## THE SUNDAY TIMES **UNIVERSITY GUIDE 2006**

# RATED WORLD CLASS FOR RESEARCH

not even been to your first lecture, but a university's ability to deliver high-quality teaching to lead utting-edge research may seem a long way off when you have deliver high-quality teaching to legions of undergraduates is inextricably linked with its capacity to attract the most capable academics within their fields. While some devote themselves solely to research, most academics combine it with teaching.

The quality of this research work is reviewed regularly, with all the institutions deciding which staff they want assessed. The bulk of the data below is drawn from the most recent research assessment exercise (RAE), published in 2001. A new round of assessments begins next year across 70 subjects, with the results published in December 2008. Subjects are graded from 5\* (denoting international excellence in at least half the work submitted) and 5 (internationally excellent in up to half the work) down to 1 (work not considered notable at national level). The outcomes help determine government funding.

The number of 5\* subjects across all universities and colleges increased substantially from 170 in 1996 to 284 in 2001. The list below shows all the subjects rated internationally excellent in the 2001 ratings — 999 in all, earning 5\* or 5 ratings. Those subjects graded internationally excellent in more than half the work submitted are denoted with a \*. Subjects are listed alphabetically by assessment category, but they may be known by different names in institutions.

A separate panel of gold-standard subjects is also shown. This is the elite band of subjects rated 5\* in both the 1996 and 2001 assessments. Listed by institution, they show Cambridge and Oxford have the lion's share of subjects demonstrating sustained research excellence.

The research rankings in this guide are produced from these subject scores, as well as the proportion of academic staff submitted for assessment. This rewards outright research quality as well as strength and depth when it comes to conducting research at the highest level.



**GOLD STANDARD CENTRES OF EXCELLENCE** 

Bath (1) Mechanical, Aeronautical and Manufacturing Engineering. Birmingham (4) Anatomy; European Studies (Centre for European Studies); Metallurgy and Materials; Middle Eastern and African Studies.

Bristol (1) Geography.

Cambridge (21) Applied Mathematics; Archeology; Biological Sciences (Biochemistry/Zoology); Chemistry; Classics, Ancient History, Byzantine and Modern Greek Studies; Community-Based Clinical Subjects; Computer Science; Earth Sciences; English Language and Literature; French; General Engineering; German, Dutch and Scandinavian Languages; History; Iberian and Latin American Languages; Italian; Law; Metallurgy and Materials; Philosophy (History and Philosophy of Science); Physics; Psychology; Statistics and Operational Research.

Cardiff (1) Town and Country Planning.

Durham (1) Geography.

East Anglia (1) Environmental Sciences.

Edinburgh (2) Electrical and Electronic Engineering; Geography.

Essex (2) Politics and International Studies; Sociology.

Heriot-Watt (1) Mineral and Mining Engineering.

Imperial (6) Chemical Engineering; Civil Engineering; Computer Science; Hospital-Based Clinical Subjects (National Heart and Lung Institute); Mechanical, Aeronautical and Manufacturing Engineering; Pure Mathematics.

King's (5) Classics, Ancient History, Byzantine and Modern Greek Studies; Community-Based Clinical Subjects (Institute of Psychiatry); German, Dutch, and Scandinavian Languages; History; Politics and International Studies (War Studies)

Lancaster (2) Business and Management Studies; Sociology.

Leeds (4) Food Science and Technology; Italian; Mechanical, Aeronautical and Manufacturing Engineering: Town and Country Planning.

Liverpool (1) Physiology.

LSE (2) Economics and Econometrics; Social Policy and Administration.

Manchester (4) Accounting and Finance; Metallurgy and Materials; Music; Theology, Divinity and Religious Studies.

Nottingham (1) German, Dutch and Scandinavian Languages.

School of Oriental and African Studies (1) History.

Oxford (19) Archeology; Asian Studies; Chemistry; Classics, Ancient History, Byzantine and Modern Greek Studies; Clinical Laboratory Sciences (Dunn School of Pathology); Community-Based Clinical Subjects; Earth Sciences; English Language and Literature; French; General Engineering; Hospital-Based Clinical Subjects; Law; Metallurgy and Materials; Music; Psychology; Physics; Philosophy; Politics and International Studies; Pure Mathematics.

