

Research and Innovation

2012 UJ-CSIR SCHOLARSHIPS PROGRAMME GUIDE



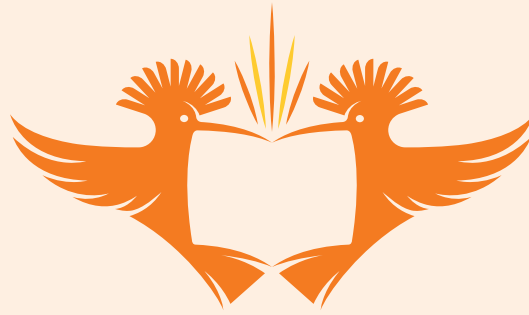
CSIR

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The University of Johannesburg (UJ) and the Council for Scientific and Industrial Research (CSIR) have established a joint bursary programme tenable at the UJ. The programme accommodates current or prospective full-time Honours/BTech, Master's and Doctoral students within the faculties of Science, Engineering and Health Sciences.



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VALUES AND TERM FOR SCHOLARSHIPS

Level of Study	Scholarship Value	Period of Support
Honours	R40,000.00	1
Master's	R60,000.00	2*
Doctorate	R90,000.00	3*

* Renewal for a subsequent year is subject to progress of the Applicant.

SCHOLARSHIP ELIGIBILITY CRITERIA & CONDITIONS

- Applicants must be SA citizens.
- Scholarships are awarded on the basis that students commence full-time study at Honours, Master's or Doctoral level at the UJ in 2012.
- Applicants must ensure that their research area falls within one of the specified disciplines or in closely related disciplines (see Section 3 below).
- The scholarship-holder may not hold full-time salaried employment during the tenure of the scholarship, but he/she will be allowed to undertake a maximum of twelve hours of teaching, tutorials, assistance or demonstration duties per week on average during the year of study, and he/she may be remunerated for his/her services at the normal UJ tariff for services rendered.
- Applicants must have a minimum average of 65% in their previous degree.
- These scholarships may not be held concurrently with bursaries, grants or emoluments which bind the recipient to enter into the service of the contract holder on completion of his/her studies.
- Students may enter into the programme at any of the following stages of study:
1st year of Honours in 2012
1st or 2nd year of Master's in 2012 or
1st, 2nd or 3rd year of Doctorate in 2012
provided that the necessary previous qualification has been completed by the commencement of the programme.
- Renewal of scholarships for each academic year is determined by satisfactory progress of the student.
- Scholarship-holders will be expected to spend a limited amount of time at CSIR facilities during the course of their studies in order to promote a good understanding of the CSIR among them. The scholarship is awarded on the basis that the CSIR will have first preference in terms of employment of the student once the degree is obtained, i.e. this is a contractually binding scholarship.
- All successful students will be required to enter into a signed scholarships agreement with the UJ and CSIR.
- If a scholarship-holder does not obtain the degree for which the scholarship was awarded within the prescribed period (one year for Honours; two years for Master's and three years for Doctoral study); relinquishes his/her studies, or leaves the UJ during the period for which the scholarship was awarded, the UJ may at its sole discretion require him/her to refund all payments of the scholarship already received for study towards the particular degree/diploma, plus interest at the rate of 15, 5 % *per annum a tempore morae*.

SPECIFIED RESEARCH AREAS

Applications are invited for Honours, Masters and Doctoral degrees, within the following disciplines or in closely related disciplines:

DISCIPLINE	PRIORITY RESEARCH AREA
<p>Materials Science and Manufacturing</p>	<ul style="list-style-type: none"> ▪ Composites ▪ Nanomaterials ▪ Nanometrology ▪ Systems Biology ▪ Robotics ▪ Physical metallurgy of titanium alloys ▪ Micro Manufacturing ▪ Carbon based nanomaterials ▪ Metals casting technology ▪ Signal processing
<p>Natural Resources and Environment</p>	<ul style="list-style-type: none"> ▪ Remote Sensing and Enviro-informatics ▪ Systems Ecology ▪ Geomorphology ▪ Energy including Mobile Power, Energy Harvesting and Conservation ▪ Climate Change Modelling ▪ Geohydrology and Computational Hydrology ▪ Hydropolitics ▪ Geomatic Information Science ▪ Atmospheric Sciences ▪ Renewable energy ▪ Water resource management
<p>Information and Communications Technology</p>	<ul style="list-style-type: none"> ▪ Persistent Surveillance Systems ▪ High Performance Computing (Grid and Cluster Computing) ▪ Human Computer Interface Technologies ▪ Large-Scale Data Structures (in support of informatics) ▪ Information Security ▪ Cyber Security ▪ Artificial Intelligence ▪ Human Language Technologies ▪ Open Source Technology ▪ Cyber Security and Forensics ▪ ICT/ education ▪ Radar research and applications

