RESEARCH ENGINEER

DEPARTMENT/UNIT  Mechanical and Aerospace Engineering
FACULTY/DIVISION  Faculty of Engineering
CLASSIFICATION  HEW Level 6
DESIGNATED CAMPUS OR LOCATION  Clayton campus

ORGANISATIONAL CONTEXT

There’s a certain feeling you get from working at Monash University. It’s the feeling that you’re a part of something special. Something significant. And that’s because you’re not just starting your career, or taking on a bigger challenge. You’re making a real contribution – surrounded by energetic, inspiring people who are driven to make a difference as well. Monash is a place where you’ll be able to develop your career in exciting, sometimes unexpected ways – putting you in the best possible position for a rewarding future. Discover more at www.monash.edu.

The Faculty of Engineering is one of the largest in Australia, renowned worldwide for the quality and calibre of our teaching, research and graduates. We offer a comprehensive range of undergraduate, graduate, postgraduate and higher degree by research programs in a wide range of engineering disciplines. Our research activities provide a platform for establishing a thriving educational enterprise and our staff are committed to creating a dynamic learning environment. The research activities range from fundamental studies to research with a strong applications orientation. To learn more about the Faculty of Engineering, please visit our website: www.monash.edu/engineering.

The Department of Mechanical and Aerospace Engineering aims to educate the next generation of leaders in the profession of mechanical engineering, generate new knowledge and insight into the processes that govern our discipline, and provide service to the community, our profession and industry. We are the largest department within the faculty in terms of student numbers, offering a range of undergraduate and higher degree programs and a strong and ever growing contingent of students working towards a PhD or Master’s Degree. Research is a vital part of the Department’s activities and we are renowned for our expertise and world class facilities. For more information about our Department and the work we do, please visit our website: www.monash.edu/engineering/departments/mechanical.

The Maintenance Technology Institute (MTI) is a commercially orientated, professional research and engineering organisation located at Monash University, which provides focused and comprehensive research and development and high-level technical services for the mining and heavy engineering industries. MTI has been providing professional engineering services to the major mining companies; such as BHP, Rio Tinto, Glencore, Anglo American; since 2000. MTI has also developed Real-Time Monitoring solutions to manage the
structural integrity of various mining equipment, with a focus towards improving reliability and productivity. For more information about our institute and the work we do, please visit our website: www.monash.edu/engineering/mti.

**POSITION PURPOSE**

The **Research Engineer** will be responsible for undertaking high level consulting, designs and applied research on heavy engineering equipment used in industries such a mining. The equipment involved includes field equipment, mobile equipment and processing plants. Some of the equipment commonly dealt with are: draglines, shovels, drills, large mining trucks, excavators, stackers, stacker reclaimers, ship loaders.

This position is responsible for performing a range of research related activities in support and delivery of outcomes associated with the research program.

**Reporting Line:** The position reports to nominated Team Leader within the Maintenance Technology Institute (MTI) under general direction

**Supervisory Responsibilities:** Not applicable

**Financial Delegation:** Not applicable

**Budgetary Responsibilities:** Not applicable

**KEY RESPONSIBILITIES**

1. Conduct field work, and support the planning and scheduling field work to suit site requirements and MTI resource availability

2. Undertake data analysis and interpretation, including detailed stress analysis from field measurements, to derive necessary conclusions, ensuring consistency, integrity and reliability of data under the direction of senior engineers

3. Undertake simulation of structural, mechanical or electrical sub systems of equipment as relevant using either commercial software or general methods of analysis

4. Prepare presentations and written reports to clients, as well as preparing project reports for customers and maintaining project records for quality assurance purposes

5. Design structures and machine components according to relevant Australian & International Standards

6. Actively participate in and support continuous improvement activities relating to data collection, analysis, reporting and presentation, practices/protocols, quality assurance standards and customer service excellence

7. Maintain close and clear communication with site staff regarding field work, including in relation to planning and scheduling of work, implementation, housekeeping, removal of equipment and closure

8. Ensure all relevant statutory regulations, site safety requirements and Monash safety requirements are followed while undertaking field work, including monitoring MTI or site equipment are well looked after against damage and misuse

9. Ensure safety and wellbeing of MTI and any other contract or site staff involved in field work, including during travelling for field work

10. Other duties as directed from time to time
KEY SELECTION CRITERIA

Education/Qualifications

1. The appointee will have:
   - A degree in civil (structural) or mechanical, electrical or mechatronics engineering with subsequent relevant experience; or
   - an equivalent combination of relevant experience and/or education/training.

Knowledge and Skills

2. Demonstrated technical and analytical proficiency in structural or mechanical engineering with experience in the field

3. Understanding of relevant Australian & International Standards

4. Excellent oral and written communication skills, including strong presentation and report writing skills with proven ability to effectively analyse information and produce clear, succinct reports and documents which requires interaction with others

5. Ability to liaise with customers to identify project needs and deliver project outcomes professionally

6. Demonstrated effective oral and written communication skills, liaison skills, and interpersonal skills in English and Spanish

7. Well-developed organisational and time management skills, including the ability to plan and organise work, and a commitment to meet priorities and deadlines

8. Ability to work as an effective member of a team and provide effective supervision and on the job training to team members

9. Sound computer literacy, including the ability to learn new software packages, and a basic understanding of network communication

10. Proven ability to solve highly complex problems, including through the application/use of sophisticated analytical and diagnostic skills, discretion, initiative, innovation and specialised expertise

11. Excellent interpersonal and communication skills, including the ability to liaise with senior management, stakeholders, clients and public audiences, and communicate complex issues in a clear, succinct manner

12. Flexibility to undertake travel, field work, and emergency or urgent work to fulfil customer needs

OTHER JOB RELATED INFORMATION

- Appointment to the position will be subject to the satisfactory completion of medical assessment(s) in accordance with various mining and statutory legislations
- All personnel during site visits will be subjected to random alcohol and drug screening
- Safety inductions and training will be mandatory in accordance with relevant site requirements
- Travel to remote sites, both interstate and overseas, on short notice will be required, as well as travel to other campuses of the University from time to time
- Shift work, overtime and out of hours work may be required (including evenings, weekends and public holidays), for the successful delivery of projects
- During peak periods of work, the taking of leave may be restricted
GOVERNANCE

Monash University expects staff to appropriately balance risk and reward in a manner that is sustainable to its long-term future, contribute to a culture of honesty and integrity, and provide an environment that is safe, secure and inclusive. Ensure you are aware of and adhere to University policies relevant to the duties undertaken and the values of the University. This is a standard which the University sees as the benchmark for all of its activities in Australia and internationally.