

Institution:
Glasgow Caledonian University

1. Context and mission

With origins back to 1875, Glasgow Caledonian University (GCU) received University status in 1993. In REF2014, GCU ranked as the top Modern University in Scotland for research power. An overview of GCU is provided in Table 1.

	2013/14	2019/20
Total student numbers (FTE)	13660.5	14898.4
PGR students (FTE)	396.5	312.6
Total staff (headcount)	1,568	1,557
Total academic staff (headcount)	731	753
Teaching income, per annum	£33,547,000	£40,265,000
Research income, per annum	£5,048,277	£5,819,787

Table 1: Overview of Glasgow Caledonian University

GCU has a developed, distinctive mission, ‘For the Common Good’. The focus of its Strategy 2020 is transforming lives, enriching cities and communities, creating societal benefit through social innovation and engaging globally. Located in the centre of Glasgow, the University has responded to the City’s pervasive multiple deprivation and disparities in health and well-being, including catering for a large population of [widening-access students](#). These factors have been key to shaping our research priorities.

Since 2014, in line with its Common Good mission, GCU’s Research Strategy has revolved around addressing three societal challenges - inclusive societies, healthy lives and sustainable environments – reflecting the disciplines of our three academic Schools: School of Health & Life Sciences, the School of Computing, Engineering & Built Environment and the Glasgow School for Business & Society. Issued by United Nations in 2016, the Sustainable Development Goals (SDGs) were adopted in 2017 to form the overarching framework for this Strategy.

Given our location, the research of the University is intrinsically and explicitly linked to place, reflecting the challenges, characteristics and aspirations of the City of Glasgow, Scotland and the UK; but broadening impact through various international networks.

2. Strategy

In 2014, we conducted a strategic review, with stakeholders, to identify strengths and areas requiring development or divestment. This was combined with our 2020 Strategy to devise a set of ambitious five-year research goals, integrated with our annual Scottish Funding Council Outcome Agreements.

Our most important strategic development since REF2014 was to align research to GCU’s core mission, including adoption of the SDGs and development of a new Centres Approval and Renewal Process, thus introducing an interdisciplinary thematic approach to underpin our Common Good Mission. This has been coupled with an increase in research activity closely aligned with Scottish and UK research and industrial policy, achieved through more-focused recruitment and development of staff, enhanced research culture, and promotion of external funding and strategic partnerships. Most visibly, six Research Centres have been approved and established over five years, building upon concentrated areas of research, all aligning specifically to a number of SDGs:

- [BEAM](#) (Built Environment & Asset Management Research Centre) (UoA13): The Centre explores the social, environmental and economic interdependencies of sustainable built

environments in the context of global climate change and natural resource utilisation. (SDGs 6, 7, 8, 9, 11, 12, 14, 15 and 17)

- [Centre for Climate Justice](#) (UoA13): Established in collaboration with the Mary Robinson Foundation for Climate Justice, the Centre explores interdisciplinary areas of social justice, health and sustainable environments, providing long-lasting solutions for people, communities and society. (SDGs 1, 2, 5, 7, 13 and 17)
- [Research Centre for Health](#) (ReaCH) (UoA3). The underlying philosophy of ReaCH is to bring rigorous health and social science to bear on management of long-term conditions and public health improvement, evidencing 'what works, how and for whom?'. (SDGs 3, 4, 6, 10 and 17)
- [SMART Technology](#) (UoAs 11 & 12) The Centre explores the design, development and evaluation of intelligent computer-based systems applied in different organisational contexts such as energy resource management, industrial processes and manufacturing, digital network infrastructures and serious computer games. (SDGs 4, 7, 9, 11, 12 and 17)
- [WiSE Centre for Economic Justice](#) (UoAs 17, 20, 28) The Centre carries out research into economic equality, poverty, public policy, migration and human rights, primarily from a gender perspective, fostering creative interdisciplinary initiatives to inform policies for more just societies. (SDGs 4, 5, 8, 10, 16 and 17)
- [Yunus Centre for Social Business & Health](#) (UoAs 3, 17, 20, 28). The work of the Centre aims to transform the lives of vulnerable communities through pioneering research in the potential for microcredit, social enterprise and civil society more widely to act as generators of health and wellbeing. (SDGs 1, 3, 4, 8, 10, 11 and 17)

