TRAINING NEEDS ANALYSIS (TNA) FORM

INSTRUCTIONS

WHAT IS THE RESEARCH TRAINING NEEDS ANALYSIS FORM FOR?

The Training Needs Analysis (TNA) form is a tool for managing, reflecting on and helping to promote Higher Degree by Research skills development.

WHO SHOULD USE IT?

- This Training Needs Analysis (TNA) form should be completed by all Higher Degree by Research students with their supervisors (1) in the first few months of the candidature, and (2) annually thereafter, preferably at the time of each Annual Progress Review.
- A new TNA form is required each year.

INSTRUCTIONS FOR USE

- Save this form to your computer, where you can then complete it electronically. No signatures are required. Please use the following naming convention: ***StudentID_TNA_year.pdf*** (for example: *123456789_TNA_2013.pdf*).
- Students and supervisors should use the form to structure a discussion about your goals for coming year. This discussion should reflect on your current capacities, and identify and record any new skills and training required to successfully achieve the goals agreed over the next 12 months
- Students should email a copy of the completed form to your supervisor and faculty office.
- Students and supervisors should refer to the completed form at your next Progress Review.
  We welcome feedback from students and su ervisors about the TNA:

STUDENT DETAILS

Student ID _____

FAMILY NAME: _____ **GIVEN NAME:** _____ **Name of Supervisor:** _____

Discipline/ School (in which student is enrolled): _____

Date this TNA form was completed (dd/mm/yyyy**):** _____ / _____ / _____

GENERAL COMPETENCIES

1. PROFESSIONAL CONDUCT, including time management, project management, team work, research integrity, ethical and legal issues.

Discuss your research project with your Supervisor and agree your goals for coming year. Reflect on your current capacities and identify and record any new skills and training required to successfully achieve the goals agreed over the next 12 months.

See appendix 1.for examples and available training.   Priority: L = Low; M = Medium; H = High; n/r = Not Required   Competed: Y = Yes; N = No

Competence	Priority for Development				Development Needs.	Agreed Opportunities	Available		Completed	
	L	M	H	n/r			Y	N	Y	N
Understand and apply standards of responsible research practice in your institution and/or discipline. Including: disseminating research findings, attributing the work of others, declaring sources of support, managing conflicts of interest and applying authorship policy.						Responsible Research Practice on-line module (* **mandatory module**)				
Researchers working with people or their data or tissues must be able to assess whether their research requires HREC approval, know where to seek advice and be able to prepare and lodge and application and conduct research in accordance with approval.										
Researchers working with animals must understand and apply the NHMRC Code of practice for the care and use of animals for scientific purposes. (* **requires AEC approval**)										
Understand relevant health and safety issues and ability to										

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	L	M	H	n/r			Y	N	Y	N
demonstrate responsible working practices. (* **mandatory module**).										
Manage your project effectively through setting and achieving goals and milestones.										
Be aware of issues relating to the rights of other researchers - e.g. confidentiality, ethical issues, attribution, copyright, malpractice, ownership of data.										
Work professionally: demonstrate initiative, provide leadership, work in teams and independently and be self-reliant.										
Develop and maintain co-operative networks and working relationships with supervisors, colleagues and peers.										
Other needs?										

2. COMMUNICATIONS, written and oral presentations for technical and non-technical audiences.

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	L	M	H	n/r			Y	N	Y	N
Write clearly and in a style appropriate to purpose.										
Defend research outcomes constructively at seminars and conferences for expert audiences.										
Construct coherent arguments and articulate ideas clearly to a range of lay audiences.										
Contribute to the public understanding of your research field.										
Effectively support the understanding of others when involved in teaching activities.										
Use media and social media appropriately.										
Other needs?										

3. INFORMATION & INFORMATION TECHNOLOGIES, includes spreadsheets and database, information literacy, specialist software

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	L	M	H	n/r			Y	N	Y	N
Use information technology appropriately for database management, recording and presenting information.										
Identify, search for, locate, critically evaluate, use and appropriately cite relevant historical, current, primary and secondary scholarly resources										
Use bibliographic software to manage and maintain bibliographic references										
Utilise software and tools appropriately to create, manage, present, manipulate, disseminate and preserve research data (textual, statistical, image etc.)										
Other needs?										

4. RESEARCH DESIGN, includes sampling, research data planning, formulating questions, philosophical rationale.

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	L	M	H	n/r			Y	N	Y	N
Demonstrate understanding of relevant research methodologies and techniques and their appropriate application within your research field.										
Critically analyse and evaluate your findings and those of others.										
Articulate the rationale for the principles and experimental techniques used in your own research.										
Demonstrate original, independent and critical thinking.										
Other needs?										
Other needs?										

5. INTERDISCIPLINARY PERSPECTIVES. How you understand the broader context for your research.

Discuss your research project with your Supervisor(s) and agree your goals for coming year. Reflect on your current capacities and identify and record any new skills and training required to successfully achieve the goals agreed over the next 12 months.

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	L	M	H	n/r			Y	N	Y	N
Demonstrate knowledge of recent advances within your field and in related areas.										
Demonstrate understanding of the context, at the national and international level, in which research takes place.										
Develop and participate in cross-disciplinary networking activities.										
Other needs?										
Other needs?										
Other needs?										

6. DATA COLLECTION AND ANALYSIS, including statistics, quantitative and qualitative methods, and research data management.

