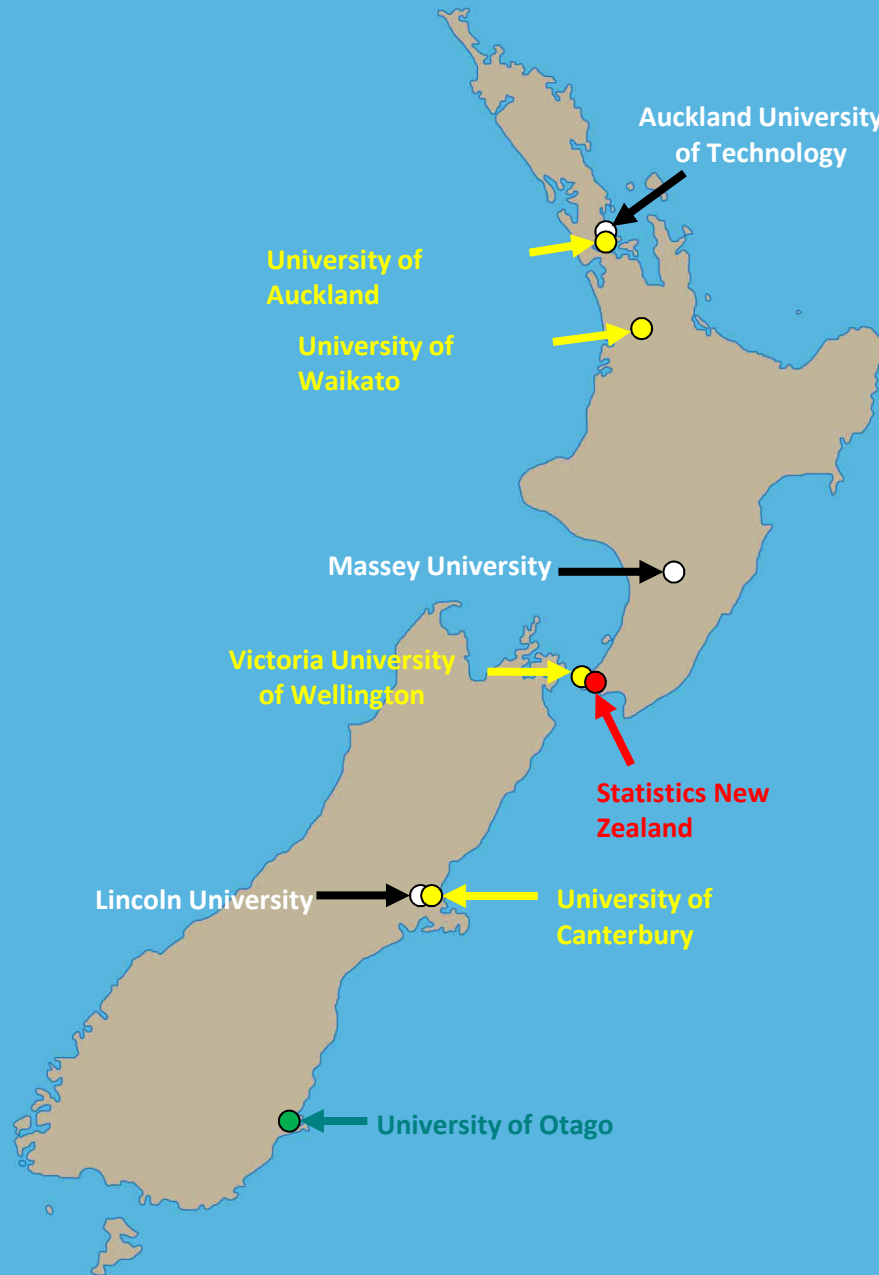
- Early developments 2006-2010
- Postgraduate course in Official Statistics 2011-2013
- Website
- Syllabus and assessment
- Lectures and videos
- Statistics New Zealand interest
- University reaction
- Student feedback
- Future

