

NRF ratings at UP

The following is a list of NRF-rated researchers at the University of Pretoria (UP):

A-rated: Leading international researchers	
A1	
Prof NC Bennett	Department of Zoology and Entomology
Prof DLC Cornell	Department of Jurisprudence
Prof PW Crous	Department of Microbiology and Plant Pathology
Prof EP van de Peer	Department of Genetics
Prof C van Onselen	Centre for the Advancement of Scholarship
Prof MJ Wingfield	Forestry and Agricultural Biotechnology Institute
A2	
Prof DA Cowan	Department of Genetics
Prof E De Wet	Department of Public Law
Prof AP Engelbrecht	Department of Computer Science
Prof RP Millar	Department of Zoology and Entomology
Prof JD van der Vyver	Department of Private Law
Prof J van Oort	Department of Science of Religion and Missiology
Prof BD Wingfield	Faculty of Natural and Agricultural Science (Deputy Dean)
Prof X Xia	Department of Electrical, Electronic and Computer Engineering
B-rated: Internationally acclaimed researchers	
B1	
Prof FD Auret	Department of Physics
Prof J Banasiak	Department of Mathematics and Applied Mathematics
Prof A Boraine	Faculty of Law (Dean)
Prof CJ Botha	Department of Paraclinical Sciences
Prof D Bradlow	Centre for Human Rights
Prof PG Eriksson	Department of Geology
Prof RDC Franzsen	African Tax Institute
Prof JP Meyer	Department of Mechanical and Aeronautical Engineering
Prof SW Nicolson	Department of Zoology and Entomology
Prof SM Nkomo	Faculty of Economic and Management Sciences (Deputy Dean)
Prof RC Pattinson	Department of Obstetrics and Gynaecology
Prof JG Raftery	Department of Mathematics and Applied Mathematics
Prof ER Roduner	Department of Chemistry
Prof CH Scholtz	Department of Zoology and Entomology
Prof B Slippers	Department of Genetics
Prof JRN Taylor	Department of Food Science
Prof FJ Viljoen	Centre for Human Rights
B2	
Prof W Altermann	Department of Geology
Prof CJ Boezaart	Department of Private Law
Prof SG Burton	University Executive (Vice-Principal: Research and Postgraduate Education)
Prof RM Crewe	Department of Zoology and Entomology
Dr ZW de Beer	Department of Microbiology and Plant Pathology
Prof AL Dick	Department of Information Science
Prof JM Greeff	Department of Genetics
Prof AJ Guthrie	Equine Research Centre
Prof GP Hancke	Department of Electrical, Electronic and Computer Engineering
Prof RM Hassan	Department of Agricultural Economics
Prof A Kijko	Department of Geology
Prof RM Kirberger	Department of Companion Animal Clinical Studies