Discuss your research project with your Supervisor(s) and agree your goals for coming year. Reflect on your current capacities and identify and record any new skills and training required to successfully achieve the goals agreed over the next 12 months.

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	L	M	H	n/r			Y	N	Y	N
Develop a research data management plan.										
Appropriately collect and manage research data and primary materials. Select appropriate data management tools – e.g., Electronic laboratory Note Books, Research Data Store.										
Apply appropriate analyses to answer research questions.										
Other needs?										
Other needs?										

7. CAREER DEVELOPMENT, including career management, entrepreneurship, innovation, commercialization, industry perspectives and networking.

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	L	M	H	n/r			Y	N	Y	N
Demonstrate understanding of the processes for funding and evaluation of research.										
Develop skills and strategies for publishing your research in scholarly outlets.										
Develop strategies that maximize the academic or commercial impact of your research.										
Develop a plan and set goals for your career progression.										
Develop university teaching skills and experience for a future academic career.										
Articulate how your research skills are transferable to careers inside and outside academia – e.g., maintain your CV and/or ePortfolio.										

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Other needs?										

AGREEMENT

We have met and discussed these research training needs and have agreed on the training activities and action items set out in this document:

STUDENT NAME: _____   **DATE:** (dd/mm/yyyy) _____ / _____ / _____

SUPERVISOR NAME: _____   **DATE:** (dd/mm/yyyy) _____ / _____ / _____

Student and supervisor each to keep a copy. Please email a copy to your Faculty Office.

Feedback

APPENDIX 1.

1. **PROFESSIONAL CONDUCT, including time management, project management, team work, research integrity, ethical and legal issues.**

   For Research Integrity, this could include the following:

   - Responsible Research Practice on-line module
   - Human Ethics for Arts and Humanities on line module (under development – researchers from relevant faculties will be required to complete this module when available)
   - Introduction to animal research course (held twice a year, mandatory for researchers who will be working with animals)
   - Reading and understanding:
   - the *University of Sydney, Research Code of Conduct 2013*
   - the *National Statement on Ethical Conduct on Human Research 2007*, and
   - the *Australian code for the care and use of animals for scientific purposes*
   - Reviewing the University's webpages for:
     o Research Integrity
     o Human Ethics and Animal Ethics; and
     o Safety, Health and Wellbeing
   - Biosafety training course (half day – registration via OHS website)
   - Workers Health and Safety on-line module (under development - you will be required to complete this module when available)

   Post research employment skills development opportunities might include:

   - Project Management workshops or award courses
   - Opportunities to work with others
   - Learning Centre, resources include:
     o Postgraduate Program available twice per year
       ▪ Workshops: Procrastination and managing time, Overview of a Thesis

2. **COMMUNICATIONS, written and oral presentations for technical and non-technical audiences.**

   This could include the following:

   - Departmental presentations
   - Media training
   - 3 Minute Thesis competition
   - Conference Presentation
   - Principles and Practice of University Teaching
   - An introduction to teaching (for sessional staff)
   - Learning Centre , resources include:
     - On-line resources
       - Planning or writing a thesis
       - Writing up research
       - Writing a research proposal
     - Postgraduate Program available twice per year
       - Workshops: Preparing a thesis proposal, Writing a Literature Review, Critical reading of a research article, Oral presentation skills for postgraduates, Pronunciation skills

3. **INFORMATION TECHNOLOGY, includes, spreadsheets and database, information literacy, specialist software**

4. **RESEARCH DESIGN, includes sampling, data planning, formulating questions, philosophical rationale.**

   Such training could include:

   - Departmental seminars, short courses or award courses in experimental design.

5. **INTERDISCIPLINARY PERSPECTIVES. How you understand the broader context for your research.**

   Training in interdisciplinary perspectives could include:

   - Attendance at cross- faculty or cross-institutional seminars and student exchange experiences
   - Sydney Ideas talks

6. **DATA COLLECTION AND ANALYSIS, including statistics, quantitative and qualitative methods, and research data management.**

Training might include:

Reading and understanding:

- the [Research Support, Research Data Management Guidelines](#)
- the *[University of Sydney, Research Data Management Policy 2014](#)*, and
- Reviewing the *[Research Data Management Planning Checklist](#)*

Research Data Store: http://staff.ask.sydney.edu.au/app/answers/detail/a_id/524/kw/data/related/1

Electronic Laboratory Notebook (ELN) Pilot is at http://sydney.edu.au/research_support/lab-notebooks/index.shtml

7. **CAREER DEVELOPMENT, includes career management, entrepreneurship, innovation, commercialisation, industry perspective and networking**

Reflect on your employability skills and discuss with your supervisor the training you will need to improve career outcomes.

This might include:

- [Principles and Practice of University Teaching](#)
- [An introduction to teaching](#) (for sessional staff)
- Commercialisation of Intellectual Property or research products
- Industry engagement and internships
- Exchange opportunities and research collaborations
- [Careers Centre](#), resources include Career Advice, recruitment activities, and [Workshops](#) (program updated each semester) , such as:
    - Resume writing
    - Resume rescue
    - Cover Letters & Selection Criteria
    - Interview Skills
    - Practice your Interview Skills
    - Career counselling
- Job Search Skills [Learning Centre](#) , resources include:
    - Online [resources](#) (including writing resources)
    - [Postgraduate Program](#) available twice per year