Position Accountability Statement
(PAS)

The University of Sydney

Position title
Research Assistant – National Collaboration in Higher-Level Mathematics Instruction using the Access Grid

Faculty
Science

Occupant
New position – Collaboration and Structural Reform (CASR) grant

Reports to
Executive Officer, CASR project, School of Mathematics and Statistics

Manages
The literature survey and the assistance of the development of evaluation strategies of the CASR grant project: "National collaboration in higher-level mathematics instruction using high-speed high-bandwidth internet-based communication technology"

Internal work contacts
Head – School of Mathematics and Statistics
CASR Executive Officer – School of Mathematics and Statistics
Administration Manager – School of Mathematics and Statistics
Finance officer – School of Mathematics and Statistics
Computer Systems Manager – School of Mathematics and Statistics
Director – Student Centre
School and Faculty coordinators for higher year (advanced) units of study

External work contacts
Registrar / Student Services Managers of partner institutions
Year coordinators of partner institutions
Academic and Technical Working Groups – ICE-EM Access Grid Room Project

Overall purpose
To provide support for all of the research activities of the CASR project’s Executive Officer, including a literature survey remote education, a survey of the current higher-level Mathematical courses, training sessions for academic staff, development of evaluation processes, compilation of manuals, and dissemination of evaluation results.

Position context
The University of Sydney is the lead institution for a CASR grant to develop, implement and evaluate learning and teaching systems for advanced and honours-level mathematics education by sharing the capabilities of several Australian universities through the novel use of high-speed internet-based communication technology.

The need for this project was identified in the December 2006 National Strategic Review of the Mathematical Sciences Research in Australia conducted under the auspices of the Australian Academy of Sciences and funded by the ARC Special Research Initiatives Scheme. The report (http://www.review.ms.unimelb.edu.au/) outlines a national strategy to rebuild and re-invigorate the mathematical sciences in Australia. Chapter 5 of the Review identifies the honours year as the precursor to becoming a mathematical sciences researcher and notes the need for a wide availability of honours mathematics and statistics courses.

This project is led by an Executive Officer, who manages both the policy level of course coordination and the technical infrastructure including the training and support across partner universities (Macquarie
University, the University of Wollongong, the Australian National University, La Trobe University and the University of South Australia. The Research Officer will work collaboratively with the Executive Officer, a Technical Officer and honours level course coordinators from partner universities in order to provide research assistance in collecting literature survey data, curriculum survey data and evaluation data.

The ideal candidate will have an experience in the use of various survey tools such as on-line search tools and library catalogues as well as office applications such as a word processing and spreadsheet applications. They will also be self-motivated with the ability to try out new office technologies to improve research and reporting processes and be able to prioritise tasks within given deadlines. Since tasks involve the production of manuals and other written documents as well as contacting course coordinators, excellent communication skills (especially writing skill) are essential.

Key result areas

1. **Production of the course structure in higher mathematics across the partner universities**
   - Identifying all higher mathematics courses from all the participating universities.
   - Map out all the corresponding courses and their prerequisite units.
   - Collate all relevant course documents (handbook and course outlines) from partner universities and make them accessible through CASR project website.
   - Establishment of higher mathematics course reporting procedure in order to update the course information with the most up-to-date information.
   - Documentation of the above findings on the CASR projects website.

2. **Establishment of eEducation research repository**
   - Create an on-line CASR literature repository in the area of e-Learning, remote education and collaborative education utilizing the high-performance advanced collaboration technologies.
   - Create and update a list of academic conferences and journals relevant to CASR project.
   - Create and update a list of academic researchers in the field of Education and Mathematics Education.
   - Provision of training and supporting materials in the area of education.

3. **Establishment of evaluation processes**
   - Establish contacts with the Institute of Teaching and Learning and the Faculty of Education with regard to various evaluations of the CASR project.
   - Assisting the Executive Officer in identifying and developing appropriate strategies for evaluation of the effectiveness of the project.
   - Provision of on-line evaluation reporting process (publication of evaluation result on the CASR project website).

**Key Performance Indicators**

The Research Assistant will

1. Ensure that the all relevant higher-level mathematics courses are identified and their prerequisite structures are mapped out among the partner universities.

2. Ensure that the CASR project web site contains the up-to-date cross-university course structure and the information on course coordinators.

3. Ensure that all pedagogical literatures are accessible through the CASR project web site so that all academic staff is well informed in relation to the advanced technologies in Education.

4. Ensure that the information on evaluation processes and the evaluation results are accessible through the project web site.

**Selection criteria**

**Essential**

Selection criteria outline the qualifications, skills, knowledge and/or experience that the successful candidate would need to demonstrate for successful discharge of the responsibilities of the post. Applications will be assessed on the basis of how well candidates satisfy these criteria.
The Candidate should have:

- Trades certificate or certificate III; or Year 12 or a Certificate II, with relevant work experience; or Equivalent combination of relevant experience and/or education/training.
- Appropriate knowledge and the ability to produce business-style documentation.
- Ability to work and operate well in a team environment.
- Excellent written and verbal communication skills.

Desirable

- Experience in word processing (such as Microsoft Word) and spreadsheet (such as Microsoft Excel) applications.
- Familiar with telecommunication tools such as Instant Messaging and Videoconferencing tools.

Signature

Head of Department / Unit

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Date 1 April 2008