B-rated: Internationally acclaimed researchers

B2	
Prof JF Kirsten	Department of Agricultural Economics, Extension and Rural Development
Prof L Korsten	Department of Microbiology and Plant Pathology
Prof WA Landman	Department of Geography, Geoinformatics and Meteorology
Prof S Lotz	Department of Chemistry
Prof JM-S Lubuma	Department of Mathematics and Applied Mathematics
Prof JB Malherbe	Department of Physics
Prof AL Michel	Department of Veterinary Tropical Diseases
Prof DJ Prinsloo	Department of African Languages
Prof ER Rohwer	Department of Chemistry
Prof J Roux	Department of Microbiology and Plant Pathology
Prof JP Schoeman	Department of Companion Animal Clinical Studies
Prof WD Schubert	Department of Biochemistry
Prof AM Skelton	Centre for Child Law
Prof DCD Swanepoel	Department of Speech-Language Pathology and Audiology
Prof R West-Pavlov	Department of English
B3	
Prof RA Anguelov	Department of Mathematics and Applied Mathematics
Prof HC Barnard	Gordon Institute of Business Science
Prof MN Bester	Department of Zoology and Entomology
Prof NJ Bidwell	Department of Informatics
Prof L Birkholtz	Department of Biochemistry
Prof JN Blignaut	Department of Economics
Prof SJ Cornelius	Department of Private Law
Prof TA Coutinho	Department of Microbiology and Plant Pathology
Prof IK Craig	Department of Electrical, Electronic and Computer Engineering
Prof M Du Plessis	Department of Electrical, Electronic and Computer Engineering
Prof JHP Eloff	Department of Computer Science
Prof JN Eloff	Department of Paraclinical Sciences
Prof CM Fombad	Department of Public Law
Prof GT Fosgate	Department of Production Animal Studies
Prof JM Hoobler	Department of Human Resources Management
Prof IG Horak	Department of Veterinary Tropical Diseases
Prof J Joubert	Department of Electrical, Electronic and Computer Engineering
Prof AI Louw	Department of Biochemistry
Prof JW Maina	Department of Civil Engineering
Prof TS Maluleke	Faculty of Theology (Office of the Dean)
Prof JG Maree	Department of Educational Psychology
Prof A McKechnie	Department of Zoology and Entomology
Prof JJM Meyer	Department of Plant Science
Prof AA Myburg	Department of Genetics
Prof AWH Neitz	Department of Biochemistry
Prof LH Nel	Department of Microbiology and Plant Pathology
Prof W Nicol	Department of Chemical Engineering
Prof JW Odendaal	Department of Electrical, Electronic and Computer Engineering
Prof JA Ogude	Centre for the Advancement of Scholarship
Prof BL Penzhorn	Department of Veterinary Tropical Diseases
Prof F Pretorius	Department of Historical and Heritage Studies
Prof SA Rakitianski	Department of Physics
Prof V Reddy	Faculty of Humanities (Dean)
Prof RS Rensburg	Department of Business Management (Communication Management Division)
Prof EE Rosinger	Department of Mathematics and Applied Mathematics
Prof M Sango	Department of Mathematics and Applied Mathematics

B-rated: Internationally acclaimed researchers

B3	
Prof MM Sathekge	Department of Nuclear Medicine
Prof ET Steenkamp	Department of Microbiology and Plant Pathology
Prof GJ Steyn	Department of New Testament Studies
Prof WJvdM Steyn	Department of Civil Engineering
Prof PJ Thomas	Department of Jurisprudence
Prof AE van Wyk	Department of Plant Science
Prof SN Venter	Department of Microbiology and Plant Pathology
Prof E Wolff	Department of Philosophy
Prof AZ Zimper	Department of Economics
Prof K Zoubos	Department of Physics

C-rated: Established researchers

C1	
Prof K Banda	Department of Mathematics and Applied Mathematics
Prof R Bansal	Department of Electrical, Electronic and Computer Engineering
Prof NP Barker	Department of Plant Production and Soil Science
Prof ADS Bastos	Department of Zoology and Entomology
Prof DK Berger	Department of Plant Science
Prof J Bornman	Centre for Augmentative and Alternative Communication
Prof MS Bornman	Department of Urology
Prof TJD Bothma	Department of Information Science
Prof GD Breetzke	Department of Geography, Geoinformatics and Meteorology
Prof I Broere	Department of Mathematics and Applied Mathematics
Prof CT Chimimba	Department of Zoology and Entomology
Prof I Cukrowski	Department of Chemistry
Prof C de Jager	School of Health Systems and Public Health
Prof CJ de Villiers	Department of Accounting
Prof ASA du Toit	Department of Information Science
Prof L Ebersöhn	Department of Educational Psychology
Prof I Eloff	Faculty of Education (Dean)
Prof WW Focke	Department of Chemical Engineering
Prof I Fourie	Department of Information Science
Prof A Ganswindt	Department of Anatomy and Physiology
Prof JJ Hanekom	Department of Electrical, Electronic and Computer Engineering
Prof SL Hendriks	Institute for Food, Nutrition and Well-being
Prof PS Heyns	Department of Mechanical and Aeronautical Engineering
Prof SJ Howie	Centre for Evaluation and Assessment
Prof U Kistner	Department of Philosophy
Prof KJ Kunert	Department of Plant Science
Prof AL Leisewitz	Department of Companion Animal Clinical Studies
Prof A Lombard	Department of Social Work and Criminology
Prof W Markotter	Department of Microbiology and Plant Pathology
Prof WE Meyer	Department of Physics
Prof V Naidoo	Biomedical Research Centre
Prof MS Olivier	Department of Computer Science
Prof G Pietersen	Department of Microbiology and Plant Pathology
Prof I Pikirayi	Department of Anthropology and Archaeology
Prof CWW Pirk	Department of Zoology and Entomology
Prof MW Pretorius	Graduate School of Technology Management
Prof JL Roos	Department of Psychiatry
Prof MJ Somers	Centre for Wildlife Management
Prof V Steenkamp	Department of Pharmacology
Prof E Taljard	Department of African Languages