Early Developments 2006-2010

- Statistics New Zealand not an education provider
- Strategy : establish PARTNERSHIP with education providers to teach Official Statistics
- Network of Academics in Official Statistics (NAOS)
- Certificate in Official Statistics (for government employees, advisors not statisticians)
- Degree level postgraduate course proposed 2010

Postgraduate course – 2011 to 2013

- Negotiated between Statistics New Zealand and New Zealand Universities (NAOS)
- Aim is to give overview of Government Statistics
- Uneconomic for an individual university
- Video conferencing network linking universities
- Experts in key areas of Official Statistics teach from their institution



5 participating universities
+ national statistics office

1 institution
teaching only

1 institution
with students
only (no
teaching)

4 institutions
with students
and teaching

Student numbers (2011 + 2012)

University of Otago	13
Victoria University	6
Statistics New Zealand	2
Auckland University	37
Canterbury University	1
Waikato University	3
Auckland University of Technology	0
Total	62 students

Website

- Home page for this year

http://msor.victoria.ac.nz/Courses/STOR481_2013T2/WebHome

- website requires no login identification

Links

The following links available freely

- Notices
- Syllabus and assessment *
- Course Key Dates
- Lectures and Videos *
- Assignments
- Handouts and Resources
- Open ID Access *

Syllabus and assessment

1. Overview, **underlying principles**, key case studies (observational, not experimental) advantages and limitations

2. **Demography** - fertility, mortality, migration and age structure analysis

3. **Demography** – population projections, policy implications, life tables, cohort control

4. **Administrative**, survey and census data – sample/population, measurement and **framework concepts**; case studies for variables, standards for collection, numerator/data matching

ASSIGNMENT 1

5. **Survey** design and analysis (cross –sectional, longitudinal, rotating panel), data cleaning, **editing/imputation**, post stratification, **survey weights**

6. **Health** statistics – age standardization, morbidity statistics, registers, data sets, data access, relative risks, odds ratios, other risks, confounding

ASSIGNMENT 2

7. Other **social statistics** – standardization, registers, data sets , data access, risks, odds, confounding

8. **Legal** framework and **ethical** framework – **relevant Acts** and process (**Confidentiality**, privacy, access)

ASSIGNMENT 3

9. **Data matching** - Record linkage

10. **Data visualisation and GIS**

11. Elementary **time series** and their use in economic and social statistics – **CPI, PPI**

ASSIGNMENT 4

12. **Macroeconomic Statistics** (Indices and National accounts – **GDP**)

ASSIGNMENT 5

Lectures

- 12 two hour lectures
- All students see power points, lecturer and students at other sites
- Students can ask questions
- Power points distributed before a lecture
- Videos recorded and available for future viewing
- Show a typical video

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Statistics New Zealand Interest

- Young graduates aware of the Agency as an employer
- Contacts for potential vacation projects
- Comprehensive overview of Official Statistics
- Exposure to official statistics encountered in everyday life
- Interaction with universities
- Potential to introduce Official Statistics into education and the public arena

University Reactions

- Course credits developed at each university
- Several university qualifications possible
- Efficient teaching: no university able to teach this course on its own
- Expert available to teach each topic
- Across university cooperation
- Course coordinator at each university
- One overall controller
- Access to data sets for motivational examples

Student Feedback

- Positive feedback from students
- Course quality classified good to excellent
- Distance learning not an impediment to learning
- Lecture video resources well used
- Statistics New Zealand website rated highly
- Appreciated introduction to National data files
- Career opportunities identified

The future

- Universities continue with access to a course taught by experts
- Further students from social sciences, public policy and public health to be encouraged
- Potential as component of Data Science degree
- Large data sets provide motivational examples for teaching and projects
- More universities participating in 2013
- Otago Mathematics Teachers' Association may fund a teacher to take the course and report back to schools

Thank you for listening

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