Queen's, Belfast (1) Mechanical, Aeronautical and Manufacturing Engineering.

Reading (1) Environmental Sciences.

Royal Holloway (1) Music.

Salford (1) Built Environment.

Sheffield (3) Electrical and Electronic Engineering; Library and Information; Metallurgy and

Southampton (1) Electrical and Electronic Engineering.

St Andrews (1) Psychology.

Swansea (1) Civil Engineering.

(Institute of Ophthalmology); Italian; Pharmacology.

Surrey (1) Electrical and Electronic Engineering.

UCL (7) Classics, Ancient History, Byzantine and Modern Greek Studies; Economics and Econometrics; English Language and Literature; Geography; Hospital-Based Clinical Subjects

Ulster (1) Other Studies and Professions Allied to Medicine (Biomedical Sciences). York (2) Computer Science; Psychology.

Abbreviations: King's, King's College London; Open, The Open University; SEESS, School of Eastern European and Slavonic Studies; Soas, School of Oriental and African Studies; UCL, University College London; Umist, University of Manchester Institute of Science and Technology; Uwic, University of Wales Institute Cardiff. Scores for Umist (University of Manchester Institute of Science and Technology) have been assigned to Manchester following its merger in 2004. Where both institutions gained 5 or 5\* ratings, only Manchester's is shown.

#### **BUSINESS**

Accounting and Finance Bangor; Bristol; Durham; Edinburgh; Essex; Exeter; Glasgow LSE\*; Manchester\*; Newcastle; Paisley; Stirling; Strathclyde; West of England.

Business and Management Studies Aston; Bath; Cambridge; Cardiff; City; Imperial; Lancaster\*; Leeds; LSE; Manchester; Nottingham; Oxford; Reading; Warwick\*.

#### **CULTURAL STUDIES**

American Studies Keele; Liverpool; Nottingham\*; Sussex.

Asian Studies Cambridge\*; Edinburgh; Hull; Leeds: Soas: Oxford\*: Westminster. Celtic Studies Aberystwyth\*; Aston; Bangor\* Cambridge\*; Cardiff; Edinburgh; Oxford; Queen's Belfast; Swansea; Ulster\*.

European Studies Bath; Birmingham (Centre for Russian and East European Studies\*; Institute of German Studies); Bradford\*; Brighton; Cardiff; Glasgow\*: Lancaster: Loughborough: Portsmouth Queen's Belfast (European Studies; Irish Studies); Salford; Southampton\*; Surrey; UCL. Middle Eastern and African Studies

Birmingham\*; Cambridge; Edinburgh\*; Exeter; Manchester; Soas; Oxford.

#### **EDUCATION**

Education Bath; Birmingham; Bristol\*; Cambridge; Cardiff\*; Durham; Exeter; King's; Lancaster: Oxford: Sheffield: Sussex. Sports-related Subjects Bangor; Birmingham\*; Exeter; Glasgow\*; Liverpool John Moores\*; Loughborough\*; Manchester Metropolitan\*.

#### **ENGINEERING**

Chemical Engineering Birmingham\*; Cambridge; Imperial\*; Manchester; Newcastle; Surrey (Centre for Environmental Strategy); UCL\*. Civil Engineering Birmingham; Bristol\*; Cardiff\*; Dundee; Edinburgh; Imperial\*; Leeds; Manchester; Newcastle (Civil Engineering/Marine

Technology); Nottingham; Queen's Belfast; Sheffield; Southampton\*; Swansea\*; UCL (Civil and Environmental Engineering).

Electrical and Electronic Engineering

Birmingham; Bristol; Cardiff; Edinburgh\*; Essex; Glasgow; Imperial; King's; Leeds\*; Liverpool; Loughborough; Manchester; Newcastle; Queen's Belfast; Reading; Sheffield (Automatic Control and Systems Engineering\*; Electronic and Electrical Engineering\*); Southampton\*; Strathclyde; Surrey\*; UCL. General Engineering Aston; Brunel;

Cambridge\*; Durham; Imperial\*; Keele; Leeds; Leicester; Liverpool John Moores; Oxford\*;

Strathclyde; Sussex; Warwick. Mechanical, Aeronautical and Manufacturing Engineering Bath\*: Bradford: Bristol (Mechanical Engineering); Brunel; Glasgow (Mechanical Engineering); Imperial\*; King's; Leeds\*; Liverpool\*; Loughborough; Manchester; Nottingham; Queen's Belfast\*; Queen Mary; Sheffield; Southampton\*; Strathclyde (Mechanical Engineering); UCL.