Specialised units have formed or continued out of direct responses to policy needs, involving collaboration with other institutions and networks: the [Nursing, Midwifery & Allied Health Professions Research Unit](#) (NMAHP-RU) with the University of Stirling, funded by the Chief Scientist Office of Scottish Government's Health and Social Care Directorate (UoA3); [Centre for the Social History of Health & Healthcare](#) - a collaboration between the University of Strathclyde and GCU, now Scotland's leading centre for health history (UoA28, UoA3); the Scottish Research Partnership in Engineering (UoA12); GCU's close working collaborations with Health Protection Scotland (UoA3).

As described in UoA statements, academic staff from Schools also work in and across less-formal, fluid, research groups (e.g. UoAs 28 and 34 indirectly work across Centres and other UoAs), designed to develop newer areas of research excellence, support early career researchers, and provide a pathway through which teaching-oriented staff can develop a research trajectory.

This approach has further clarified the focus of our research, improved recruitment and shaped development of staff and our culture through better relationships between research groups. This has led to a 24.6% increase in overall number of outputs produced between 2014 and 2020. In terms of award income, there has been a 15% increase between 2014 and 2020, with the average award value having increased by 19% from £24,746 to £29,393. A larger proportion of staff has, consequently, been submitted to REF2020 (230 vs 167 in 2014, representing 35% of Cat A staff, reflecting our trajectory towards a research-based institution based on continued growth of more-established UoAs, such as 3, 20 and 13, and evolution of newer UoAs.

Overall, the University has largely achieved the seven KPIs defined as part of its 2014 Research Strategy: increasing annual research income; increasing proportion of academic staff whose work is judged internationally-excellent or world-leading; creating a minimum of four University Research Centres; increasing number of postgraduate research degrees awarded; increasing the proportion of academic staff with a doctoral-level qualification.

Our adoption of the SDGs, central to our research, has also helped us to achieve impressive results in the Times Higher Impact Rankings, which assesses universities' achievements against

the SDGs. In the first two years of these rankings, GCU has ranked in the top 50 worldwide, with SDG-specific rankings in 2020 as follows:

- SDG5 Gender Equality 12th in the world
- SDG8 Decent Work and Economic Growth =13th in world
- SDG10 Reduced Inequalities 20th in world
- SDG12 Responsible Consumption and Production =32nd in world
- SDG3 Good Health and Wellbeing =40th in world

Future strategic goals

Guided by the growing importance of the Impact Rankings, and in line with RCUK's Concordat for Engaging the Public with Research and the UKRI's mission to connect diverse communities and create new combinations, our Strategy 2030 aspiration is to become an international leader in social innovation. Covid-19, the wider social issues exposed by the pandemic, and enduring challenges such as climate change have only reinforced our commitment to the SDGs and working directly with civic society, public and private stakeholders to innovate in support of social progress.

Over the next five years, in order to drive our social innovation focussed approach to knowledge exchange, we will create a new vehicle to connect the Research Centres, co-locating researchers and research students in a dedicated physical space, a 'Social Innovation Hub', whereby community groups can work co-creatively with researchers, and knowledge exchange professionals. Such spaces will serve as a host for new concentrations and combinations of researchers, attracting and retaining new research expertise and enhancing our social innovation portfolio through co-creation.

Alongside this, we will create another cross-School and cross-Centre initiative on 'data science for the Common Good', the research arm of which will be led by our SMART Technology Centre, building on our commitment to remote and open access to data as exemplified in our hosting of a forthcoming ESRC-funded SafePod.

The University's main research KPI of improved REF performance over the coming decade, is underpinned by specific objectives as follows: 30% increase in annual research income (from £5.7m to £7.5m per annum); increasing the proportion of staff entered into REF and the portfolio of outputs impact and environment rated at 3/4*; create or maintain a minimum of 8 University Research Centres, working across Schools, Departments and Challenges, and including overarching emphases on civic engagement for research, social innovation and data science; improving the postgraduate student experience, including completion rates; and further increasing the proportion of doctoral-trained academic staff.