<p style="text-align: center;">Biosciences and Health</p>	<ul style="list-style-type: none"> ▪ Enzyme technologies ▪ Biorefinery ▪ Bioassays, ADMET and biological data ▪ Herbal medicines ▪ Indigenous knowledge utilization ▪ Advanced microsphere technologies ▪ Omics ▪ Biomedical engineering ▪ Recombinant proteins & inhibitors ▪ Functional chemistry ▪ Chemical analyses
<p style="text-align: center;">Defence, Peace, Safety and Security</p>	<ul style="list-style-type: none"> ▪ Radar ▪ Explosive event and impact ▪ Intelligent software systems
<p style="text-align: center;">Built Environment</p>	<ul style="list-style-type: none"> ▪ Civil Engineering – Transport infrastructure design, Infrastructure materials design, Transport planning and operations, Logistics, Intelligent Transport Systems, ▪ Construction Technology ▪ Integrated Planning – Geographical information systems, Town and regional planning, Rural planning and services, Sustainability science ▪ Architecture – Arch Science, Facilities design ▪ Materials – Road building alternatives
<p style="text-align: center;">Engineering</p>	<ul style="list-style-type: none"> ▪ Chemical Engineering – Fuel cell and Hydrogen Economy, Metrology analysis of trace-residue in food substance, chemical reference materials for forensics, primary metal production of light metals ▪ Computer and Software Engineering ▪ Mechanical Engineering ▪ Mechatronics and Robotics ▪ Aeronautical Engineering – Platinum alloys ▪ Metallurgical Engineering – Physical metallurgy of titanium alloys, Modelling of metal casting and forming processes, Micromachining, Advanced Laser processing ▪ Electronics and Electrical – Sensors and Transducers, Sensor Systems, Wireless Technologies, RF free field measurements ▪ Mining Engineering ▪ Geophysics ▪ Industrial Engineering ▪ Electronic Engineering

Natural and Physical Sciences	<ul style="list-style-type: none"> ▪ Natural – Bioinformatics, Biomaterials, Biomechanics, Biophotonics ▪ Physical – Application of lasers, optics and spectroscopy, Physics, Metrology traceability for medical diagnostics, Chemistry, Applied Mathematics (Bayesian Networks), Fibre optics measurements in high speed communications ▪ Photonics ▪ Laser application in paleoanthropology ▪ Biophotonics ▪ Laser processing
Mathematics	<ul style="list-style-type: none"> ▪ Mathematical Modelling ▪ Statistical and quantitative methods ▪ Operations research ▪ Mining Robotics and automation ▪ Digital Intelligence ▪ Biometrics

APPLICATION PROCESS

Application forms and the Programme Guide can be downloaded from www.uj.ac.za

1. Applicants must read through the Programme Guide carefully BEFORE submitting an application.
2. All fields in the application form must be completed correctly or your application will be rejected.
3. All applicants must submit the following documents:
 - An application form;
 - Curriculum Vitae (clearly indicating your study field);
 - ID document;
 - Full official academic record including all levels of tertiary study prior to your current qualification. Please note that academic records from student portals will NOT be accepted. (Do not submit certificates. Academic records must include marks);
 - For Master's and Doctoral students – a brief (max one page) outline of the project you would like to explore (clearly indicating the research area – as specified in Section 3 that you fit into); **AND**
 - Letters of reference (see table below for specific letters of reference required per level of study)

Level of study in 2012	Referee reports required
Honours	Two referees (at least one academic lecturer or HOD)
1 st year Master's	Two referees (at least one academic lecturer or HOD) and potential supervisor (if already identified).
2 nd year Master's	Supervisor of Master's and two referees (at least one academic lecturer or HOD)
Doctoral	Supervisor of Master's; HOD of Master's and one other referee (preferably an academic lecturer)

4. Please post your application to us at PO Box 524, Auckland Park 2006, Johannesburg, South Africa, alternatively you can courier or hand deliver to the University of Johannesburg, Postgraduate Centre, Auckland Park Kingsway Campus, Library and Information Centre, Level 1 (Next to the 24 hour study area) Att: Ms Dudu Mbatha. In order to confirm receipt of your application via courier or post, please contact Ms Dudu Mbatha at 011 559 4016 or email to rdbmabatha@uj.ac.za.

CLOSING DATE: 14 October 2011 | Please note that no faxed or emailed applications will be accepted. Incomplete and/or unsigned applications will not be considered.