Metallurgy and Materials Birmingham\*; Cambridge\*; Imperial; Liverpool; Manchester\* (Metallurgy and Minerals); Oxford\*; Queen Mary; Sheffield\*: Sheffield Hallam Mineral and Mining Engineering Heriot-Watt\*;

**ENVIRONMENT** 

Built Environment Bath; Cardiff; Heriot-Watt; Loughborough\*; Reading; Salford\*; Sheffield;

**Town and Country Planning** Aberdeen; Cambridge; Cardiff\*; Glasgow; Leeds\*; Newcastle; Reading; Sheffield.

#### **HUMANITIES**

Archeology Bradford; Cambridge\*; Cardiff; Durham; Exeter; Leicester; Liverpool; Oxford\*; Queen's Belfast; Reading\*; Sheffield; Southampton: UCL.

Art and Design Arts London: Bournemouth: Brighton; City; Goldsmiths; Newport; Open; Reading (Typography); Sheffield Hallam; UCL: Ulster. Communication, Cultural and Media Studies

Cardiff; East Anglia\*; East London; Goldsmiths\*; Nottingham Trent: Stirling: Warwick: Westminster.

Drama, Dance and Performing Arts Aberystwyth; Bristol\*; Kent; Manchester; Nottingham Trent; Reading; Royal Holloway; Warwick\* History Birkbeck\*; Birmingham; Cambridge\*

Edinburgh; Essex; Exeter; Glasgow; Hertfordshire;

Cardiff; Dundee; Durham\*; East Anglia\*;

Huddersfield; Hull; Imperial; Keele; King's\*;

History; International History\*); Manchester; Soas\*; Oxford; Oxford Brookes\*; Oueen's Belfast; Queen Mary; Roehampton; Royal Holloway; St Andrews; Sheffield; Sheffield Hallam; Southampton; Stirling; Teesside; UCL; Warwick; History of Art, Architecture and Design

Leeds; Leicester; Liverpool; LSE (Economic

Birkbeck; Birmingham; Cambridge; East Anglia; Essex; Glasgow; Manchester; Middlesex; Open; Plymouth; St Andrews; Sussex; UCL; Warwick Library and Information Management Brunel; City; Loughborough; Salford\*; Sheffield\*. Music Bangor; Birmingham\*; Bristol; Cambridge\*; Cardiff; City\*; Goldsmiths; Huddersfield; Hull; King's; Manchester\*; Newcastle\*, Nottingham\*; Soas; Oxford\*; Queen's Belfast; Royal Holloway\*; Sheffield; Southampton\*: Sussex: York.

Philosophy Birkbeck; Bristol; Cambridge (History and Philosophy of Science\*; Philosophy\*); Durham; East Anglia; Edinburgh\*; Essex; King's\*; Leeds; LSE\*; Middlesex; Nottingham; Oxford\*; Reading; St Andrews; Sheffield; Stirling; Sussex; UCL; Warwick; York.

Theology, Divinity and Religious Studies Aberdeen: Birmingham: Bristol: Cambridge: Cardiff\*; Durham; Edinburgh; Exeter; Glasgow: King's: Lampeter: Lancaster: Manchester\*: Newcastle: Nottingham\*: Soas: Oxford\*; St Andrews; Sheffield (Biblical Studies):

#### LANGUAGES AND LITERATURE

Classics, Ancient History, Byzantine and Modern Greek Studies Birmingham (Centre for Byzantine, Ottoman and Modern Greek Studies); Bristol; Cambridge\*; Durham; Exeter; King's\*; Manchester; Oxford\*; Reading; Royal Holloway; St Andrews; UCL\*; Warwick.