Enabling and facilitating impact

In 2015, two Impact and Knowledge Exchange Officers were recruited with the remit to improve our pre- and post-award activities to ensure our research is impactful in wider society. This approach has defined the way in which GCU research engages and co-creates with local communities, responding to policy challenges defined at local, national and global levels, linking with policymakers or larger networks to maximise impact. These alliances have been central to the establishment and growth of our Research Centres. For example, the Centre for Climate Justice's links to the Mary Robinson Foundation have contributed directly to its hosting of the first ever World Climate Justice Forum in 2019 and playing a major role in preparations for COP26. The Research Centre for Health's work with NHS Lanarkshire and hosting of the research arm of Health Protection Scotland and the CSO-funded NMAHP-RU have led to major health impacts such as reduced hepatitis C transmission. Through working with Nobel Peace

Laureate, Muhammad Yunus, GCU leads a global network of Yunus Centres and pioneered a new research nexus conceptualising social enterprise and microfinance as upstream public health interventions. BEAM's close ties with Energy Action Scotland has helped it change government policy and the WiSE Centre has played a leading role in informing policy through the European Gender Budgeting Network as well as the Women's Global Economic Forum, 2017.

Our community and public engagement reflects our Common Good approach to research. Since 2012, GCU has engaged with over 20,000 members of the public on almost 200 events involving 1000 staff, 1200 students and 500 internal and external partners. For example, since 2017, our annual research celebration has been framed around the SDGs, highlighting the combined research power of our Research Centres, Schools and community and commercial projects in this respect. The expanded and restructured Research and Innovation Office has integrated GCU's wider social innovation mission as a way of extending its portfolio of collaboration with existing external stakeholders through Innovation Vouchers, KTPs and UK Industrial Grand Challenges fund. We have targeted investment of SFC University Innovation Funds to develop new strategies for national and international engagement alongside continued industrial partnerships, and new pipelines for industrial research partnerships through the newly-formed Institute for University to Business Education, which creates staff mobility through engaging with business, public and third sectors.

Engaging with regional and national research priorities

GCU's direct engagement with Scottish Government's National Performance Framework (NPF) has led to the introduction of a Research and Innovation Impacts Logic Model which defines universities' contributions to national priorities according to their alignment with the SDGs. Our Yunus Centre has supported the delivery of the Scottish Government's Social Innovation Fund, and SMART has worked closely with the Scottish Innovation Centres, Datalab and Sensors & Imaging (CENSIS). GCU also engages with the UK Industrial Strategy and, specifically, UKRI's mission to 'connect diverse communities and create new combinations' as well as RCUK's Concordat for Engaging the Public with Research as evidenced by our close working relationship with the NHS. The University plays an active role with national and regional research policy committees, such as Universities UK, Universities Scotland's Research and Knowledge Exchange Committee and the Research and Commercialisation Directors' Group, as well as the UK Council for Graduate Education Executive Committee and Universities Scotland Research Training and Development Committee. We ensure that the perspective of Modern universities is taken into account in the development of policy, and in particular, that inclusive growth is prioritised. GCU is also a signatory of the recently established Knowledge Exchange Concordat.

Creating an open research environment

The University Senate approved a [policy](#) for Open Access to Research in 2014 and abides by the FAIR Guiding Principles for scientific data management and stewardship (findability, accessibility, interoperability, and reuse of digital assets). All research active staff are responsible for ensuring that their research outputs are made freely available wherever possible and fully comply with the publishing requirements of their research funders.

The University has adopted a 'green' or 'self-archiving' model of free open access. It is a mandatory requirement for academic staff to deposit full text copies of the author-final versions of journal articles and conference proceedings in the PURE Research Information System and Repository. Additional Gold-route open access publication has been supported through research grant funding for open access publication, supplemented by research excellence funds.