C-rated: Established researchers

C1	
Prof AG van Aarde	Department of New Testament Studies
Prof RJ van Aarde	Department of Zoology and Entomology
Prof JE van den Berg	Department of Mathematics and Applied Mathematics
Prof AJ van der Merwe	Department of Informatics
Prof EC Webb	Department of Animal and Wildlife Sciences
Prof VSS Yadavalli	Department of Industrial Engineering
C2	
Prof M Abbas	Department of Mathematics and Applied Mathematics
Prof C Abolnik	Department of Production Animal Studies
Prof JC Annandale	Department of Plant Production and Soil Science
Prof Z Apostolides	Department of Biochemistry
Prof TAS Aveling	Department of Microbiology and Plant Pathology
Prof JL Beckmann	Department of Education Management and Policy Studies
Prof A Bekker	Department of Statistics
Prof MFMP Bittencourt	Department of Economics
Prof P Bloomer	Department of Genetics
Dr R Blumenthal	Department of Forensic Medicine
Prof PJ Botha	Department of Ancient Languages
Prof EM Buys	Department of Food Science
Prof A Carstens	Department of Companion Animal Clinical Studies
Prof N Chetty	Department of Physics
Dr MPA Coetzee	Department of Genetics
Dr NE Collins	Department of Veterinary Tropical Diseases
Prof PL Crouse	Department of Chemical Engineering
Dr JF Dalerum	Department of Zoology and Entomology
Prof HL de Kock	Department of Food Science
Prof DE de Villiers	Department of Dogmatics and Christian Ethics
Dr JDK Djoko Kamden	Department of Mathematics and Applied Mathematics
Prof Y Dreyer	Department of Practical Theology
Prof AA Du Preez	Department of Visual Arts
Dr L du Toit-Prinsloo	Department of Forensic Medicine
Prof KG Duodu	Department of Food Science
Prof RDV Duvenhage	Department of Physics
Prof MM Ehlers	Department of Medical Microbiology
Prof PS Els	Department of Mechanical and Aeronautical Engineering
Prof MN Emmambux	Department of Food Science
Prof JC Engelbrecht	Department of Science, Mathematics and Technology Education
Prof AC Erasmus	Department of Consumer Science
Prof LJ Erasmus	Department of Animal and Wildlife Sciences
Prof L Fioramonti	Department of Political Sciences
Prof RC Fischer	Department of Architecture
Prof B Fourie	Department of Medical Microbiology
Prof WJ Fraser	Department of Science, Mathematics and Technology Education
Prof EKH Friedland	Department of Physics
Prof AM Garbers-Craig	Department of Materials Science and Metallurgical Engineering
Prof AE Goetz	Department of Geology
Prof RA Gray	Department of English
Prof AF Grobler	Department of Business Management
Prof A Groenewald	Department of Old Testament Studies
Prof B Gummow	Department of Production Animal Studies
Prof R Gupta	Department of Economics
Prof T Hanekom	Department of Electrical, Electronic and Computer Engineering