English Language and Literature Anglia Ruskin; Birkbeck\*; Birmingham; Bristol; Cambridge\*; Cardiff\*; De Montfort; Durham\*; East Anglia; Edinburgh\*; Exeter; Glasgow\*; Goldsmiths; Hull; Keele; Kent; Lampeter;

Lancaster; Leeds\*; Leicester; Liverpool\*; Loughborough; Manchester; Newcastle; Nottingham; Nottingham Trent; Oxford\*; Oxford Brookes; Queen's Belfast; Queen Mary; Reading\* Royal Holloway; St Andrews\*; Sheffield; Southampton; Stirling; Strathclyde; Sussex;

UCL\*; Warwick\*; York\*. French Aberdeen\*: Birmingham\*: Bristol: Cambridge\*; Durham; Edinburgh; Glasgow; King's; Liverpool; Manchester\*; Nottingham; Oxford\*; Oxford Brookes; Queen Mary; Reading; Royal Holloway\*; Sheffield; Stirling; UCL; Warwick

German, Dutch and Scandinavian Languages Birkbeck; Birmingham\*; Bristol; Cambridge\*; Edinburgh\*; Exeter\*; King's\*; Liverpool; Manchester\*; Nottingham\*; Oxford; Queen Mary; Royal Holloway\*; Swansea; UCL (Dutch; German\*; Scandinavian Studies); Warwick. **Iberian and Latin American Languages** 

Birkbeck\*; Birmingham; Cambridge\*; Edinburgh; King's (Portuguese\*; Spanish\*); Manchester\*; Newcastle: Nottingham\*: Oxford: Queen Mary\*: St Andrews; Sheffield; Swansea. Italian Birmingham\*; Bristol; Cambridge\* Leeds\*; Manchester; Oxford\*; Reading\*; UCL\*;

Warwick Linguistics Cambridge\*; Durham; Edinburgh; Essex; Lancaster; Manchester; Newcastle; Oxford\*; Queen Mary\*; UCL\*; Westminster;

Russian, Slavonic and East European Languages Bristol\*; Cambridge; Exeter; Nottingham; Oxford\*; Portsmouth; Queen Mary; Sheffield\*; Surrey.

#### MATHS AND COMPUTING

Sussex; UCL; Warwick\*; York.

Applied Mathematics Bath\*; Birmingham; Bristol\*; Brunel; Cambridge\*; Dundee; Durham\*; Edinburgh; Exeter; Glasgow; Heriot-Watt; Imperial\*; Keele; Kent; King's; Leeds; Leicester; Liverpool; Manchester; Nottingham; Oxford; Portsmouth; Reading; St Andrews: Southampton: Strathclyde: Surrey:

Computer Science Birmingham; Bristol;

Cambridge\*; Cardiff; Edinburgh\*; Glasgow; Imperial\*; Lancaster; Leeds; Liverpool; Manchester\*; Newcastle; Nottingham; Oxford: Plymouth; Royal Holloway; St Andrews; Sheffield; Southampton\*; Sussex; Swansea; UCL; Warwick; York\*. Pure Mathematics Aberdeen; Bath; Birmingham;

Bristol; Cambridge\*; Cardiff; Durham; East Anglia; Edinburgh\*; Glasgow; Imperial\*; King's; Leeds; Leicester; Liverpool; Manchester; Newcastle: Nottingham; Oxford\*; Queen Mary; Royal Holloway; St Andrews; Sheffield; Southampton: Swansea: UCL: Warwick: York. Statistics and Operational Research Bath; Bristol\*; Cambridge\*; Glasgow; Heriot-Watt; Imperial; Kent\*; Lancaster\*; Leeds; Newcastle; Nottingham; Oxford\*; Queen Mary; St Andrews; Salford; Sheffield; Southampton (Statistics; Operational Research); Surrey; UCL; Warwick\*.

