

STAT399

Consulting in Statistical Science

UNIT SUMMARY FOR PARTNERS - SESSION 2 (AUG-NOV) - 35 HRS

A STAT399 PACE project gives you the opportunity to obtain technical help with your data project from Macquarie University students nearing completion of their degrees majoring in Statistics or Decision Science.

WHAT IS STAT399?

STAT399 is a 35 hours Professional and Community Engagement (PACE) placement which integrates the core concepts of previous statistics units in the practical context of solving real research problems by the application of statistical ideas and methods.

STAT399 aims to give students exposure to the statistical and non-statistical issues that arise in statistical problem solving, and to provide an experiential background in statistical consulting.

Students develop the ability to appreciate the nature of statistical problems and apply their skills to:

- the statistical problem solving cycle;
- listen to a client's statement of a problem;
- recognise appropriate statistical techniques;
- recognise situations in which familiar techniques do not apply and search the literature for appropriate alternative techniques;

- write reports at an appropriate statistical level;
- give a verbal summary of a statistical investigation; and
- discuss the ethical aspects and implications of professional statistical work.

HOW DOES A STAT399 ACTIVITY WORK?

Partners submit the STAT399 data scoping document to the Faculty of Science and Engineering PACE office which is then assessed for its suitability to meet the learning outcomes of the unit.

Partners provide a host supervisor to advise the students of the organisations requirements.

A group of two to four students will be assigned to consult with you about your research questions and at the end provide a

In 2018 STAT399 students travelled to Fiji to work on a project for Viseisei Health Centre



"The students were given a difficult statistical task and they used good team work and organisational skills to efficiently and professionally analyse the information"

ANNE BOLTON, SENIOR POLICY ANALYST, HEALTH RISK & REGULATION UNIT, ENVIRONMENTAL HEALTH

report answering those questions.

At the end of the session partners are invited to see their student group presentations and are welcome to stay and watch other presentations.

Partners are welcome to contact the PACE office at any time if they require assistance during the project.

WORKING WITH STAT399 STUDENTS

STAT399 students will generally work on campus, but will be in frequent communication throughout the semester. To enhance their professional development and to better inform the students we encourage partner organisations to invite students to visit their workplace before the project starts. There are two streams:

STATISTICS STUDENTS CAN

- Analyse data that you have collected to find patterns, test hypotheses and fit statistical models.
- Design surveys, experiments or other data- gathering procedures according to modern statistical design principles.

DECISION SCIENCE STUDENTS CAN

- Optimise any decisions or decision-making process in which the range of decisions, the range of outcomes, and the relationship between them are all quantifiable.
- Use computer simulation and other modeling methods to provide insight into your current processes, and how they would respond to operational changes.
- Refine staff scheduling; queue systems (including virtual queue systems such as in call centres); inventory level management under market uncertainty; spatial arrangement of facilities.

PARTNER REQUIREMENTS

- Partners must provide a host supervisor who can commit to regular meetings and communicate with the two groups of students throughout the development of the project.
- Partners will be asked to complete a STAT399 data scoping document prior to acceptance of the project.
- All partners will receive an email link to complete an online activity statement about the project. The activity statement

formalises the placement prior to the student commencing.

- We ask partners to avoid submitting a critical business project.
- Data should be deidentified by the partner organisation where required.

EXAMPLES OF PAST ACTIVITIES

Macquarie University Library - Analysed survey comments data to enhance the current basic reporting.

Workplace Gender Equality Agency - Preparing and cleaning SPSS dataset for analysis, conducted descriptive analysis and prepared a brief report on activities.

NSW Department of Family and Community Services (FACS) - The project looked at identifying key drivers of child protecting reporting. The project involved obtaining Census, relevant data and regression analysis.

Restless Development - The project involved pre and post analysis of an intervention done by Restless Development in a slum in Delhi with young people through Action India. Data was analysed to compare pre and post intervention.

Redkite - Developed a report containing additional statistical analysis of the Redkite support professionals survey and a review of the survey quality and questions.

WOULD YOU LIKE MORE INFORMATION ABOUT PACE?

If you would like further information about PACE at Macquarie University please visit PACE - <https://goo.gl/nvtEYV>

For further information on the roles and responsibilities for all stakeholders please view our Governance and Guidance - <https://goo.gl/f6D14H>

To find out more about PACE units within the Faculty of Science and Engineering download our flyer - <https://goo.gl/MMwMkM>

"My PACE activity helped me to develop more confidence in presenting insights to clients and help solve their project issues"

CHRISTOPHER BRADBURY , STUDENT
B. ARTS & B. SCIENCE (MAJOR IN STATISTICS) PARTNER - MQ CAREER OFFICE

"In 2017 PACE received the Australian Financial Review Higher Education Award for Employability. This prestigious award recognises higher education initiatives which have demonstrably improved student employment outcomes."



FIND OUT MORE

PACE Faculty of Science and
Engineering Macquarie University
North Ryde NSW 2109

T: +61 (2) 9850 6842
E: pace.science@mq.edu.au



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