C-rated: Established researchers

C2	
Prof AF Harding	Department of Mathematics and Applied Mathematics
Prof AB Hofmeyr	Department of Philosophy
Dr JP Jacobs	Department of Electrical, Electronic and Computer Engineering
Prof DC Janse van Rensburg	Section Sports Medicine
Prof NF Janse van Rensburg	Department of Mathematics and Applied Mathematics
Dr AF Johnson	Department of Music
Prof RD Johnson	Gordon Institute of Business Science
Prof KH Jordaan	Department of Mathematics and Applied Mathematics
Prof F Joubert	Department of Biochemistry
Prof E Kearsley	Department of Civil Engineering
Prof J Ker	Department of Physiology
Prof SF Koch	Department of Economics
Prof S Kok	Department of Mechanical and Aeronautical Engineering
Prof L Kriel	Department of Visual Arts
Prof CJ Kruger	Department of Informatics
Prof EN L'Abbé	Department of Anatomy
Prof N Lall	Department of Plant Science
Dr C le Roux	Department of Mathematics and Applied Mathematics
Prof JH le Roux	Department of Old Testament Studies
Prof LP Linde	Department of Electrical, Electronic and Computer Engineering
Dr PA Lindsey	Department of Zoology and Entomology
Prof MR Mabugu	School of Public Management and Administration
Prof MCN Madekurozwa	Department of Anatomy and Physiology
Dr GIM Mahmood	Department of Mechanical and Aeronautical Engineering
Prof JJ Malan	Department of Public Law
Prof JAG Malherbe	Department of Electrical, Electronic and Computer Engineering
Prof NI Manyala	Department of Physics
Prof DJF Maree	Department of Psychology
Prof C Maritz-Olivier	Department of Genetics
Prof LJ McGaw	Department of Paraclinical Sciences
Prof D Medalie	Department of English
Prof CE Medlen	Faculty of Health Sciences (Office of the Dean)
Prof JA Meylahn	Department of Practical Theology
Dr BE Mostert	Department of Animal and Wildlife Sciences
Prof JC Müller	Department of Practical Theology
Prof R Naraidoo	Department of Economics
Prof L Nathan	Department of Political Sciences
Prof AG Nienaber	Department of Public Law
Dr JM Olwoch	Department of Geography, Geoinformatics and Meteorology
Prof MC Oosthuizen	Department of Veterinary Tropical Diseases
Prof MS Pepper	Department of Immunology
Prof DJ Petzer	Department of Marketing Management
Prof TS Pillay	Department of Chemical Pathology
Prof V Pillay	Department of Education Management and Policy Studies
Prof M Potgieter	Department of Chemistry
Prof A Pouris	Institute for Technological Innovation
Prof L Pretorius	Graduate School of Technology Management
Prof O Reva	Department of Biochemistry
Prof MP Robertson	Department of Zoology and Entomology
Prof HB Rollin	School of Health Systems and Public Health
Prof CZ Roux	Department of Genetics
Prof MME Schoeman	Department of Political Sciences

C-rated: Established researchers**C2**

Prof HC Schonfeldt	Department of Animal and Wildlife Sciences
Prof MT Sehoole	Department of Education Management and Policy Studies
Dr CL Sole	Department of Zoology and Entomology
Prof JM Steyn	Department of Plant Production and Soil Science
Prof JG Stols	Department of Science, Mathematics and Technology Education
Dr C Strasheim	Department of Human Resources Management
Prof PD Sumner	Department of Geography, Geoinformatics and Meteorology
Prof GE Swan	Exotic Leather Research Centre
Prof MB Taylor	Department of Medical Virology
Prof CC Theron	Department of Physics
Prof J Theron	Department of Microbiology and Plant Pathology
Prof PN Thompson	Department of Production Animal Science
Prof C Thornhill	School of Public Management and Administration
Dr A Valverde	Department of Genetics
Prof BPS van Eck	Department of Mercantile Law
Prof J van Eeden	Department of Visual Arts
Prof JH van Heerden	Department of Economics
Prof E van Marle-Koster	Department of Animal and Wildlife Sciences
Prof WA van Niekerk	Department of Animal and Wildlife Sciences
Prof JL van Rooy	Department of Geology
Prof MW van Rooyen	Department of Plant Science
Prof JJ van Vuuren	Department of Business Management
Prof S Vandeyar	Department of Humanities Education
Dr CJ Venter	Department of Civil Engineering
Prof EH Venter	Department of Veterinary Tropical Diseases
Prof HS Venter	Department of Computer Science
Prof M Venter	Department of Medical Virology
Prof PM Venter	Department of Old Testament Studies
Prof JA Verschoor	Department of Biochemistry
Prof BHME Vinck	Department of Speech-Language Pathology and Audiology
Prof MJ Visser	Department of Psychology
Prof MJD Ward	Gordon Institute of Business Science
Prof VN Webb	Department of Afrikaans
Prof KE Weber	Department of Educational Management and Policy Studies
Dr CW Weldon	Department of Zoology and Entomology
Prof CJ Wepener	Department of Practical Theology
Dr X Zhou	Forestry and Agricultural Biotechnology Institute