#### **MEDICINE - Clinical**

Cancer Studies Bristol; Cambridge\*; Dundee\*; Imperial\*; Leeds; Liverpool; Queen's Belfast. Cardiovascular Medicine Imperial\*. Clinical Laboratory Sciences Birmingham\*; Bristol; Cambridge\*; Dundee\*; Glasgow; Imperial\*; King's; Leeds; Liverpool; Newcastle\*; Oxford (Dunn School of Pathology\*; Clinical Laboratory Sciences): Southamptor Community-based Clinical Subjects Aberdeen; Bristol\*; Cambridge\*; Imperial; King's (Institute of Psychiatry\*); Manchester; Newcastle; Oxford\*;

Queen's Belfast; York. Epidemiology, Public Health Research and Health Services Research Aberdeen; Bristol\*; Cambridge\*; Imperial; Manchester; Oxford\*. Infection and Immunology Aberdeen; Bristol; Cambridge\*; Dundee; Glasgow\*; Imperial\*; King's\*; Leicester; Liverpool; Newcastle\*, Oxford (Clinical Laboratory Sciences\*). Neuroscience Dundee\*; Imperial Primary Care Aberdeen; Birmingham\*;

Cambridge\*; Manchester\*; Oxford\*. **Psychiatry** Cambridge\*; Dundee; Imperial; King's (Institute of Psychiatry\*; School of Medicine); Manchester; Newcastle; Nottingham;

#### **MEDICINE - General**

Anatomy Birmingham\*; Bristol\*; Cambridge; King's\*; Oxford; UCL.

Clinical Dentistry Bristol\*; Dundee; King's\*; Newcastle; Queen Mary; Sheffield; UCL.

Nursing Manchester; Newcastle; Sheffield; York. Other Studies and Professions Allied to Medicine Aston; Bradford (Biomedical Sciences): Brighton (Biomedical Sciences); Cardiff\*; City (Optometry and Visual Science); King's (Nutrition and Dietetics); Leeds; Manchester\*; Nottingham Trent; Portsmouth; Strathclyde; Surrey\*; UCL; Ulster (Biomedical Sciences\*)

Pharmacology Cambridge; Leicester; Liverpool; Oxford\*: UCL Pharmacy Bath\*; Cardiff; King's; Manchester\*;

Nottingham: Strathclyde. **Physiology** Aberdeen; Leeds; Liverpool\*; Newcastle; Oxford. Pre-clinical Studies Birmingham; Imperial;

King's; Manchester\*; Sheffield\*. Psychology Bangor\*; Birkbeck; Birmingham\* Bristol\*; Cambridge\*; Cardiff\*; Durham; Edinburgh; Essex; Exeter; Glasgow\*; Lancaster; Leeds; Manchester; Newcastle\*; Nottingham; Oxford\*; Plymouth; Reading\*, Royal Holloway; St Andrews\*; Sheffield; Southampton; Stirling; Surrey; Sussex; UCL\*; Warwick; York\*.

### MEDICINE - Hospital

Cancer Studies Cambridge; Edinburgh\*; Keele; King's; Manchester\*; Newcastle\*; Oxford; Sheffield; UCL (Institute of Child Health\*) Cardiovascular Medicine Cambridge\*; Edinburgh\*; Glasgow; Imperial\*; Leicester; Manchester; Sheffield; UCL (Institute of Child

Hospital-Based Clinical Subjects Birmingham; Cambridge\*; Dundee; Edinburgh\*; Exeter; Glasgow; Imperial\*; Manchester; Newcastle; Oxford\*; Sheffield; Southampton; UCL (Royal Free and University College Medical School; Institute of Child Health\*; Institute of

Neurology\*; Institute of Ophthalmology\*). Infection and Immunology Aberdeen\* Cambridge\*; Edinburgh\*; Imperial\*; King's; Liverpool\*; Oxford\*; Sheffield\*; UCL (Institute of Child Health\*). Neuroscience Cambridge\*; Edinburgh; Imperial;

Oxford; UCL (Institute of Child Health\*; Institute

#### of Neurology\*). **SCIENCE**

Agriculture Aberdeen (Plant and Soil Science); Bangor; Nottingham; Reading (Agriculture; Plant Sciences); Stirling. **Biological Sciences** Aberdeen; Bath; Birkbeck