Interdisciplinarity and research integrity

Our Research Centres were created on a thematic basis with the specific aim of promoting challenge-based, interdisciplinary research. Collaborations across Centres are increasingly prevalent in areas such as digital health (UoA11 and 3), health economics (UoA17 and 3), health history (UoA 3 and UoA28), while UoAs 34 and 23 work across disciplines. We have directed REG funding specifically to people and projects that have an interdisciplinary focus and have targeted EU funding to scale up our cross-sector, international and interdisciplinary mobility and actions.

As member of the Scottish Research Integrity Network, the University is committed to the highest standards of research integrity and good practice in all research activities, as set out in the [GCU Research Integrity Policy Statement](#). The University has committed to the [UKRIO Concordat to Support Research Integrity](#) and to the [UKRIO Code of Practice for Research](#) through its [Code of Good Practice for Research Staff](#) and continual [review](#). A [Research Data Management Policy](#) sets out University requirements for staff and students in the management, storage, public access to and long-term curation of digital research data.

The University's [ethical procedures and policy](#) apply to all levels of study and to funded and unfunded research conducted in educational, health, social care or prison settings. It provides an outline of ethical principles to guide decision making, details the operation of the University Research Ethics and Integrity Subcommittee and the process for making an application to it or to Schools' Ethics Committees. The Subcommittee continually reviews processes in order to take into account shifts in policy and technology such as GDPR and automated decision-making by AI algorithms.

3. PeopleStaffing Strategy and Staff Development

Since 2014, GCU has placed a specific emphasis on using REG funding for an ambitious recruitment strategy to attract top professors and ECRs in order to drive up excellence, foster new vitality and creativity. This has led to an increase in academic staff whose work we have judged to be internationally-excellent or world-leading and a higher proportion of academic staff with a doctoral-level qualification. At the same time, the University's People Strategy for 2020 has focused on staff development in line with a [Values and Behaviours Framework](#) of integrity, creativity, responsibility and confidence, which has a high level of staff buy-in and reflects sector-wide initiatives with respect to integrity and researcher development. Since 2017, a Professoriate (94 members) has been convened in order to share best practice and exchange ideas on strategic and operational issues related to research.

GCU received the HR Excellence in Research Award in November 2013, with re-accreditations in 2015 and 2020. Also in 2020, we renewed our commitment to the revised Concordat to Support the Career Development of Researchers. Our researcher development offerings are revised and revamped annually, overseen by the Graduate School. GCU has membership of the Vitae CEDARS steering group to develop the new UK Researcher Experience Survey CEDARS for staff researchers piloted in 2020.

Staff researchers benefit from People Services policies and support available to all staff. Across the University, the Staff Performance and Development Annual Review (PDAR) is seen as an integral part of agreeing and developing a research workplan, personal development, work allocation and setting targets in line with the University Research Strategy.

Early Career Researchers

Fifty-two ECRs are being submitted to REF2021, as compared to 27 for REF2014. HR Excellence accreditation and RD Concordat adoption have each led to the creation of the DARE (Developing Academic Researchers in Excellence) Steering Group, established in 2018 to provide a platform and voice to ECRs at GCU. DARE is coordinated by our Graduate School, but run by ECR representatives from the Schools and Research Centres, overseeing a University network of 89 ECRs which meets four times a year. DARE also has oversight of the DARE to Lead programme, involving a suite of development programmes for Early Career Researchers (ECRs). An example of cross-School collaboration with respect to ECRs has been the introduction of a career development opportunity based on the Scottish Crucible leadership and development course.

The GCU researcher experience is well supported with policies, training and resources on the latest sector developments, such as well-being, online supervision, research data management, as well as an extensive supervisor CPD programme for new and experienced supervisors, our DARE to Lead research leadership programme, and a Mentoring scheme for new supervisors and ECRs.

Research students

There are currently over 400 (headcount) students at GCU studying towards a PhD, Professional Doctorate or Master of Research degree – from over fifty countries. Numbers reflect increased international and industrial doctorate sponsorship and recruitment, since 2014, through the H2020 European Training Network, Carnegie fellowship scheme, and industrial partners such as the Innovation Centre of Online systems with Doble Engineering.