C3

Prof K Barac	Department of Auditing
Prof AJ Bumby	Department of Geology
Prof A Carstens	Unit for Advanced Literacy
Prof NH Casey	Department of Animal and Wildlife Sciences
Prof PWC Chirwa	Department of Plant Production and Soil Science
Prof R Cockeran	Department of Immunology
Prof SM Coetzee	Centre for Geoinformation Science
Prof HM de Klerk	Department of Consumer Science
Prof C de Villiers	Department of Informatics
Dr JJR de Villiers	Department of Science, Mathematics and Technology Education
Dr MM Diale	Department of Physics
Prof J Dirker	Department of Mechanical and Aeronautical Engineering
Dr PH du Toit	Department of Humanities Education
Prof GA Duncan	Department of Church History and Church Policy

C-rated: Established researchers

C3	
Prof EMCE Etter	Department of Production Animal Science
Prof R Evans	Department of Humanities Education
Dr FO Fasina	Department of Production Animal Science
Prof R Ferreira	Department of Educational Psychology
Dr KP Findlay	Department of Zoology and Entomology
Dr ARM Gaspar	Department of Biochemistry
Prof R Gauton	Department of African Languages
Prof JH Gelderblom	Department of Informatics
Dr AJ Gerber	Department of Informatics
Prof DG Gouws	Department of Financial Management
Prof DJ Grayson	Department of Physics
Prof RJ Green	Department of Paediatrics
Dr DR Groot	Department of Materials Science and Metallurgical Engineering
Prof S Gruner	Department of Computer Science
Prof JH Hall	Department of Financial Management
Dr A Hassen	Department of Animal and Wildlife Sciences
Dr C Herman	Department of Education Management and Policy Studies
Dr S Human-Vogel	Department of Educational Psychology
Prof C Huyser	Department of Obstetrics and Gynaecology
Prof PC Irons	Department of Production Animal Studies
Prof M Jansen van Vuuren	Department of Veterinary Tropical Diseases
Prof AC Jordaan	Department of Economics
Prof Y Jordaan	Department of Marketing Management
Dr F Jori	Department of Zoology and Entomology
Prof AM Joubert	Department of Physiology
Prof C Kruger	Department of Psychiatry
Prof M Landman	Department of Chemistry
Prof A Louw	Department of Agricultural Economics, Extension and Rural Development
Prof BA Lubbe	Department of Marketing Management (Tourism Management Division)
Prof UE Macintyre	Department of Human Nutrition
Prof VJ Maharaj	Department of Chemistry
Prof PT Matjila	Department of Paraclinical Sciences
Dr MC Matthee	Department of Informatics
Prof CME McCrindle	School of Health Systems and Public Health
Prof D Meiring	Department of Human Resources Management
Prof MJ Mojalefa	Department of African Languages
Dr ED Mungatana	Department of Agricultural Economics, Extension and Rural Development
Prof MMS Munro	Department of Drama
Dr R Naidoo	Department of Informatics
Prof D Nel	Department of Marketing Management
Dr JM Nel	Department of Physics
Prof M Nel	Department of Practical Theology
Prof CJP Niemandt	Department of Science of Religion of Missiology
Prof FJ Niewenhuis	Department of Humanities Education
Prof JO Nothling	Department of Production Animal Studies
Prof PP Ntumba	Department of Mathematics and Applied Mathematics
Prof NM Ochara	Department of Informatics
Dr J Pienaar	Department of Genetics
Prof E Pretorius	Department of Physiology
Prof M Pretorius	Department of Business Management
Prof N Sauer	Department of Mathematics and Applied Mathematics
Prof P Schaap	Department of Human Resources Management

C-rated: Established researchers

C3	
Prof P Selyshchev	Department of Physics
Prof JT Soley	Department of Anatomy and Physiology
Prof H Steyn	Graduate School of Technology Management
Dr SE Terblanche	Department of Agricultural Economics
Prof E van Eck	Department of New Testament Studies
Prof DR Walwyn	Graduate School of Technology Management
Prof JA Wessels	Department of English
Dr J Wichmann	School of Health Systems and Public Health
Prof A Wocke	Gordon Institute of Business Science