(Crystallography); Birmingham; Bristol

(Biological Sciences; Biochemistry\*); Cambridge (Biochemistry\*; Genetics; Plant Sciences; Zoology\*; Biotechnology); Cardiff (Mammalian and Medical Biology); Dundee\*; Durham; East Anglia; Edinburgh; Glasgow; Imperial\*; King's (Biophysics [Randall Centre]); Leeds; Leicester (Biochemistry; Biology; Genetics\*); Liverpool; Manchester\*; Newcastle\*; Nottingham (Genetics); Oxford (Zoology; Biochemistry); Royal Holloway; St Andrews; Sheffield (Animal and Plant Sciences\*; Molecular and Cellular Biology\*); Southampton; Sussex; UCL (Biochemistry and Molecular Biology; Biology); Warwick; York. Chemistry Birmingham; Bristol\*; Cambridge\*; Durham\*; East Anglia; Edinburgh; Imperial\*; Leeds; Liverpool; Manchester; Nottingham; Oxford\*; St Andrews; Sheffield; Southampton;

Sussex: ÚCL\*: Warwick: York. Earth Sciences Birkbeck; Bristol\*: Cambridge\*: Cardiff: Edinburgh: Lancaster: Leeds: Liverpool; Manchester; Newcastle; Open; Oxford\*; Royal Holloway; UCL.

Environmental Sciences East Anglia\*; Leeds; Reading\*; Southampton.
Food Science and Technology Leeds\*; Nottingham; Reading.

Physics Birmingham; Bristol; Cambridge\*; Cardiff; Durham; Edinburgh; Exeter; Glasgow; Imperial\*; Lancaster\*; Leeds; Leicester; Liverpool; Manchester; Nottingham; Oxford\*; Queen's Belfast; Queen Mary; Royal Holloway; St Andrews; Sheffield (Physics and Astronomy; Medical Physics and Clinical Engineering); Southampton\*; Surrey; Sussex; Swansea; UCL;

Warwick. Veterinary Science Bristol; Cambridge; Edinburgh; Glasgow; Liverpool.

#### **SOCIAL SCIENCES**

**Anthropology** Cambridge; Durham; Edinburgh; Goldsmiths; Kent; LSE\*; Manchester; Soas; Oxford; Queen's Belfast; Roehampton; St Andrews; Sussex; UCL\*.

Economics and Econometrics Birkbeck: Cambridge: Essex\*: Exeter: Leicester: LSE\*: Nottingham; Oxford; Queen Mary; Southampton; UCL\*; Warwick\*; York. Geography Bristol\*; Cambridge; Durham\*;

Edinburgh\*; Hull; Leeds; LSE; Loughborough; Newcastle; Nottingham; Open\*; Queen Mary; Royal Holloway\*; Sheffield; Southampton; UCL\*. Law Aberdeen; Birkbeck; Birmingham; Bristol; Brunel; Cambridge\*; Cardiff; City; Dundee; Durham\*; East Anglia; Edinburgh; Essex; Exeter; Glasgow; Hull; Keele\*; Kent; King's; Lancaster; Leeds; Leicester; LSE\*; Manchester; Newcastle; Nottingham; Soas; Oxford\*; Queen's Belfast; Queen Mary\*; Reading; Sheffield; Southampton\*; Strathclyde; UCL\*; Ulster; Warwick; Westminster. Politics and International Studies

Aberystwyth\*: Birkbeck: Birmingham: Bradford: Bristol; De Montfort; Essex\*; Exeter; Glasgow; Hull; Keele; King's (War Studies\*); LSE; Manchester; Newcastle; Oxford\*; Queen's Belfast; Reading; St Andrews; Sheffield\*; Strathclyde; Sussex (Science and Technology Policy Research); Warwick; York.

Social Policy and Administration Bath; Bristol; Keele; Kent\*; Leeds; LSE\*; Manchester; Sheffield; Southampton; York. Social Work Bristol\*; East Anglia; Huddersfield;

Lancaster; Stirling; Swansea; Warwick; York. Sociology Aberdeen; Bristol; Brunel; Cambridge; Cardiff; Edinburgh; Essex\*; Exeter; Goldsmiths\*; Lancaster\*; LSE; Loughborough\*; Manchester\*; Oxford; Queen's Belfast; Surrey\*; Warwick; York.