Core to our research strategy, we are creating facilities, based around our Research Centres, which allow for co-location of PhD students alongside supervisors, creating a forum for a rich interchange of expertise and experience. Students are invited to join interdisciplinary research groups, attend and participate in the organisation and delivery of staff and research meetings and peer-support activities, such as writing workshops and master-classes. The University also supports a diverse range of opportunities to celebrate and promote post-graduate research, such as the internationally-acclaimed 'three-minute thesis' competition, embedded within our annual Research Celebration.

Our Graduate School provides development opportunities for research students, doctoral supervisors and staff developing their research careers, with over 150 workshops on offer involving essential generic research and transferable skills training, including a focus on academic writing development at all stages of doctoral study and publication e.g. PgCert in Research Methods and the PgCert in Academic Practice for teaching. Inter-university, PhD students can attend a 5-day Academic Writing School and Writing Retreat led by GCU in partnership with Scottish universities from the central belt. GCU is also part of the Scottish Graduate School for Social Sciences offering training, summer schools and PhD student placements. All GCU researcher development programmes are designed using the Vitae Researcher Development Framework, guiding students through the entirety of their doctoral journey and staff through their research career development.

Our commitment to student welfare is exemplified by extensive support provided across the University including specialised training in collaboration with the Scottish Association for Mental Health. Doctoral students are supported by a network of Postgraduate Research Tutors, Research Student representatives and Research Degree Administrators with network meetings and student listening events. The PgR Reps are trained centrally by the Student Association to represent students on School and University research committees and they lead on the development of student initiatives and partner with research leaders to enhance the research student experience. The University is also one of 3 UK universities in 2020 to pilot a new

University Mental Health Charter on behalf of Student Minds; an accreditation scheme that will recognise and benchmark best practice in supporting mental health across the country's HEIs to be launched in 2021. During the Covid pandemic, GCU was one of the first UK universities to develop a PgR policy for the extension of funding and time due to Covid, and online vivas are now fully integrated into the GCU PgR examination regulations.

Equality and diversity

Our Equality and Diversity Strategy has been integral in the planning and implementation of the REF2021 Code of Practice and the whole REF process. An assessment of the procedures used in an initial mock REF exercise have been carried out by the REF Equality and Diversity Group, including a full Equality Impact Assessment. But GCU goes beyond this and sees the equality and diversity of its environment as a key aspect of its Common Good mission, enriching the community within the University itself and underlining our commitment to the communities that we engage with, by reflecting the heterogeneity of its populations.

We have a [Staff Resourcing and Recruitment Policy](#) supported by detailed guidance to ensure that recruiting managers make the best appointment in line with agreed higher education best practice and legislative requirements. Guidance takes into account: i) ethnicity - cultural sensitivities; language; ii) disability - alternate/ accessible formats; iii) gender - inclusive to women and men; iv) sexual orientation; v) faith or belief, religious practices; age - needs of younger and older people.

Glasgow Caledonian University has been formally recognised for its commitment to promoting gender equality by attaining the [Advance HE's Athena SWAN](#) Institutional Bronze Award. The number of female professors at GCU is 40% of the total employed in 2019-20, compared to the Scottish average of 23.7% and UK average of 27%, with a 0% median and 2.6% mean gender pay gap.

Of academic staff submitted to REF, 15.7% declared themselves to be from BAME backgrounds (compared to 9.3% of those not submitted). In light of the challenges surrounding ethnicity of both students and academics across the University, a series of recommendations has been made, recognising that institutional racism is a structural and not an individual issue and that tackling racism and racial inequalities should form a core part of the University's Common Good mission.

In the CEDARS 2020 survey for staff researchers, GCU respondents, from new staff < 2 years, agreed that their recruitment, selection and appointment process was: fair (94%), inclusive (91%), transparent (79%) and merit-based (91%), exceeding the UK benchmark for fair by 11 percentage points, inclusive by 17 points, transparent by 6 points and merit-based by 9 points. GCU's Principal was awarded 2019's Social Mobility Champion of the Year at the UK Social Mobility Awards.