Y-rated: Promising young researchers

Y1	
Prof BO Abidoye	Department of Agricultural Economics, Extension and Rural Development
Dr I Barnes	Forestry and Agricultural Biotechnology Institute
Dr DI Bezuidenhout	Department of Chemistry
Dr Coetzee	Department of Genetics
Dr MR Crole	Department of Anatomy and Physiology
Dr PJN de Bruyn	Department of Zoology and Entomology
Dr NPJ de Koker	Department of Industrial Engineering
Dr WP du Plessis	Department of Electrical, Electronic and Computer Engineering
Dr M Greve	Department of Plant Science
Dr M Helbig	Department of Computer Science
Dr BP Hurley	Forestry and Agricultural Biotechnology Institute
Prof J Kok	Department of New Testament Studies
Dr K Landman	Department of Town and Regional Planning
Dr EH le Roux	Department of Information Science
Dr PC le Roux	Department of Plant Science
Dr T McIntyre	Department of Zoology and Entomology
Dr FH Meyer	Department of Agricultural Economics
Dr MK Oosthuizen	Department of Zoology and Entomology
Dr BA Stander	Department of Physiology
Dr HP Tong-Viet	Department of Mathematics and Applied Mathematics
Dr CA Tosh	Department of Zoology and Entomology
Dr RH van der Bergh	Department of Ancient Languages
Dr AN van Schoor	Department of Anatomy
Prof ER Venter	Department of Taxation
Y2	
Dr AE Adewusi	Department of Pharmacology
Dr AR Appadu	Department of Mathematics and Applied Mathematics
Dr MF Cassim	Department of Mercantile Law
Dr KY Chan	Graduate School of Technology Management
Dr M Chapwanya)	Department of Mathematics and Applied Mathematics
Dr BG Crampton	Department of Plant Science
Dr JK Dangbegnon	Department of Physics
Dr AJ de Waal	Department of Statistics
Dr S Donoghue	Department of Consumer Science
Prof TB Dzikiti	Department of Companion Animal Clinical Studies
Dr SH Elwen	Department of Zoology and Entomology
Dr G Esposito	Department of Production Animal Science
Dr PBS Forbes	Department of Chemistry
Dr W Fourie	Department of Dogmatics and Christian Ethics
Dr S Garba	Department of Mathematics and Applied Mathematics
Dr JR Garnas	Department of Zoology and Entomology

Y-rated: Promising young researchers

Y2

Dr NS Haussmann	Department of Geography, Geoinformatics and Meteorology
Dr TT Hlatshwayo	Department of Physics
Dr MA Holmner	Department of Information Science
Prof JW Joubert	Department of Industrial Engineering
Dr UM Killander	Centre for Human Rights
Dr AJT Kleyn	Department of Informatics
Dr FE Koekemoer	Department of Human Resources Management
Prof JA Kok	Department of Jurisprudence
Dr KC Lehloenya	Department of Animal and Wildlife Sciences
Dr N Lenhardt	Department of Geology
Dr R Malekian	Department of Electrical, Electronic and Computer Engineering
Dr J Mans	Department of Medical Virology
Dr LCR Meyer	Department of Paraclinical Sciences
Prof LN Moleleki	Department of Microbiology and Plant Pathology
Dr D Morar-Leather	Department of Veterinary Tropical Diseases
Dr S Naidoo	Department of Genetics
Prof JA Nel	Department of Human Resources Management
Dr K Nolte	Department of Physiology
Dr HM Oberholzer	Department of Anatomy
Prof GW Ouma	Centre for Academic Development
Dr A Phulukdaree	Department of Physiology
Dr M Quan	Department of Veterinary Tropical Diseases
Dr JB Ramond	Department of Genetics
Dr KP Sibeko-Matjila	Department of Veterinary Tropical Diseases
Dr MD Thantsha	Department of Microbiology and Plant Pathology
KM Tönsing	Centre for Augmentative and Alternative Communication
Dr TE Tshikalange	Department of Plant Science
Dr N van den Berg	Department of Genetics
Dr M van der Laan	Department of Plant Production and Soil Science
Dr NA van der Merwe	Department of Genetics
Dr JE van der Waals	Department of Microbiology and Plant Pathology
Dr JH van der Walt	Department of Mathematics and Applied Mathematics
Dr S van Staden	Department of Science, Mathematics and Technology Education
Dr AJ van Zyl	Department of Mathematics and Applied Mathematics
Dr C Visser	Department of Animal and Wildlife Sciences
Dr BJ Vorster	Department of Plant Production and Soil Science
Dr DN Wilke	Department of Mechanical and Aeronautical Engineering