4. Income, infrastructure and facilities

Institutional strategies

The University has reorganised and invested resources in two new support functions for research. Centrally, we have restructured the Research & Innovation Office (RIO) with a team increased from 5 to 12 staff members. The Office takes a proactive approach by not only responding to researcher needs but proactively engaging with academics in the development and leadership of research and innovation projects. The Office raises awareness of opportunities for researchers through resources such as ResearchProfessional and lends policy insight across the spectrum; it oversees awards management, costing and contracts for research projects through PURE, as well as knowledge exchange activities, the intellectual property portfolio and commercialisation activities, and the internationalisation of research through engagement with

and management of European and global networks, especially GCRF; it leads on overall coordination of the REF submissions.

More distributed, are support functions for Schools and Centres coordinated under a School-based Business Support unit which comprises Research Advisors for each School and Research Centre Administrators. As part of this refresh, the University created four new support positions to enhance the processing of our growing portfolio of research and innovation, commitments to research integrity and researcher development, management of metrics related to research and to develop a more proactive approach to research support within the University. Furthermore, as described above, GCU has created a specialised team including newly-recruited Research Impact and Knowledge Exchange Officers who work alongside Research Advisers within the Schools and RIO in order ensure that socioeconomic impact forms an integral part of the University's research strategy.

In addition, our entrepreneurial incubation hub, UHatch, is designed to support students, staff and alumni to develop their business skills and start up their own organisations. UHatch has already helped 45 fledgling graduate businesses achieve a combined turnover of more than £1.4million hosting three Royal Society of Edinburgh Enterprise Fellowships including Giraffe Healthcare (UoA3).

Infrastructure and facilities

The Heart of the Campus was a £30million redevelopment of GCU's Glasgow campus, completed in 2016. As part of this, we designed dedicated space for five of our six University-designated Research Centres with plans to continue. This has been augmented by annual REG investment to maintain the quality of our research: Studentships (£1,050,000); new Post-doc salaries (£425,000); other Post-doc costs (£100,000); research support staff (£255,000); other research salaries (£410,000); Research Centre support (£925,000); open access and other central costs (£230,000). Some of these costs help to maintain and improve our research facilities, as described in the individual UoA statements.

A priority for research investment has been centred around the wider campus development, including state-of-the-art library and archive facilities (the Sir Alex Ferguson Library), and our Current Research Information System (CRIS), PURE which has been supported with initial investment and an annual contract, the value which has increased by 700% during this REF period. Consequently, library staff dedicated to research support has increased from 0.2FTE in 2013/14 to 3FTE in 2019/20. As part of our commitment to 'big data' and data access, GCU has acquired an ESRC-funded SafePod; a microsate setting to support, strengthen and widen remote access to research datasets held by Data Centres across the UK.

Equality and diversity, in relation to support for acquiring research funding, or accessing scholarly or operational infrastructure

Our [Dignity at Work and Study Policy](#) is the guiding policy to support people with different protected characteristics and circumstances and outlines a Zero Tolerance approach to any form of unlawful discrimination, including harassment, victimisation, racism, sexism, homophobia, and any other unacceptable behaviour. This overarching policy is applied as part of the support and operational infrastructure for research.

GCU's Advancing Gender Equality Group has the remit to review all relevant GCU policies and procedures in relation to equality and in particular to support the University in maintaining Athena SWAN accreditation. The University continues to engage in the Leadership Foundation for Higher Education's Aurora Programme. Reflecting this approach, four of our six Research Centres are directed by women.

Institutional level environment template (REF5a)

In terms of support for the advancement of BAME members of staff, two of our six Research Centres are directed by someone from a BAME background. We also have in place a Trans Student Policy, and are cognisant of the potential needs of trans and gender diverse staff as an issue under continued consideration.

GCU's clear commitment to the Sustainable Development Goals and the common good mission permeates throughout its UoAs, facilitating the development of a clear strategic goal to develop its research excellence and become world-leading in social innovation by 2030.